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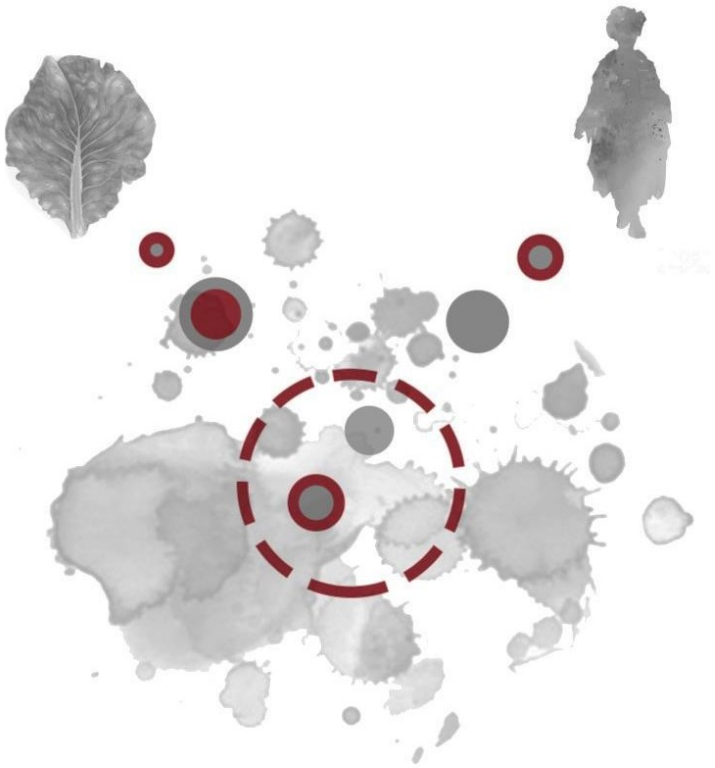
GREEN (INSIDE)?

An eating experience which addresses ecological and lifestyle sustainability,
with the interior as a tool.

A sustainable interior environment, encouraging sustainable living.



by Hilde Schröder

Submitted in partial fulfilment of the requirements for the degree Masters in Interior Architecture (Professional)
to the faculty of Engineering, Built Environment and Information Technology.
Department of Architecture
University of Pretoria

Study leaders: Anika Grobler & Zakkiya Khan
Studio Master: Prof. Barbara P. Jekot

2016

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"He who supplies seed to the sower and bread for food,
will supply and multiply your seed for sowing and increase the harvest of your righteousness."

(Holy Bible, 2 Corinthians 9:10)

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PROJECT SUMMARY

TITLE	Green (Inside)? An eating experience which addresses ecological & lifestyle sustainability, with the interior as a tool
AUTHOR	Hilde Schröder
STUDY LEADERS	Anika Grobler & Zakkiya Khan
COURSE COORDINATOR	Prof. Barbara P. Jekot
DEGREE	Masters of Interior Architecture (Professional)
DEPARTMENT	Department of Architecture
FACULTY	Faculty of Engineering, Built Environment and Information Technology
UNIVERSITY	University of Pretoria
YEAR	2016
RESEARCH FIELD	1. Environmental Potential 2. Cultural Landscapes
TYPOLOGY	Retail: Restaurant
PROGRAMME	A sustainable restaurant concept, interior design encouraging sustainable living
SITE LOCATION	The Maboneng Precinct, Johannesburg: Access City, Cnr Beacon & Staib street

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DECLARATION

In accordance with Regulation 49(e) of the General Regulations (G.75) for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree Masters of Interior Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where references is made to the work of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Hilde Schröder

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ABSTRACT

This dissertation originated from a concern regarding healthy and sustainable living, with the focus on aspects of well-being, eating and nutrition. It has not been seen or explicitly explored as a problem to address within the discipline of interior design. It is of the opinion that the environments in which we live can directly influence the way we live.

Green (Inside)? is a project proposal which addresses both a normative stance towards interior design and a recognized gap in the social sphere. A scarceness of experiential design in interior environments is examined. This stance is contextualized as a response against the status quo of the restaurant industry towards sustainable living. Restaurants, specifically fast-food outlets or café's, tend to promote unhealthy lifestyles and lack to provide an experience beyond the food itself.

The theoretical approaches of sustainable development, human centred design and experiential design, informed the design discourse. The character of the design is guided by the found theories of a process oriented view, the farm-to-table concept, urban farming and principles of the changing kitchen. The programme is placed within the Maboneng precinct in Johannesburg CBD. It establishes a new urban food identity and brand, furthermore connected with its creative and industrial identity.

The conceptual restaurant, *the Inside*, proposes an eating experience, using the eating process as medium of communication to address various topics of ecological and lifestyle sustainability. It will intentionally expose users to participate and interact within the spaces, its processes and a specific sensory-story. The design interventions will aim to encourage and educate users towards sustainability.

KEYWORDS:

Sustainable living

Sustainable interior environment

Experiential design

Process-oriented-view

Urban farming

The changing kitchen

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UITTREKSEL

'n Kommer oor gesonde en volhoubare lewensstyle, spesifiek gerig op welsyn en eetgewoontes, was die vertrekpunt vir die verhandeling. Hierdie kwessie is nog nie heeltemal verken as 'n probleem wat aangespreek kan word in die dissipline van binne-ontwerp nie. Dit is egter van mening dat die ruimtes waarin ons leef en beweeg ons manier van lewe beïnvloed.

"Green (Inside)?" is 'n projek wat gebaseer is op twee aspekte: Die eerste handeling is 'n normatiewe standpunt vir binne-ontwerp, waar 'n skaarste in die ervarings van binneruimtes erken is; die tweede aspek het 'n tekortkoming in die sosiale mark geïdentifiseer. Die probleem is geplaas in die konteks van die restaurant bedryf, rakende volhoubare lewenswyses. Restaurante, spesifiek kitskoswinkels en kafee's, is geneig om ongesonde lewensstyle aan te moedig. Daar is ook 'n gebrek aan ruimtelike ervarings, buiten die ervaring wat die kos self bied.

Verskeie teoretiese benaderings het die argument versterk, onder andere die kwessie van volhoubare ontwikkeling, 'n her-definieëring van kos en die eet proses, verbruiker fokus in ontwerp en laastens ervaringsleer ontwerp. Die karakter van die ontwerp was beïnvloed deur die proses-georiënteerde uitkyk teorie, die plaas-tot-tafel konsep, stedelike landbou asook nuwe beginsels van hoe 'n kombuis verander. Die projek is geplaas in die Maboneng gebiedct, Johannesburg. Verder was 'n nuwe stedelike kulinêre verbruiker voorgestel, gebaseer op die kreatiewe en industriële identiteit van die ligging.

Die konseptuele restaurant, "*the Inside"*, is a voorstelling van 'n eet-ervaring. Die eetproses word gebruik as kommunikasiemiddel waarmee ekologiese en volhoubaarheids kwessies aangespreek word. Verskeie prossesse van die ruimtes sal doelbewus blootgestel word, van waar dié interaksies sal beoog om 'n sensoriese storie vir die verbruiker te skets. Die ontwerp sal beoog om mense te onderig en aan te moedig om aspekte van volhoubaarheid te beoefen.

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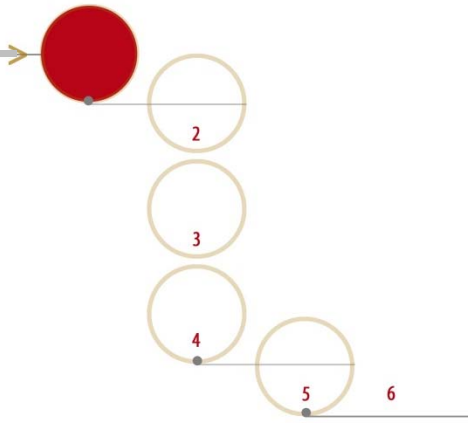
CHAPTER 1

INTRODUCTION



"The way people live their lives are directly linked to the designed environments in which they live"
(Lockton, 2011).

Chapter one provides a short discussion on a personal manifesto and normative stance towards interior design and a hypothesis as background. The project proposal is developed based on this background. As point of departure the problem statement is developed. This leads into a series of research questions, where after a status quo is addressed. As response, aims and objectives are presented. The dissertations intent informs the three identified approaches for research theory which forms the foundation for design development. Further, the project field and topics are stated. A design-thinking-process methodology is discussed and keywords and definitions are given. This chapter is concluded with a suggested overview of the dissertation.

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1.1
DISSERTATION OVERVIEW

The dissertation will be divided into three stages namely: Inspiration, Ideation and Implementation, which is discussed below (Brown, 2008). The chapters and their overviews *(diagram 1.1)* will be based on these stages, as discussed in section 1.7.

1. Inspiration

An idea is generated based on an identified problem. The idea is inspired by a background, such as a stance, identified area of interest or by addressing a status quo.

2. Ideation

In response to the inspiration stage, the idea is realized by implementing methods for development. This methodology refers to the design-thinking-process, which is further divided into 3 stages:

   a. Empathy, to understand the user.
   b. Knowledge, defined by literature studies.
   c. Explore, by developing design concepts with prototypes and testing.

3. Implementation

After the design development, the intent of the ideas is rationalised. Design specific details are technically resolved.

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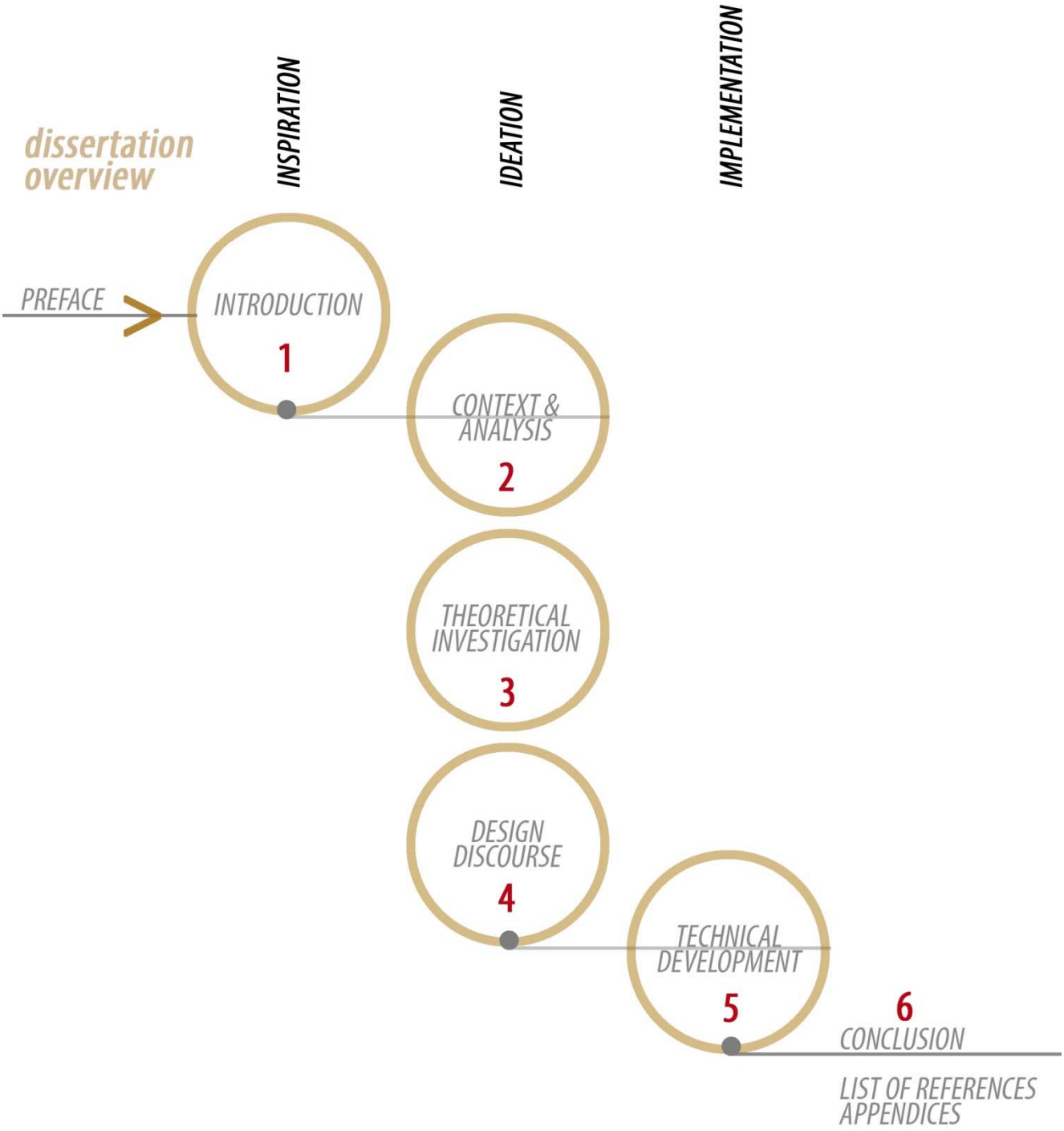

Diagram 1.1: A broad outline of the entire dissertation

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1.2
BACKGROUND

1.2.1
NORMATIVE STANCE TOWARDS INTERIOR DESIGN

As an emerging interior design-researcher, it is identified that the interior discipline has an unrecognised value in social spheres. In formulating a personal manifesto, it is of opinion that the interior is and should be addressed as 'the body of space' designed for 'the body in space', which is the user. The aim of this dissertation is to address how the body of space can potentially change the body in space.

This embodied interior space must be viewed as a product for the user's experiences. An interior experience is a strategy which seeks a user interaction and involvement within a space and its artefacts, to convey an intended meaning, feeling or message (Vogelzang, n.d.). It envisions the interior as a combination of different elements, working together, yet experienced individually while maintaining their own identity (Scott, 2008:137). These designed experiences are a continuous endeavour of detailed, intimate and sensitive contrasts, creating a sequence of movements and views in a spatial narrative. With this identity focussed on creating experiences, the disciplines' potential is to influence the inhabitants *(see diagram 1.2.1)*.

As a designer, it is both an opportunity and responsibility to implement spatial explorations and experiences within the interior threshold. Our discipline is therefore influential when these implementations are sustained by an established knowledge base and rational decision making process (Königk, 2010:50-52).

There is a scarceness in experiential design created through the interior discipline. A need for theories and knowledge in this area exist. This manifesto will relate to the dissertation's proposal, by investigating how interior design can specifically influence the user with its embodied experience.

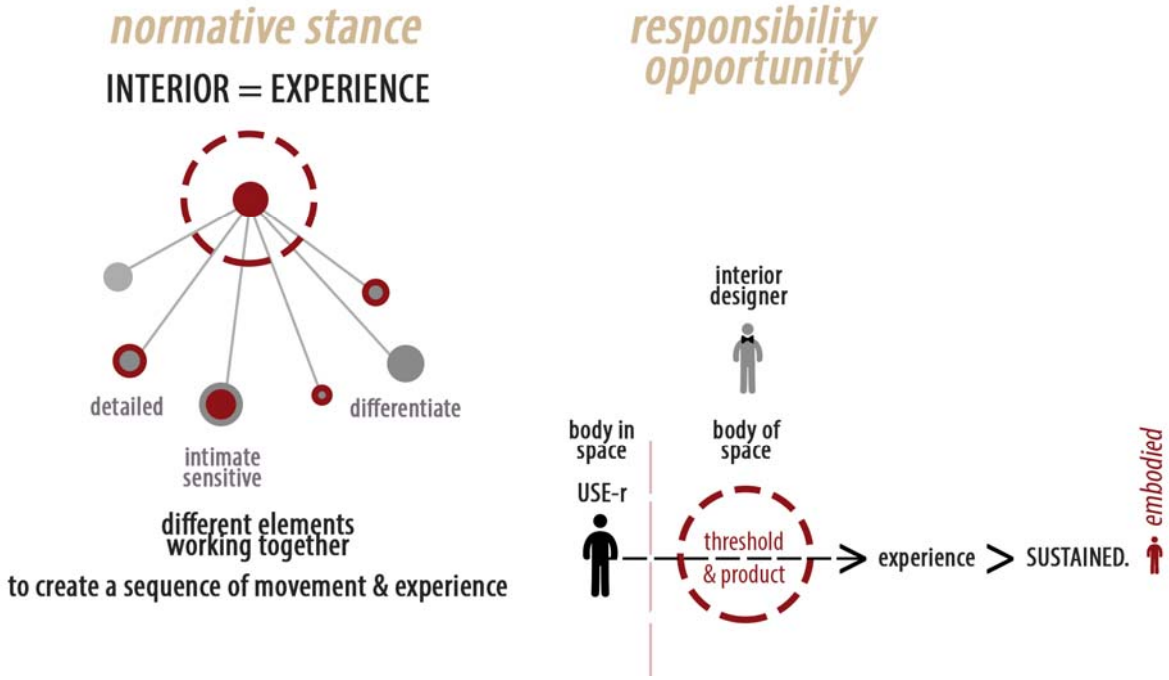

Diagram 1.2.1: The representation of a normative stance towards interior design

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1.2.2
CONTEXT: ADDRESSING THE STATUS QUO

A greener way of living is taking the world by storm. Susan Dunn, the Executive Vice President of Nielsen, a Global Health & Wellness information and measurement company stated: "Health is going mainstream, as consumers around the globe search for better, healthier and smarter solutions that fit their lifestyle and specific needs. The motivation for manufacturers and retailers to foster strategies for a healthier world is powerful. But much more needs to be done" (Nielsen, 2015). With agreement yet dispute, this trend is contradicted.

This stance is contextualized as a response against the status quo of the restaurant industry, towards sustainable living. Restaurants, specifically fast-food outlets or café's, tend to dominantly promote unhealthy lifestyles and lack in an experience beyond the food itself. Due to the current interest in healthy and sustainable living, this conflict can be utilized through the implementation of design. In response, the question must be asked: "If eating out were only about food, then the setting would not matter" (Fox, n.d.). As stated, the setting in its character, experience and sustainable value, are neglected in all aspects of its being.

The problem statement is manifested in section 1.2.1, the normative stance. Interior environments have the opportunity to be both experiential and influential. This statement enlightens the recognized desperate need for change in the status quo of the restaurant industry *(diagram 1.2.2)*.

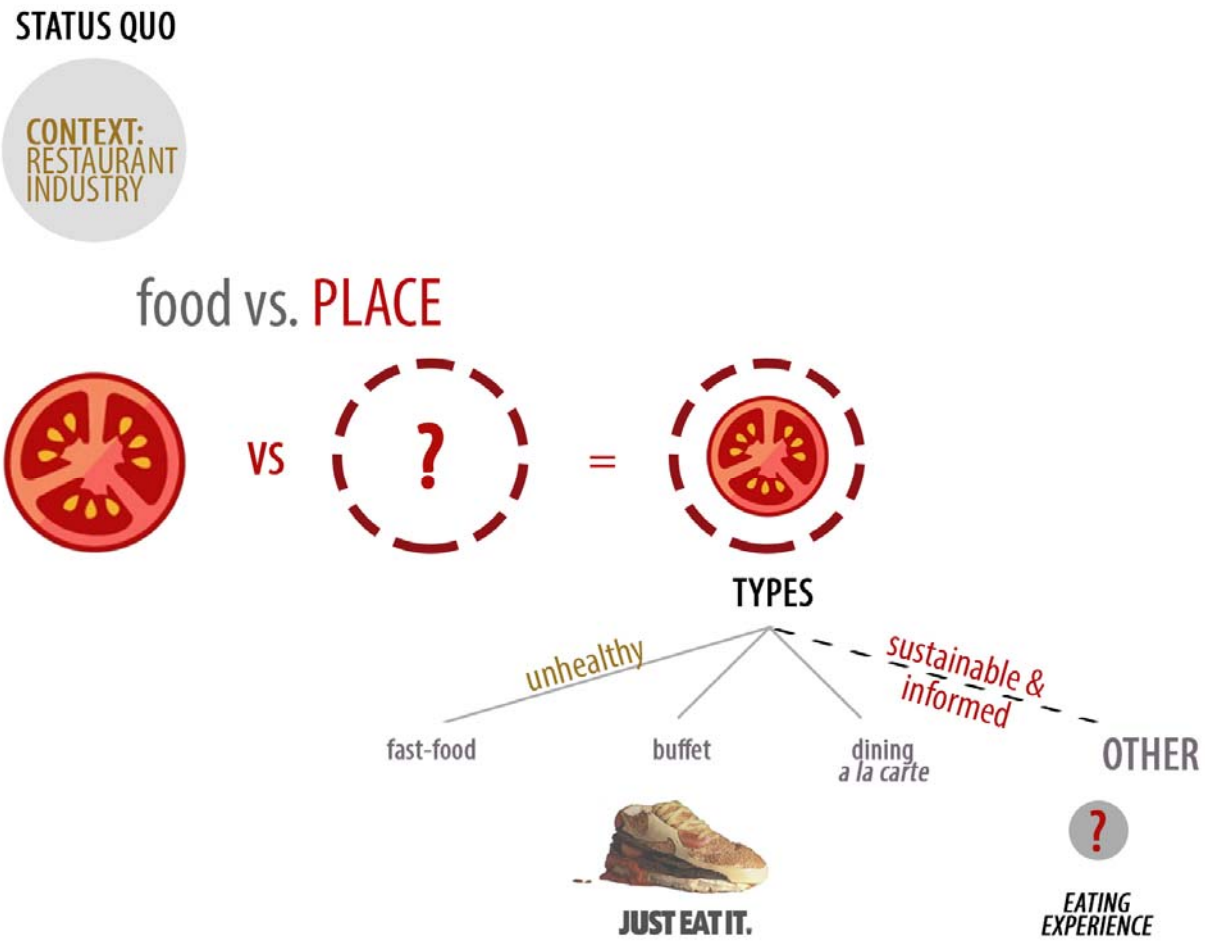

Diagram 1.2.2: An illustration which address the current status quo of the restaurant industry

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1.2.3
CONSUMER BEHAVIOUR: HABIT & CHANGE

Consumers tend to react against healthy and sustainable living principles for various reasons *(diagram 1.2.3)*. Behavioural changes of consumers are needed in order to implement sustainable living principles. This will be achieved with informed habit formation being motivating, desired or rewarding.

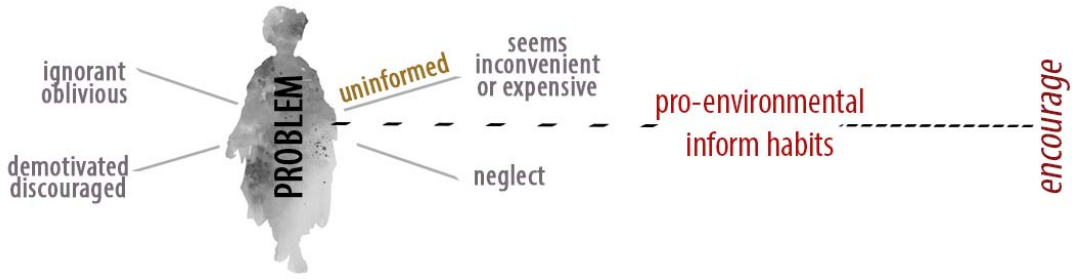

Diagram 1.2.3: Consumer behaviours against sustainable principles

1.3
THE PROBLEM STATEMENT

A rising problem in the social sphere is a concern of healthy and sustainable living, with the focus on aspects of well-being, eating and nutrition. It has not been seen or explicitly explored as a problem to address within the discipline of interior design. In relation to the problem statement, the questions to ask are:

Why do some interior designers choose to practice sustainable design, while others don't?
(Templeton, 2011: 3).

Why do some people choose to practice sustainable living, while others don't?
(Adapted statement of (Templeton, 2011) by author of this dissertation).

1.3.1
HYPOTHESIS

There is a rising collective interest in food, a healthy lifestyle and sustainable behaviours. This emerging interest must be utilized as both an opportunity and responsibility for design.

These aspirations are not realized because a large number of the society does not share the same views and behaviours. The ideals of living in a sustainable manner is not habituated or internalized. This is due to the experience of and in our interior environments we live in. The question is whether the interior environment can determine or contribute to a sustainable lifestyle?

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1.4
RESEARCH QUESTION

What interior determinants encourage sustainable behaviours and living?

1.4.1
SUB-QUESTIONS

- How can human centred design in the interior be used to determine and suggest a sustainable way of living? Will new perspectives of experiential design in the interior environment encourage sustainable principles?
- Will a sustainable interior environment contribute or encourage sustainable living?
- Are the ways we eat and live relational towards its setting?

1.5
AIMS AND OBJECTIVES

An approach is developed which aims to address a healthier way of living through an interior design project. The objective is to create a lifestyle of welfare, with the interior as a tool. Intentionally, a sustainable interior environment must encourage sustainable living. Sustainability refers to the topics of both the environment and well-being. The environmental aspect addresses materiality, recycling, composting, water, energy and labour. Well-being dominantly refers to nutrition as well as physical activity, sleeping, recovery and social interaction *(diagram 1.5)*.

Scarceness of user experience in interior environments will be examined. The dissertation will broaden and define the application of experiences in the interior and establish it as a distinct tool, significant to the discipline. It will showcase the potential influential value of an interior, for societal change.

A concept is proposed as *Green (Inside);* an eating experience, using the eating process as a medium of communication, to address ecological and lifestyle sustainability. These experiences will intentionally involve and expose users to participate within the spaces and its processes.

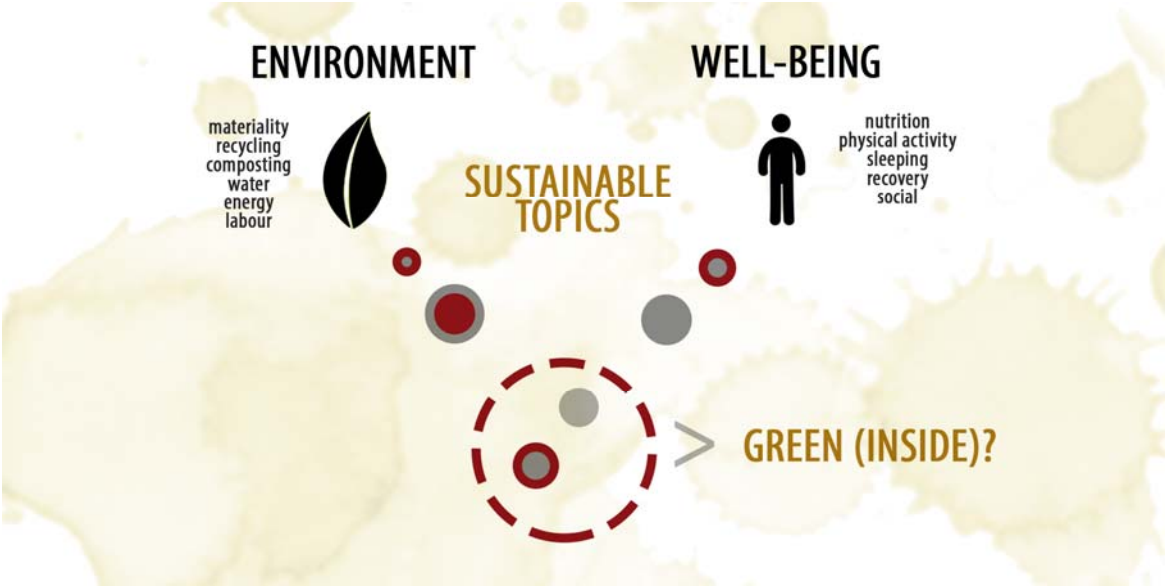

Diagram 1.5: Reference to the sustainable topics for the proposed programme

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1.6 APPROACH

This dissertation will manifest itself in three research theory aspects *(refer to chapter 3):*

1.6.1 Sustainable development: re-defining food and the eating process
1.6.2 Human Centred Design
1.6.3 Experiential design

1.6.1 SUSTINABLE DEVELOPMENT BY ADAPTING THEORIES: RE-DEFINING FOOD AND THE EATING PROCESS

A perspective of Jon Meisner-Jensen in *Eating Processes: How a redefinition of food can help solve food problems* (2011) is investigated. The author encourages a process orientated view towards food. It aims to showcase foods' progressive route of change in order to change the user perspective. This view links with two main concepts of investigation, namely; the farm-to-table principle and farming in the city (urban agriculture).

The organic philosophy, a sustainable and transparent approach towards food production with regards to human consumption and the environment, will be investigated (Meisner-Jensen, 2011: 7). It is the most ethical food movement and presents economic prospects. (Ripe, 2015) (Kuepper, 2010:3-13).

1.6.2 HUMAN CENTRED DESIGN

A focus on habit formation and environmental psychology will influence strategies for behavioural change. It will discuss the theories of designing for sustainable behaviour through the role of consumption (Jackson, 2005) and an interaction pattern (Strömberg, et al., 2015). An in-depth analysis of the behaviours of the user will consequently determine the extent of the desired experience to be designed.

1.6.3 EXPERIENTIAL DESIGN

Adaptive Path, an established company situated in San Francisco, created a framework for a customer journey model in the interior environment (Adaptive Path, 2013). This framework suggests a new theory seen as a sub-theory of human centred design. It is the focus of experiential design in the interior environment.

Following the principles of the Adaptive Path framework, different exposures will seek to reinvent the experience of interaction in a restaurant context. Spatial configurations based on principles of the changing kitchen (Mills, 2010) will inform the design of the proposed framework. The exploration will contribute spatial strategies for creating experiences, directly within the discipline of the interior designer.

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1.7 FIELD AND TOPICS

The dissertation falls under the field of environmental potential. Secondarily it focusses on creating cultural landscapes.

It primarily addresses the topic of well-being, with its reference to health and sustainability; situated within the areas of retail and hospitality *(diagram 1.7)*.

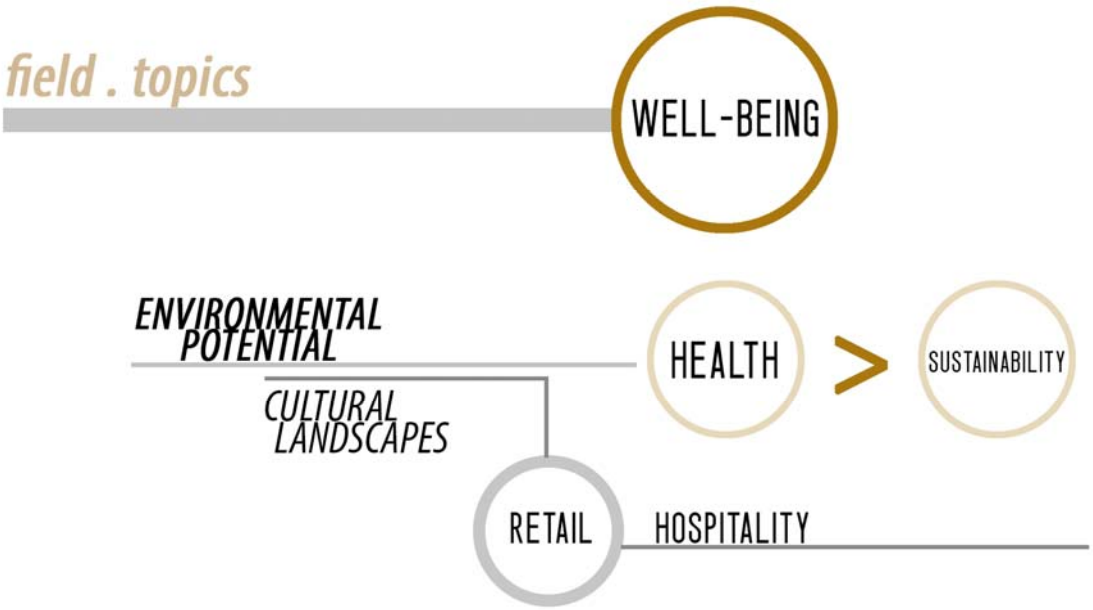

Diagram 1.7: A representation of the dissertations' field and topics

1.8 METHODOLOGY

An iterative research methodology, referred to as a design-thinking-process, will be followed. Defined with a human-centred focus, it is based on consumer and designer involvement in all aspects of design (Lockwood, 2009).

The research method comprises of three methods of investigation *(diagram 1.8):*

1.8.1 Context and analysis *(empirical)*
1.8.2 Theoretical investigation *(literature studies)*
1.8.3 Design development *(qualitative)*

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1.8.1
CONTEXT & ANALYSIS

This is the point of departure for the design project. Empirical data will be generated through observation and psychological analysis. The data will be generated though precedent studies where after the context, site and target-user is identified for the proposed programme.

The following deliverables will follow:

- Precedent studies must be informants for the dissertations development.
- Identify an appropriate context for the proposed programme.
- Analyse site context and urban vision.
- Place dissertation programme within the context.
- Define and understand the specific user and stakeholders.

1.8.2
THEORETICAL INVESTIGATION

The dissertation will manifest itself in the three identified literature studies in support of and for design concepts, development, strategies and implementations. As starting point to the proposed programmes investigation, background will be supplied. It will define the interior environment as well as the restaurant context.

The theories are as follow *(investigated in chapter 3):*

- Sustainable development: re-defining food and the eating process.
- Human Centred Design.
- Experiential design.

1.8.3
DESIGN DEVELOPMENT

As a result of the literature study, a qualitative response will be made through prototyping and testing.

Conceptual and spatial explorations with iterative reflections, will define the final design. The iterations will be documented with different variations of diagrams and photographs. It will clearly showcase the testing, building or expressions of conceptual ideas.

The requirements for restaurant operations as well as new technicalities and details for the programme will be integrated within this chapter.

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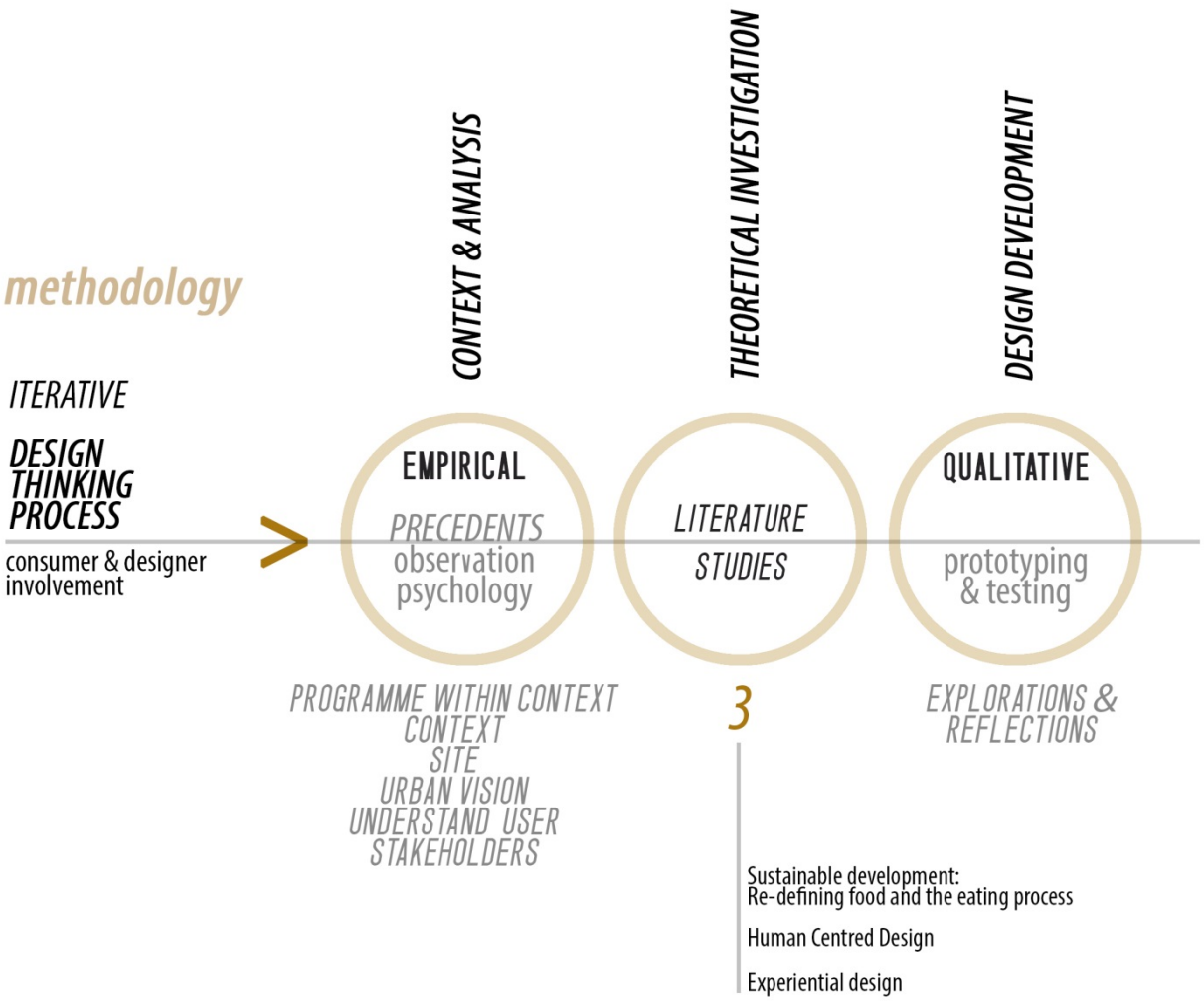

Diagram 1.8: The outline of the dissertation's methodology

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1.9
KEYWORDS AND DEFINITIONS

Artefacts

Artefacts can be referred to as all cultural residues of human production, both tangible and intangible, with cultural agency (being of meaning). An object is a subset of an artefact, consisting of tangible material form (Königk, 2015).

Changing kitchen

This is an approach which considers the kitchen as a central space defining element. Various changed concepts, contradicting the norm, can be developed or implemented *(refer to chapter 3.4.3.4)* (Mills, 2010).

Environment

The environment can be referred to as the interaction of physical and biological surroundings. It is therefore the sum of water, air, land and its inter-relationship between humans, other living organisms or materials. We as humans have an influence on the environment through overuse or over-exploitation of resources. This term is also referred to as ecology or ecological factors (Kaushik, 2010).

Experience

An experience is a sensation or user participation due to an exposure to intended design strategies. It seeks for interaction, involvement and intimacy within a space and its' artefacts, to convey an intended meaning, feeling or message (Vogelzang,2006).

Healthy

Health must be viewed as a positive concept. It is defined as; "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The word; healthy, refers to a balanced condition of living, when there is a harmonious performance of vital functions. This level of function allows individuals the ability to adapt and self-manage when facing physical, mental or social challenges (World Health Organisation, 1948).

Lifestyle

An aggregation of certain habits, attitudes, tastes, moral standards, or behaviours; based on personal decisions or societal influence, which constitute a specific way and manner of living (Dictionary.com, 2016).

Relate to well-being.

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Nutrition

The intake of food according to body dietary needs, in a balanced combination with physical activity. An adequate level of nutrition and activity denotes good health (World Health Organisation, 2016).

Restaurant

A business or establishment which accommodate the consumption of prepared food, through service, on site (CharMeck , 2016). It is a place where food is cooked, assembled, portioned, and served in a packaged or unpackaged manner. Three types of restaurants exist, namely; fast-food, buffet and dining: á *la carte* (Undo, 2010). They are differentiated in food preparation, service and interaction, as stated:

- Fast-food

  Fast prepared food on demand, with no table service. There is a quick interaction between the servant and customer. Usually has a drive-thru option.
- Buffet

  Pre-cooked food attained though self-service. There is no interaction between the servants and preparation processes with the customers.
- Dining: á *la carte*

  Food is delivered on request to a table by a servant. There is customer and service interaction.

Sustainability

Sustainability is viewed as a life cycle approach, promoting a long-term balance and benefit. The Oxford University Press stated in 2007 that the word sustainability refers to; "The capability of being maintained, borne, defended, upheld or supported" (Templeton, 2011).

Sustain, a verb, refers to a task/principle to be held or maintained continuously.

Sustainable, an adjective, refers to a task/principle being capable. It is able to be sustained for an indefinite period, if it doesn't damage the environment or deplete resources (Harrison, 2008).

Welfare

With relation to interior design: An interior environment which supports physical, psychological, social, and spiritual well-being. It furthermore assists or contributes to the financial or economic management, success, and responsibility (Guerin & Martin, 2010).

Well-being

It is a state of being in balance. This is an alignment of mind, body and soul. This state of balance is affected by health, purpose (meaning to life or work), relationship (social connectedness), community (engagement and empowerment of people with resources and infrastructure), security (basic human needs, stability) and our environments (Kreitzer, 2012).

Well-being is thus a strategy to improve *health*, and can be touched upon the discipline of interior design by changing the environments users inhabit.

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1.10 CONCLUSION

The project proposal for the dissertation was developed based on a normative stance towards interior design. A gap in the social sphere has been recognised towards sustainable living, and how the discipline of interior design can be used in response.

The dissertation is contextualized as a response against the status quo of the restaurant industry, which tends to be unhealthy and lack to provide an experience beyond the food itself. Research questions informed the investigation of the three theoretical approaches with regards to this problem. Through context analysis and a theoretical investigation, the aim is to create a designed user experience in the interior environment which encourages sustainability. The experience must be regenerative to be sustained and internalized by the users.

A contextual study and analysis will follow in the next chapter.

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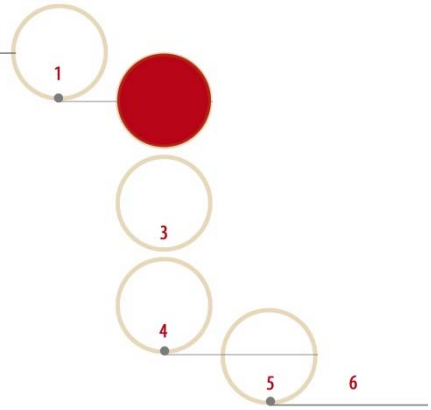
CHAPTER 2

CONTEXT & ANALYSIS



"There is no doubt whatever about the influence of architecture and structure upon human character and action. We make our buildings and afterwards they make us. They regulate the course of our lives"

Winston Churchill, 1924.

Chapter two is the departure point towards the theoretical and design discourse. It commenced by identifying relevant precedent studies. The analysis was defined into two groups namely; programme or concept, contributing as informants or inspirations. Thereafter the programme and its desired context were defined In order to identify an appropriate site. The site and reason for the selection is discussed. It is followed by an analysis of the site and its' surrounding context, where after the proposed programme is positioned within it. The combination of both the programme and the urban context generated the target user. The characteristics of the target user and its social connection with the community of the context are expressed diagrammatically.

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2.1
PRECEDENT STUDIES

Relevant examples were investigated to inform and orient the design of the proposed programme. All of the studies focus on the approach and representation of sustainable development in the interior environment of the restaurant industry.

2.1.1
METHOD OF ANALYSIS

- Relevant precedents were identified.
- The precedents were analysed and explored, some of them diagrammatically.
- Prominent characteristics, principles or design aspects were highlighted.
- Numbered and arranged according to most significant and influential.
- Individual reflections for the precedents were conducted as conclusions. This summarized the informants towards the design development.
- Final keywords were emphasized in a circle, to inform the concept and design.

In order to identify relevant precedents, both the programme of healthy lifestyles, sustainable living as well as the concept of experience design was investigated. This led to the division of two groups of precedents namely; A. Programme and B. Concept, as to be discussed below.

An outline of the entire precedent study analysis is represented *(diagram 2.1)*.

A.
PROGRAMME

This group of programme specific precedents had to be driven by the philosophy of healthy eating. The identified precedents support the hypothesis. The concepts, operations and the use of materiality promote either a healthy lifestyle or a notion towards sustainable living.

B.
CONCEPT

This group of precedents is based on the project objective of creating an eating experience. These precedents are in a response to the normative stance, searching for a dining experience beyond the food itself. In order to be relevant, the identified precedents must have had a direct reference to eating or food. Different concepts and attributes of eating can be incorporated within the design of a restaurant environment. Eating can be explored in terms of colour, effects on the body, methods of user engagement, changeability, as a performance or as a form of art.

For the purpose of this dissertation, four precedents from Marijke Vogelzang, an eating experience designer, will be analysed (Vogelzang, 2006). An additional two products which can enance the eating experience namely, Tableware (DEZEEN, 2012) and Reel Gardening (Reid, 2016), were also analysed.

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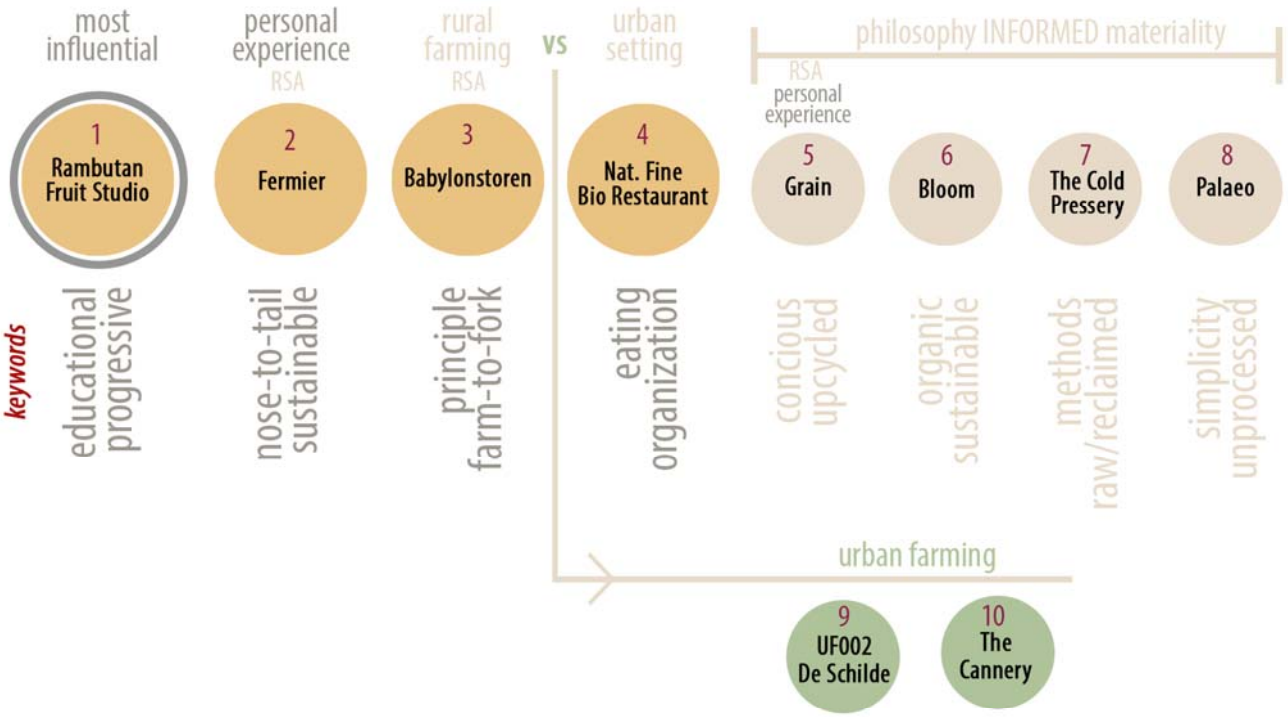
SUSTAINABLE DEVELOPMENT

A. PROGRAMME
philosophy of healthy eating



B. CONCEPT
objective of an eating experience

Diagram 2.1: The outline of the precedent study analysis

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A.1

PROGRESSIVE EDUCATIONAL

Rambutan Fruit Studio.
Kiev, Ukraine
by Yaroslav Galant

Figure A.1.1: Zone 1, front of house (Franklin, 2015)

Figure A.1.2: Display (Franklin, 2015)

DISPLAY EMPHASIS

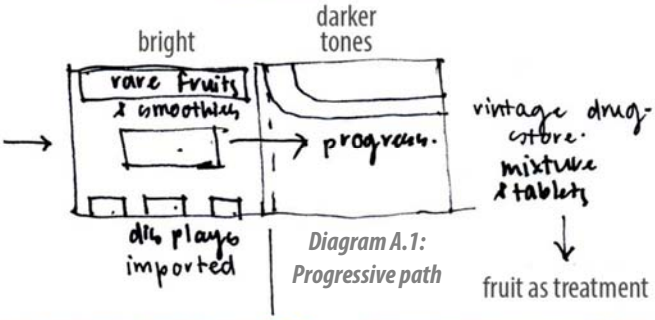

Diagram A.1: Progressive path

TRANSITION THRESHOLD

Figure A.1.3: Shopfront (Franklin, 2015)

Figure A.1.4: zone 2 with counter (Franklin, 2015)

This restaurant specializes in fresh fruit products such as salads and smoothies, providing products for those who wish to join the healthier living club. The vintage aesthetic supports this club-like atmosphere. The aim is twofold; taste driven and to educate users on the benefits of using fresh fruit as medicine. The studio takes an organic stance by using reclaimed materials (Franklin, 2015).

With analysis of the interior, a progressive-path is witnessed. This design decision showcases the different stages of the preparation. A contrast in the threshold of the two zones creates this transition. The layout further highlights the two zones, each with a different focus on the way of display *(diagram A.1)*. The first zone *(figure A.1.1)* showcases the products to purchase in fridges as well as imported fruits on reclaimed crates. By displaying the rare fruits under glass covers *(figure A.1.2)*, its value is accentuated. The emphasis is further placed on the products with direct bright lighting and information above them. The second zone *(figure A.1.4)* resembles a vintage drugstore, where you can pick and choose your "treatment" (in this case the fruit) (Franklin, 2015). By exposing the different fruits, the user is connected to the preparation of their products, making the experience personal. This intimate feeling is further enhanced by the use of darker surface tones of the planes and wooden floors.

The use of a centrally placed big table together with the black and white tiles set the scene for a shared café feeling *(figure A.1.1)*. A casual seating area with bright chairs is also arranged in the interior shopfront *(figure A.1.3)* to connect the users with the space and the produce. Another seating opportunity is on the exterior façade, which connects the users to the surrounding context.

REFLECTION: *This precedent is the most influential informant to the dissertation. The interior is zoned into two areas with different programmes and characteristics. It is progressive from the light informative zone into the darker toned personal area. The transitional link between the zones is of importance. The contrasting colours of the wall and floor materials define the space whilst the same brand image and language of the materiality connects it. The space is articulated with lighting, roof indentations and with the different shapes and sizes of the counters/tables. The progression in the space can therefore be of a transparent nature as long as the thresholds and surfaces are articulated. An educational value is attained by informing users with information panels or through verbal communication of the rare products or benefits of fresh produce. This quality encourages user interaction and adds value to the experience.*

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A.2

Fermier.
Fine dining restaurant experience
Karoo Yard, The Willows, Pretoria
Figure A.2.1: Interior view (Fermier, 2016)

Figure A.2.3: Lighting emphasize food (Fermier, 2016)

ARTICULATING THE OLD
Figure A.2.2: Floor articulation (Fermier, 2016)

Figure A.2.4: Materials (photos by author of dissertation)

Fermier is a fine dining restaurant with a focus on responsible and conscientious farming, seeking to be self-sustainable in the future. It is situated in Karoo Yard, The Willows, Pretoria. Fermier is based on a nose to tail approach. It is a holistic vision where everything, even the "waste", is turned into a functional part of the cycle. The idea is to close the gap between produce, farm and the final product. Guests can see the produce growing on the grounds and the versatility of each product, showcased in a seasonal changing menu. Where the produce is not sourced from the site, local small producers/suppliers with the same philosophy are involved. The extensive seven courses of the menu expose the user to various tastes and sensations, creating an experience (Fermier, 2016).

The building itself grew organically around a pole structure *(figure A.2.1)*. Excavated soil from the site is used to create rammed earth walls with recycled wood cladding and doors. This rustic simplicity of the exposed and earthy interior surfaces is the perfect contrast to the refined, elegant food *(figure A.2.4)*. The floor is articulated by showcasing the history of the site *(figure A.2.2)*. The kitchen is completely open with suspended lights placing emphasis on the finishing of the plates *(figure A.2.3)*. This open display makes it feel like a part of the ambient and inviting dining area. The crockery, tables and chairs also showcase involvement of the surrounding community. These elements have been designed by Elza van Dijk's in her on site pottery studio and handmade by artisans from the Karoo Yard.

REFLECTION: *The interior environment creates a natural backdrop with the same language as the food philosophy. The food and the setting showcase the conscious and sustainably farmed produce and materials. The articulation of the old fabric, as seen in the brick and concrete floor threshold, furthermore supports the notion to expose processes. The restaurant system and integration of the surrounding context is close-looped, a valuable aspect to pursue.*

The emphasis is placed on the finishing of the food with overhead lighting strategies. The interior still lack to successfully show the "farm", as the preparation of the elements and the hydroponic systems are not visible. A holistic experience is created as different colours and tastes are placed on the foreground. The story is planned together with the type of crockery and the display of the food, but the setting and different encounters can be incorporated more within the eating experience. The other senses such as sound, touch and sight in the form of various interior views, can be explored more.

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A.3

RURAL FARMING
FARM-to-FORK

RSA

BABEL

Figure A.3.1: Babel restaurant (Babylonstoren, 2016)

GREENHOUSE

Figure A.3.2: Greenhouse restaurant (Babylonstoren, 2016)

Babylonstoren
Garden, restaurants and venue
Franschhoek, Cape Town
(Babylonstoren, 2016)

Figure A.3.4: Seasonal plates (Babylonstoren, 2016)

Figure A.3.5: Rural farm (Babylonstoren, 2016)

Figure A.3.3: Pick and serve (Babylonstoren, 2016)

Babelonstoren is a rural farm venue *(figure A.3.5)* consisting of an extensive garden and two restaurants namely, Babel *(figure A.3.1)* and Greenhouse *(figure A.3.2)*. Their philosophy is based on the farm-to-fork principle, a sustainable way of growing and operating an establishment. All their produce is grown organically on site from where it transfers into the restaurants. This pick-clean-serve approach is what defines their approach to food *(figure A.3.3)* (Babylonstoren, 2016).

The menu is designed to not tamper with the food or serve it in an unconventional way, but rather to what is in season and in its most honest natural state *(figure A.3.4)*. The venue also provides workshops where users interaction with the produce while being educated to gain skills and techniques.

The interior also speak of this honest approach. The Greenhouse restaurant *(figure A.3.2)* is placed within the growing greenhouse, closing the gap between the products and the people. The materiality of Babel *(figure A.3.1)* is clean, clear and simplistic, which resembles the organic and no-fuss approach. The white backdrop of the walls further emphasizes the food and its colours.

REFLECTION: *The farm-to-table principle is a thriving notion, supporting the proposed programme of sustainable living. There is an opportunity to introduce this farm-to-table approach into an urban context. More people will be exposed to this principle on a daily basis. Currently, the entire lifecycle of the produce is not showcased, as users are disconnected from the preparation of food or the recycling afterwards.*

The concept of the Greenhouse restaurant further heightens this experience by placing the users and their table within the context of the farm. The neutral interior aesthetic such as the glass of the Greenhouse and the white walls and furniture of Babel highlights the produce. The available workshops can add an educational aspect, which will make the eating experience more valuable. The workshops are not accessible for the users during the consumption process.

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A.4

Nat. Fine Bio Restaurant
Hamburg, Germany
by eins:eins Architects

Figure A.4.1: Interior axonometric (Contemporist, 2010)

Figure A.4.2: Interior seating area, natural characteristics (Contemporist, 2010)

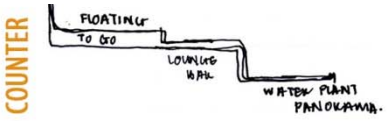

Diagram A.4.1: "Growing" counter

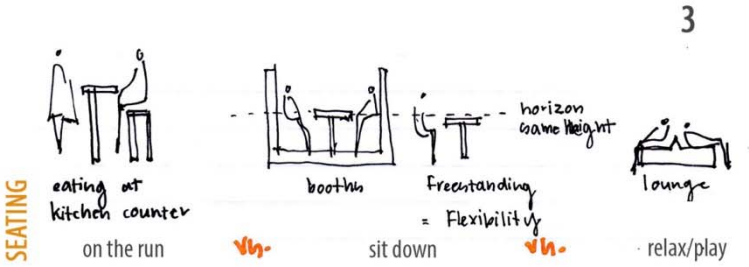

Diagram A.4.2: Seating behaviours

This fast-food sit-down restaurant is based on the LOHAS principle, referring to; "Lifestyle of Health and Sustainability". A design concept of "nature comes to the city" is followed. The aim is to make fast-food healthy in a contemporary urban environment. This will be established by creating an organic and natural restaurant in contrast with the artificial urban environment *(figure A.4.1)* (Contemporist, 2010).

Natural characteristics are implied in various interior elements *(figure A.4.2)*. The curved form of the seating and counters *(diagram A.4.1)*, the roof articulations as well as the graphical decals resemble the organic growth within nature. The wooden surfaces and green or neutral colours furthermore resemble nature. These natural elements are brought in contrast with the urban context. The contrasts are experience with the emphasis and abstraction of natural elements (for example the imitation of grass). These contrasts link to the design concept whilst creating an interesting interplay within the space.

The interior is furthermore organized in different ways to suite various user behaviours. It is defined in three different ways of seating with different heights. Each exploration creates a different experience *(diagram A.4.2)*.

REFLECTION: *This restaurant is not operating anymore but can still be seen as a valuable informant for the design. The various seating organizations create an opportunity to explore different user behaviours. Both the fast or slow paced consumption of the users must be considered and designed for. The look and feel and height differentiations define the different zones for different behaviours. The constant contrast and connection between the natural elements with either artificial characteristics or with the urban context further enhance the concept of the proposed programme.*

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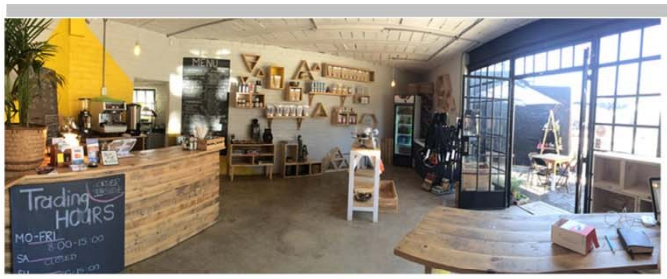
A.5

CONCIOUS UPCYCLED

RSA



Grain.
Showroom, Retail & Café
Maboneng Precinct, Johannesburg

Figure A.5.1: Interior view (photo by author of dissertation)

Figure A.5.2: Retail displays (Fawzy, 2015)

Figure A.5.3: Shopfront and outside seating area (Fawzy, 2015)

Figure A.5.4: Retail display (Fawzy, 2015)

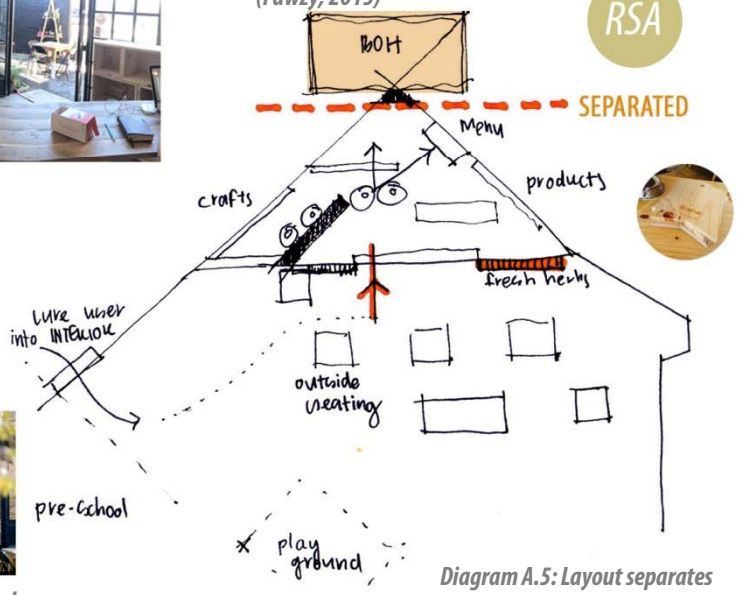


Diagram A.5: Layout separates processes, front versus back of house

Grain is a café' striving to attend to the environment first. Its mantra is food & wood, referring to both wood grains (natural elements) as well as going against the grain of perception (proving to users that healthy food can taste and look good) (Fawzy, 2015). It strives to use only organic ingredients by making use of local sources, producers and farms.

The café is situated in Maboneng as a form of casual dining for the environmental and health conscious consumers. It is a multifunctional interior space as it combines food with the showcasing of upcycled furniture, natural products and art pieces *(figure A.5.2 & A.5.4)*. It is a collaboration of two establishments namely, Woodlady and Gihon Foods (Fawzy, 2015). The furniture and products from Woodlady creates the retail environment. Gihon Foods is a healthy product range used within the deli, which can also be purchased.

Both the showroom and menu invites the users into the retail space *(figure A.5.1)*. By incorporating the wood showroom into the space, a clear connection is made to the craftsmanship character of the context. The menu is placed on a discussion blackboard in the interior, from where the user moves to the outside seating area *(figure A.5.3)*.

REFLECTION: *Craftsmanship is introduced into the interior by selling products made by companies within the context. The different designed displays add value to the interior by enhancing the distinct natural look and feel of the programme. It emphasizes and resembles different elements working together, as in nature.*

Although invited into the interior for interaction, the user is separated from the kitchen processes (diagram A.5). This disconnects the user with the preparation of healthy eating, which makes the adaption of this environmental approach unsuccessful. The use of local sources and farms is also not visible.

The idea of exposing and placing all the processes on the foreground, including the back of house area, is an important notion to implement within the proposed programme.

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A.6

ORGANIC
SUSTAINABLE

Bloom. The healthy food co.
Mosman, Sydney
by: Hare & Klein
(Nourished, 2013) *Figures A.6: Interior counter, seating and water point (Nourished, 2013)*

This restaurant believes that the key to being healthy is in the ingredients (Nourished, 2013). It must be organic and sustainable by being fresh, local and seasonal. The methods of preparation, such as steaming, baking and sauté, also resemble the most natural state. This organic philosophy translates into the materiality of the counter and the seating areas by using materials in the most natural state as possible *(figures A.6)*. The concept of the filtered water point also reflects this approach.

REFLECTION: *The concept of natural methods and processes in both the food preparation and the materiality is inspiring. The natural state of the materials is not experienced, other than the wood surfaces. It seems as if the aesthetic quality of the space is not defined and only applied for functional purposes. The identity of the space must be functional yet aesthetic and conceptually specific. The aesthetic quality can also be experienced through other sensory interaction, such as touch or smell.*

A.7

METHODS
RAW
RECLAIMED

The Cold Pressery.
Mississauga
by 1 POINT 0
(The Cold Pressery, 2014) *Figures A.7: Order counter and seating area (The Cold Pressery, 2014)*

This restaurant promotes a healthy way of living by consuming raw and organic produce by means of juicing (The Cold Pressery, 2014). This translates into the raw inspired interior environment. The materiality of the order station promotes sustainability by using reclaimed wood and concrete, with simplistic white tiling *(figures A.7)*. The seating area plays on industrial qualities.

REFLECTION: *Except for the branding of the space, the material use and application is very ordinary. Details are not added or exploited to fit the raw concept. A distinct brand image will be created for the proposed programme. The branding products, packaging, the processes of the produce, the material processes and the restaurant lifecycles will express a raw yet transparent quality.*

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A.8

SIMPLICITY
UNPROCESSED

Palaeo. Primal gastronomy
Copenhagen

Figure A.8.1: Order station, different materials (Palaeo, 2012)

Figure A.8.2: Fresh produce station (Palaeo, 2012)

Figure A.8.3: Social interaction bar station (Palaeo, 2012)

The concept of this gastronomy is based on simplicity of the food and the interior environment. It strives to showcase the Danish trait of; "coziness through the environment and social situations" *(figure A.8.3)*. This ease of environment is achieved by dedicating zones for a specific purpose (Palaeo, 2012). It is divided into the fresh preparation *(figure A.8.2)*, order station *(figure A.8.1)* and bar station (*figure A.8.3)*. The various preparation stages can be witnessed from the various stations. The stations furthermore enhance the workflow. Simplicity is achieved in the food by using organic produce and in the materiality by using unprocessed materials such as concrete, wood and leather.

REFLECTION: *It is important for the interior environment to be zoned to create simplicity in the processes. The use of unprocessed materials can be further exposed in different details, to further emphasise an aesthetic quality. Different details will add a stronger aesthetic value to the interior and the brand image.*

A.9

Figure A.9.2: Aquaponics systems (Urban Farmers, 2014)

open building space
URBAN FARMING

UF002 De Schilde
by Mark Durno
The Hague, Netherlands
Architect: Dirk Roosenburg 1950's

Figure A.9.1: Urban farming building (Urban Farmers, 2014)

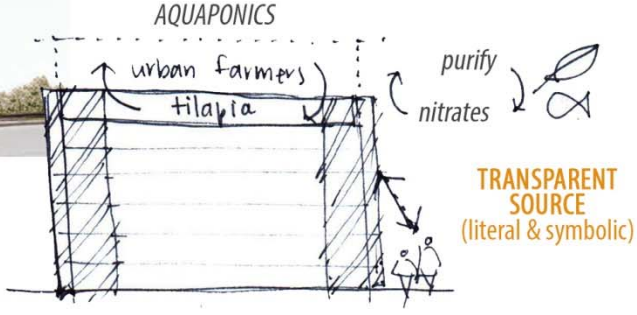

Diagram A.9: Transparency of farming systems

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Farming in the city is seen as the 4th prevalent and expanding niche in New York. The approach is to bring the farm to the people, built on the ideas of transparency and local sourcing, to showcase it to them (Urban Farmers, 2014). The design utilized a vacant building named The Hague (1950) which served as an office block. It is now conceptualized as a multifunctional hub, hosting food for families, a restaurant and a cooking school. The empty rooftop space will be filled with aquaponics system *(figures A.9.1 & A.9.2 and diagram A.9)*.

REFLECTION: *The concept of urban farming in open areas occupied and engaged with by people, informed the current project. The principle of a transparent source is explored. Both the quality of organic products and the application of the system must be visible.*

community

URBAN FARMING

A.10

The Cannery. New Home
Davis, California

Figures A.10: Community based on urban farming (The Cannery, 2016)

This housing project is based on the idea of a farm-to-table community, which will contribute to the sustainability of the community (The Cannery, 2016). An area designated towards urban farming will intentionally be placed in the centre of the 547 proposed houses *(figures A.10)*. It will encourage the users to use the fresh and local produce. It will also provide an opportunity for a teaching centre, where skills for maintaining the farm will translate into job opportunities.

REFLECTION: *Urban farming is the fundamental aspect of this project. This system has the ability to translate into an interior environment, by basing the entire design around it. It will not only benefit the programme but the interior quality and character as well. The practicalities must be considered*

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B.1 ENGAGEMENT TOUCH

Hands On.
by Marije Vogelzang studios.
Dordrecht Netherlands

Figure B.1: Interacting with food event (Vogelzang, 2006)

B.2 CHANGEABILITY PERFORMANCE INTERACTION

24 Frames per seccond
by Marije Vogelzang studios.

Figure B.2: Food as performance art (Vogelzang, 2006)

Hands On

A conceptual dinner event encourages users to have a direct relationship with the preparation of meals. It is an exploration which defines how presentation, the ingredients and the spatial environment can be used to affect the way users interact with the food and each other (Vogelzang, 2006). People are encouraged to engage with the food by creating it with the use of their hands only *(figure B.1)*.

The space considers the mood through lighting and in the materiality of the table surface. The essences of the interaction with the ingredients seek to bring people together and celebrate communal eating.

REFLECTION: *Users are exposed to the process preceding consumption. The unusual act of making, in a natural and interactive way, furthermore connects consumers to the habit of the cooking process. The impact and memory of this eating experience will encourage users to create their own sustainable meals. The touching of produce adds another sensory dimension to explore.*

24 Frames per second

This event is a dessert installation, referring to movie screens and the act of going to the movies. It can be seen as an art performance with food, as it showcases a process of change other (Vogelzang, 2006). The concept is to suspended apples dipped in caramel, which then drip onto popcorn *(figure B.2)*. As movie screens constantly change, the dripping action also changes the popcorn. The users are part of the change as they are encouraged to both witness and interact with the installation by consuming the food.

REFLECTION: *The process of eating is subject to constant change. An interaction with change can involve users within the lifecycle of food. This lifecycle can be emphasized by incorporating growing elements or the various processes linked to eating, within the interior environment. The adaptions, dependencies and interconnections of natural produce and products must be experienced as a form of art.*

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B.3

PSYCHOLOGICAL
EDUCATION
VIBRANCY

Colour Food.
by Marije Vogelzang studios.
New York City

Figure B.3: Information installation, the colour of ingredient s (Vogelzang, 2006)

B.4

INTENTIONAL
PERSONAL/SHARED
INFLUENCE

Energy & Relax.
by Marije Vogelzang studios.

Figure B.4: Designed menu for a specific mood (Vogelzang, 2006)

Colour food

This installation was for a children's clinic in New York City, highlighting the relation of colour and food. The colour of food is often viewed as an indication of health benefits *(figure B.3)*. This approach lends itself towards the study of the meaning of various colours. Red is seen to characterize confidence, yellow friendship, green as fresh and black stimulates discipline (Vogelzang, 2006).

REFLECTION: *The colours of eating carry a meaning. It can be seen to be the focal point, emphasize the vibrancy of the experience or be used as a method of education. It informs users of the various attributes of sustainable and seasonal eating. On a psychological level, the implementation of various colours can imply a specific experience within the interior environment.*

Energy & Relax

Specific foods consumed have a direct effect on the body (Vogelzang, 2006). For this installation an energy or relax menu were designed to fit the psychological need of the user *(figure B.4)*. The experience was further enhanced with smell, by placing an energizing or relaxing scent on the user. The memory of the smell will last longer than the consumption of the food. Users also used their spoon to form part of a bigger chart, where the visitors express what mood was desired.

REFLECTION: *A specific intent can be designed within the menu. The details of the designed intention can create a story, a feeling which the user can relate to. The interaction through eating as medium creates both a personal engagement and a relation to others. As the smell, an eating experience must have a lasting effect and influence on the user.*

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B.5 SENSORY STIMULI

Tableware.
Netherlands
by Jinhyun Jeon
Figure B.5: Tactile sensory cutlery (Dezeen, 2012)

B.6 INVOLVEMENT

Reel gardening SA
Figure B.6: Paper strips with seeds within (Reid, 2016)

Tableware

An exploration of cutlery showcases the relationship between food and the senses. It investigates how shape (volume/weight/form), texture (tactility) and colour can enhance taste *(figure B.5)*. By using the differently defined cutlery, the user will enrich and engage more with the act of eating (Dezeen, 2012).

REFLECTION: *The eating experience can be enhanced by the crockery and cutlery the user interacts with. The proposed programme will investigate ventures of edible cutlery and the use of crockery made from organic materials. It will encourage interaction with the elements and the concept of sustainability.*

Reel Gardening

This South African initiative addresses urban food security. Society is encouraged by new ways of producing their own organic produce. Reel Gardening developed an innovative and distinct brand product, which makes the growing process more accessible. The product comprise of organic seeds with fertilizer in a paper strip. The cardboard packaging furthermore reflects sustainability by being recyclable and easy to use. It also clearly defines the product use and harvest time upon seasonality.

REFLECTION: *Branded elements can be introduced within the proposed programme. Innovative solutions, involving seed, has the opportunity to support sustainability. Users must be encouraged to grow their own produce. Community involvement must also be implemented. Solutions for the growing of fresh produce within the interior environment must be explored.*

2.1.2 CONCLUSION OF ANALYSIS

Number A1-A4 was the most influential informants and A5-A8 supplemental. A5 specifically emphasizes a retail environment where art and craftsmanship is incorporated. A6-A8 explores the translation of a sustainable programme into materiality and aesthetic quality. In addition to the encounter in number A3 and A4, number A8 and A9 explore examples of urban farming. Number A2 was an authentic visit to a local restaurant with a sustainable approach.

Number B1-B5 explores concepts of eating experiences which showcase a performance, user interaction or designing with the senses. These precedents must be seen as inspirations rather than informants. It has been recognised that the identified examples are not yet representational of how the discipline of interior design can be fully utilized as tool, for creating such experiences.

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2.2
DEFINE PROGRAMME IN A CONTEXT

As stated in the project aim and objective, the proposed programme; *Green (Inside)*, will focus to create an eating experience with the implementation of interior design principles and strategies. The designed interiors' intent is to encourage sustainable living, referring to both ecological and well-being aspects.

From the above precedent studies, further concepts and informants for generating the programme in a contextual environment are drawn.

The found farm-to-table principle is a relevant and desired principle to implement. This principles' transparent quality of the eating process creates the opportunity for user involvement and education. In general it is practiced in rural settings.

The contemporary approach to the farm-to-table principle is to bring the farm to the people. The city is seen as the farm, and all its residents are potential farmers (Calitz & Drakes, 2016). This notion evolved into the manifestation of urban farming. Urban farming seeks to utilize open building spaces, which also attribute to establishing a community around it. This informed the shift towards the selection of an urban setting for the programme.

To place the programme in an urban context, proposed applications of urban farming was investigated within Pretoria and Johannesburg. Upon investigation, this trend was identified in the Maboneng precinct, in the Johannesburg CBD.

2.3
CONTEXT

2.3.1
SITE

The dissertation's project proposal aims to be placed within the Maboneng precinct, Johannesburg CBD, South Africa *(figure 2.3.1)*.

Within the precinct, the programme will be placed within Access City *(figure 2.3.3)*. It will furthermore connect with the surrounding context of Trim Park and Common Ground. Two other conceptual programmes namely, a branding studio and a making studio, will also be proposed *(figure 2.3.5)*.

2.3.2
REASON FOR SITE SELECTION

The identified site is viable as ventures of urban agriculture are proposed (farm in the city initiative) (Calitz & Drakes, 2016). As the project objective aims to change users towards sustainable living, the precinct vision also coincides with the same outlook for an urban change towards a sustainable community livelihood. The community's betterment is centred on the socio-spatial integration. Both the precinct and proposed programme therefore aims for a regenerative and sustainable future change. Lastly, the surrounding programmes support and significantly contribute to the proposed programme as it creates opportunity for integration *(refer to section 2.3.4)*.

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2.3.3
MABONENG PRECINCT

The Maboneng precinct, meaning; *"Place of light"*, is an urban development scheme situated in the eastside of Johannesburg city. This development is aimed at urban upgrade, change and regeneration which encourages exploration and curiosity (Maboneng, 2016).

The vision is to accommodate various mixed-use spaces in existing industrial or vacant spaces. It comprises of an eclectic mix of offices, apartments, shops, restaurants, studios, galleries and entertainment with the focus on the celebration of art (Maboneng, 2016). The precinct encourages engagement and interaction between users and public space. As a creative platform, it formulates an integrated and vibrant inner-city neighbourhood, pursuing a sustainable urban framework (Earthworks, 2013). The character of the precinct is expressed in photographs *(figure 2.3.2)*.

Some other unique interests *(refer to figure 2.3.1)* are:

1. Arts on Main is the precincts most significant attraction, a contemporary urban food and art market hosted on Sundays.
2. Trim Park, an urban physical training facility for the community
3. Common Ground, a public park
4. The Bioscope, South Africa's only independent cinema

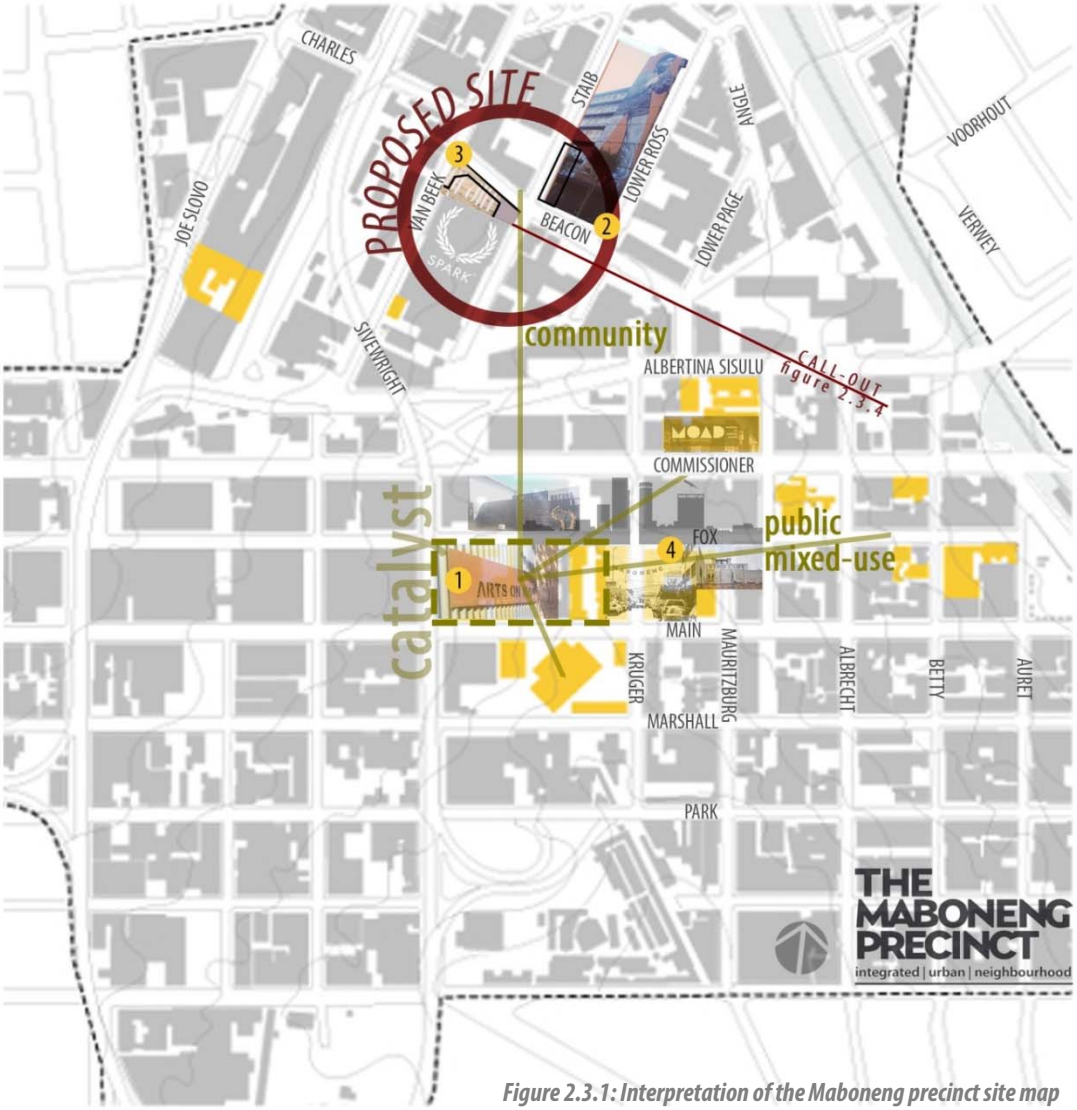

Figure 2.3.1: Interpretation of the Maboneng precinct site map

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2.3.4
PROPOSED PROGRAMME WITHIN THE SITE

The interior design project: *Green (Inside)?* is proposed to utilize four interior shopfronts on the south-western façade *(figures 2.3.4 & 2.3.6)*. Some of these shopfronts are still empty, or if occupied constantly change in tenants. It is an opportunity to implement a defined and sustainable intervention.

Access City has already made a proposal for an application of urban farming on the rooftop. Various opportunities for more rooftop agriculture have also been suggested in proximity. The character of the surrounding context is analysed *(figure 2.3.3)* and a site plan *(diagram 2.3.5)* contextualizes the proposed programme. Concepts for a branding studio and a making studio are furthermore proposed.

Proposed site

ACCESS
Main access through demarcated shopfront doors.
Secondary point: back of house storage & deliveries room

PROGRAMMATIC INTEGRATION
2 Trim Park: encourage physical activity when users visit the site (support healthy living concept)

3 Common Ground: open rooftop space for organic food production (installation of modular farming systems)

Spark School: outdoor amphitheatre for educational purpose. The community and children of the school will learn about organic farming, seasonality and its nutritional benefits.

ADDITIONAL CONCEPTUAL PROPOSALS
Further regenerate the community & context by proposing separate business interventions, which connect to the proposed programme (branding and making of the elements) but function independently.

Branding studio: Develop creative brand identities & bespoke handcrafted products.

Making studio: Create branded products, crockery, cutlery, menus, brand envelopes and packaging.

view of the street corner,
through Trim Park towards the proposed shopfronts

view from the street corner of the
proposed site towards Common Ground

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integration:

character

OFFICE SPACE
industrial fabric, exposing materiality

INDUSTRIAL WAREHOUSES
mixed-use spaces

ARTISAN LOFTS

STREET ART
creative character of the precinct , identity

Figure 2.3.2: Photographs of the precinct character

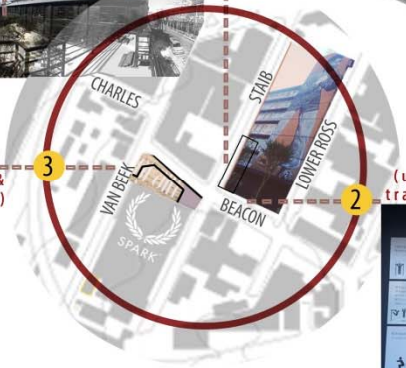
rooftop opportunity

(SITE)

TRIM PARK
(urban physical training facility)

industrial identity, re-purpose elements

COMMON GROUND
(public park & Sparks school)



signage on facade, info on how to use Trim Park

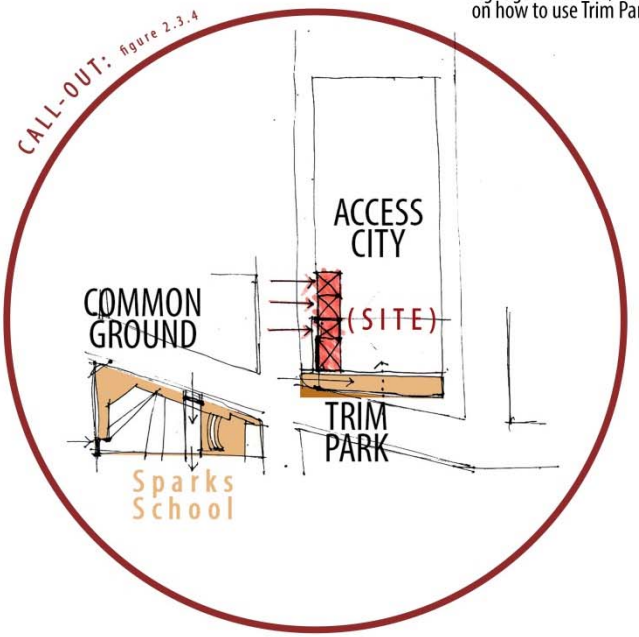


Figure 2.3.4: Diagram of the proposed site from figure 2.3.1

Figure 2.3.3: Photographs of the surrounding context for programmatic integration

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INDUSTRIAL WAREHOUSES

Lower Ross street

deliveries ACCESS

code: RE/T01R0461000
stand nr: 930
10584 m²

7 levels

11 levels

ACCESS CITY

deliveries courtyard

PROPOSED SITE

PROPOSED BRANDING STUDIO

PROPOSED MAKING STUDIO

TRIMPARK INTERVENTION

pavement

parking

main entrance into Access City

Beacon road

parking

INDUSTRIAL WAREHOUSES

concrete slab overhang

pavement parking

shopfront ENTRANCE

fresh produce deliveries

Staib street

pavement

TAXI & BUS RANK

FLATS TO LET

SKATE PARK

OUTDOOR AMPITHEATRE

SPARKS SCHOOL

PROPOSED ROOFTOP FARMING, AQUAPONIC SYSTEMS (MODULAR)

COMMON GROUND

SITE PLAN

1:500

Figure 2.3.5: SITE PLAN

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site within:
ACCESS CITY

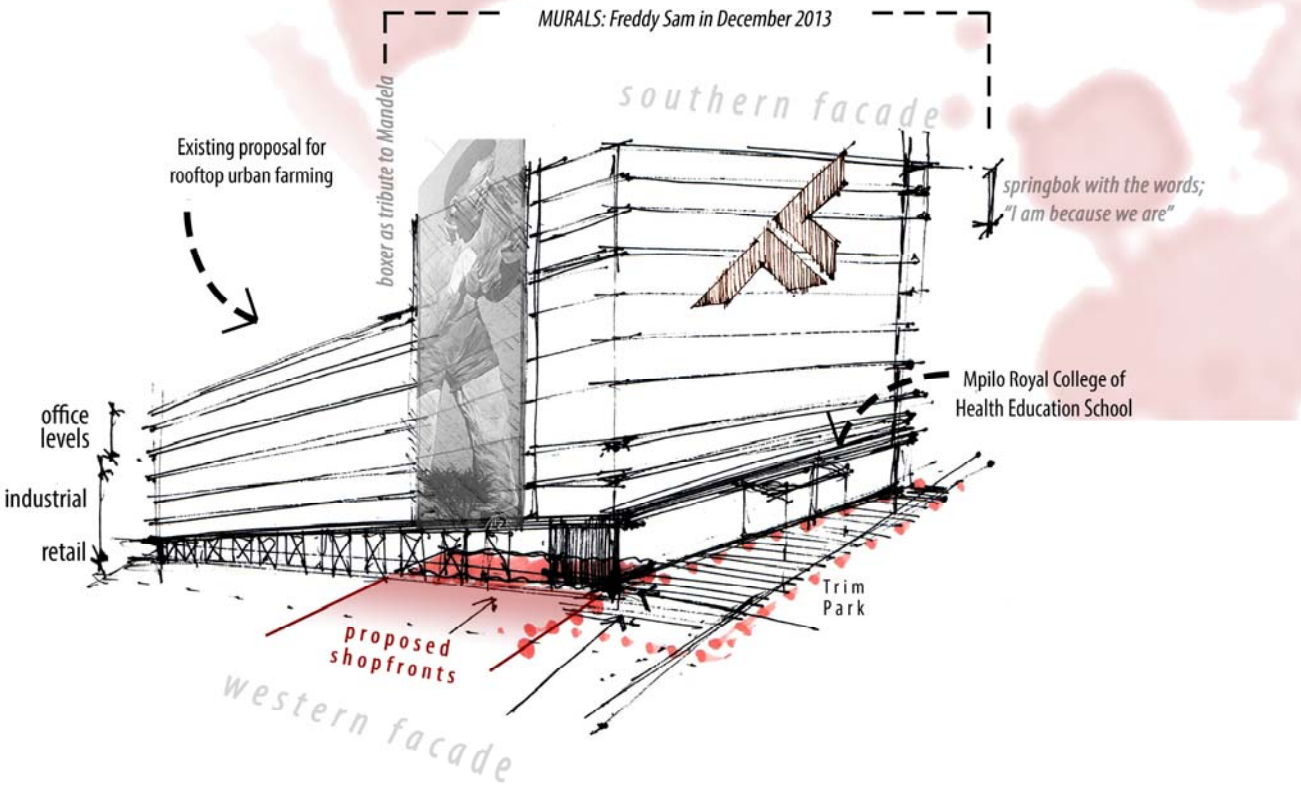

Figure 2.3.6: The proposed site

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2.3.5
ACCESS CITY

Access City is currently the largest development of Maboneng (Propertuity, 2016). Its vision is driven by collaboration and innovation. It therefore hosts a variety of retail shopfront on the ground level, industrial ventures from the 1st to the 4th floor and office space on the top 2 floors. It also houses the Mpilo Royal College of Health Education School. The characteristics of the existing fabric are analysed *(figures 2.3.7 & 2.3.8)*.

As a building it is acknowledged by the oversized murals on the eastern and western façades. On the eastern façade is a Springbok with the words; "I am because we are", and on the western façade a mural of a boxer as tribute to Mandela. This mural was created by Freddy Sam in December 2013 (Propertuity, 2016).

The building is built in a brutalist style. It is defined by three distinct characteristics, namely:

- Exposed concrete columns
- Raw and industrial steel shopfronts on the ground level
- Painted façade patterns from the first floor upwards, representational of African textiles

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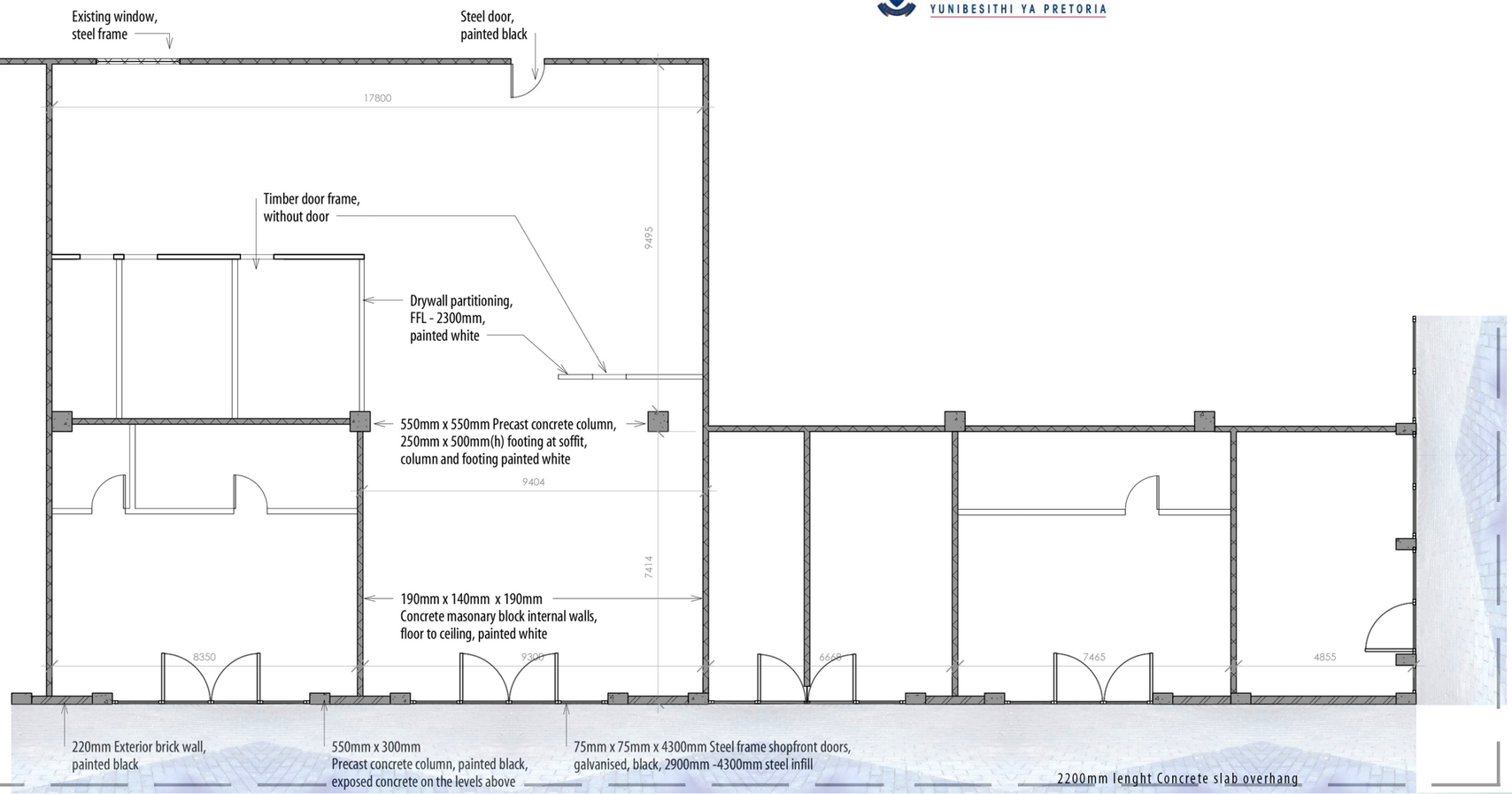
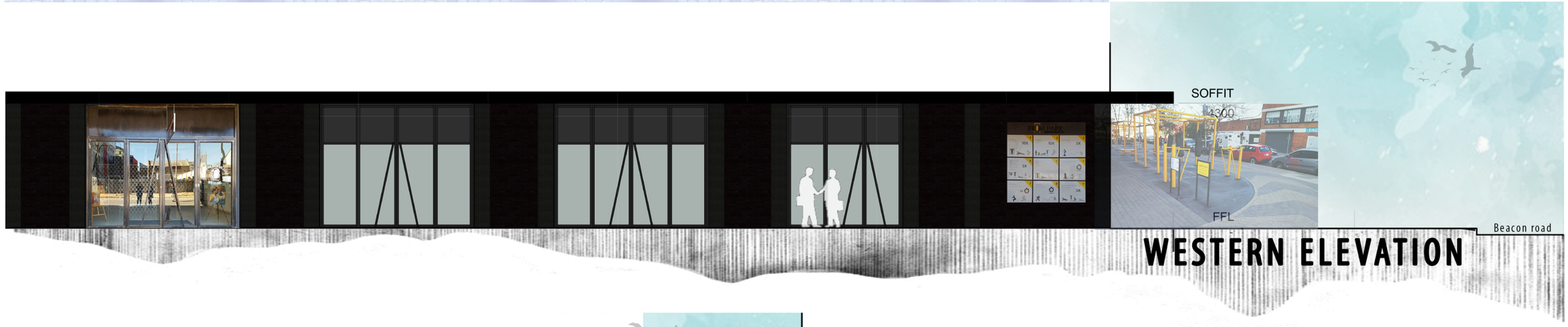
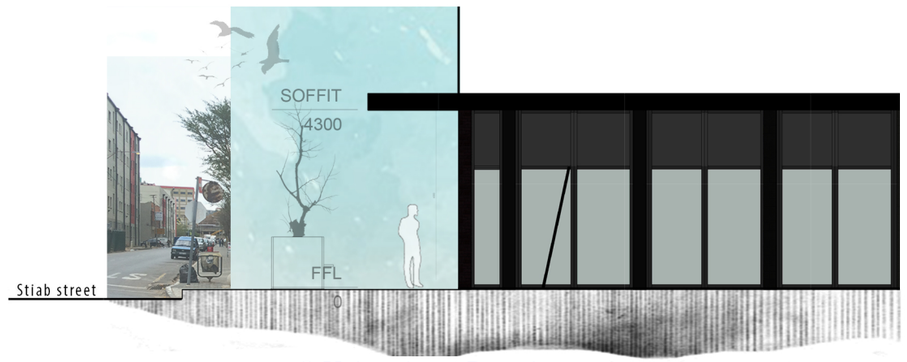


SITE PLAN

0 1 2 scale meters



WESTERN ELEVATION



SOUTHERN ELEVATION

EXISTING FABRIC

Figure 2.3.7:

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EXISTING FABRIC
ACCESS CITY

Interior & Exterior

Industrial structure. Roof articulations in the concrete slab. Neutral finishes.
Exisitng systems: interior drywalls, chipboard shopfitting, duct, fire sprinklers and tube lighting.

Interior columns: footing at soffit, plastered, white

Concrete masonry block walls, painted white

Floor finishes: neutral tiles and painted concrete screed

Existing window and steel door which open up onto the courtyard

Accesspoint into the courtyard, towards the wall of site from within the courtyard

Road to pavement articulation

Steel shopfront doors, retail opportunity

Brick & concrete column facade, painted black

Exterior planter seat reclaimed wood, painted black pattern

Steel door frame to plastered brick wall

Pavement pattern: distinct wayfinding

Figure 2.3.8: Analysis of the existing fabric, both the exterior and the interior

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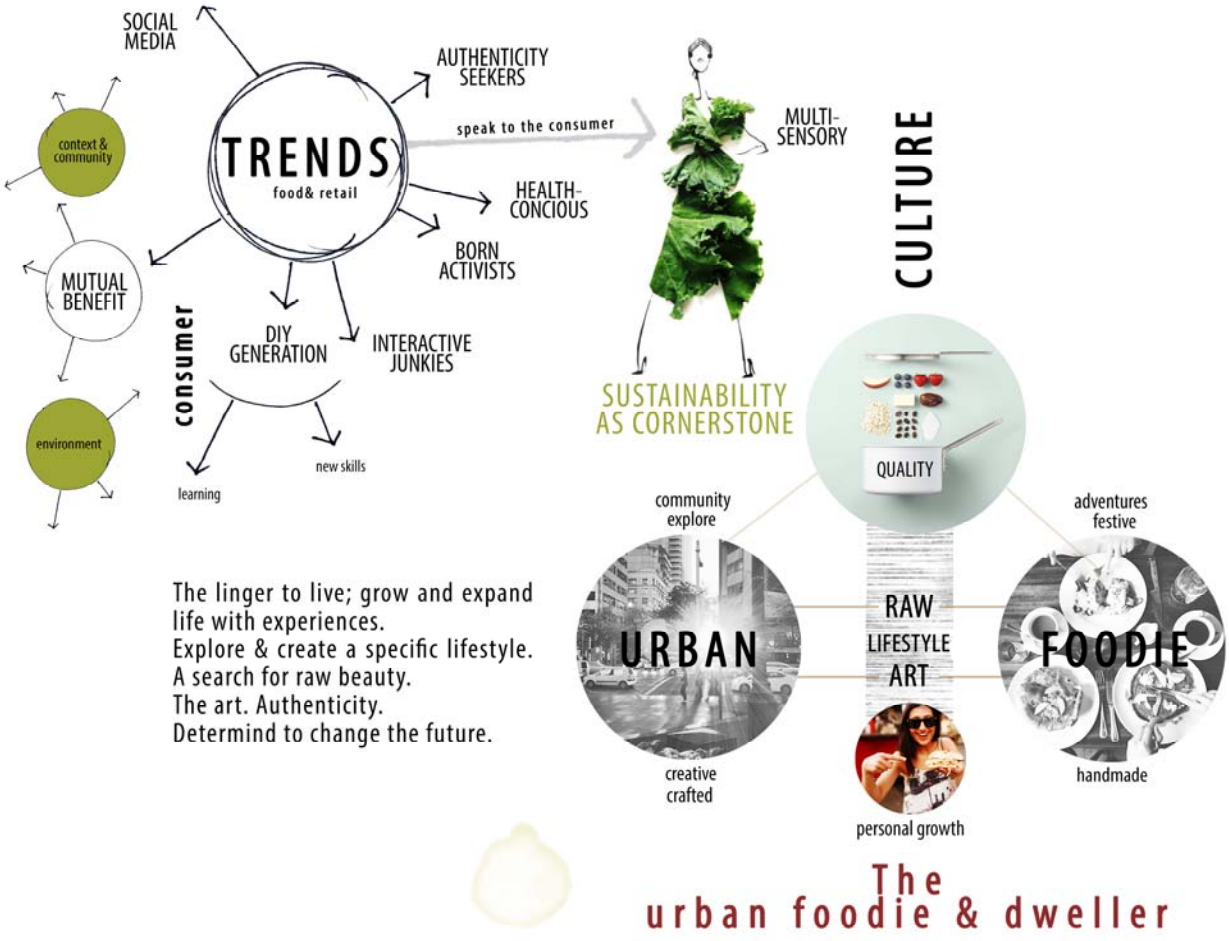
2.4
TARGET USER

The combination of trends, the proposed programme and the urban context generated the target user *(diagram 2.4.1)*. The user is defined as the urban foodie and dweller. The characteristics of the user are expressed followed by the social interaction between other stakeholders in the urban context. The various objectives of each stakeholder are furthermore proposed.



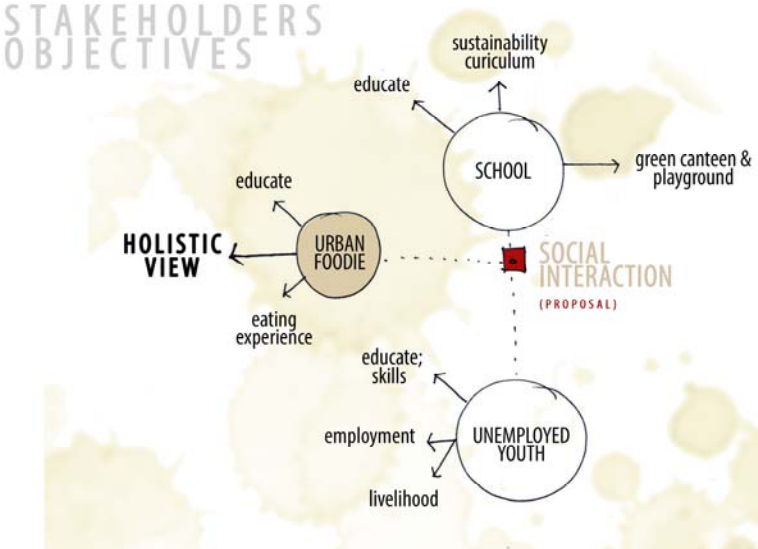


Diagram 2.4.1: Consumer trends and character of the proposed target user and stakeholders

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2.4.1
MOODBOARD : CHARACTER OF THE USER

The character of the target user is defined by the character of Maboneng. Maboneng is seen as a destination, a place to explore, as it captures a specific urban character. This same character must be expressed in the proposed programme.

This distinct urban character is expressed with a moodboard *(figure 2.4.2)*. There is a raw and honest nature to expression. The people, products, structures and materials are exposed and stripped-back to define an authentic and original state. Users seek trends, expressed through platforms such as social media and photography.

Industrial qualities are expressed in the use of materials, indicating the desire for craft and creativity. Reclaimed wood elements are used as wall cladding, furniture or as art pieces. Steel is used for structural elements or in the form of various laser cut panels. Exposed brick and concrete is prevalent.

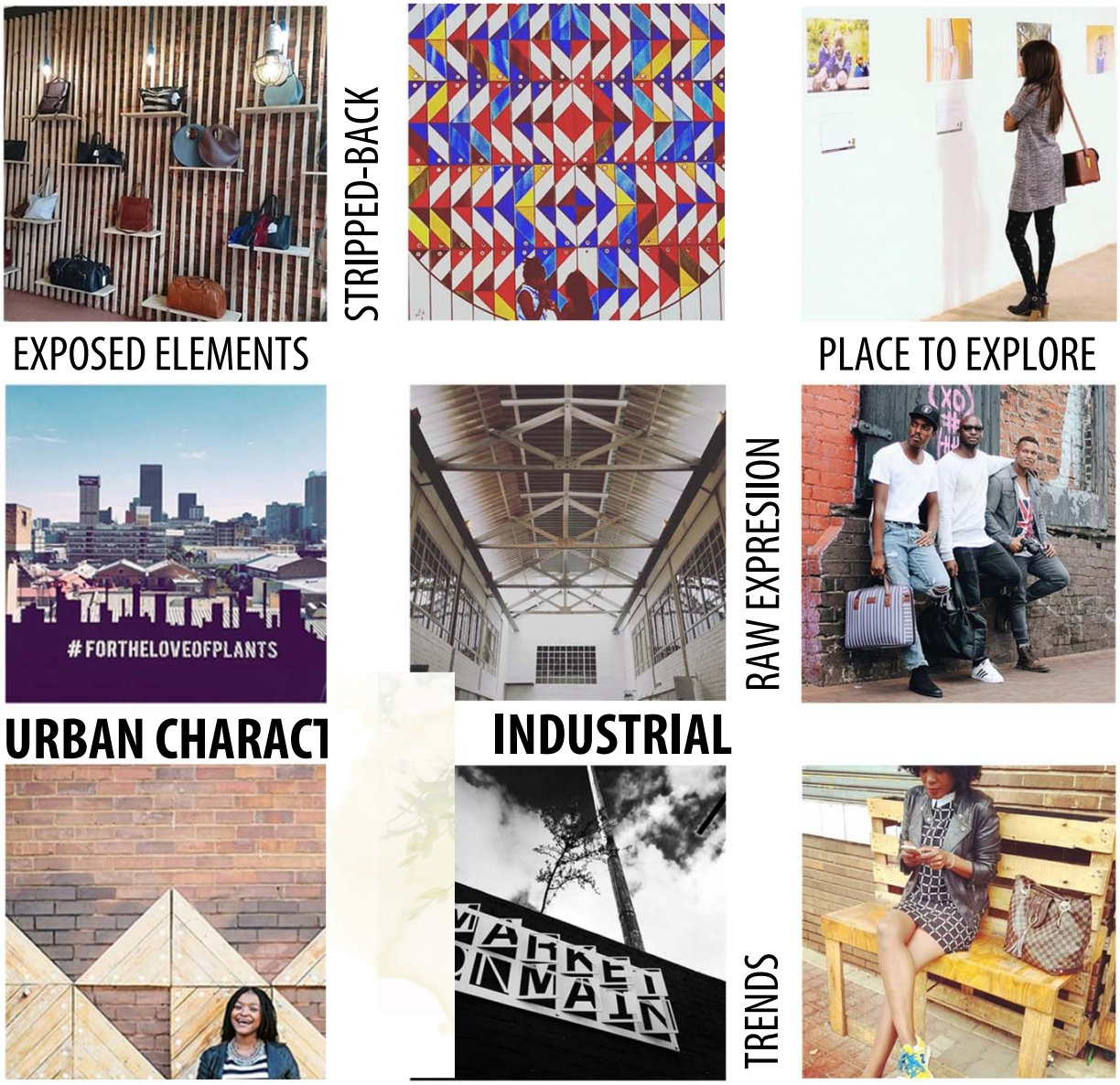

Figure 2.4.2: An expression of the urban character, representing both the context and the people (A collection of images from a social-media platform, compiled by author: 2016)

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2.5
CONCLUSION

The programme was developed with the analysis of various precedent studies. The analysis placed emphasis on a sustainable approach within the context of the restaurant industry. This led to identify a relevant site and context. It also introduced concepts, principles and theories to investigate with relation to the proposed programme.

The dissertation's proposal will be placed within the Access City building in the Maboneng precinct, Johannesburg CBD. The site is identified for it already proposed ventures of urban farming and it creates various opportunities for community spatial integration.

The characteristics of the site were analysed, after which a specific target user, the urban foodie, was generated. A proposal for social interaction with the surrounding context and community was furthermore envisioned.

The theoretical investigation will follow in the next chapter.

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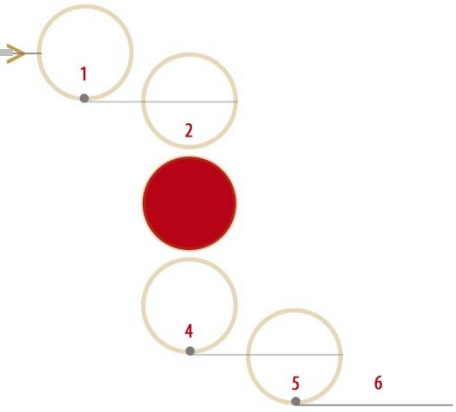
CHAPTER 3

THEORETICAL INVESTIGATION



"Of the most basic things in our behavioural repertoire, eating is the most accessible and effective for conveying our messages to others"
(Fox, n.d.).

Chapter three investigates the three outlined theories. To create a platform for the theoretical investigation, background of the interior environment and the context of the proposed programme are discussed. Thereafter the theories to be investigated are: sustainable development, human centred design and lastly experiential design. These theories will unfold into various relevant sub-categories. Experiential design will be recorded as a focal sub-theory of human centred design. It will investigate and establish a new theory of experience centred design in the interior environment, specifically looking at both the user and the interior. This chapter will holistically seek to establish contributing concepts and interior design strategies for spatial implementation.

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3.1
BACKGROUND

3.1.1
THE INTERIOR ENVIRONMENT

3.1.1.1
TOOL FOR KNOWLEDGE AND EDUCATION

User interaction within a dynamic interior space can be seen as a conveyor of knowledge. The nature of an interior is dependent on the aesthetic quality, materiality, sensory exploration and functionality, from which the user will gain specific meanings (Poldma, 2010). This combination of interior qualities suggests temporality, in order to host multiple activities and meanings to occur simultaneously.

The experience of the user should be interpreted before designing the physical parameters. An informed design will then deliberately portray the intended information.

3.1.1.2
TOOL FOR BEHAVIOUR AND INFLUENCE

Although a designer considers the intended interactions and knowledge to be gained, a user's experience is subjective and personal in nature. This is due to the user's implicit perceptions rather than thinking about the intended implications (Storkerson, 2010).

None the less, the interior context in which people live and work directly influence their behaviour and way of living (Lockton, 2011). A study by (Wu, DiGiacomo & Kingstone, 2013) provides empirical support that a person's surroundings can have a profound and positive impact on behaviour.

As conclusion, unsustainable notions can be counteracted by implementing the message of sustainability. A context which both suggests sustainable norms and constrains its counterpoints is in essence a stimulant for sustainable behaviours in itself (WU, et al., 2013). As example, the elimination of refined foods and the exposure to various organic processes will encourage sustainable behaviours.

Although theoretically sound, effective behavioural change encouraged through the interior as platform, has not yet been evaluated. This will be investigated in the proposed programme.

3.1.2
PROGRAMME: RESTAURANT CONTEXT

3.1.2.1
TIMELINE

Most food was made and consumed domestically throughout Western history, the first European civilization (Fox, n.d.: 12-13) (Timemaps, n.d.). People, described as wandering hunter-gatherers, followed where the food went (Joubert, 2012: 3-4). Eating out was seen as a notion for travellers. A French institution was the use of special reserved foods for occasions or as a symbol of status. From these grand beginnings, eating out was imitated by the middle class as a culture (Fox, n.d.: 12-13).

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The word restaurant comes from the verb, to restore. It is seen as a restorative and special event, different from the day to day routine. This difference in normality created take-ways and junk food. The modern industrial food system created fast and processed food. Other than searching for food or taking time to prepare meals, the act of eating is easily available and accessible (Joubert, 2012: 4). This type of food is otherwise condemned as non-nutritious and dangerous to one's health (Fox, n.d.: 12-13).

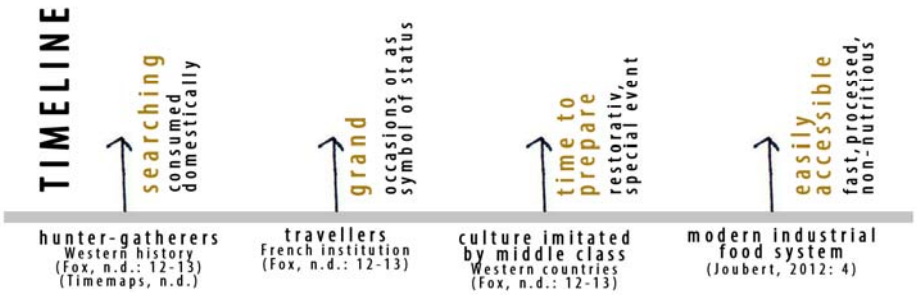

Diagram 3.1.1: Timeline of the restaurant context

3.1.2.2 RESTAURANT DESIGN AND PSYCHOLOGY

The interior of a restaurant is divided between barriers and fields *(diagram 3.1)*. Barriers are defined as walls, screens, symbols and objects; to portray separate functions and feelings. Fields are defined as shapes, size, orientation and environmental conditions; which serve as the spatial layout and flow of space to create these feeling (Baraban & Durocher, 2010: 75). The interaction between the barriers and fields, such as between the inside and outside or between the front and back of house, communicate information about the quality of the dining experience and food itself.

The purpose of a restaurant should be both functional and psychological by being for both eating but with an added value to and for the inhabitant. The manipulation of spatial arrangements and consequent narratives add this psychological effect (Baraban & Durocher, 2010: 75). Restaurants should also strive to be informative, a concept currently not yet mastered. People like seeing what goes on behind the scenes. To enhance the experience and interest of the users, one should bridge interior thresholds *(diagram 3.1)*.

By considering cognitive-behavioural techniques, the sensorial eating experience can be altered or enhanced. A food psychologist Elizabeth D. Capaldi, PhD, suggests eating changes with repeated exposure or new pairings (American Psychological Association, 2001: 83-112). These strategies can be translated into interior concepts, by designing repetitive and unconventional ways of encountering the eating experience, in a spatial manner.

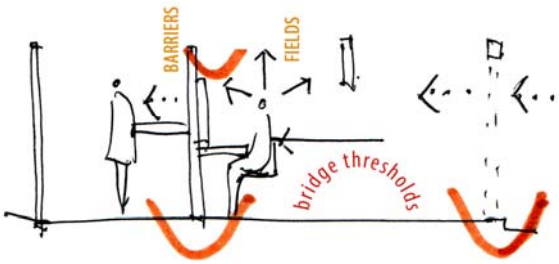

Diagram 3.1.2: Illustration of interior barriers and fields, suggesting the bridge between these thresholds

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3.2
SUSTAINABLE DEVELOPMENT

This term can be defined as the improvement of present needs, without compromising future development abilities (Kaushik, 2010: 32). This theoretical investigation will address concepts and strategies for growth within the context of the proposed programme. It aims to create a restaurant environment, promoting sustainable principles.

3.2.1
RE-DEFINING FOOD: PROCESS-ORIENTATED VIEW

"Objects should not be taken in isolation, defined on their own, and then considered in their relations to other objects. Instead, relations are primary, and objects are defined in terms of the network of relations of which they are part – between other parts of the physical world, other temporal instances present and past, and perhaps between non-physical moments as well"
(Eastman, 2003: 27).

The current food system is rooted with many problems. To mention a few; food security, the unhealthy Western Diet, food without nutritional value, diseases such as obesity and unsustainable environmental concerns with its use of fossil fuels (Meisner-Jensen, 2011: 37-38). It is said that the reason for these global food problems are: "Rooted in our evolutionary programming, culture and rare faulty genetics but are underscored by the modern food system and changing lifestyles" (Joubert, 2012: 16). The problems are due to the conventional approach of thought towards food. It views food as mere objects, even as commodities, which exist in a particular moment of time (Joubert, 2012: 15). This view makes food unrelated and detached from its' lifecycle process of manufacturing, distribution and consumption.

An alternative perception, a redefinition of the entire field of food, is proposed in a dissertation by Jon Meisner-Jensen (2011). It aims to address the food system problems through the lifecycle of food. It is referred to as a process-oriented view towards food.

This view developed from a philosophy called event ontology, developed by Alfred North Whitehead. This philosophy perceives the world as always being in motion, and what we perceive as reality are simply glimpses of incidents based in a stream of processes (Whitehead, 1978: 211). An object, such as food, doesn't merely exist without a history of becoming. The act of becoming, which is the process, is a more accurate perception of reality. The "being" of food as object, is closely interlinked to its process of becoming (Meisner-Jensen, 2011: 17).

In conclusion, this view adds temporal value, connecting food in a time-frame from its origin through to the consumption or end phase (Meisner-Jensen, 2011: 43-44). This view is familiarized by the term; farm-to-table or farm-to-fork *(referred to in section 2.1, number A2 & A3)*. It also connects food to its relationship with the consumer, making it more about the user's interaction with food and the experience of eating.

(figure 3.2.1)

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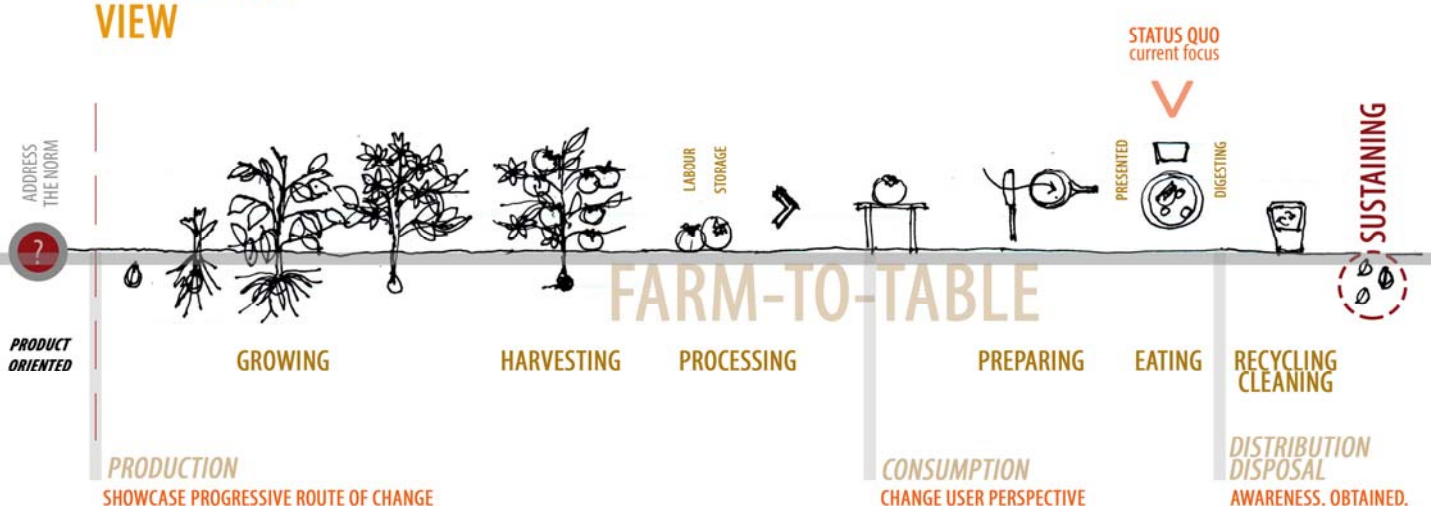
THEORETICAL INTENT

PHILOSOPHY (Whitehead, 1978)
EVENT ONTOLOGY
ADAPT THEORY (Meisner-Jensen, 2011)

"DESIGNING THE EXPERIENCE, NOT THE FOOD."

PROCESS ORIENTATED VIEW



TEMPORAL VALUE
= SEASONALITY

SPATIAL INTENT

LIFECYCLE

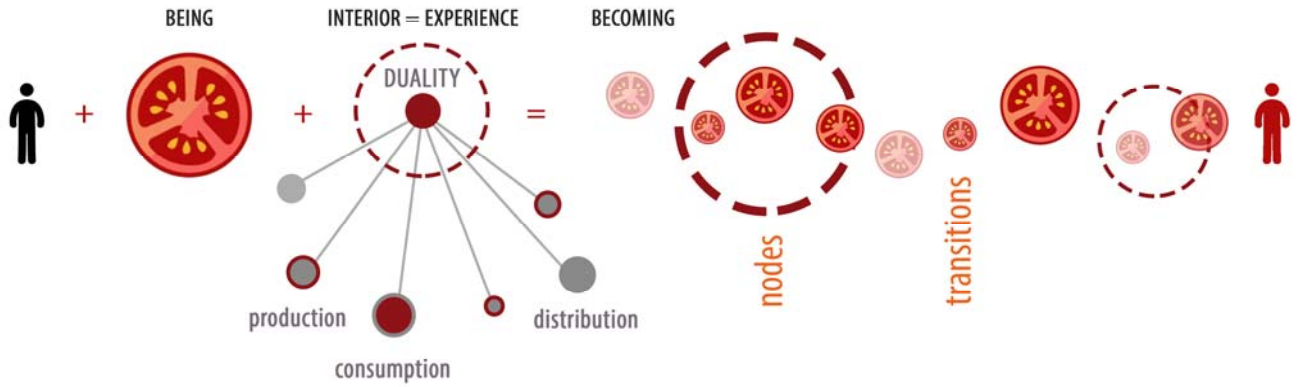


Figure 3.2.1: Diagrammatic representation of a process oriented view (Interpretation by author from (Whitehead, 1978) and (Meisner-Jensen, 2011))

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3.2.2
ORGANIC FOOD MOVEMENT

"Eating organic isn't a trend. It's a return to tradition"
(Taylor, 2015).

People are unaware of nutritional values. The packaging contents are mysteries to decipher and often misleading. As such, finding out what our food consists of is often a job more for the scientist (Pollan, 2006: 4-5). The industrial food system and its packaging, is a clear indication of the destructing processing methods of natural properties and nutritional value (Beck, Kretzschmar & Schmid 2006: 3).

Designer Philippe Starck (Mills, 2010) points out that there are essentially just two trends of food, namely: "The artificial, processed "fast" foods and ingredients that still dominate supermarket shelves; and the return to organic, unadulterated "slow" food. Designers are mainly interested in the latter."

The organic food movement is a reaction against this modern industrial food system, as it highlights these problems of future food concerns. It moves from seeing food as object for consumption, by returning to tradition, which sees food as nutrient. It aims to view food production as an organism sustaining itself (Meisner-Jensen, 2011: 32). The practice of this movement furthermore represents a profound engagement with nature and its culture (Pollan, 2006: 10). Transparency of processing methods is the most important concept, to attain this nutritious view (Beck, et al., 2006: 3).

The movement is further seen as the food consumption movement of sustainability, addressing various matters of abundance (Meisner-Jensen, 2011: 36-37), (Kuepper, 2010: 3-13), (Ripe, 2015), such as:

- Enhance human health and well-being, as natural produce is nutrient rich, pure in its raw state, without added synthetic compounds, chemicals or pesticides.
- Ecological importance. Organic farming enriches natural habitats and its production has a low carbon footprint due to minimal transportation and storage energy needed. It protects natural resources. It reduces water use and doesn't pollute the soil with fertilizers. It lastly aims to be waste free, by eliminating food loss and waste between harvesting, consumption and distribution. It builds on close-looped systems and recycling principles.
- Ethical concerns, as a novel handling of animals and plants promote their welfare. Nature is also not seen as a commodity or for profit.
- Economic prospects, as local farming contributes to the community with job creation.
- Social benefit. Farming constitutes the sharing of knowledge, cooking and culinary skills.

"For the organic food, the less it's designed, the better it is"
Philippe Starck.

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As conclusion to this food movement, it is stated that consumers who buy organic are more interested in their health. They also require indications of information on the gentler processing methods, such as non-genetically modified foods (GMO) irradiation and heating (Beck, et al., 2006: 4). This is typically addressed with creative labelling solution. This relates back to the proposed urban foodie target user *(refer to 2.4)*, which seeks to be more organic, creative and intentional in their influence.

For the purpose of this dissertation, a more viable solution is to expose all processes, through which consumers will be educated to develop a sustainable food habit. The characteristics of this movement, as state above, will be incorporated within the educational and operational systems of the interior environment. Characteristics of transparency and natural processes will be showcased. In essence, the organic movement also reflects simplicity in its design, as it refers to less processing (Mills, 2010).

3.2.3
URBAN AGRICULTURE

"Grow food where people live, and grow it more sustainably"
(Farmeradmin, 2014).

There is an increased interest in food, which can be addressed with the issue of a sustainable pattern of living (Gorgolewski, Komisar & Nasr, 2011: 1). This trend specifically emphasizes the importance on what, when and how we eat. Urban agriculture, or also referred to as urban farming, is the solution. It brings the farm to the city and seeks to make everyone a farmer (Calitz & Drakes, 2016). It encourages people to be co-producers rather than consumer, by reconnecting cities to their food systems (Gorgolewski, et al., 2011: 2). This notion has the potential to be sustainable, if it is driven by consumers attentive to know where and how their food is produced (Farmeradmin, 2014).

Urban agriculture addresses modern urban life in order to reshape our cities towards sustainable living. It is the growing, raising, processing and distribution of food and or livestock, directly for the urban market, within an urban area. It taps into the resources, services and products in the urban context to in return generate resources. It dominantly aims to create an interlinked connection of space with the community, ecology and economy (Mougeot, 2006: 4-6). It subsequently considers local food production systems with increased accessibility, water efficiency, the elimination of pest management, the reduction of transportation and lastly the removal of refrigeration (Farmeradmin, 2014).

The practice of urban agriculture is ever expanding in terms of the variety of techniques and ingenuity developed. The United Nations Development Program has identified over 40 farming systems, some to mention; horticulture, aquaculture, vermiculture (earthworms), using recycled food waste, kitchen gardens and market gardens (Smit, Nasr & Annu, 2001: 1-2). On rooftops, in window boxes and school grounds, the practice of urban agriculture can take place anywhere and everywhere.

Urban farming proclaims sustainable development (Smit, et al., 2001: 3-5) (Mougeot, 2006: 22-23) with the following highlighted benefits:

- Food is locally produced which improves nutritional health.
- This notion assists in the problem of food security.
- It has an economic benefit by lowering the expenses for food purchases.
- Creates job opportunities and address social equity with income-generation.
- Reduce carbon footprint (gas submissions) due to the close proximity of the farming lessens travel costs. It furthermore eliminates mechanical processing.
- Reduce pollution and improve air quality through green-spaces (a sense of well-being).

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"The ultimate goal of farming is not the growing of crops,
but the cultivation and perfection of human beings"
Masanobu Fukuoka.

3.2.3.1
URBAN FARMING SYSTEMS

"Design cannot disengage itself from natural and human factors.
Its function rather is to bring nature ever closer to us"
Alvar Aalto.

Two important stakeholders of urban farming are recognised in the theoretical investigation of the dissertation. Their systems and principles will be adapted for the design of the interior. They are:

1. Farm This City initiative (FTC), a Maboneng based initiative which sees food as the future. They strive to make everyone a farmer with urban community integration (Calitz & Drakes, 2016).

2. Infarm, a Berlin-based business with the same notion to grow where you are, which in the case is in-store. They specialize in indoor growing innovations, expressing the beauty of growth (Infarm, 2016).

Hydroponic and aquaponics systems have been identified as ideal solutions for the implementation of urban farming in retail environments, townhouses or apartments. These systems are more sustainable and applicable than conventional soil based gardening (Infarm, 2016), with the following qualities:

- Small scale models available.
- Easy to assemble, maintain or adjust in structure.
- Supply nutrient dense organic produce
- The fresh produce has a faster growing rate.
- Requires less water as it is a closed-looped system.
- Seedlings can be rotated to yield more.
- Innovative, as the structure and frames of the systems can be either modular, made of recycle material or bespoke.

In conclusion, innovative urban farming strategies for within the interior environment will be investigated. The implementation of systems will support the concept and purpose of the proposed programme. Urban farming holistically embodies the process orientated view *(referred to in 3.2.1)*. It will engage the target user with the processes linked to the eating experience. They create the opportunity to establish the farm-to-table principle, not only in an urban context but also in an interior environment.

The indoor farming systems will become an aesthetic feature which also adds a sensory experience. It promotes interaction through touching the plants and natural sound with the dripping of water. It furthermore enhances the indoor environmental quality, by adding oxygen and forms of green space. It has an opportunity to be a multifunctional space defining element, by placing seating areas around the produce growing element.

(figure 3.2.2)

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Figure 3.2.2: An interpretation of urban farming within an interior environment

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3.3
HUMAN CENTRED DESIGN

Since the end of the industrial era, design has become more responsive to the culture, social and personal needs of the users. This emerging post-industrial task focusses more on the dynamic process of user experience and adaption, than on physical form and mass markets. This shift highlights the change from universal product-based design to flexible process-based experiences, tailored for user needs (Mitchell, 1993: 1). The Japanese industry also developed a trend, referred to as; "The Human age", focussed primarily on user conscious design decisions (Mitchell, 1993: 2). This creates emotional connections which make the user feel important (Garrett, 2006: 36).

This term can be defined as a deep user understanding when considering design intentions. The term user-oriented can be based on the concept of the head-heart-gut model, developed by Marc Gobè. This model considers the holistic effect on the intellect, emotion and inherent values of the user in a space or situation (Clark & Smith, 2009: 47-56). The head refers to the knowledge gained, the heart to the interaction and stimuli and lastly the gut to the experience and its responses *(diagram 3.3)*.

An example of a human centred design is the brand, Nike. Nike products are beyond the mere utility of the running shoe. They have an understanding of the runner, their personality and desired experience. The users portray qualities of a winning mind-set, driven personal goals and a need for the sharing of passion. Their products and retail interiors portray this user understanding (Fraser, 2009: 37). A product example is the Nike+ chip app. It communicates with your iPod, measures, motivates personal performance and connects online to a runners-community. With reference to the interior, it is informed by the user and brand simplicity. With relation to the users' goals, the interior intent is also clear and focussed. The act of training and the raw materiality of the interiors correspond. The interior portrays a specific directionality and emphasis on products, encouraging the end goal of purchasing.

Human centred design therefore revolves around the intent for the user, seeming to create an emotive message and desired value. This can be achieved by intentionally designing the spatial story, which is the experience.

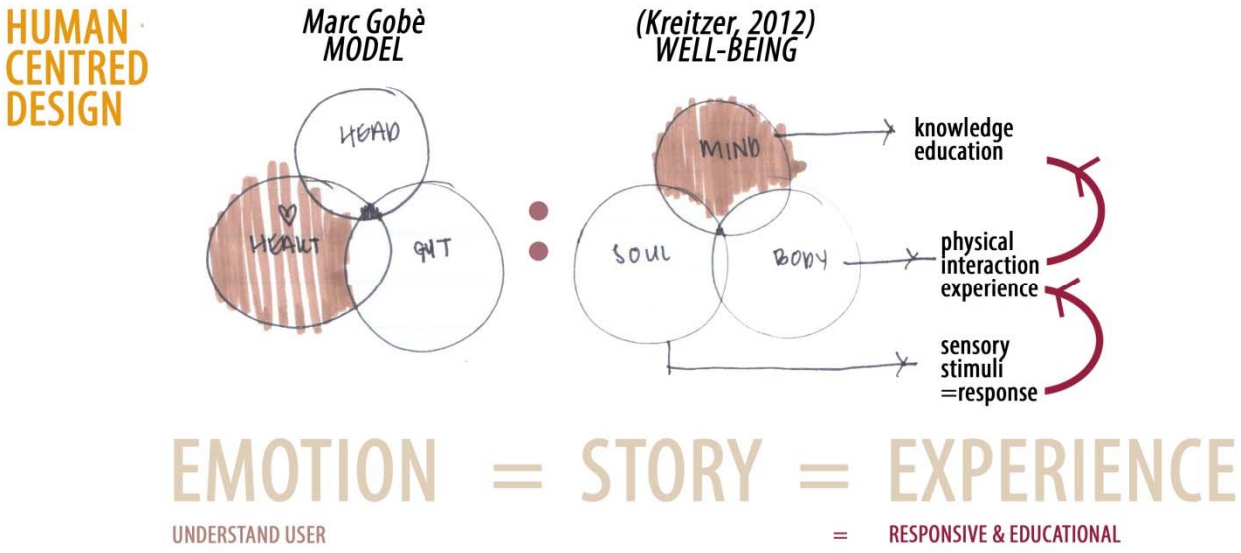

Diagram 3.3: Human centred design model and future exploration of experience design (Interpreted by author from (Clark & Smith, 2009)and (Kreitzer, 2012))

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3.4
EXPERIENTIAL DESIGN

For the purpose of this dissertation *(refer to section 1.5),* specific focus will be placed on aspects of experiential design as a sub-category of the human-centred design theory. The exploration will contribute spatial strategies for creating experiences within the discipline of the interior designer.

3.4.1
NEW THEORY: EXPERIENCE-CENTRED DESIGN IN THE INTERIOR ENVIRONMENT

In the preface of Gerhard Schulze's book, *The Experience Society* (2005: ix), he states a new millennium of what experiences require and is seen as. There is a move beyond the product and consumerism toward a post-materialistic urge. This requires consideration of psychological consumption, as noted by Ariely and Norton (2009: 477). Signifiers of this current stance are intangible meanings instead of material products. It shifts towards deceleration (slow) instead of acceleration(fast), less instead of more, uniqueness instead of standardization, concentration instead of diversion, and making instead of consuming (Hassenzahl, Diefenbach & Göritz, 2010: 353-362).

The term, user experience, causes confusion and often portrays a shallow meaning. The word "user" is rooted in an action, where "experience" is much more than usability, as it is centred on psychology. Marc Hassenzahl, a specialized experiential designer, differentiates user experience as merely a sub-category of experiential design. User experience is a tangible aspect seen as the interaction between the user and the product, where experience design is to deliberately create and shape a story. It is an intangible, immaterial, unpredictable and emotional interaction in a passing of time (Hassenzahl, 2010: 4-6). It is achieved through the interior environment, which is a mere threshold for the story to take place in.

Also stated by Marc Hassenzahl, an experience is not about technology, industrial design, or interfaces. It transcends materiality. It is about creating a meaning through a device. In this statement, a device does not necessarily refer to a material object but to a broader scheme. In commentary towards this statement, an information architect Eric L. Reiss, defines it as the perception left in someone's mind following a series of interactions between people, devices, and events (Hassenzahl, 2014: chapter 3).

It goes further to define two forms of experiences; 1. moment-by-moment and 2. memorized. This first form refers to immediate user interaction, the momentary enjoyment and feeling in a specific time. The second form refers to experience as a story. It initiates out of memories (before) and creates a memory to be communicated (after) (Hassenzahl, 2014). The second form, memorized experience, emerges from a dialogue between the user and a series of actions. It creates multiple emotional and physical responses across a period of time (Hassenzahl, 2010: 8). This form is what experiential design must aim at. The designer becomes the "author", creating rather than representing experiences. The application of experience design will be explored within *chapter 4.*

As stated, the intangibility in experience design takes pride. The digital camera can be used as an example. Rather than the physical form, type or use of the product, it is significant for the memories captured and the stories told through the photos. Another example is the music industry, as people aren't willing to purchase CD's anymore. This showcases the shift from materialism, as events and concerts are desirable for the experiential story thereof (Hassenzahl, 2014).

(diagram 3.4.1)

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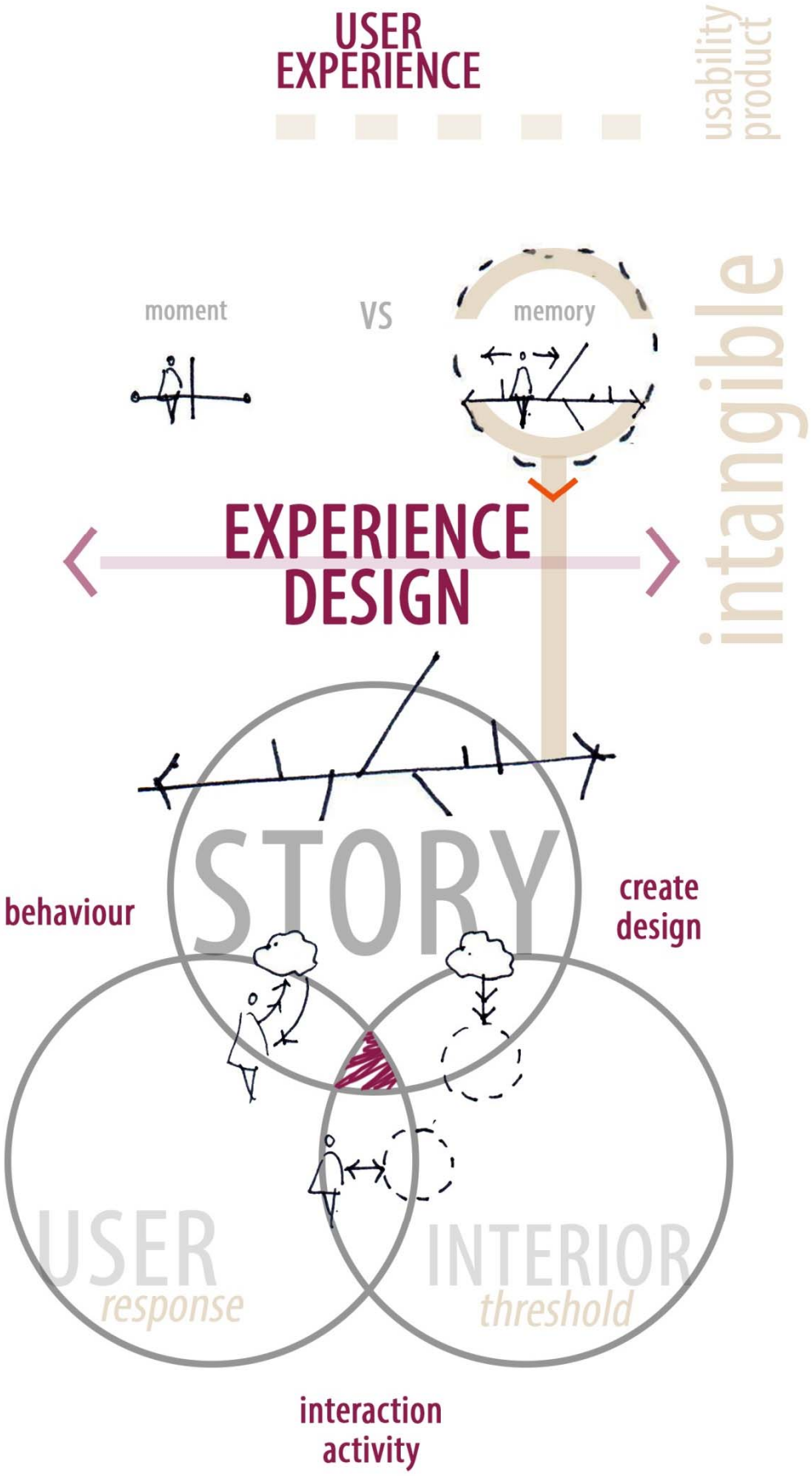

Diagram 3.4.1: Interpretation of the theory of experience centred design
(Interpreted by author from (Hassenzahl, 2014), (Hassenzahl, 2010: 8) and (Hassenzahl, et al., 2010))

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3.4.2
THE USER

3.4.2.1
PSYCHOLOGICAL NEEDS OF THE USER

The challenge with experience design is that it is subjective to the user. Experiences are created to address the psychological needs of the user. These needs are based on personal perceptions, emotions, motivations and cognitive actions (Sheldon & Kasser, 2001: 491-501). Six needs *(diagram 3.4.2)* are identified suitable to address through experience design (Hassenzahl,Eckoldt, Diefenbach, Laschke, Lenz & Kim., 2013: 22), namely:

- Autonomy
  Taking responsibility for actions. It is not based on pressure of external forces.
- Competence
  Feeling capable and effective in actions rather than incompetent.
- Relatedness
  A feeling of intimate contact with others, rather than feeling lonely and uncared for.
- Popularity
  A sense of respect and influential value from others.
- Stimulation
  A sense of enjoyment and satisfaction opposed to under-stimulated.
- Security
  Feeling safe and in control without dangers of circumstances.

The relevant needs to consider in a design project are project specific. In order for an experience to be attained it must fulfil the psychological needs of the user together with an emotional response.

3.4.2.2
USER STRATEGY TO CREATE AN EXPERIENCE

Marketing expert, Professor Bernd Schmitt (1999: 69-71), looks at consumer experiences through five different SEM's (Strategic Experiential Models). More than one or all of the models need to be used to create a holistic experience. The spatial environment is recognised as an experience provider. These models therefore translate into applicable interior design principles. Such models include:

1. Sensory experiences (sense).
2. An emotional experience (feel).
3. Creative cognitive experiences (think).
4. Physical experiences and entire lifestyles (act).
5. Social experiences that result from relating to a reference group or culture (relate).

The interpretation and application of the user strategies will be explored within *chapter 4.*

(diagram 3.4.2)

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EXPERIENCE DESIGN

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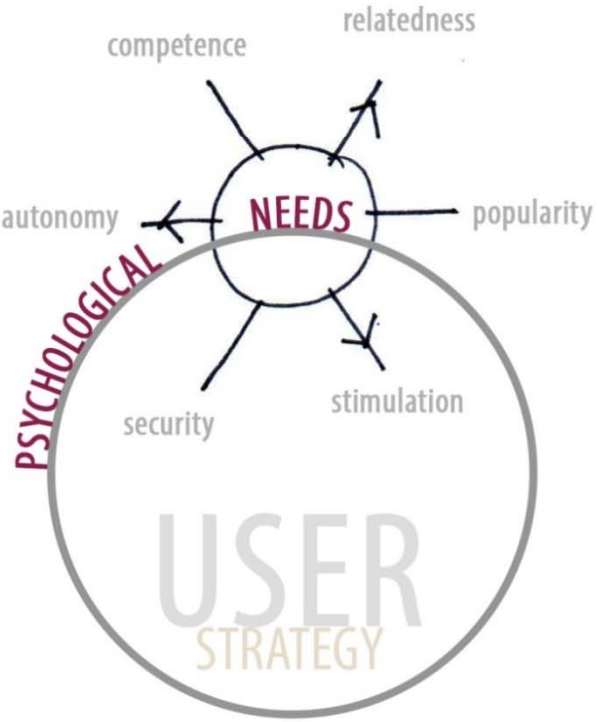

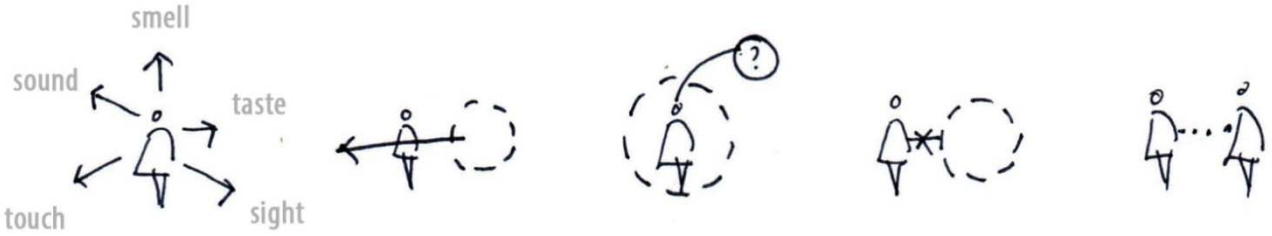

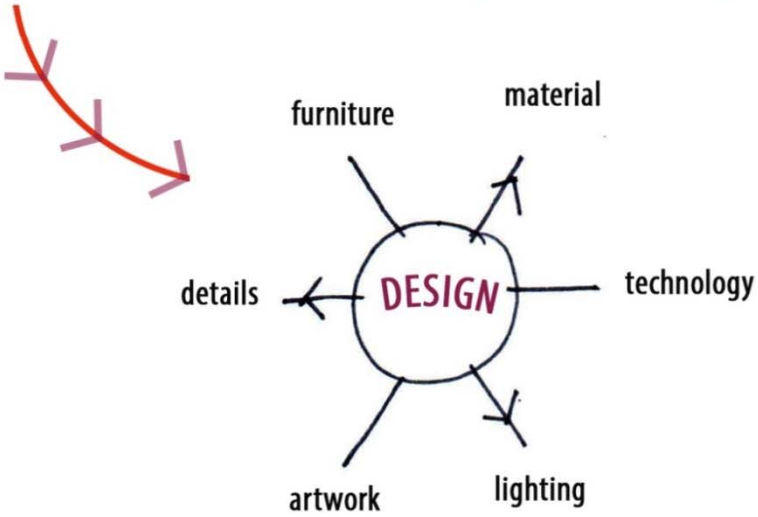

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3.4.2.3
USER BEHAVIOURAL ASPECTS

A. INTERACTION PATTERN

To develop sustainable living, increased engagements in pro-environmental behaviors need to be developed on an individual and collective level *(as referred to in section 3.1.1.2),* (WU, et al., 2013). Changing behaviour, specifically in the interior environment, is a multi-faceted complex task as it can require a one-time action or number of actions to be altered (Jackson, 2005: xii). Different influential factors or the design of products can be implemented to foster this change (Lockton, Harrison & Stanton, 2010: 382-392).

User behaviour is determined by the pattern of interaction with interior artefacts. This user-artefact relation is central to designers, for the interactions are resource-consuming actions which must be addressed in term of its sustainability (Strömberg, Selvefors & Renström, 2015:2-3).

In order to actively reduce the environmental impact of interactions, the type thereof must be addressed. Three identified aspects which assist this design task are discussed below. The strategy for change is also highlighted.

1. User pathway

In the study; *Mapping out the design opportunities: pathways of sustainable behaviour*, 5 pathways of artefact use were identified (Strömberg, et al., 2015: 4-5). Within the proposed programme, 3 have been documented as appropriate strategies for behavioural change:

- Choice of artefact
  In order to fulfill the main purpose, the mere choice of the primary artefact can influence the pattern of interaction.
- Changed use
  A decrease in the frequency and the style in which the artefact is used, influence the interaction. This necessitates a different use of the artefact, without a change in artefact.
- Mediated use
  A secondary artefact can be introduced to substitute as a variation or in support of the primary artefact interaction.

2. Frequency

Behavioural change can be induced by how often the changed action is practiced. It can be through either increased efficiency or curtailment (Gardner & Stern, 2002). Efficiency is a one-time choice or adaption, where in curtailment the altered action is repeated until it becomes a habit.

3. Time or duration

The interaction time can be defined as either dot, span or in a path. Dot is a once-off action, span is actions performed for a fixed period and path refers to several actions which are performed indefinitely.

(diagram 3.4.3)

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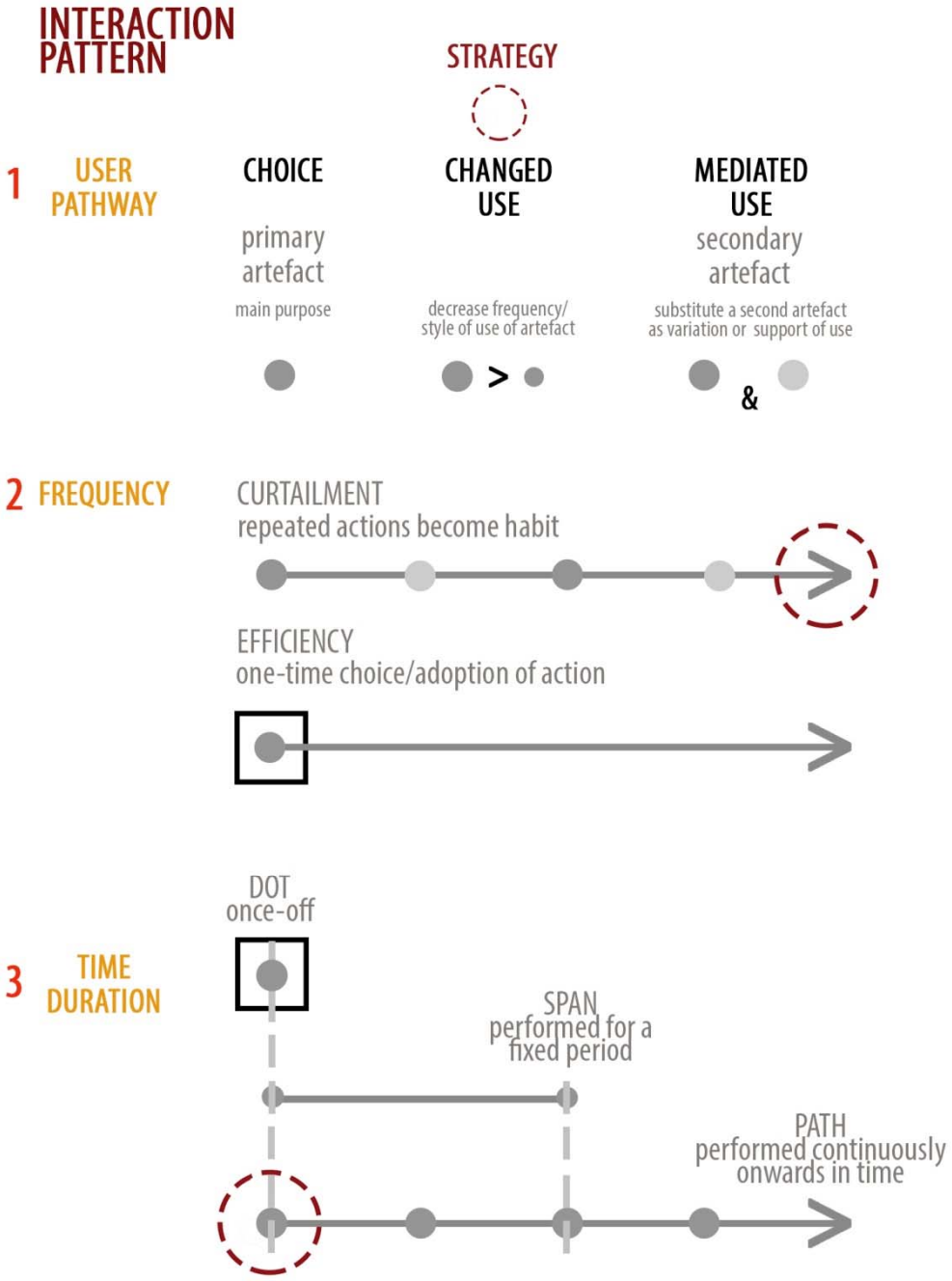

Diagram 3.4.3: Indication of user interaction patterns and the desired strategy for implementation (Interpreted by author from (Jackson, 2005) and (Strömberg, et al., 2015))

The following conclusions can be drawn towards this investigation into user interaction patterns. It is related to informant for the design discourse within the proposed programme:

The second pathway strategy, changed use, seems most influential for behavioural change within the urban context of for an eating experience. The aspect of curtailment and action to be performed in a continuous path will also be practiced to induce sustainable interaction patterns.

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B. PRO-ENVIRONMENTAL AND SUSTAINABLE CONSUMER BEHAVIOUR

"Users are attempting to address their consumption patterns to take control of their health. In a survey, consumers suggested desirable attributes to firstly be for foods to be natural and minimally processed without artificial colourants and flavours. In addition they also seek functional foods which both promote good health and reduce risks for diseases" (Nielsen, 2015).

In the report; *Motivating Sustainable Consumption,* it is stated that user behaviour, specifically when consuming, have an indirect and direct impact on the environment and personal well-being. The impact is based on their actions and choices towards living (Jackson, 2005: v).

People consume for either functional or symbolic purposes. This is to satisfy a need or for social distinction and expression of identity. Consumption choices are predominantly emotional responses and occasionally conscious. They are also influenced by either personal interests such as preference, attitude and morals or by social practices of norms, context and structures (Jackson, 2005: vi). The problems arise with society conforming to unsustainable consumption patterns. It is influenced by restricted choices, institutional barriers, social expectations, uninformed decisions and bad habits (Jackson, 2005: v-vi).

There are many theories attempting to understand consumer behaviours with its multi-dimensionality. As stated by Stern (2000), "Behaviour is a function of the organism and its environment." It is therefore an integration of the users' attitude, behaviour and context (setting). Two valuable theories are considered to address user behaviour and motivate consumption concerning a sustainable character:

- THEORY 1: "Norm-Activation Theory" by Schwartz's (1977: 221-279)

The theory suggests that personal norms influence users to behave in a particular way. It can be defined as users performing specific actions and taking account for the actions' consequences. They then have the moral obligation to take responsibility linked to the action.

- THEORY 2: "Structuration Theory" by Giddens (1984: 15-16)

This theory considers consumption as a set of social practices, based and influenced by social structures. It questions whether users are free of choice or bound by choices out of their control. It specifically highlights the difference between practical and discursive consciousness. Practical consciousness is the everyday routine actions, where discursive consciousness is intentional or goal-oriented behaviours.

As conclusion, the interior design must co-create and alter the culture of consumption. Pro-active consumption patterns can be aided by the design of the interior environment. It can also be on a smaller scale through packaging being more transparent, informative, quickly accessible and understandable. With the aim towards the change in habitual behaviours, principles of both abovementioned theories will be encouraged. The strategy of discursive consciousness needs to be implemented within the design, as it will urge users to make intentional and responsible decisions. These decisions will support all aspects of sustainability *(as referred to in diagram 1.5).*

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C. HABIT AND CHANGE

"Habit is one of the key challenges for behavioural change since much environmentally significant behaviour has this routine character"
(Jackson, 2005: ix).

Building and maintaining good habits towards food and aspects of sustainability, supports overall health and well-being. Habits are cognitive deliberate routine actions (Jackson, 2005: ix). In essence, behavioural change is the aim needed for sustainable living, with habit elimination, change or formation as the contest.

It is suggested by the "elaboration likelihood model" of Petty and Cacioppo (1981), that long-term behavioural change depend on the users' conscious and constant engagement with the habit at hand. To attain a changed behaviour, habits need to become goal-oriented, considering factors such as motivation, will-power, and rewards (Nemec, Swarbrick & Merlo, 2015: 24-30).

As conclusion, behaviours with regards to eating and sustainability are complex. It should be seen as an experience packed with psychological needs, norms, emotions and meanings. This enables the designer to become the author of the behaviours, through the interior environment. In designing for the proposed programme, interaction within the interior will encourage behavioural change. Effective strategies are for users to engagement in acts or with physical elements, observe behaviours of others and witness desired behaviours (Jackson, 2005: xi). People learn best through hands-on experience, or by learning from example or counter-example of what it must and can be. The designer must also be the author of the interior story, created with the movements, intangible meanings and sensory interactions of the interior thresholds.

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3.4.3
THE INTERIOR

3.4.3.1
SPATIAL JOURNEY

"The 'elements' of architecture are not visual units or gestalt; they are encounters, confrontations that interact with memory"
(Pallasmaa, 2005: 63)

It might seem as if experiences can't really be designed for as they are personal, emotional and based on a perception. Even so, an experience is the result of a conscious intent, a specific strategy rooted in a series of considerations (Garrett, 2006: 36). Experiences are constant in motion, based on various touchpoints, activities and events, formulating as a result of the users' needs (Coles & House, 2007: 8-9). This statement relates to a process-oriented view *(refer to section 3.2.1)* and the psychological needs of a user *(refer to section 3.4.2.1)*.

When creating a spatial journey various layers are addressed. It is a duality of considerations, focussed to be both functional yet have the main objective of being educational (Garrett, 2006: 36-37). These considerations are rooted in a set of abstract concepts, articulated within various interior movements and interactions. It can be defined as spatial design methods *(refer to section 3.4.3.2 and diagram 3.4.4)*.

3.4.3.2
SHARED EXPERIENCE PATTERN

As stated in the process-orientated view and philosophy of Alfred North Whitehead, being and becoming are interlinked *(refer to section 3.2.1)*. People can therefor only define themselves, by referring to someone or something in relation to them (Meisner-Jensen, 2011: 20). This statement is further defined by suggesting that people engage more in shared consumption.

Shared consumption is the act of users engaging with others to feel related. If the interaction during the event are however limited, users still perceive the experience more meaningful by sharing it (Hassenzahl, et al., 2013: 24). In essence, an experience is perceived and internalized differently, however it is crucial that everybody consumes the same amount. Relatedness is thus the desired outcome of any experience. To create a shared experience a general structure occurs, consisting of three stages:

- Stage 1: Anticipation
  This is the commencement of the experience, the "before" stage. It transforms individual needs into a shared platform. It creates a context for relatedness between users.
- Stage 2: Interaction and communication
  This stage refers to the event. The prescribed needs and particular context is received through gestures, eye contact or other sensory contact, laughter or words.
- Stage 3: Cool-off
  The "after" stage. In this last stage the knowledge and meaning of the event is fulfilled and translated into a memory. The pattern is completed.

(diagram 3.4.4 showcasing both spatial design methods and a summary of the shared experience pattern)

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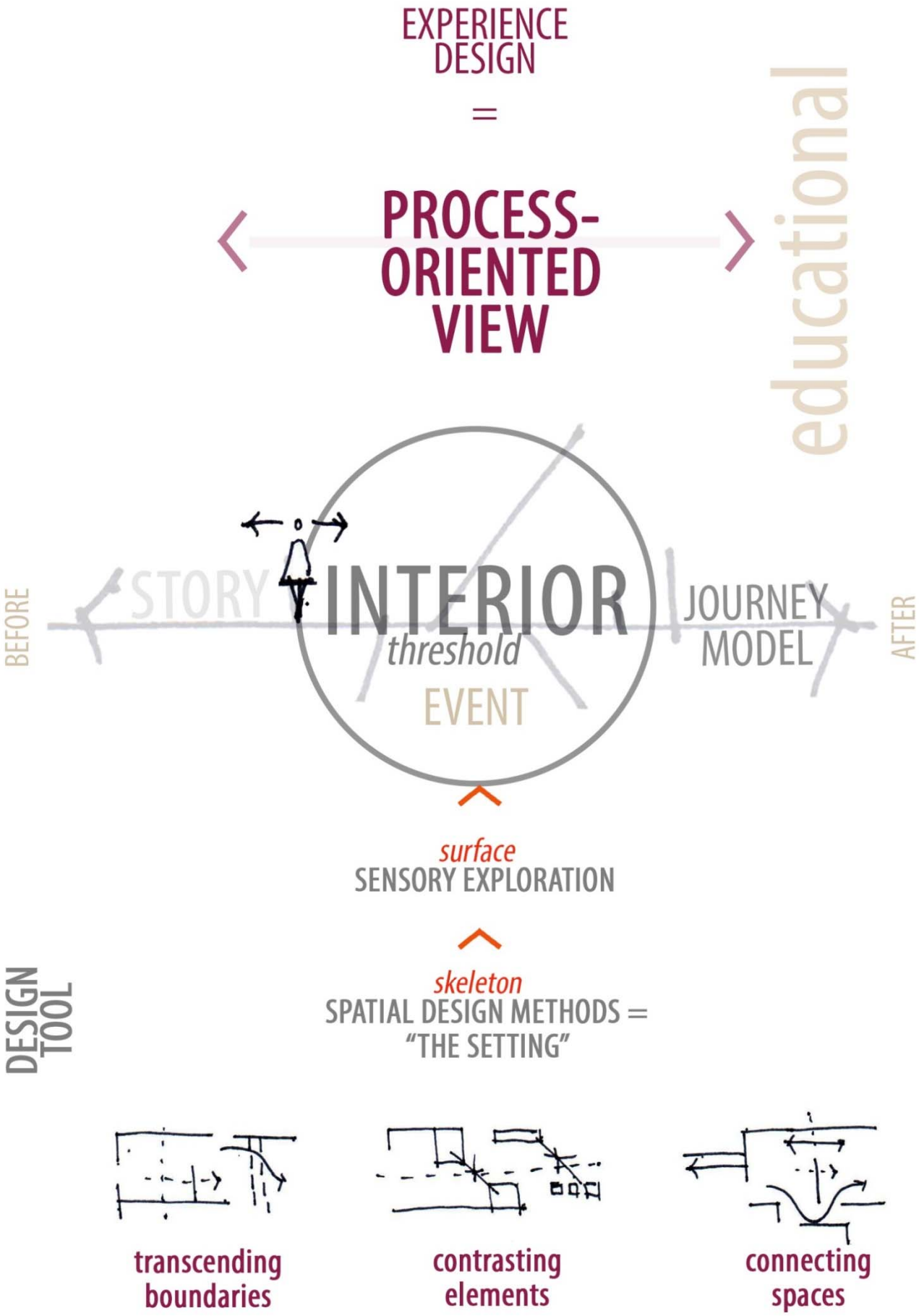

Diagram 3.4.4: Defining the interior threshold as design tool for experience design (Interpreted by author from (Garrett, 2006) , (Lockton, 2011) & (Hassenzahl, et al., 2013))

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3.4.3.3
CONTEXT: THE CHANING KITCHEN

"But even more the kitchen is a space for different types of social gatherings. The kitchen is the scene of family get-togethers, friends socializing, work-related activities, day-to-day dining, formal entertaining, late-night snacks, Sunday brunches, hurried breakfasts and so on"
UNStudio, architects.

The kitchen can be used as a space defining element and its principles can be used as an interior design tool (Mills, 2010). It has evolved with four changed concepts:

A. Kitchen as "the revolve"

The kitchen was usually merely a room for cooking and food preparation, situated at the back of the house. It is now moving to become the central part, the revolve and heart of a space. It is described as a hybrid space around and in which all activity takes place (Mills, 2010). This merging of different rooms and spaces into the kitchen, demands the physical parameters and boundaries to expand. In essence a sense of transparency is urged to showcase the kitchens as a "stage" for various uses.

B. Arrangements influence behaviour

There is a need for both eating as informal leisure activity and alternatively for the on-the-run lifestyle. This duality of both slow and fast food seeks dynamic movement within the interior space. This notion can be addressed by creating interior interventions with different heights, rhythms and means of privacy, while still promoting the essence of an eating experience.

These arrangements can also be used to address the interaction between the inhabitants. In the social context of the restaurant industry, an approach to either individual or communal eating creates different behaviours. The concept of the sharing kitchen is mostly encouraged, as communal pleasure address designs' humanistic attitude *(refer to section 3.4.3.3),* (Mills, 2010). Not only the interaction between users, but also the use of the table interface can create a "performance". The use of the table and other objects in multi-functional ways will showcase more of the eating process.

C. The "growing kitchen"

Users are ever more concerned with the origin of their food. It developed into a movement where the community grows and farms their own sources, in their context *(refer to section 3.2.3)*. Local sourcing has now moved from rural farms into the urban context. It also moves farming from the outside into the interior environment and the kitchen (Mills, 2010). This movement of living in close proximity to plants and animals in the interior has immense psychological and physical benefits for the users. It merges the outside and interior, where the space itself is seen as the source.

D. Less structured

There's a return to basics, which creates a platform to engage with the space and the raw ingredients. It showcases a reduction in ferocity, resembling the same sense as the organic movement *(refer to section 3.2.2),* (Mills, 2010). The kitchen threshold are thus becoming less structured yet designed for intended experiences and behaviours to take place in.

(diagram 3.4.5)

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*"The dining room comes into the kitchen; the kitchen becomes a dining room. We can stay a long time in the kitchen. That means the living room disappears, so **there is only one room**, which is the kitchen"*

Philippe Starck.

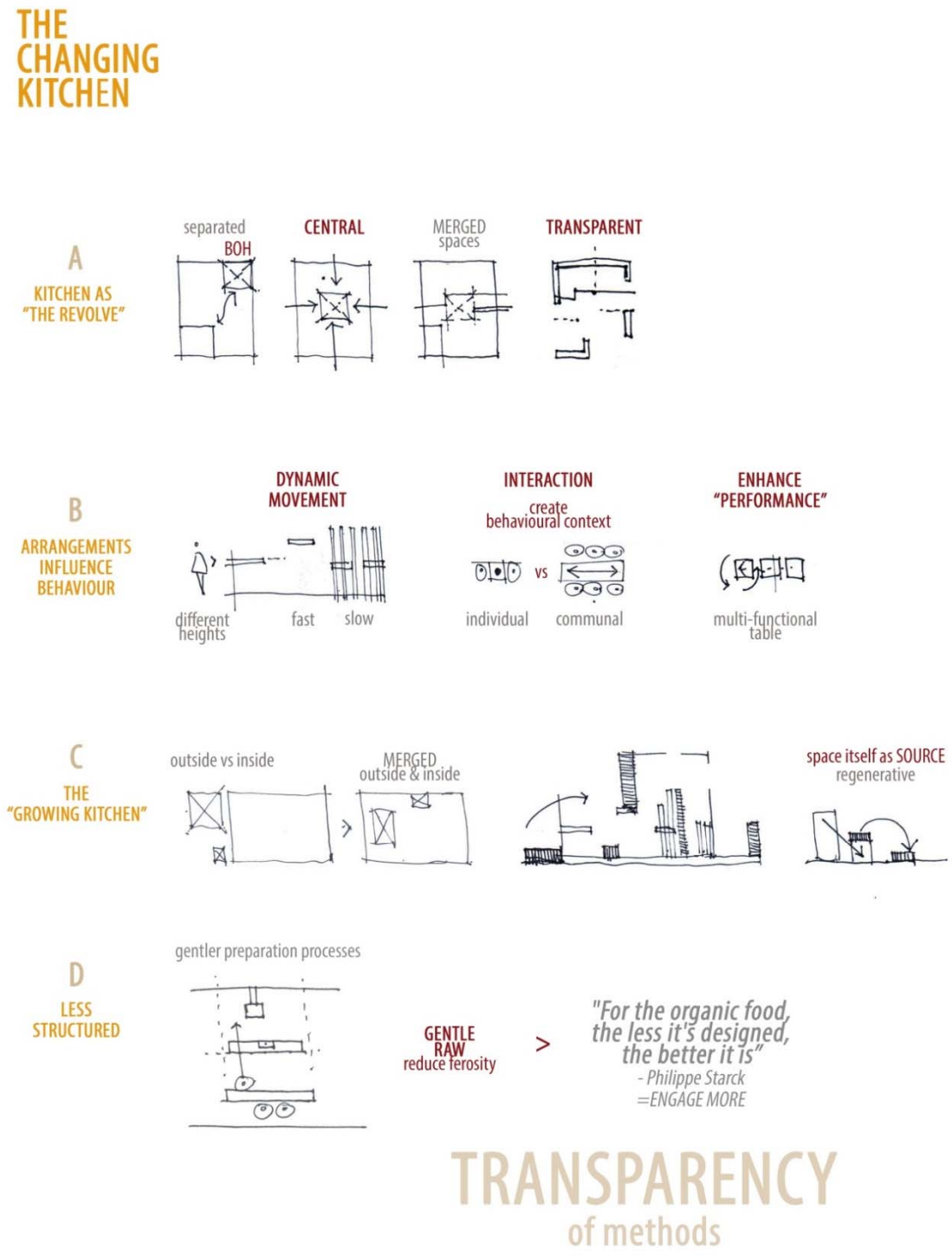

Diagram 3.4.5: Showcasing the 4 concepts of the changing kitchen
(Interpreted by the author from (Mills, 2010)***)***

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3.4.3.4
SPATIAL DESIGN METHOD: THE SETTING

"If eating out were only about food then the setting would not matter"
(Fox, n.d.).

Spatial design methods refer to interior strategies as design tool. The interior will be used as threshold for the story or the event to take place in. Dr. Dan Lockton, a professor which specializes in behaviour change for social and environmental benefit, defines two interior strategies to form sustainable behaviours (Lockton, 2011). The strategies focus on the principle of designing intentional spatial layouts or arrangements. The designer is in control of the contact points and lanes of access where social activity and interaction take place. These arrangements suggest one of the following strategies:

1. Designing encounters which direct, encourage, hinder or prevent communication between the users, with themselves or with the interior. These encounters can be manifested by either transcending spatial boundaries or by creating contrasting elements. Both encounters will inform a change in perception.

2. Creating nodes of activity. By creating different concentrated areas or groupings for interaction to take place, connects spaces. It places individual emphasis on specific interactions while creating a holistic spatial rhythm.

At the surface plane of the spatial journey, sensory explorations such as; visual (colour and typography), auditory (background sounds) and tactile stimuli (textures and interfaces) are delivered. These stimulants are used to evoke emotions which persuade the user of the value of the space (Skomal, 2011: 28). The five senses and their spatial manifestation are defined for the interior discipline:

- Sight: visual design elements of a space such as the selection of colours, materials, furnishings, artwork, lighting, unique elements and the use of technology.

- Sound: auditory elements considering the ambient noise, type of music and voices.

- Touch: the tactile qualities of surfaces due to the selected materials and furnishings, small scale details or even technology respondent to touch.

- Smell: the aroma of the spaces due to the scent of food or materials.

- Taste: a curiosity in the mouth when something is eaten or smelled.

The design of the sensory exploration will manifest by considering contributing elements of interior design such as the materiality, technology, lighting, furniture, artwork and details *(diagram 3.4.2)*.

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3.5 CONCLUSION

Three theoretical topics with sub-categories were investigated. Diagrams are generated to interpret and summarize most of the theories. The investigations were concluded with relations or applications to the proposed programme. The main informants for this design discourse are; a process-oriented-view, urban farming, strategies for experiential design and principles of the changing kitchen.

Design development will follow in the next chapter.

It will commence with a design approach and the implementation of the theories in a spatial manner.

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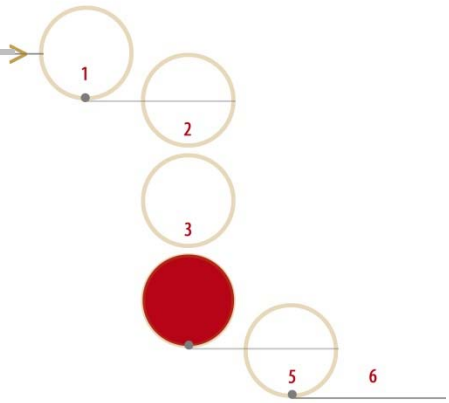
CHAPTER 4

DESIGN DEVELOPMENT



"Designing interior environments can be defined as determining the relationship of people to spaces based on psychological and psychical parameters, to improve the quality of life"
(Sassi, 2006).

Chapter four develops a design approach. It commenced by translating the theoretical investigations in a spatial manner. Thereafter a brand identity was developed through a logo, menu and a moodboard. The requirements for a commercial kitchen were investigated to inform the spatial layout. A programme list together with three stages of iterative explorations developed the final spatial layout. A sensory exploration of the spatial environment is also described to express the interaction and user experience. The focus points for design details are recognised as both the pod and booth seating configuration, the kitchen interface and lastly a conceptual approach toward an interaction platform. These details will be supported by additional and adaptable systems. For commencing the technical development, a stance towards materiality is taken and a summary of the design details and technical focus is given.

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4.1
DESIGN APPROACH

Design development will be based on qualitative research through prototyping and testing. This is an iterative process of constant explorations and reflections *(refer to section 1.8.3)*. The explorations will consider various avenues of theoretical implementations and design strategies necessary to formulate an in-depth design approach. The process will be viewing various design aspects related to the programme, spatial requirements, spatial layout, characteristics and materiality.

The concepts formulated through the theoretical investigations must be viewed as the platform for all the design decisions. A summary of the theoretical investigation is drawn to connect the problem with the proposed aims and objectives *(diagram 4.1.1)*.

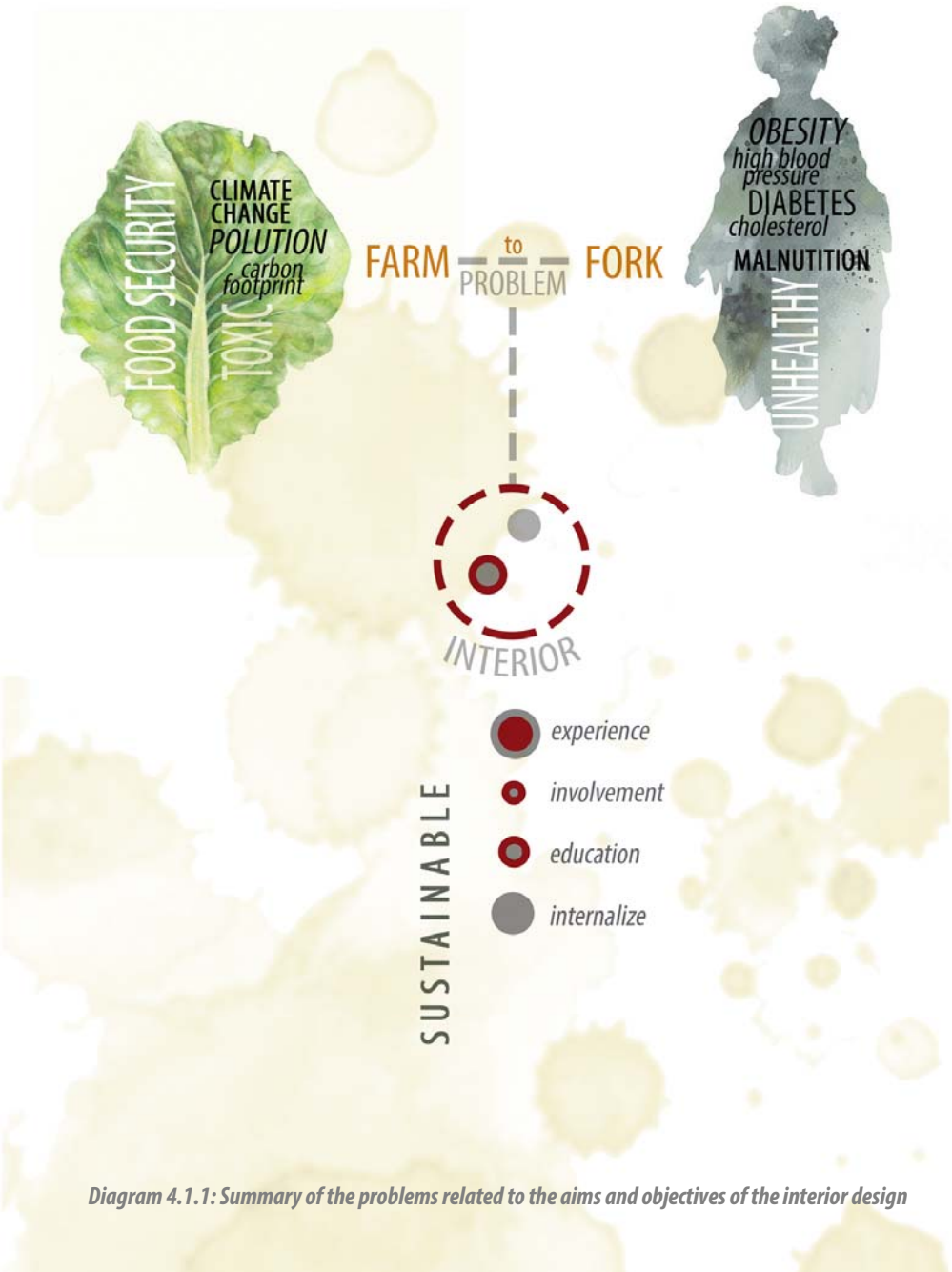

Diagram 4.1.1: Summary of the problems related to the aims and objectives of the interior design

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4.1.1
IMPLEMENTING THEORY IN A SPATIAL MANNER

"You can't save the world, but you can set it an example"
Alvar Aalto, Finnish architect and designer.

Different approaches to the processes of eating were explored through the theoretical investigations *(Chapter 3)*. The theory resulted in concepts which must be interpreted as interior design strategies. The theoretical ideas are explored within the spatial boundary of the prosed site. The following diagrams must be seen as preliminary explorations of how the ideas can translate in a spatial manner.

4.1.2
SPATIAL TRANSLATION OF THE CHANGING KITCHEN CONCEPTS

The organic movement *(refer to 3.2.2)* is a clean, conscious and honest way to farm and eat, as all the processes are on display. This makes it a suitable theme for the proposed restaurant, as it associates with the concept of a process oriented view *(refer to 3.2.1)*. Principles of the changing kitchen *(refer to 3.4.3.3)* also integrate with this movement, seeking central placement and exposure of processes. To create this transparent spatial quality, the visibility of processes must be considered. All the processes, including the waste areas, are intended to be visible for users to see and or engage in *(diagram 4.2.1)*.. These views will furthermore create an educational value.

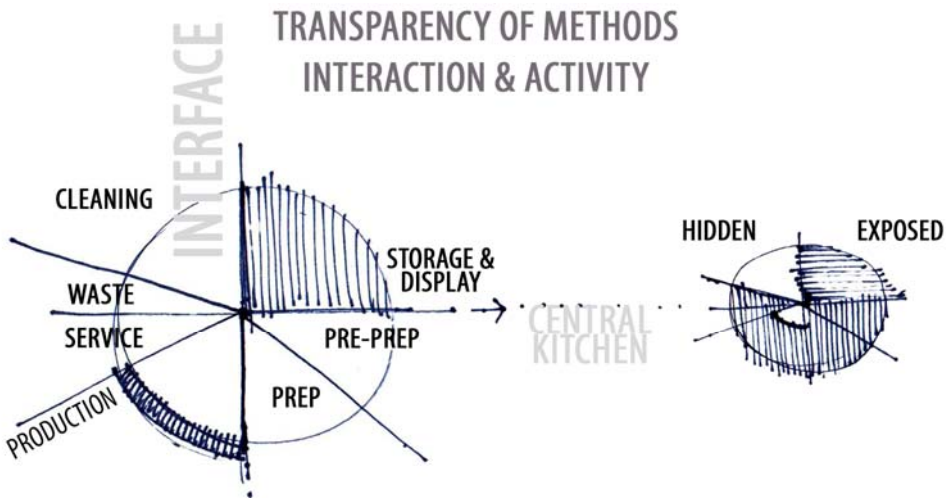

Diagram 4.1.2: Exploration of transparent qualities for the interfaces

This operational style of the programme informed the menu design *(refer to 4.2.2)*. A specific menu with a limitation on the amount of items to choose from, informed the spatial organisation. It defines the amount of space required for pre-prep, prep and finishing.

An experiential feature of the menu is the introduction of integrated indoor farming *(diagram 4.1.3)*. Urban farming within an interior environment is a new concept, not yet defined and technically developed *(refer to 3.2.3)*. Farming systems within the interior creates a new threshold for user interaction, exposing users to the practice of growing. Users are encouraged to interact with the systems before and during the eating process, by foraging for herbs and spices.

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In-farm systems will be a feature in its own right. It can be used as screening/dividing elements, contribute as a natural element within the space and lastly entice sensory qualities of smell, touch and sound *(refer to the sensory exploration in 4.5)*.

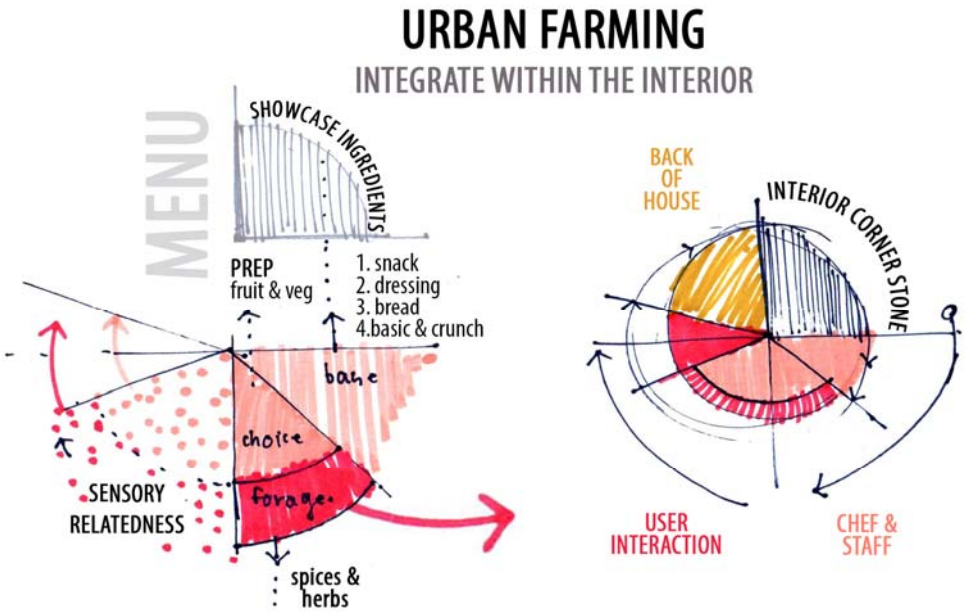

Diagram 4.1.3: Conceptual menu development with interior farming systems

4.1.3
SPATIAL JOURNEY THROUGH THE INTERACTION OF THE PROCESS ORIENTED VIEW

The interior will seek to create an experience, a memory, portrayed in a spatial journey *(refer to 3.4.3)*. In order to accommodate various types of users, the interior will comprise of two routes. Each route will have a different speed, to accommodate both the users in a hurry or those who intend to spend time in the space *(diagram 4.1.4)*. The routes will be either personal and bespoke or shared and related.

The objective is for all the users to equally perceive the essence of the experience, which is an accessible interaction with the process oriented view of eating. Together with various design strategies *(refer to 4.4.2.3),* a centrally placed demarcated zone will further assist in this task. All the users, irrespective of their route, will interact there in a creative and expressive manner *(refer to 4.7.3)*.

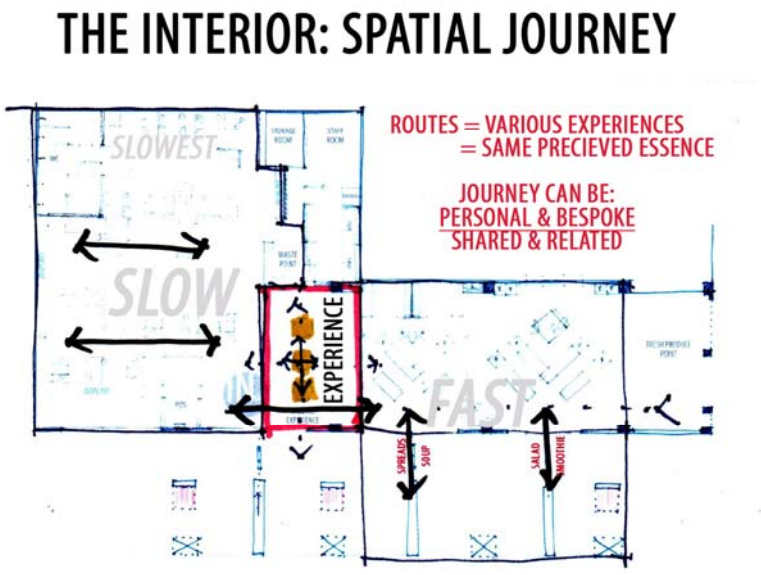

Diagram 4.1.4: Movement of the two spatial routes and the centrally placed interaction platform

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The spatial journey is designed around the view of the eating process. The intent manifests in the growing of organic produce. By exposing the growing of food, a different approach towards the eating process is created. It is an opportunity for users to engage with the eating process on intangible levels *(refer to diagram 3.4.2 & 3.4.4)*. The four levels of engagement are:

- Sensory: touching, seeing and smelling of herbs and food. The tasting and sounds of people talking or dripping water from the indoor-farming systems during consumption *(refer to 4.5)*.
- Related quality: comparing one to what others choose to eat and the sharing of herbs. Be involved in the food preparation and waste cycle.
- Personal: making a choice based on a preference, norms or a conscious consideration.
- Perceptive: change the idea of eating, by exposing the before (growing) and after (waste) life of food.

On a macro scale, the interior is divided into various zones for the three identified processes of eating to take place in *(diagram 4.1.5)*. These phases; production, consumption and disposal/distribution, must be connected spatially, as they are interdependent on each other. By showcasing the lifecycle of the eating process within the interior environment, the user will engage in the entire process.

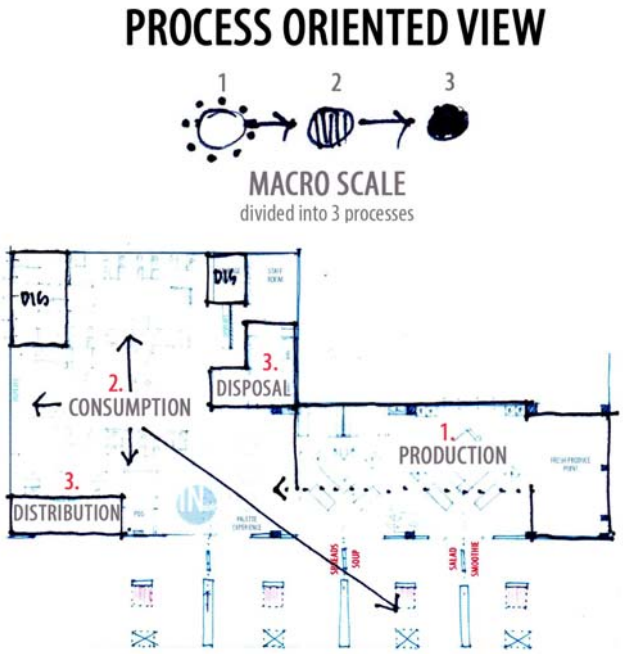

Diagram 4.1.5 Macro scale spatial implementation of the processes of eating

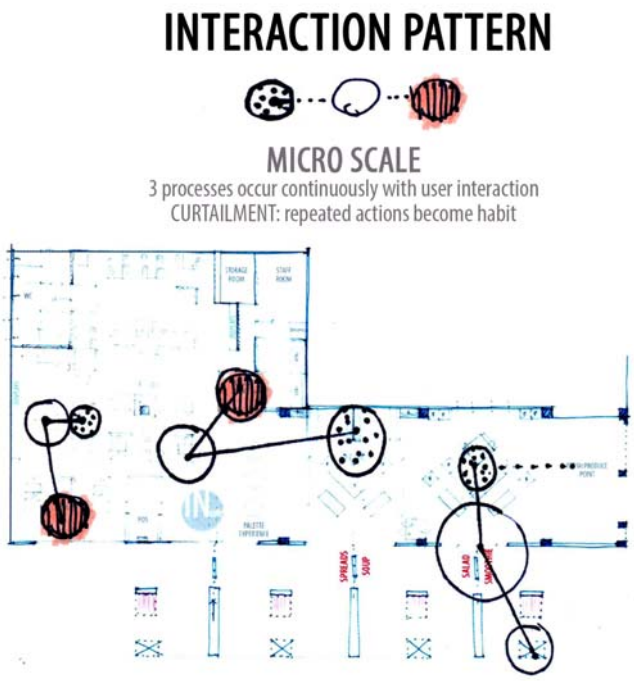

Diagram 4.1.6: Micro scale implementation of the processes, create an interaction pattern

The users will also engage with the three processes on a micro and intimate scale *(diagram 4.1.6)*. The users will constantly interact and go through the processes, by means of small movement or views. On a psychological level, this repeated pattern of the process will create a habitual sense within the user, encouraging them to internalize the interior experience *(refer to diagram 3.4.3)*.

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4.1.4
CONCEPTUAL IDEAS FROM THEORIES

The following concepts are further drawn from both the organic movement and the changing kitchen.

1. Organic eating utilizes what the earth is offering, without altering the natural occurrence, inspiring a seasonal palette. *(Figure 4.1.4.1: Colours of seasonalitiy (Cameron, 2014))*.
2. A transparent quality *(Figure 4.1.4.2: Ingredients turned into a product (Bricco, 2011))*.

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4.2
BRAND DEVELOPMENT

4.2.1
LOGO

The restaurant is named; *the Inside*.

It directly links to the title of the dissertation, questioning whether people live green and sustainably within the interior environment. It also refers to internalization (implementation) of strategies towards the practice of sustainability within the environment and the human body.

A logo is developed *(diagram 4.2.1),* as the restaurant will relate to the users as a specific brand. This brand image will be expressed on the menu, packaging, façade elements and some interior elements. An iterative exploration of the logo was based on three requirements, namely:

- Represent something inside, referring to an interior quality.
- Suggest either the user or the environment as an image of sustainability.
- Graphically refer to growth or a lifecycle.

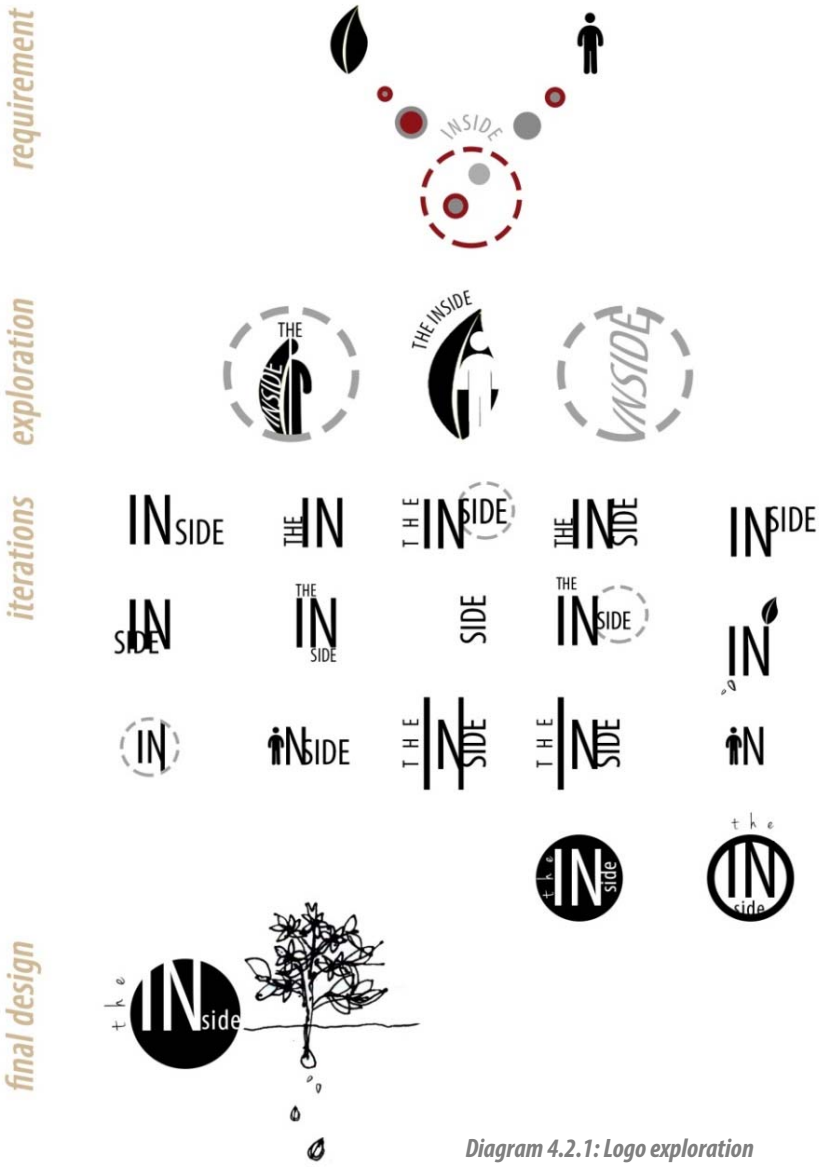

Diagram 4.2.1: Logo exploration

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4.2.2
MENU & PACKAGING DESIGN

The menu is based on seasonality. Considering the range of organic produce possibilities, it will also be limited to four categories, namely: smoothies, salads, soups and spreads. A predefined palette of the season will be designed by chefs for the users to choose from. Both the base and choice of ingredients will be pre-prepared, as it creates simplicity in the operation of the kitchen. After receiving the chosen palette on a designed service board *(figure 4.2.1),* the users must finish the order by foraging for the herbs or spices within the interior farming systems. Suggestions for foraging are indicated with a colour, but it can also be per preference of the user.

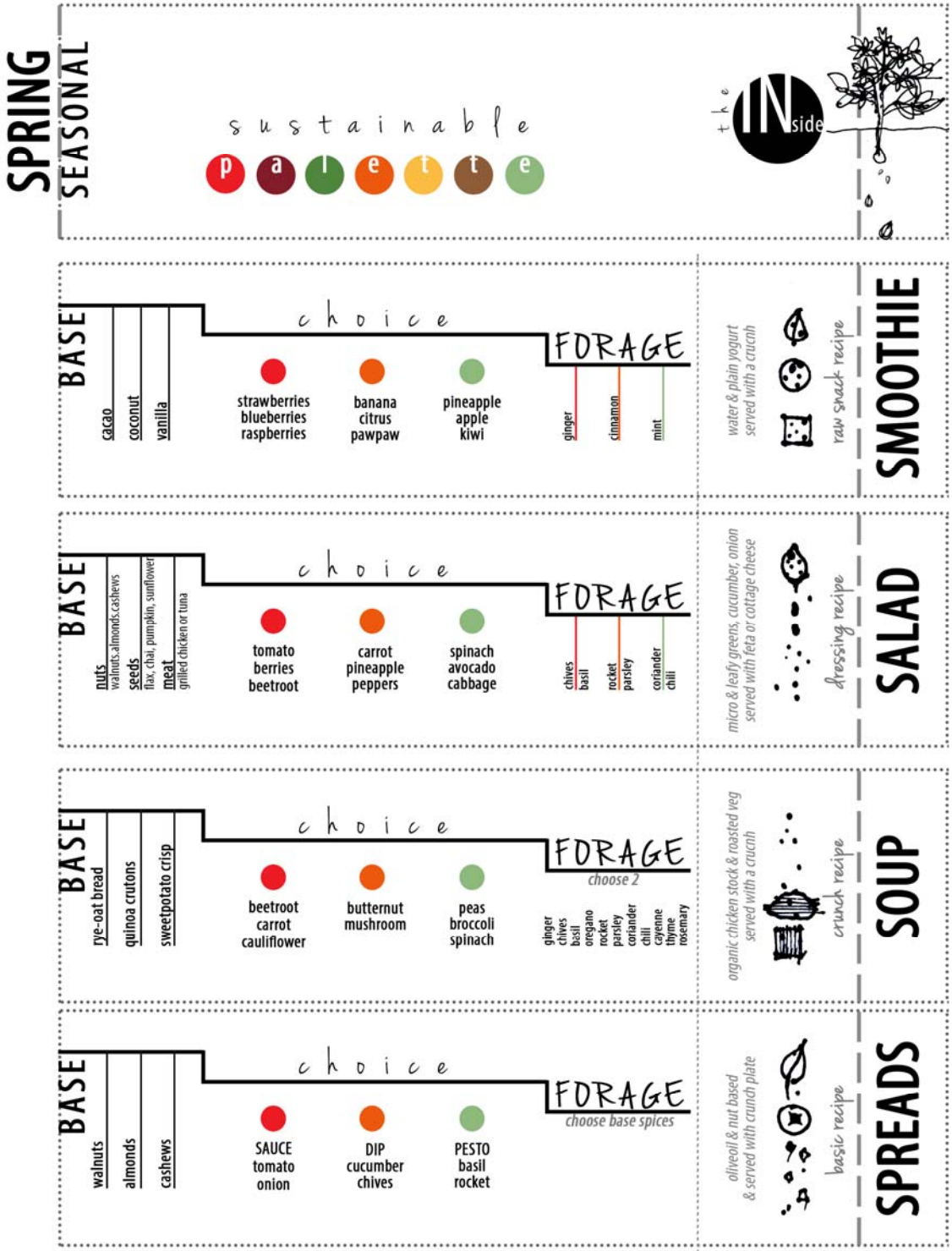

Diagram 4.2.2: Menu design

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An envelope, with the same character as the menu, will be handed out upon exit at the point of sales *(figure 4.2.2)*. It will have a seasonal recipe on and carry seeds within. It intends to encourage users to grow their own produce, educate users on the ingredient of what they eat while inspiring them to self-prepare these meals at home. A paper-bag is also designed for take away meals *(figure 4.2.3)*. It resembles a transparent quality to see the elements within.

The bespoke service board, menu and packaging are branded items, handcrafted by the community and joined with methods of sewing and staples *(refer to diagram 4.7.1.B & 4.7.1.C)*.

Figure 4.2.1: Image of the service board

Figure 4.2.2: Image of the envelope with recipe and seeds

Figure 4.2.3: Image of the paper-bag packaging

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4.2.3
LOOK & FEEL

The interior intervention will complement the character of the ***urban context*** of Maboneng *(refer to section 2.4.1)*. It will furthermore implement theoretical approaches and ***transparent qualities*** based on the principles of the changing kitchen. The joinery will aim to ***express the process, methods and lifecycles*** of the materiality. The lifecycle will be heightened by implementing ***adaptable features.***

The interior look *(diagram 4.2.3)* will be an interplay between ***industrial and natural materials***; both expressed in a raw and honest state *(refer to diagram 4.7.1.C)*. Details will be emphasised with different materials with exposed joints, communicating the process to the users. A creative quality will be expressed within these connecting details. ***Neutral colours*** will form a backdrop for the seasonal palette, emphasising the colours of the food. Some walls will be painted warm ***red***. It will psychologically influence the user behaviour, as it ***encourages energy, excitement and strength*** (Wright, 2008). The space is further illuminated with cool white task lighting, warm white mood lighting, and ***vibrant pink grow lights***. The lighting strategies add to the ***liveliness*** of the interior space, directly relating to growth and activity.

Green will be emphasized in the interior with the growing herb systems as well as neutral greens of ceiling panels and a bright green to emphasize the exposed duct system.

The interior feel will be based on the different ***textures of the materials,*** such as the wood and cork within the table and the brown paper of the menu. Various senses will be accentuated by interacting with the surfaces. The addition of loose elements, such as edible cutlery, will heighten the exploration.

The trend of healthy eating and sustainability supports this raw, exposed and organic approach. This ***exposed approach*** lends itself to transparent qualities, to see what is happening where and how.

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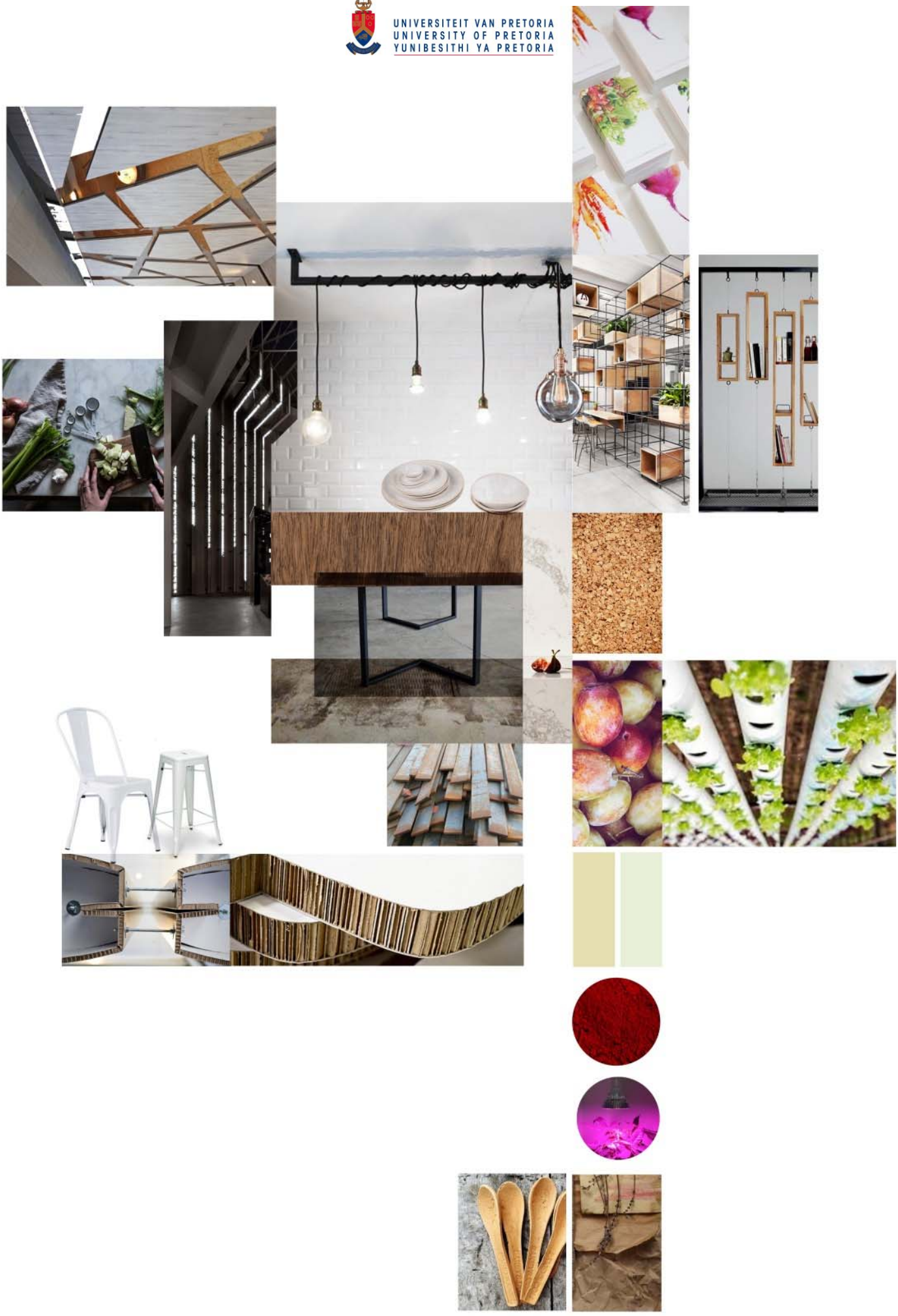

Diagram 4.2.3: Look & feel moodboard

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4.2.4
CONCEPTUAL REQUIREMENTS OF THE PROPOSED PROGRAMME

The interior design of a service facility must satisfy a number of functional and aesthetic requirements. Thereafter the design in itself will showcase the operational style and the desired consumer behaviour of the specific foodservice facility (Lawson, 2008: 17.4). Based on the concept of the proposed programme, the following aspects are required for *the Inside*.

4.2.4.1
OPERATIONAL STYLE

The Inside intends to showcase all processes of the eating experience of a restaurant, in a raw and organic theme. This intention can be achieved by exposing specific back of house functions such as preparation and waste areas. It is important to consider the functionality of these exposed spaces, as it can be unorganized, noisy or even seem like a production-line of processes.

To create efficient and controlled flow between these exposed areas, it has to operate as a finishing kitchen (Lawson, 2008: 17.9). This type of kitchen specializes in lighter meals in a simplistic manner. A majority of the ingredients are prepared before service and only finished to order. It does not require factory type productions or bulk quantities in wide varieties. The kitchen area can be reduced in size and equipment but requires a broader area for various preparations.

A designed menu will inform the extent of preparation *(refer to 4.2.2)*. Preparation areas of *the Inside* require the following characteristics to function optimally;

- Separated and grouped according to the task and type of preparation
- Stationary worktop which is also adaptable to suite various needs
- Easily accessible and equipped with storage for the elements to use during the task
- Direct access is required between storage and preparation areas

4.2.4.2
CONSUMER BEHAVIOUR

The exposed quality of both the kitchen processes and the consumption and waste processes, will seek to educate the user. Their behaviour will be determined by their perception of the interior experience, attained through the brand and story of the restaurant *(refer to 4.4.2.3)*. Users and staff will interact in a combination of both counter and table service. The user will also interact individually with the space when they forage and finish their own meals. The sensory experience *(refer to 4.5)* intends to translate into specific knowledge about seasonality, processes and methods of food-preparation, lifecycles of materials and lastly recycling strategies.

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4.3
COMMERCIAL KITCHEN REQUIREMENTS

Restaurants and other food facilities which provide items for user consumption, are labour intensive services. In order to develop such a service according to standards, specific requirements must be met. Planning, organizing and designing then take place accordingly.

Requirements are set to fulfil three roles in the design process (Lawson, 2008: 17.1), namely:

- Determine and seek labour efficiency of the service.
- Create standards and sizes to follow when designing the layout. The layout will suggest specific movements which will showcase the processes of the interior and the different functions within the environment.
- Technical development of the programme.

4.3.1
CLASSIFICATION

Requirements will be implemented by classifying the intended service. *The Inside* is classified as a mid-market type of restaurant, as it is defined by a limited menu with a food speciality in organic and raw produce. This type of restaurant requires between 80-100 seats, a spatial allowance of 1.5-1.8m^2 per seat and a kitchen area of 0.6-0.7m^2 per seat (Lawson, 2008: 17.9).

CLASSIFICATION

MID-MARKET RESTAURANT
LIMITED MENU
FOOD SPECIALITY
80-100 SEATS

space allowance: 1.5-1.8 m²/seat
kitchen area: 0.6-0.7 m²/seat

minimum requirement: 0.6 x 80 seats = 48 m²

The programme with its required spatial allocation per occupant can also be defined. It is a combination classification, with reference to SANS (SANS Part A, 2010: 43):

- Low risk commercial service (code B3): Non-industrial processes require 1 person per 15m^2.
- Entertainment and public assembly (code A1): A space for eating or recreational activities requires 1 person per 1m^2 in the case of loose seating.

It is the intent to fulfil both of these requirements within the design *(refer to section 4.4.3)*.

4.3.2
SPATIAL REQUIREMENTS FOR MOVEMENT

All restaurant operations involve overlapping processes between the production, service and customer areas (Lawson, 2008: 17.2). The relation between these spaces and their various attributes has been considered *(diagram 4.3.1)*.

These requirements are iterated on by grouping the processes into three movements. Important aspects and processes, with reference to the proposed programme, have been highlighted.

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4.3.2.1
MOVEMENT 1: Receiving/deliveries and storage

Different types of deliveries are considered. It is either dry goods or cold ingredients. Dry storage requires utility shelves and cold storage is needed for fresh produce. Different types of cold storage to consider are under counter, roll-in, walk-in or glass door refrigeration. For *the Inside*, the fresh and daily perishable ingredients must have direct access to preparation areas. To also suggest a transparent quality, the different types of storage must be considered as a way of display.

4.3.2.2
MOVEMENT 2: Preparation, cooking and assembly/service

The sizes of the cooking areas depend on the amount of preparation done prior. The different types of cooking together with the required equipment, determine the grouping of cold, dry, wet or hot stations. These areas are centrally grouped in order to designate a specific area for this function. The following grouping strategy is considered for the proposed menu of *the Inside;*

- GROUPING 1:

  The two fresh produce stations are grouped as wet and cold areas. A water area is included for the washing of the produce. Refrigeration units are fitted along a wall behind the stations. These stations are zoned with the smoothies and salads service areas. Both areas require cold storage with direct access to the perishable ingredients.
- GROUPING 2:

  The soups and spreads service areas are grouped together. They comprise of a combination of wet and dry elements. Both services contain hot elements which require electricity for cooking and ovens for baking. They will both make use of the prepared produce in the adjacent grouping 1.

The assembly of meals must consider the intended flatware, dishes, glasses, trays and cutlery to be used. These elements must be accessible to the kitchen staff, service waiters and chefs.

The seating service areas are the main encounter of any restaurant facility. For *the Inside,* it is proposed to accommodate either people on the go or for a sit-down service.

4.3.2.3
MOVEMENT 3: Cleaning and waste

Cleaning can be either the washing of dirty equipment or chemical cleaning. The areas in which to do so and the storage for the cleaning equipment must be considered. These areas must link to waste management, where bins are required to either recycle, sort or dispose used elements. It requires direct access between the service, waste and cleaning areas. Only the cleaning area will be back of house.

4.3.2.4
CONCEPTUAL MOVEMENT

The transitions between the abovementioned three movements can be manifested in various spatial manners. Possible movements, based on the type of seating interaction during the eating processes, are explored *(diagram 4.3.2).* The intent of the movement concept is expressed diagrammatically. The aim is to create a new way of interaction by combining various movements (both social and individual). These ideas will be iterated within the exploration of the layout *(refer to section 4.4.2).*

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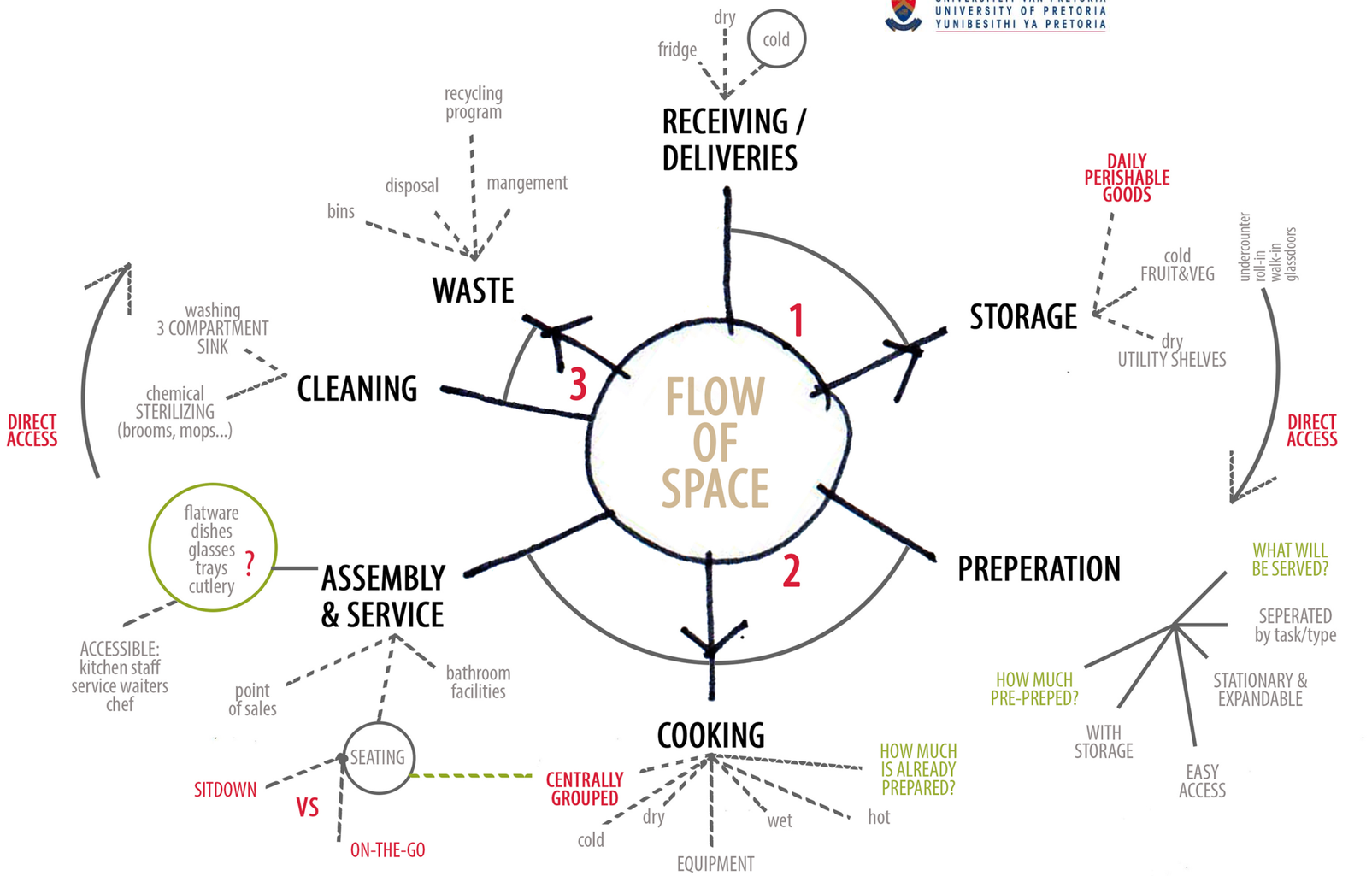

Diagram 4.3.1:
Requirements and considerations for a commercial kitchen,

(Created by the author of this dissertation with reference to (Lawson, 2008: 17-2, 17-3))

Figure 4.3.A: Podium seating (Dodo, 2011)

GAMSEI cocktail mixology bar, Munich, by Buero Wagner

PODIUM SEATING & CENTRAL WORKSPACE
strip boundary between guest & barman
=INTERACTIVE EXPERIENCE

Figure 4.3.B: Booth seating (Archdaily, 2014)

NIKE EMEA headquarters canteen, Netherlands, by UXUS

DIFFERENT SEATING IN SOCIAL HUB
Individual tables/counters
= vast interaction vs.
Timber-slatted booths
semi-enclosed & cozy = private interaction
=PERSONALIZED EATING EXPERIENCE

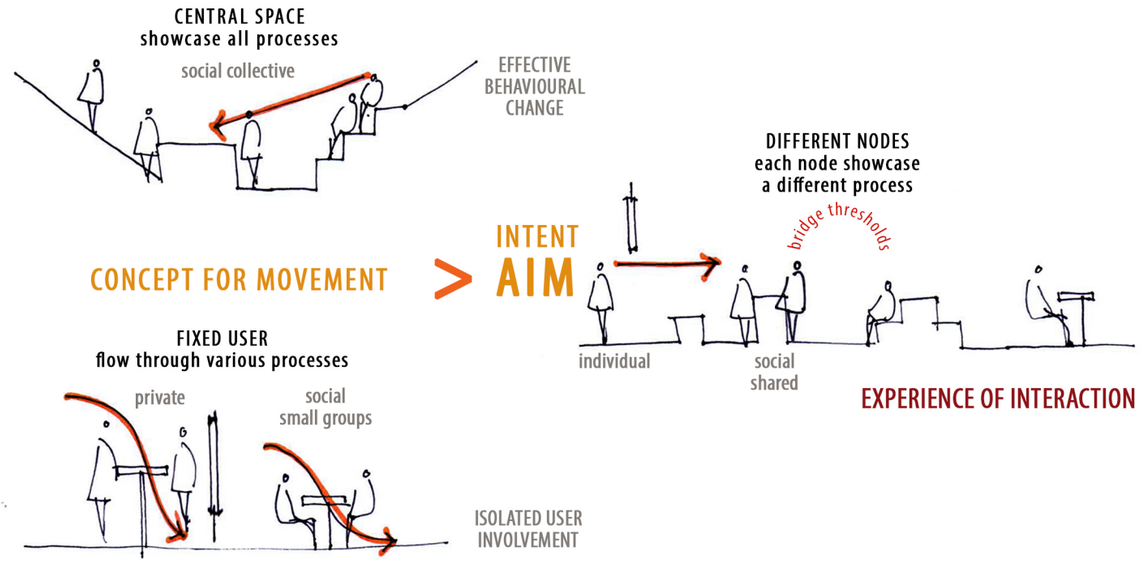

Diagram 4.3.2:
Concepts for movement between processes,

(Created by the author of this dissertation with reference to (Dodo, 2011)(ArchDaily, 2014))

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4.3.3
SPATIAL REQUIREMENTS OF THE PROPOSED PROGRAMME

After considering the classifications and requirements of a finishing kitchen in conjunction with the function of the menu, the minimum required square meters for the various spaces are determined *(diagram 4.3.3, with reference to diagram 4.1.2)*. The areas are based on standard ergonomic design for kitchen spaces to function in (Lawson, 2008: 17-8 - 17-10). The proposed amount of staff and their circulation area within the kitchen is also indicated. The indoor urban farming systems *(discussed in section 4.1.2)* and the proposed interaction platform *(discussed in section 4.1.3)* are integrated within the production and service areas.

Circulation areas for users within the kitchen area have not yet been considered. These witness areas will connect the kitchen and eating processes. The ratio of kitchen to circulation space must be implemented within the design development.

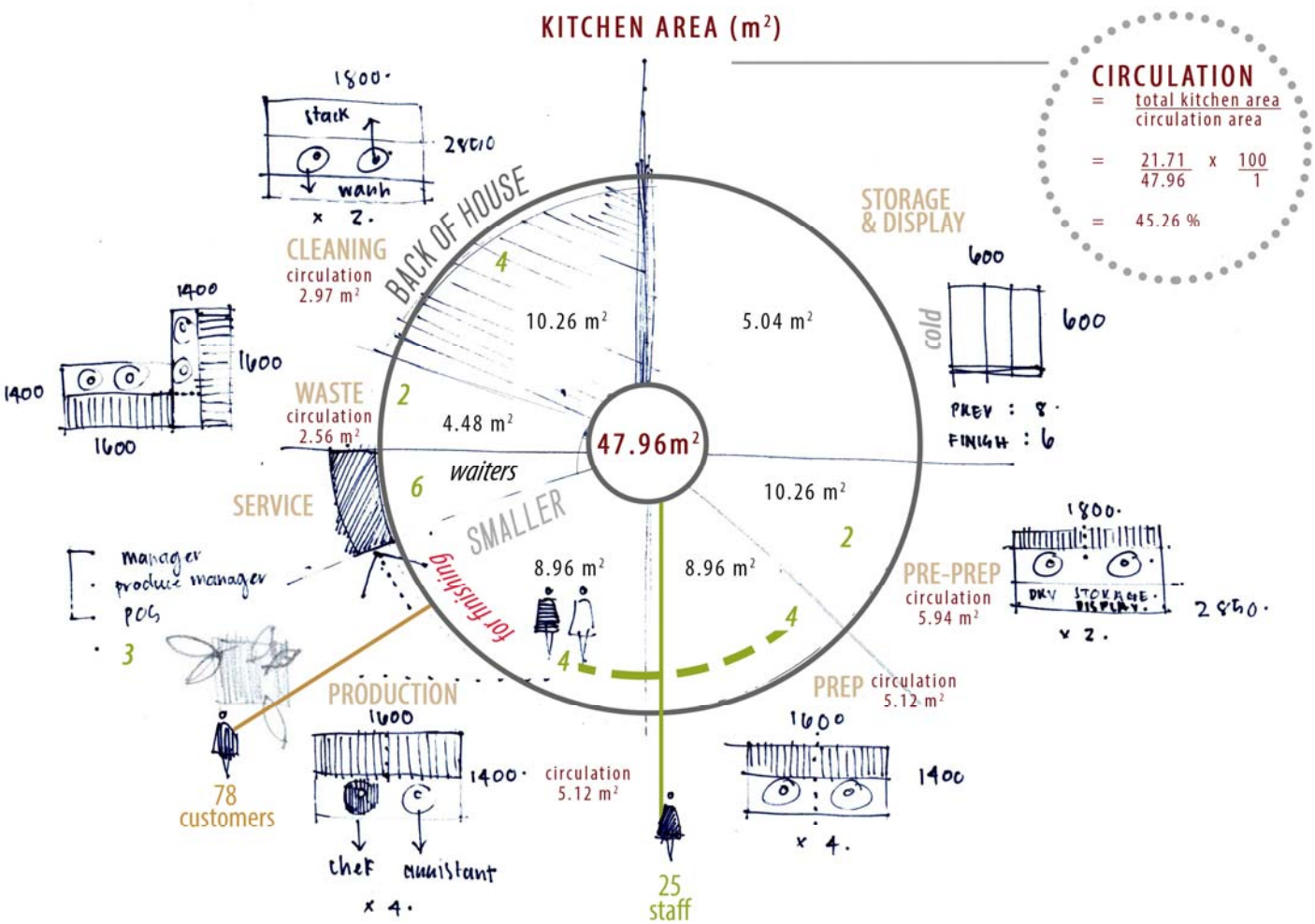

Diagram 4.3.3: Spatial exploration of the proposed programme based on ergonomic spatial requirements (Created by the author of this dissertation with reference to (Lawson, 2008: 17-8 - 17-10))

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4.4
SPATIAL LAYOUT

4.4.1
PROGRAMME LIST

A programme list is compiled to define the required areas and elements within the proposed interior *(diagram 4.4.1)*. The list is based on the process-oriented-view theory *(refer to section 3.2.1)*. It is divided into the three phases of the eating process namely; production, consumption and distribution/disposal. The list indicates the distinct programme in the phases, the movement between the processes as well as overlaps and variations between them. As conclusion to the programme iteration, the following reflections are made.

- The programme is enriched by suggesting strategies for the movement of produce in or out of the restaurant. It connects the surrounding context and community to the programme. *The Inside* becomes a place where fresh produce can be contributed or exchanged
- Both the production and consumption phases require a worktop interface. In order to connect these phases, the interface design must express the same design details and characteristics but be changeable to adapt for a different purpose.
- All three phases require storage. The interior character of exposure can be translated, when it is established that the storage can become the display as well.
- In line with the farm-to-table vision *(referred to in sections 3.2.1 & 3.2.3.1)* the users must be educated on where fresh produce come from, lifecycles of materials, processes in the kitchen or recycle strategies. All three of the phases must display or communicate information.
- The golden thread of the programme is to connect it with the farm (seeds) and growing.

In essence, two overlapping elements will be explored within the layout. They are the worktop interfaces and various methods of display/storage. It is also important to consider the seating as an integrated part of the entire process. All of these explorations will showcase flexibility and changeability of the space.

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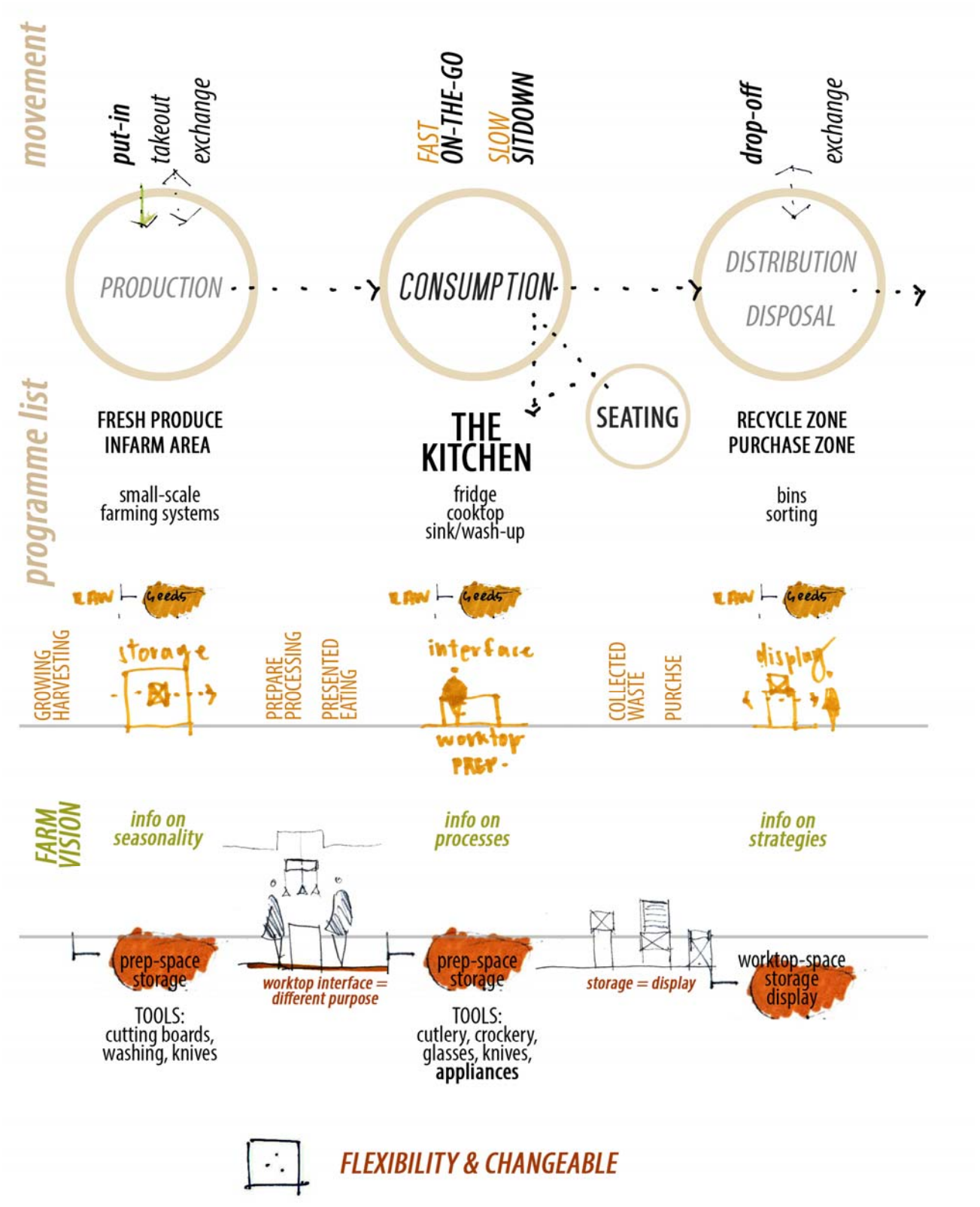

Diagram 4.4.1: Representations of the proposed programmes, requirements and intentions; divided into the three phases of eating

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4.4.2
EXPLORATION OF THE LAYOUT

Various iterations of the layout were explored and tested. The iterations implemented concepts of the investigated theories *(refer to chapter 3)*. Analysis took place with the use of the following key:

Following the analysis, each layout is named and described in one sentence. After each exploration a reflection of positive and negative comments are stated.

The exploration is divided into three iteration- stages, namely:

- Iteration 1: the exploration of initial thoughts (Appendix A, pages A1-A4)
- Iteration 2: detailed design approach with the application of requirements (Appendix A, pages A5-A8)
- Iteration 3: final considerations of placements and movements

As a summary of the entire process, simplified diagrams which showcase the essence and unique characteristics of each individual exploration are compiled *(diagrams 4.4.2.1 & 4.4.2.2)*. Reflections and comments on the iteration-stages conclude the exploration. The summary used the following key:

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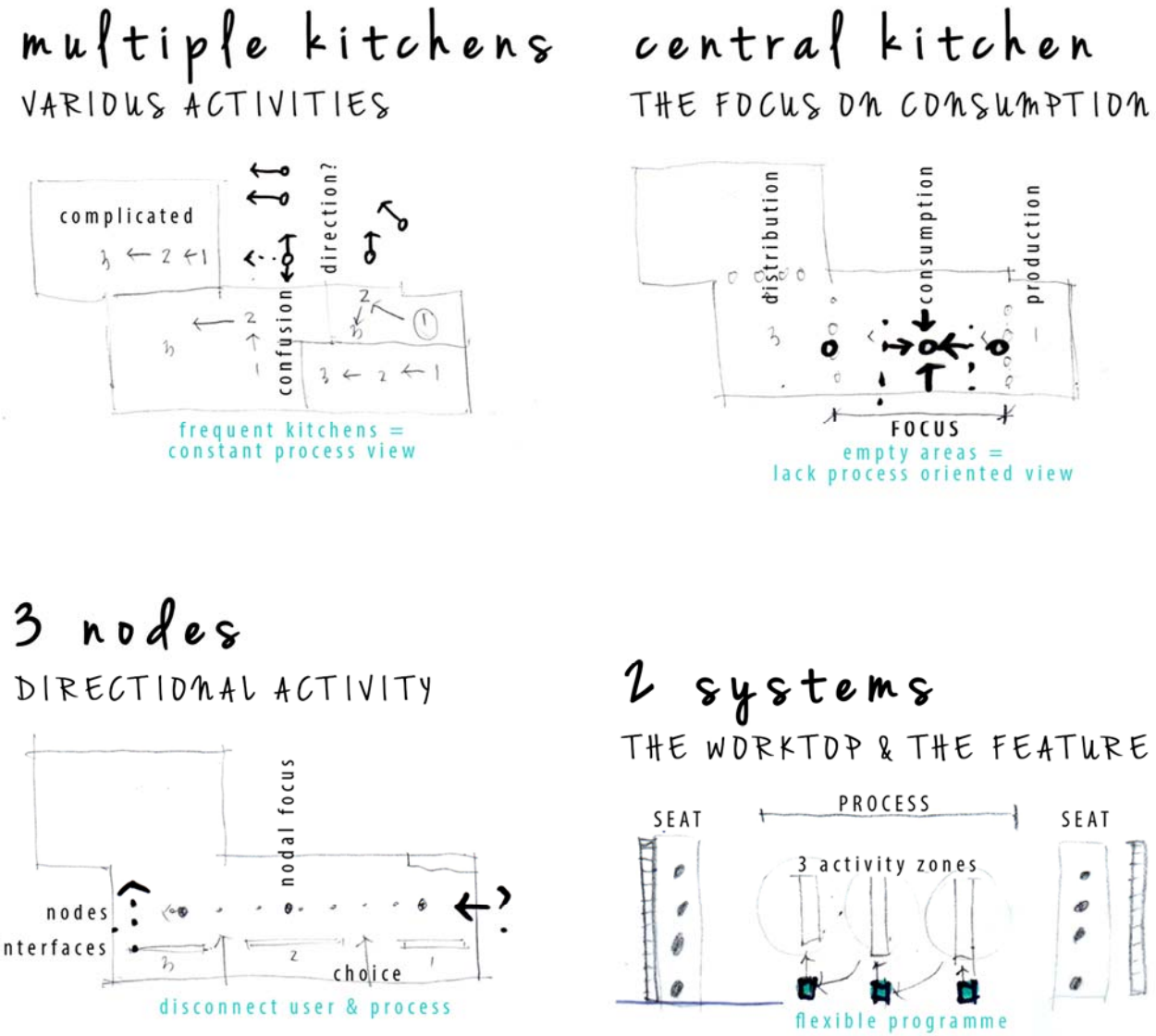
4.4.2.1
ITERATION 1: SUMMARY



REFLECTION
a process oriented movement is practiced yet lacks simplicity in the spatial quality

consider:
flexibility of the worktop or display
integrated seating

Diagram 4.4.2.1: Summary and reflection on iteration 1

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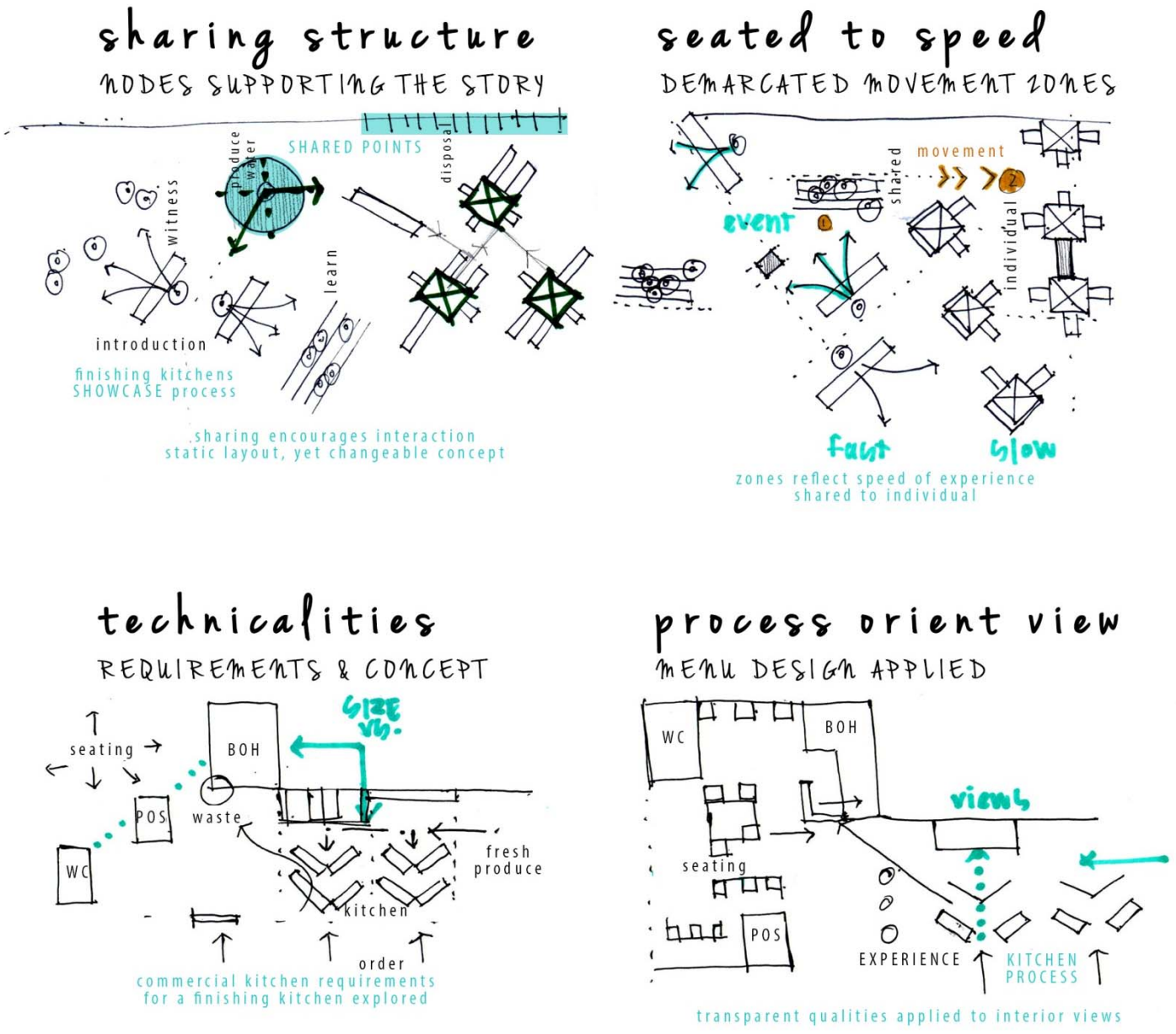
4.4.2.2
ITERATION 2: SUMMARY



REFLECTION
demarcated zones are designed but still propose to be both changeable/adaptable and inviting

intimate user encounters are not yet defined
various views, connections and thresholds need to be expressed through sharing principles or details
the story of the movements and senses are unclear

Diagram 4.4.2.2: Summary and reflection on iteration 2

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4.4.2.3
ITERATION 3

This section defines the final development of the spatial layout. Conceptual ideas are explored with various sketches *(diagrams 4.4.2.3.A & 4.4.2.3.B)*. As result of the shortcomings in iteration 1 and 2 the following aspects are addressed:

A. Define the story of the interior.
B. Finalize the layout.

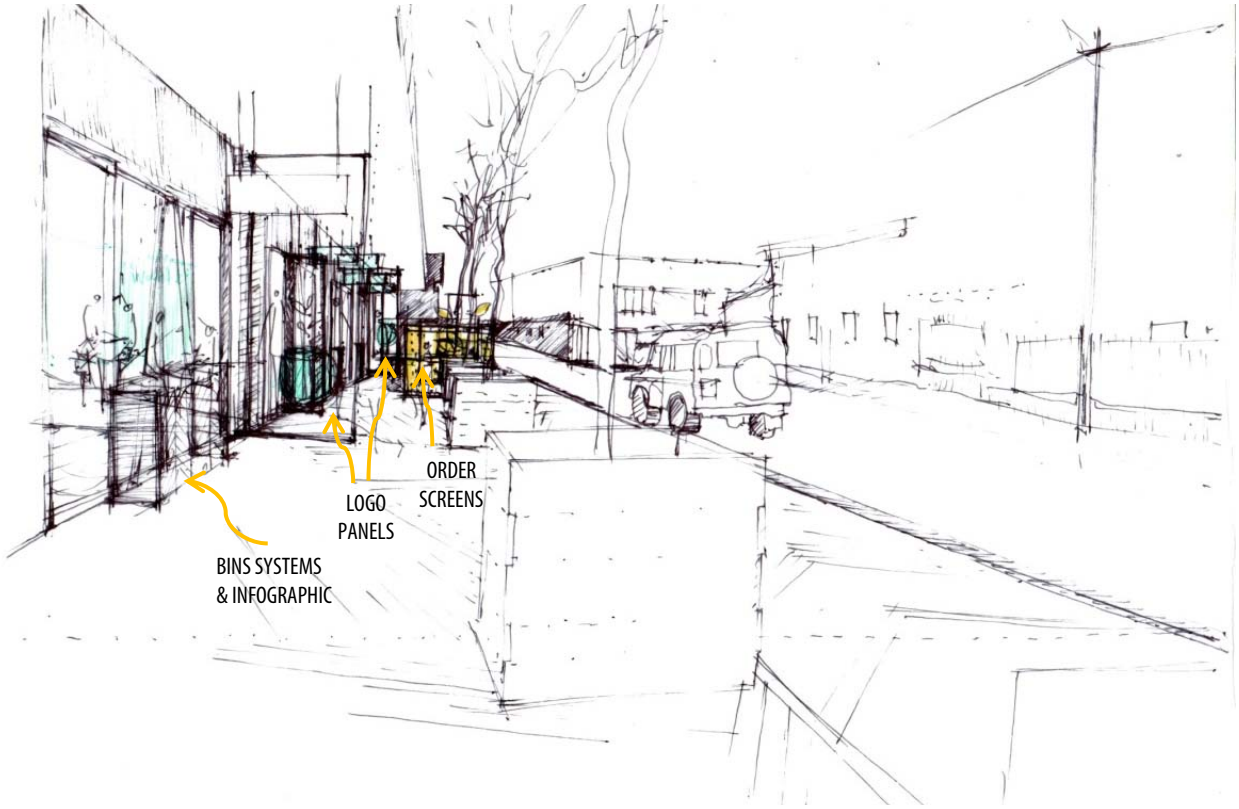

Figure 4.4.2.3.A: Sketch representing exterior urban façade intervention

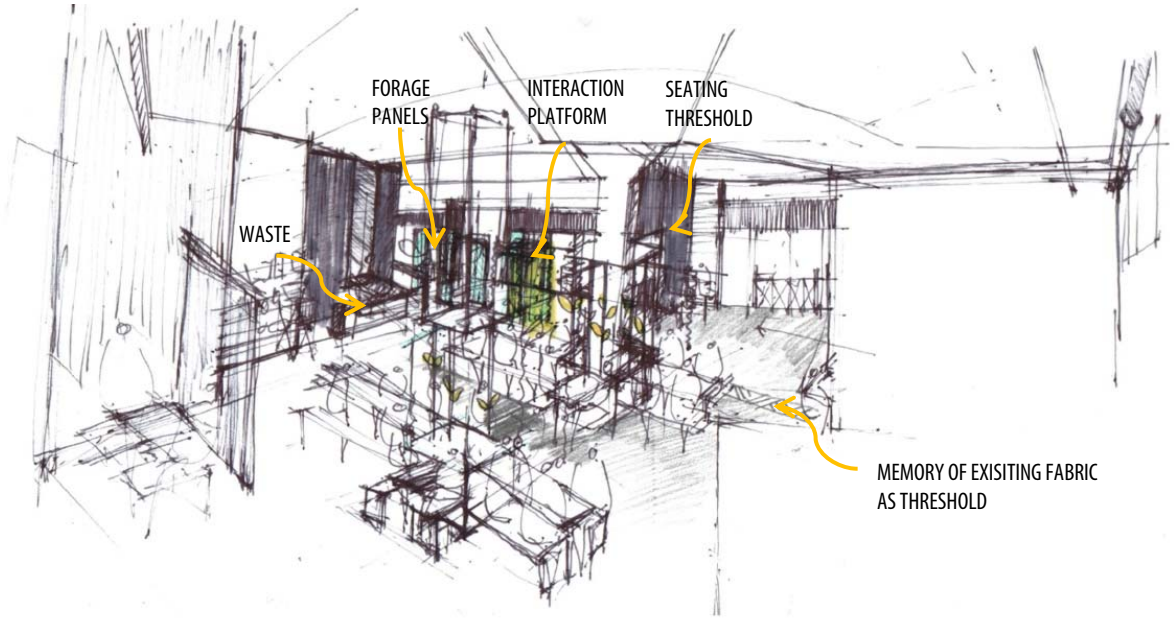

Figure 4.4.2.3.B: Sketch representing interior seating area view

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STORY
MOVEMENT OF THE EXPERIENCE

See intervention on the exterior by means of logo-facade panels. Panels act as a branding element.

2 Receive a menu from a staff member when entering the defined exterior space.

3 Move to discussion area. In this zone the users will decide and place orders on a digital station. (The order will be based on a colour palette as seen in the seasonal menu).

4 Move into the interior through either of the two access routes. At this *threshold* the programme will be introduced by walking though digital representations of the act of growing. The user's senses will be enticed witnessing displays of the various seasonal ingredients.

5 Pick-up the order from the defined finishing service interface, demarcated with signage.
The user is encouraged to witness the preparation process, with transparent views towards the pre-prep, prep and fresh produce stations as well as the emphasized service wall (with equipment).

CAPTURE THE ESSENCE:
ELEMENTS WHICH DEMARCATE FORAGING & EATING IN A TRANSPARENT AND RAW WAY

Sit-down (slow service, yellow) users will receive a service board,
On-the-go (fast service, pink) users will receive a paper bag.

6 **ACCESSIBLE INDOOR FARMING**
An infarm zone with vertical farming systems, to forage for the finishing herbs to complete their order (as indicated in the menu). These systems are also integreated into the seating area.

INTERACTION PLATFORM
A seasonal art installation for user-interaction (upon exit).

7.1 FAST SERVICE: Exit. Can sit down in outdoor seating area.
7.2 SLOW SERVICE: Seated to a type (distinct in function, look & feel). During consumption users will interact with other people and the farming systems, whereafter used elements will be taken to the open waste and back of house area for recycling. Exit.

8 Point of sales.
Receive a seasonal recipe and seeds, to encourage sustainable eating and urban farming at home.

Intended user engagement and sensory interaction towards and within the space.

SYSTEMS
Contribute to the operation of the restaurant (separately zoned but integrated).

witness indoor application of a vertical farming system

ACCESSIBLE & CONNECTS USER TO THE PRODUCTION PROCESS OF EATING

Rquirements:
- rotate tubes to outside
- water articlation & growlights

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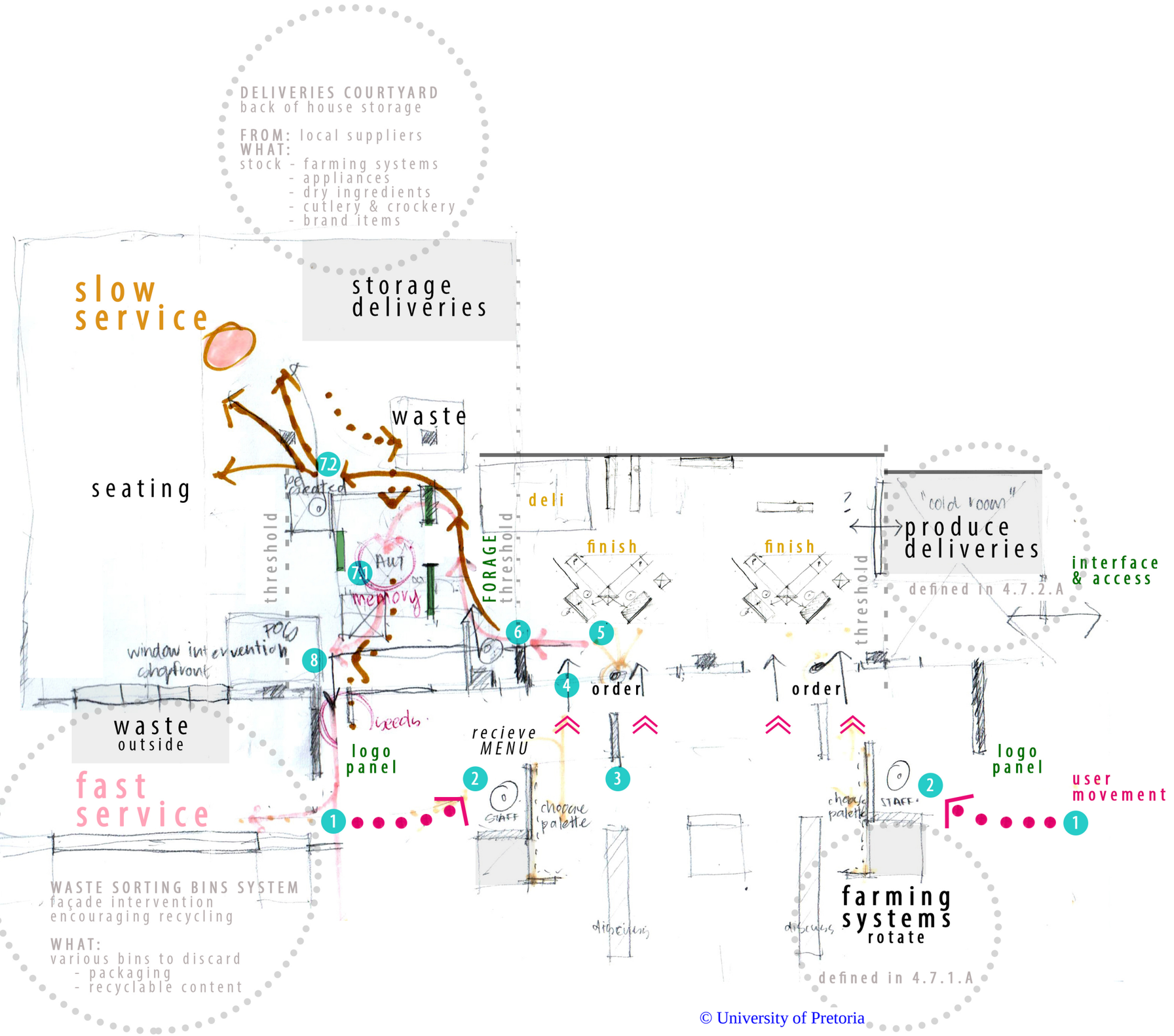

The story will be captured by considering both the movements and the sensory interactions *(refer to 4.5)*. The intended series of movements are illustrated and described.

This iteration also defined four systems which will contribute to the operation of the restaurant. The systems are defined (demarcated in grey).

NOTE: A sequence of vignettes visually illustrates the movements of the story (refer to chapter 5).

the story

MOVEMENT OF THE EXPERIENCE

Diagram 4.4.2.3 (A)

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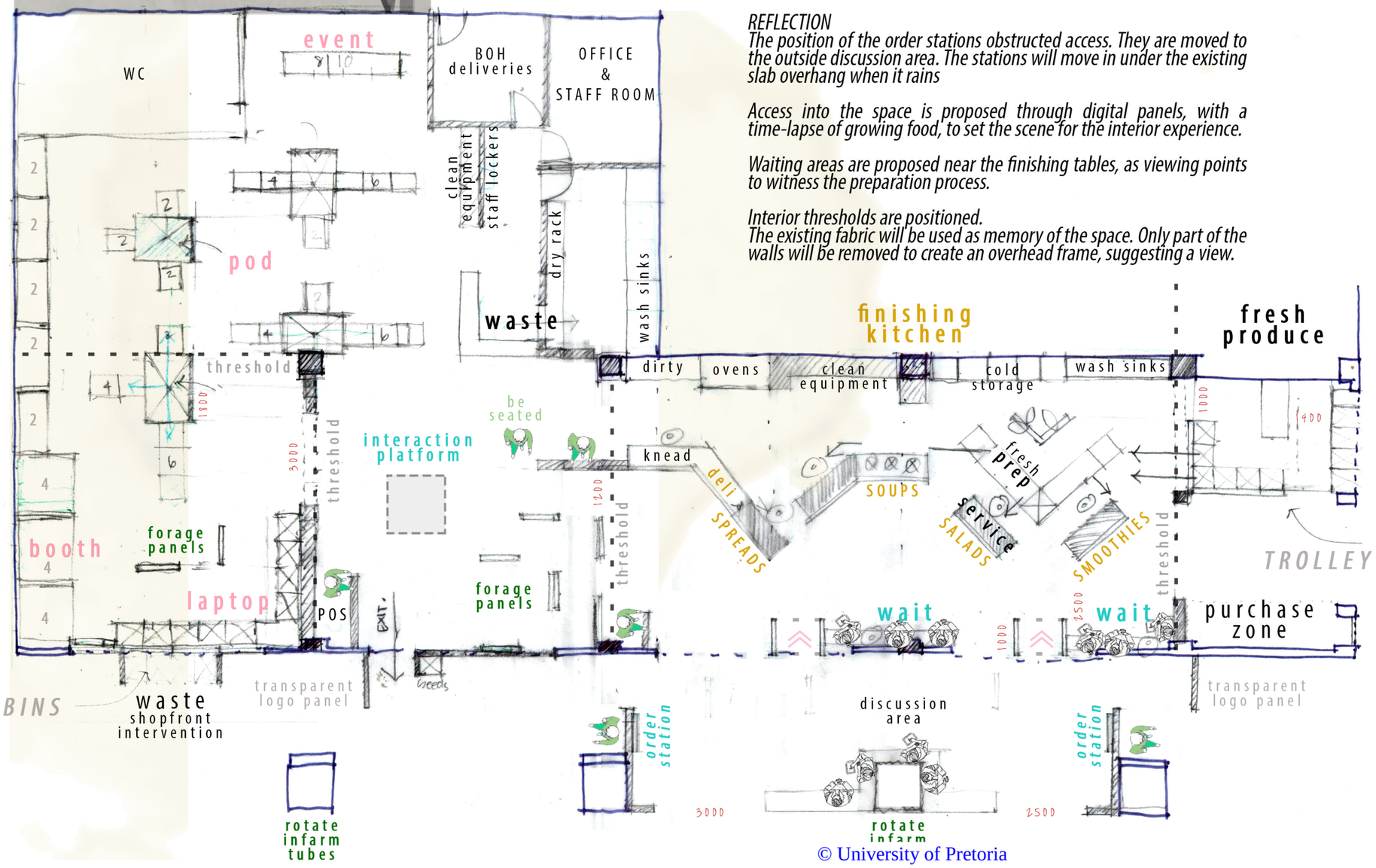
REFLECTION
The position of the order stations obstructed access. They are moved to the outside discussion area. The stations will move in under the existing slab overhang when it rains

Access into the space is proposed through digital panels, with a time-lapse of growing food, to set the scene for the interior experience.

Waiting areas are proposed near the finishing tables, as viewing points to witness the preparation process.

Interior thresholds are positioned.
The existing fabric will be used as memory of the space. Only part of the walls will be removed to create an overhead frame, suggesting a view.



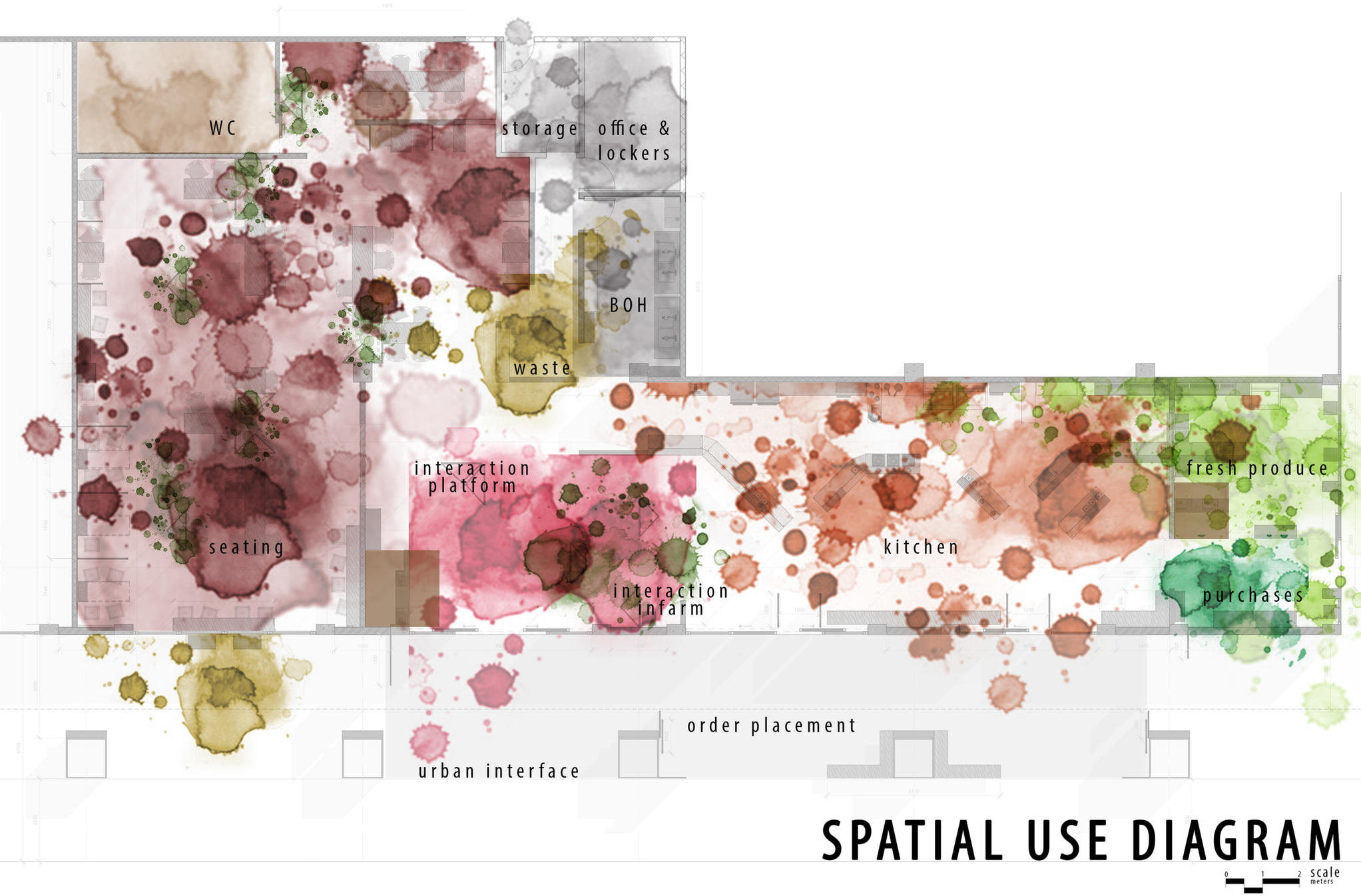
The spatial layout of the kitchen is revisited as it was too static and linear. Interesting angles will create a more dynamic space. The following aspects were also considered; the movement of the staff, proposed grouping of the kitchen functions and the placements of services against the structural wall.

Four seating types are proposed, namely; pod, booth, laptop and event. The size, table height, chair type and environment in which the table is placed, will define the type of seating.

This iterative process is concluded with a spatial use diagram *(diagram 4.4.2.3) and a* demolition sequence *(diagram 4.4.2.4).* The layout is finalized in *Chapter 5.*

final layout

Diagram 4.4.2.3 (B)



ROOM LEGEND

m²	
	indoor vertical farming systems
22	fresh produce
112	kitchen
173	seating
11	waste
13	purchases
50	interaction: infarm & platform
18	WC
15	BOH
13	office & lockers
8	storage
27	order placement
84	urban interface
	POS

SPATIAL USE DIAGRAM

scale 0 1 2 meters

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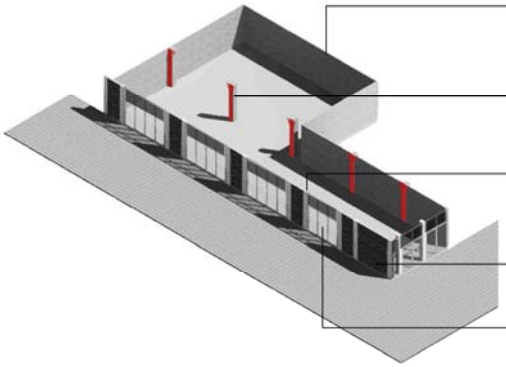
DEMOLITION SEQUENCE

1. EXISTING FABRIC
PRESERVATION



190mm x 140mm x 190mm
Concrete masonary block,
(standard) painted white

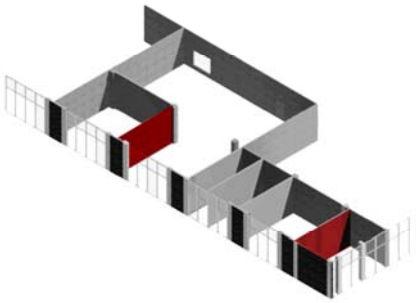
550mm x 550mm Concrete column,
250mm x 500mm footing at soffit

550mm x 300mm Concrete column

220mm Exterior brick wall,
painted black

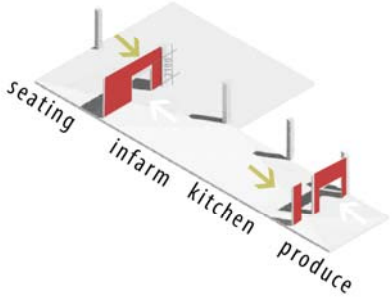
75mm x 75mm Steel frame shopfront door,
galvanised, clear glass,
2900mm-4300mm steel infill
(reconfigure from swing to sliding door, and alter access to curate movement)

2. STRIPPING BACK EXISTING WALLS
ENABLING WORKS



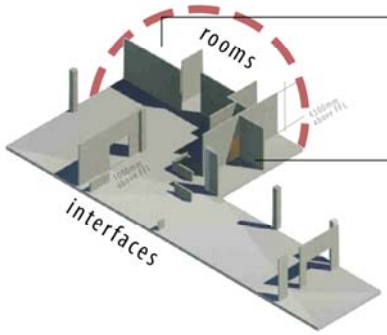
Remove the interior walls which prevent conceptual ideas and implementations.

3. MAKING GOOD TO CREATE VIEWS & THRESHOLDS
RECONSTRUCTION



Partial demolition of existing walls, creates both a memory of the exisitng fabric as well as views and thresholds between the different spaces.

4. NEW WORKS
FOR THE PROPOSED INTERVENTION



Drywall partitioning for WC,
material repurposed as found on site,
height: 2300mm

190mm x 140mm x 190mm
Concrete masonary block

heights:
1000mm from FFL,
POS, waste and staff interfaces

4300mm internal walls,
from floor to ceiling

Diagram 4.4.2.4: Demolition sequence for the proposed programme
(Interpreted by author based on the degrees of alteration (Scott, 2008))

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4.4.3
REQUIREMENTS

Analysis of the final layout and design proves to achieve and exceed the spatial requirements *(refer to section 4.3)*. The various spatial areas of the kitchen, the proposed number of kitchen staff, the occupancy number of the seating area and the circulation space of the users within the kitchen area are illustrated *(diagrams 4.4.3.1 & 4.4.3.2 with reference to diagram 4.3.3)*.

The high percentage circulation space for users within the kitchen area supports the process oriented view notion. Users are encouraged to dwell in this space, in order to witness and engage in the preparation processes.

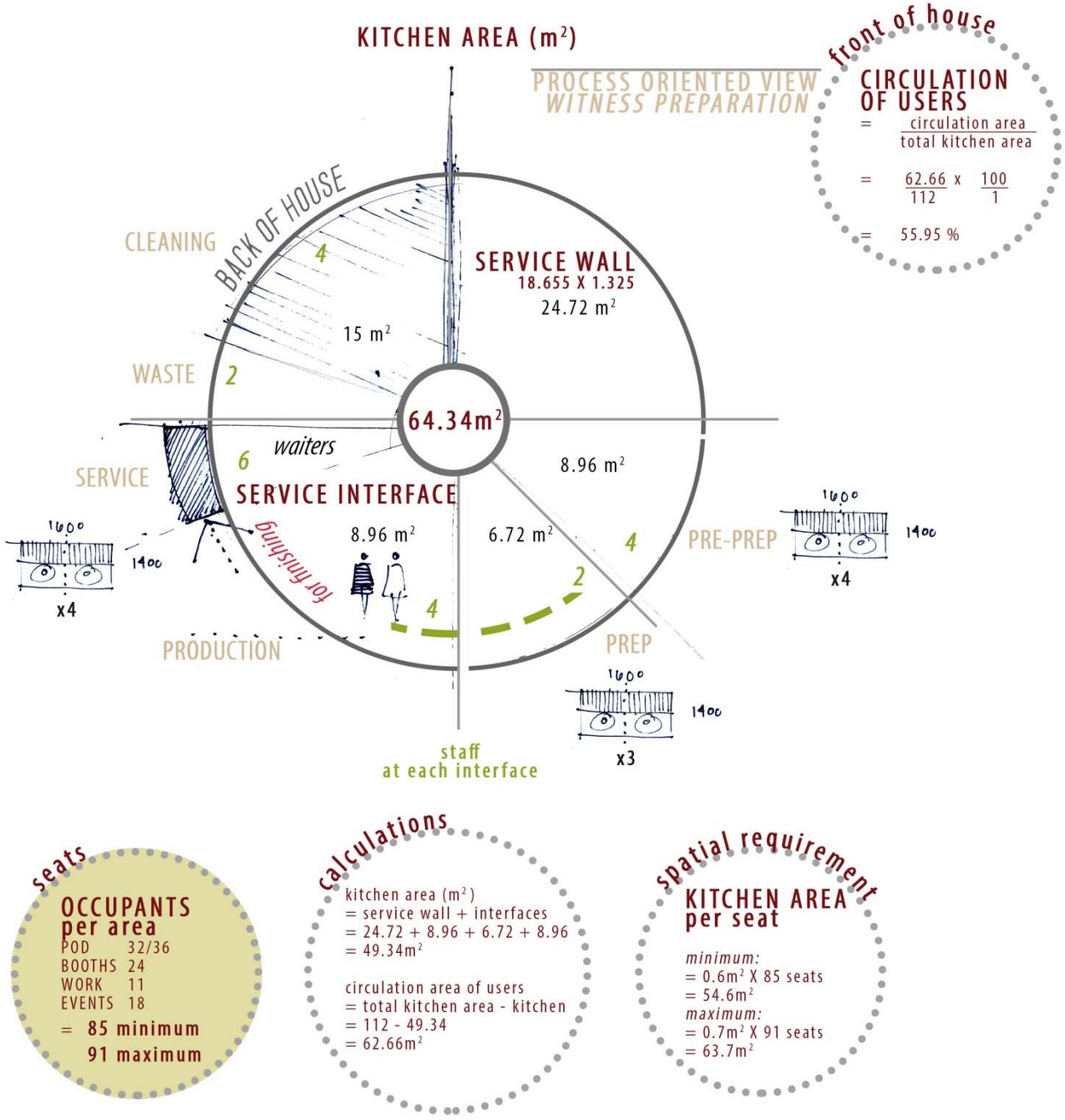

Diagram 4.4.3.1: Illustration with calculations, indicating how the proposed programme achieved spatial requirements

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Diagram 4.4.3.2: Summary of the minimum requirements achieved

4.5
THE SEQUENCE OF SENSORY INTERACTIONS

The movement and different concepts of the sensory interactions are defined. The layout curates the sensory experience and heightens at certain points of the consumption process. A deliberate spatial purpose for interaction is created through the methods of the interventions. The differentiations of the senses will constantly engage the user with the story *(referred to in iteration 4.4.2.3.(A))* and the essence of the proposed programme *(refer to section 4.1.3)*.

The intended sensory experience is illustrated *(diagram 4.5.1)*.

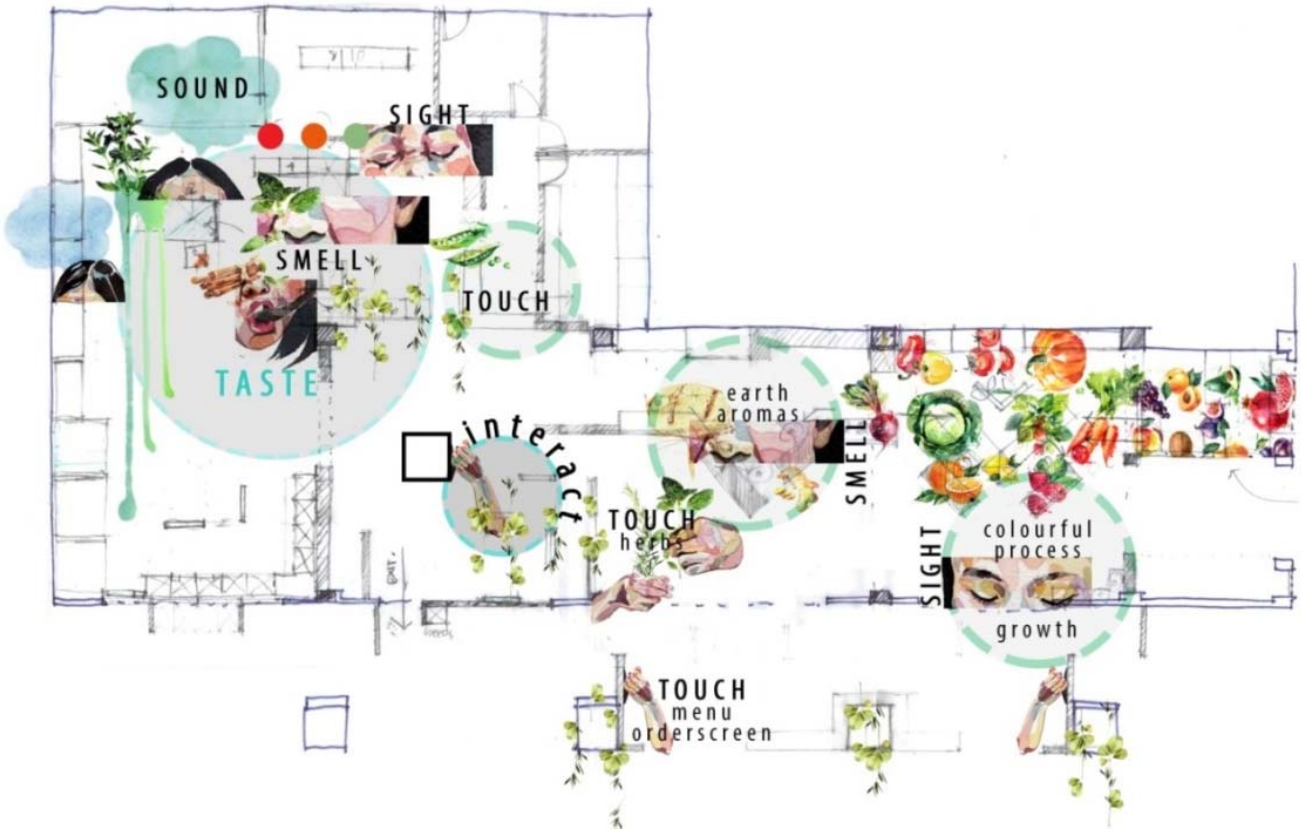

Diagram 4.5.1: Conceptual illustration of the sensory experience

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The perceptions of the various senses are divided into three strategies, described as; to expose, to share and to interact *(diagram 4.5.2) (refer to a visual illustration in diagram 4.5.1 and an explanation of the sensory experience in diagram 4.5.3)*. These strategies entail the following:

- EXPOSE
  The initial encounter with the interior and the various interfaces introduces the senses ***individually***. It exposes the three phases of the eating process in a sequence.

- SHARE
  With the movement to the seating and service area, all of the senses will be engaged in a ***shared*** yet intimate way. The success of the experience relies on the connection of the spatial quality, design elements and the people occupying the space.

- INTERACT
  The users will interact within an ***expressive*** interaction platform upon exiting. This spatial zone symbolically encapsulates the essence of the programme.

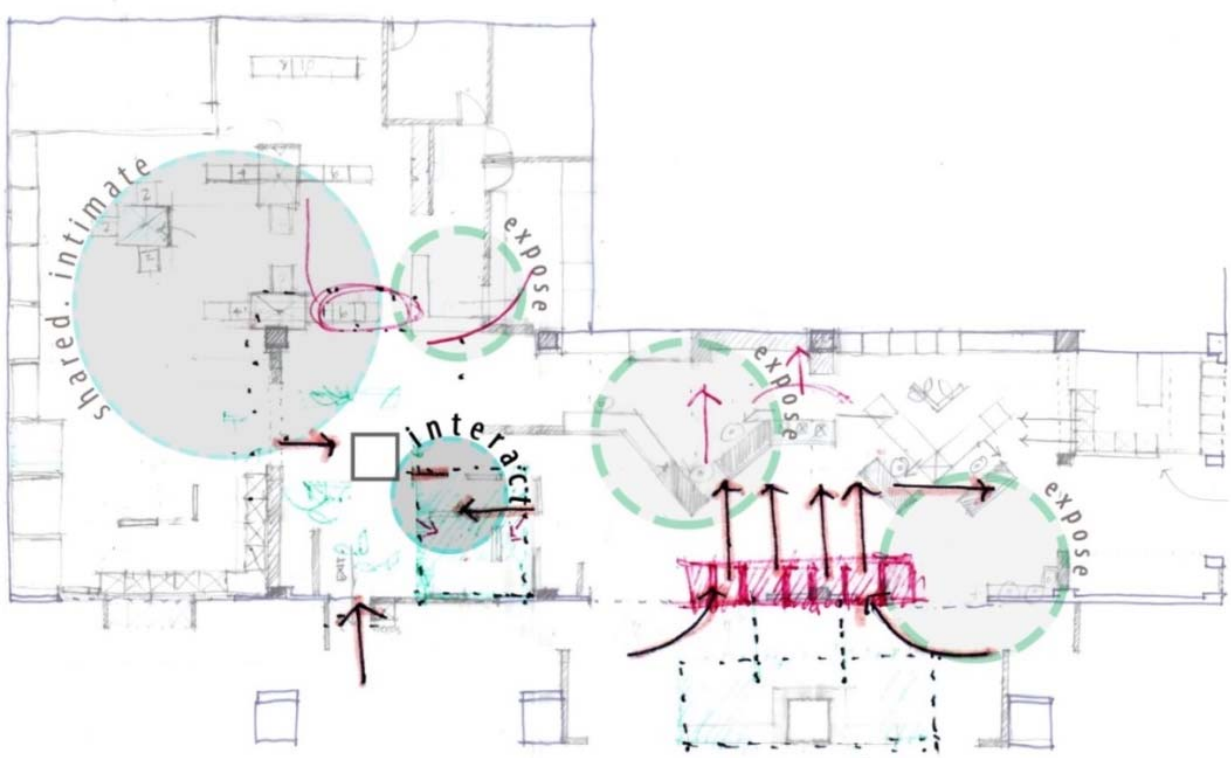

Diagram 4.5.2: Three strategies of the sensory experience

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With approach to the intervention on the urban façade, users will touch the menu and order screen while amongst vertical urban farming systems.

When entering the interior thresholds users will be visually enticed.

Elements of growth will stimulate the concept of the programme. Growth is represented in the digital panels with a time-lapse of growing plants as well as in the structural forms of the exposed preparation and service interfaces. The neutral backdrop will emphasize the seasonal colours of the produce.

Supplementary to the prominent visual quality, users will smell earthy scents of the raw produce and the aromas of the preparation of food.

After the user has witnessed the process of their order at the service interface, they will move though the infarm-area. They will touch and engage with the indoor farming systems by foraging for herbs.

Upon exit, users will engage in the interaction platform, by being expressive.

All of the senses will be heightened in the seating area. It is positioned around the indoor farming systems to directly engage the eating process with the growing process.

Taste is introduced in the seating area
Taste will be enhanced by:
- mood lighting and strategies
- seeing emphasized colours of the seasonal palette in the meals
- the demarcation for the crockery
- smelling the food aromas
- touching of herbs
- engagement with the edible cutlery

The combination of people talking, crunchy elements being chewed, the sip from cups and the dripping water from the farming systems will lastly express natural sounds.

Diagram 4.5.3: Explanation of the sensory interactions, experienced individually and shared

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"All the senses, including vision, can be regarded as extensions of the sense of touch – as specialisation of the skin.They define the interface between the skin and the environment"
(Pallasmaa, 2005:42).

Spatial meaning is primarily expressed by both seeing and touching. The sense of touch captures the programmes' concepts for a sustainable lifecycle *(diagram 4.5.4)*. Visual connections of the brand identity, materials and different lighting types will create the mood. These connections will portray a sense of transparency and changeability to link with the programme's process-oriented-view concept. The interfaces as well as the touching of the farming systems will enhance the user interaction.

Diagram 4.5.4: Conceptual illustration emphasizing the intended user interaction experienced through touch

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4.6
MATERIALITY AND DESIGN

The detailed design departed with a stance towards materiality. Materials will be implemented in different ways throughout the space, yet portray a distinct interior language. The interior language is inspired by both the character of the context *(refer to 2.3.3 & 2.4)* and the brand image *(refer to 4.2)*.

With direct relation to the process-oriented theory *(refer to 3.2.1),* a material is also defined by its process. This refers to the manufacturing of the material, which influences the ergonomics, perception and most importantly the aesthetic look and feel of the material.

The processes of materials can be divided into shaping, joining and the surface (Ashby & Johnson, 2010: 99). The desired aesthetic identity and the environmental impact of the process and material applications must also be considered (Ashby & Johnson, 2010: 131). Each of these processes together with the required character of the programme will be discussed *(diagram 4.6.)*.

4.6.1
SHAPING

The shaping of materials is very complex. It requires various attributes such as heating and moulds, usually applicable to manufactured materials (Ashby & Johnson, 2010: 99). The shaping process will therefore not be considered for the proposed programme. The programme seeks simplicity in its materials, without altering its natural state too extensively.

4.6.2
JOINING

This process refers to the assembly of materials. Joining is an expressive quality, either invisible or prominent, implemented for a functional or decorative purpose (Ashby & Johnson, 2010: 99).

The proposed programme will aim to expose joints, which will make the process of the fixing method visible. This quality is defined by the concept of showcasing the entire eating process, translated as the joining of the material elements in this instance. It will further support the programme with its raw character. The exposure of joints also creates the opportunity to showcase craftsmanship. The details will express the specific identity of the crafter and match the creative identity of the context, as definition of the interior identity.

4.6.3
SURFACE

Different surfaces and finishes express a defined aesthetic quality. It also creates a specific perception. A surfaces can be articulated in its' colour, reflectivity, texture and feel. Surfaces are implemented to communicate either a tactile or a visual quality (Ashby & Johnson, 2010: 99).

Surfaces will be used as both a method of communication and wayfinding device within the interior. Different surfaces will spatially manifest the different thresholds or interfaces. The different floor articulations and patterns will subtly guide the users within the space. With regards to the interfaces, interplay between solid and transparent materials will reveal the function and processes.

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Various textures for the users to interact with, such as material differentiations, patterns, protruding joints or voids, will also contribute towards the sensory exploration of the eating process (Ashby & Johnson, 2010: 323)*(diagrams 4.7.1.B & 4.7.1.C)*.

The aesthetic quality of the proposed programme seeks a natural yet industrial look and feel. A combination of natural materials, such as wood and cork, will be used in contrast to steel. It is important to portray its lifecycle by means of its aging and patina.

4.6.4
REQUIREMENTS

To fit the sustainable approach of the programme, the lifecycle of the materials must be considered (Ashby & Johnson, 2010: 12-13). The lifecycle can be divided into the same three phases as stated in the process-oriented-view theory *(refer to 3.2.1)*, essentially considering both the production and disposal of materials. The material certification will further assist in this task.

The materials criteria require the following aspects:

- Natural and renewable materials will be used. This approach fit the raw stance of the concept. It will minimize energy utilization and by-products disposed during manufacturing.
- Adaptable and simplistic qualities are required for the use of the materials. By prolonging the function of the materials in various manners, the lifecycle will be extended.
- It is important to consider the recyclability of materials. To minimize the environmental impact, it is proposed to primarily re-use reclaimed or recycled materials such as metals and natural elements of wood and cork. Glass and plastics are high in recyclability but have a negative environmental impact. They will therefore only be implemented on small scales for their transparent surface quality.

The joining of these materials must also portray an environmentally sensitive approach. It is suggested that methods such as sewing, rivets, staples and threaded fasteners fit this requirement (Ashby & Johnson, 2010: 280-283). These methods also complement the aesthetic identity by portraying craftsmanship and structural qualities *(refer to the exploration in diagram 4.7.1.C)*.

An innovative material use will be explored within the design development. It is the use of Xanita x-board, a recyclable honeycomb cardboard, as a structural core material *(refer to diagram 4.7.1.C, seating detail 2 & 3 in chapter 5, and appendix B for specifications)*. The material is furthermore proposed for the signage panels *(refer to kitchen interface detail 2)*, and as medium to create the interaction concept *(refer to interaction platform)* and as a lighting luminaire for the grow lights *(refer to infarm detail 1)*.

To further prolong the disposable materials of the programme, such as the packaging or organic waste, a recycling system is proposed *(refer to section 5.4.B)*. A simplistic shopfront intervention will encourage the sorting of waste into four groups, namely; plastics, glass, natural and metals. The system will function as a self-sorting and drop-off service. It will further enhance the community of the urban context, by acting as a buy-back scheme or collection point for informal recyclers.

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MATERIAL OF A PRODUCT

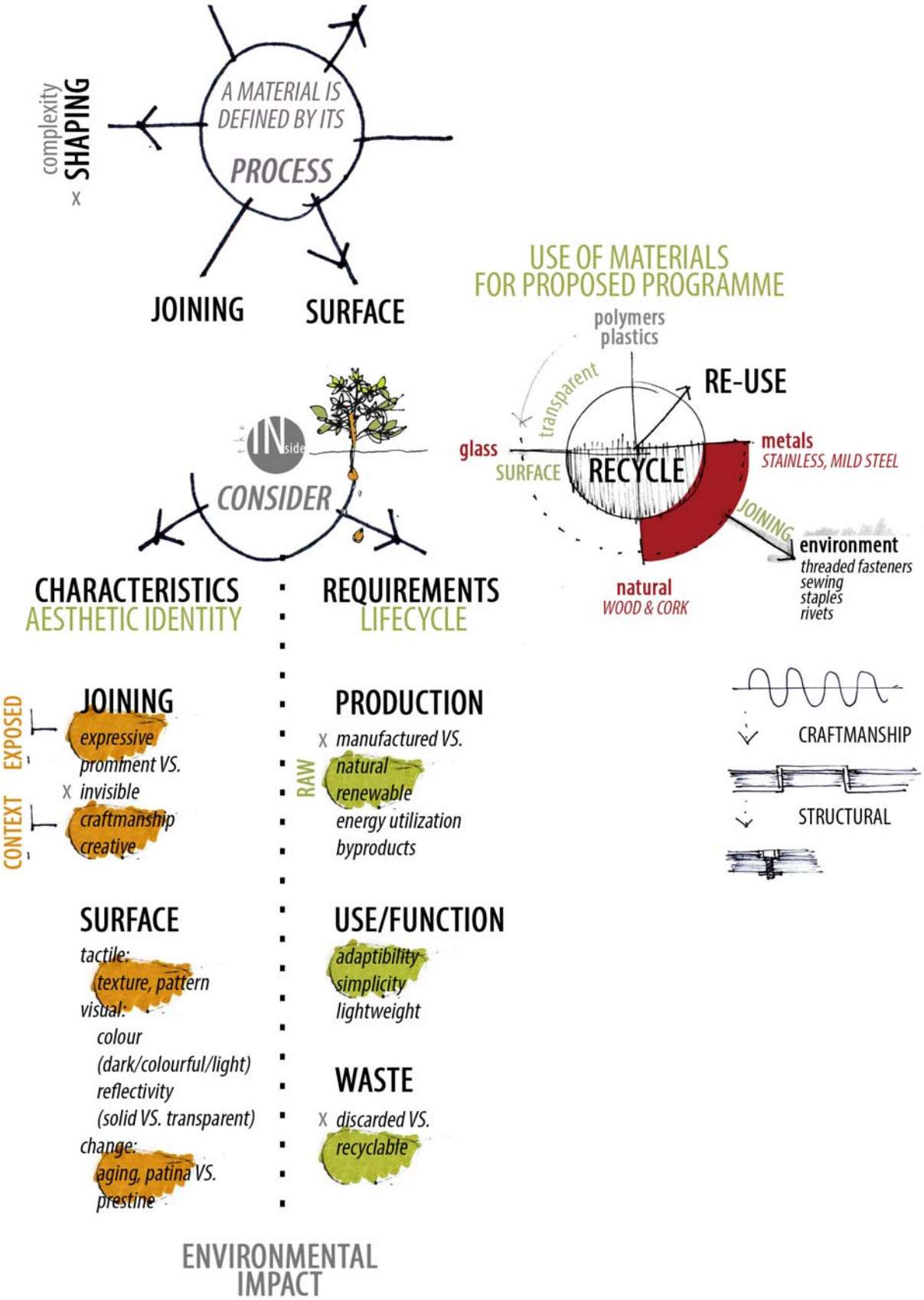

Diagram 4.6: Exploration of material characteristics and requirements

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4.7
THE DESIGN DETAIL FOCUS

An outline of the design focus is compiled *(diagram 4.7)*.

The experiential focus of the proposed programme identified the areas for detailed design development. The elements and concepts for the spaces are generated and explored, where after it will be defined and detailed through technical development.

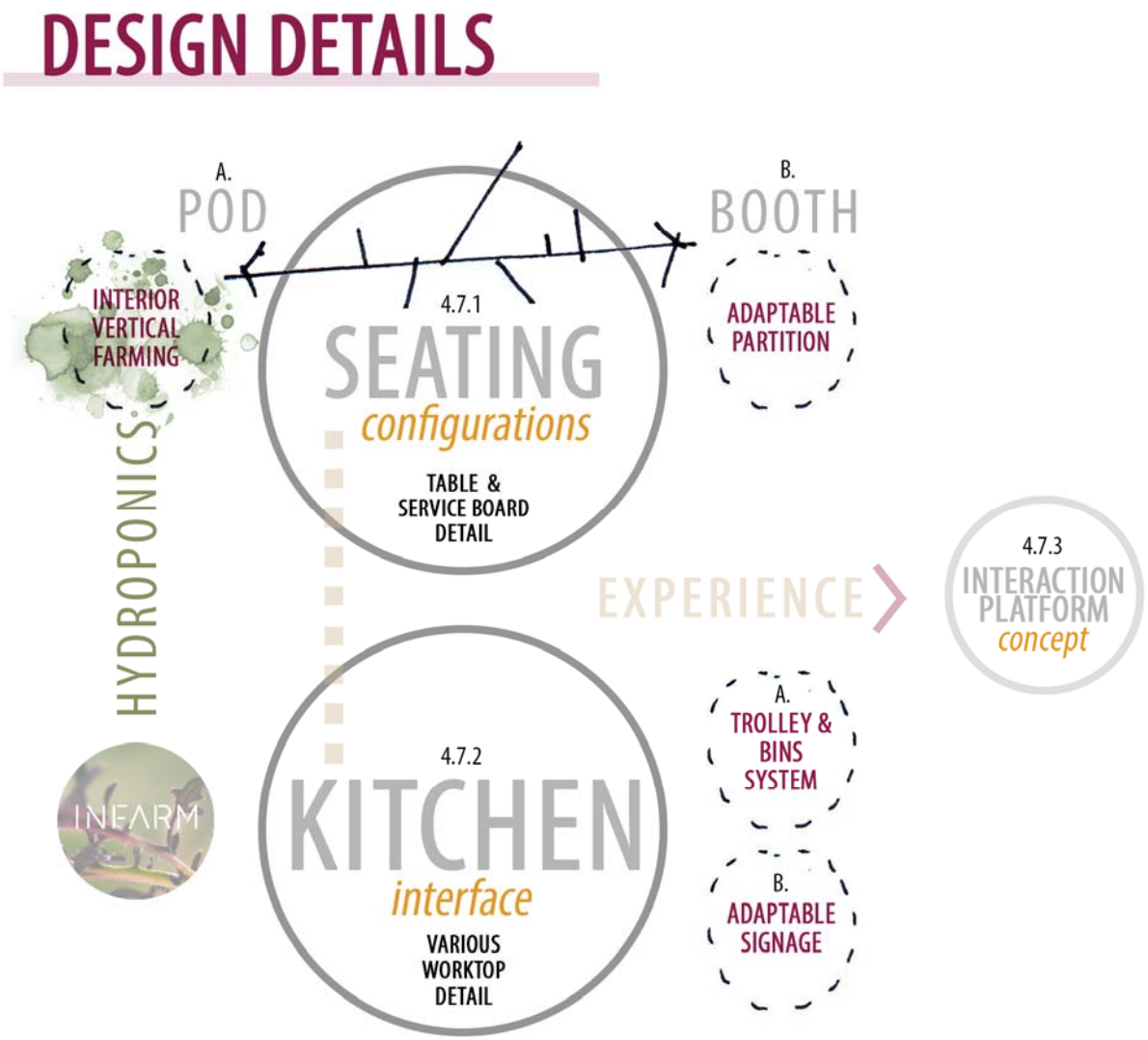

Diagram 4.7: Outline of the design focus

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4.7.1
SEATING CONFIGURATIONS

Different types of seating and their articulations are explored. The pod and booth configurations are conceptually developed *(diagram 4.7.1.A)*.

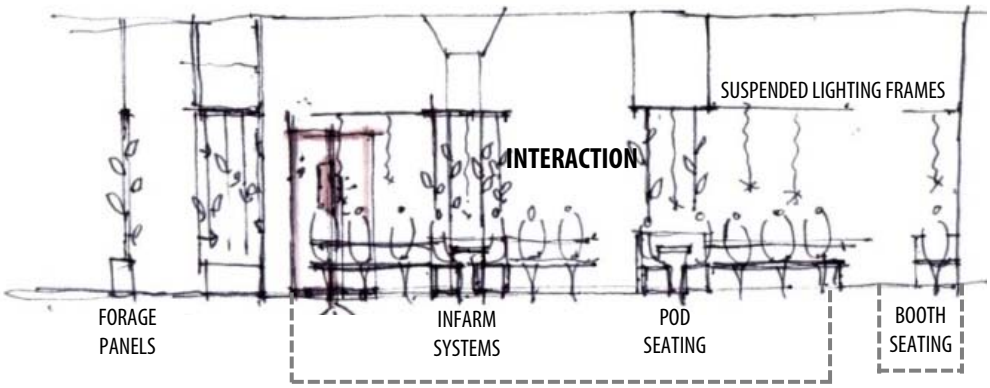
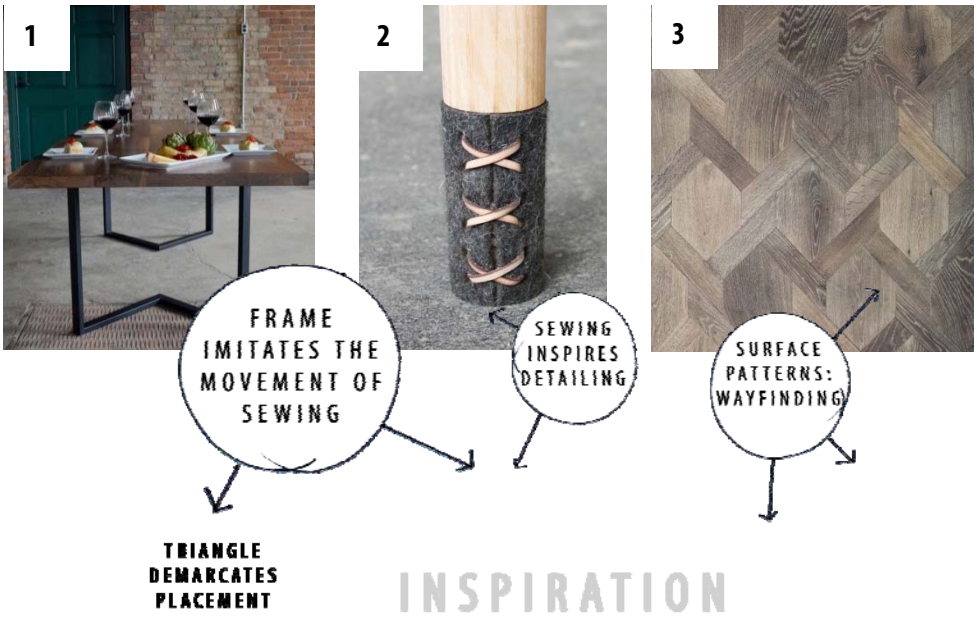


Diagram 4.7.1A: Sectional diagram of seating configurations and infarm systems

The seating exploration commenced by conceptualizing a frame and a table. It was further defined into metal and wood when considering the material use. As part of the dissertations' investigation, both the surface material and the joining of elements must suggest a sustainable method *(refer to 4.6)*. The concept of sewing was adopted as a creative yet sustainable joining method to resemble, implement or take inspiration from. It informed the details. The following images were used as inspiration;

1. The structural frame of the table imitates the movement of sewing (going in and out). The triangular form of the frame makes the support stronger. It will also be used to demarcate the table placement *(Figure 4.7.1.1: Table frame support* (MapleCityFurniture, 2012)*)*.
2. An application of sewing inspires detailing *(Figure 4.7.1.2: Sewing detail* (Erz & Co, n.d.)*)*.
3. The resemblance of a sewing pattern inspires the finishing of the surfaces. Patterns can be used as an indication for wayfinding *(Figure 4.7.1.3: Floor tile pattern* (Shastri, 2014)*)*.



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The two seating configurations are conceptualized *(diagram 4.7.1.B)*. Both seating areas will implement a screening system to create an intimate eating area with the perception of privacy. The areas will be further articulated with the ceiling and various lighting strategies *(Chapter 5)*.

The user experience will be attained in the interface of the table surface and the aiding tools of the eating process. The table and the service board concepts are generated to embody the experience in both of the configurations. These detailed elements will also represent the specific brand intent.

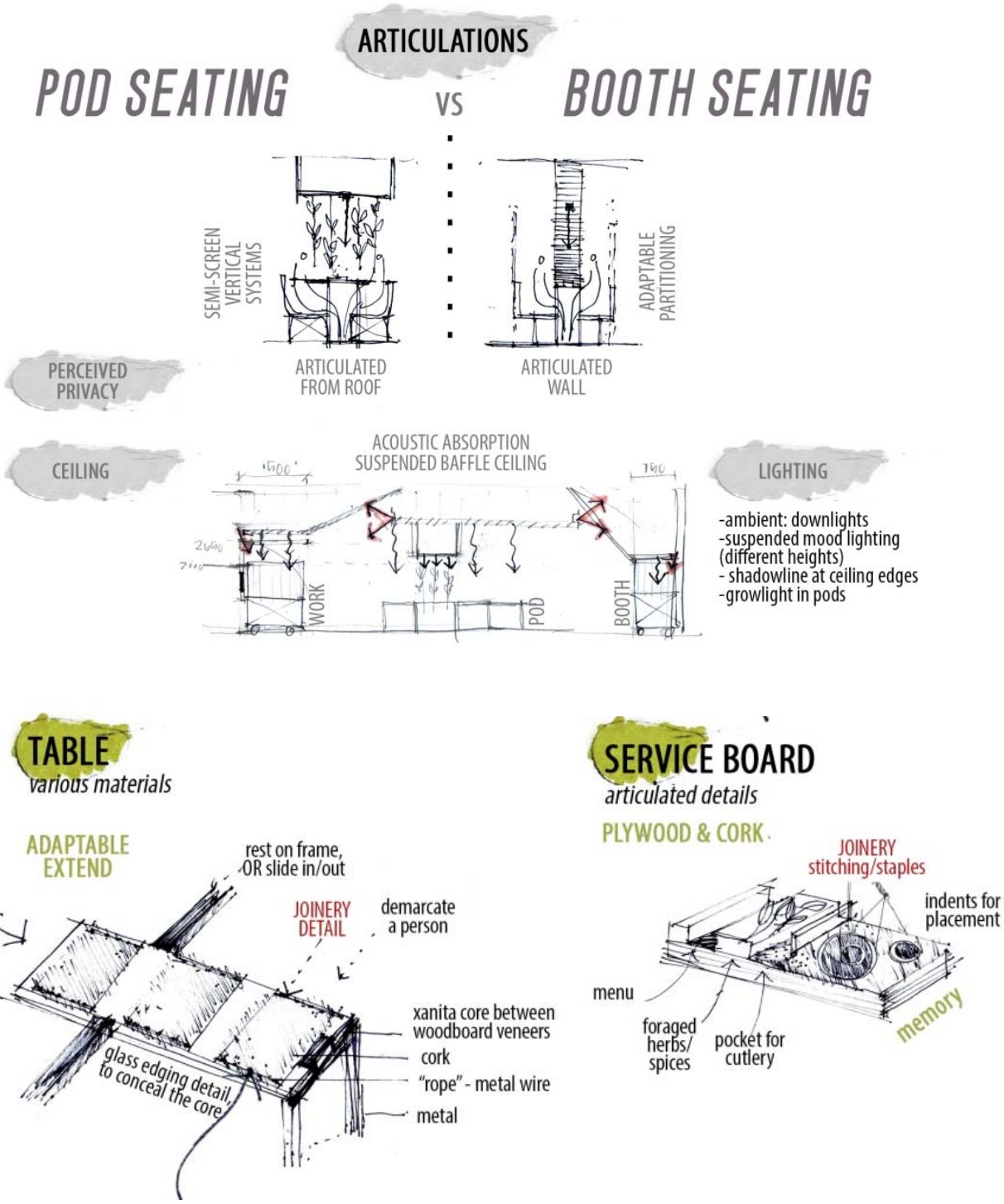

Diagram 4.7.1.B: Different articulations and similarities of the seating configurations

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The look and feel for both the table and the service board are proposed *(diagram 4.7.1.C)*, considering the material choices, structure, surfaces and methods of joinery. The joinery of the frame structure, the table surface and the service board will be developed. The proposed materials choices as well as the details will be iterated *(Chapter 5)*.

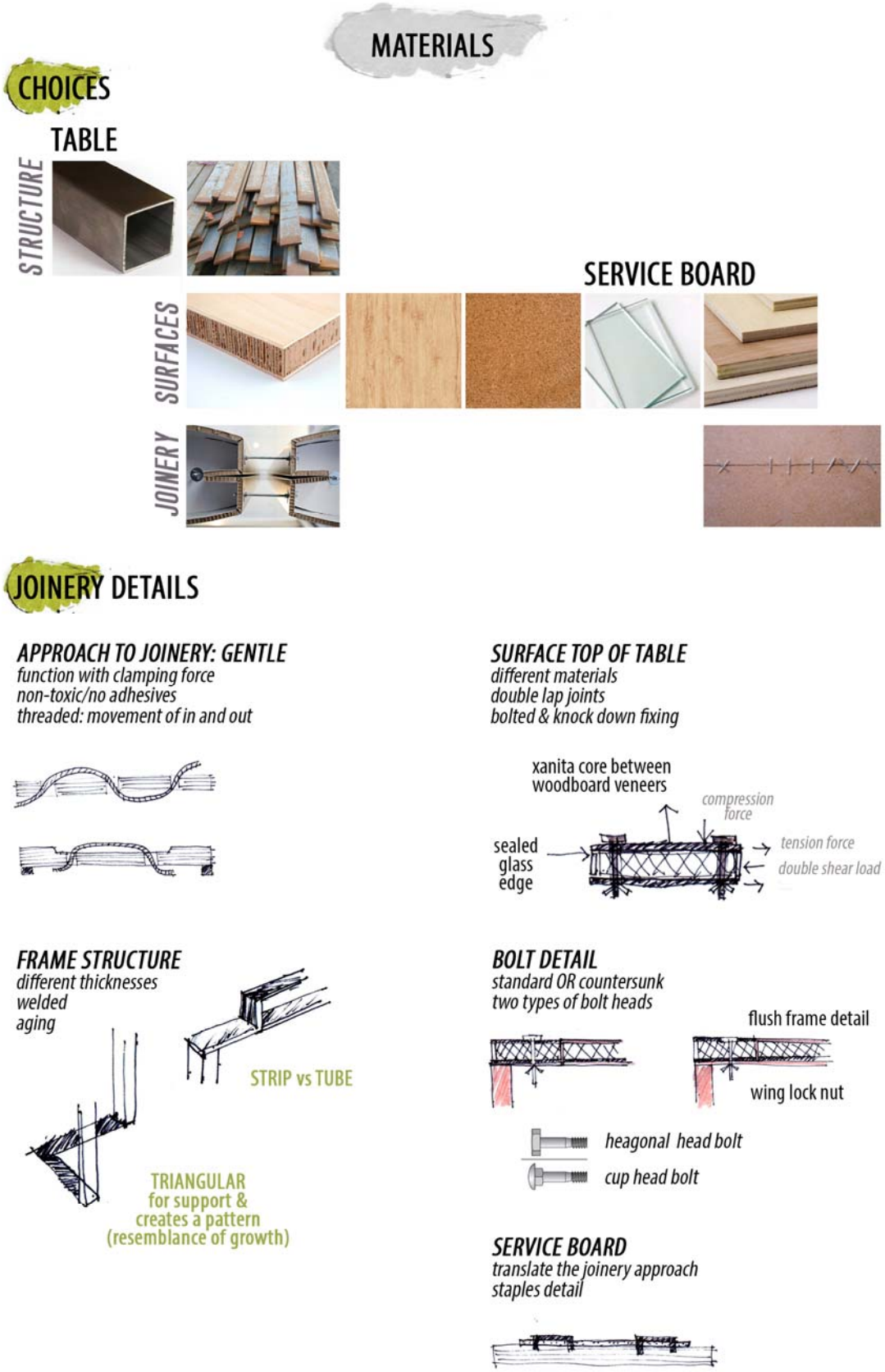

Diagram 4.7.1.C: Material choices and joinery details for the seating configurations

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4.7.1.A
POD SEATING CONFIGURATION

The contribution to the discipline of interior design is integrated farming systems. These systems will form the feature element of the pod seating configuration *(diagram 4.7.1.D)*. It will also be implemented as loose foraging panels.

The pod seating configuration refers to tables placed around a frame structure. The farming systems, proposed as hanging vertical hydroponics, will be placed on a suspended frame structure within the pod area. It intends to make the growing process accessible and part of the eating process. It will also function as a semi-screened partitioning device between the tables.

The systems will be developed in terms of its placement, materiality, water articulation and the use of grow lights. It must also explore adaptability in its method of joining. The pipes must be able to dismantle and rotate to the outside or within the interior, to meet the lighting demands of the herbs. The pod seating in itself will be adaptable by making one of the tables expandable.

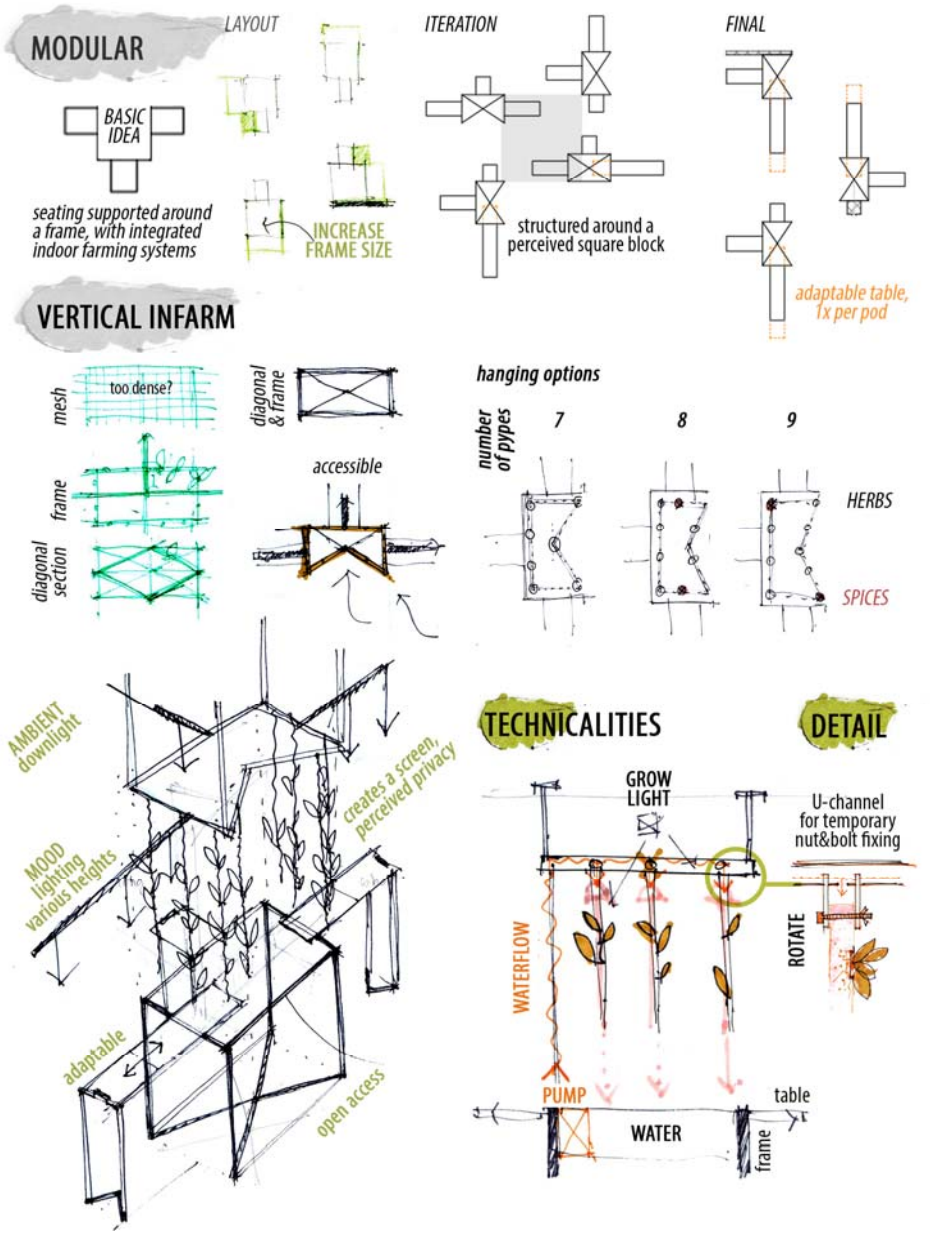

Diagram 4.7.1.D: Conceptual exploration of the pod seating configuration

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4.7.1.B
BOOTH SEATING CONFIGURATION

The booth seating configuration refers to semi-enclosed areas *(diagram 4.7.1.E)*. It will implement adaptable partitioning panels. The panels will create a perception of privacy, make the space more intimate, assign various functions to the space and lastly make the interior spaces expandable. The panels will act as pin-up boards, designed to be personalized by the user. It will be used for either information to educate on sustainability or for creative work and drawings during meetings

Two types of booths are intended namely: the work booth or the standard booth. The work booth will be articulated with an adaptable table, to make the space more functional for creative brainstorming or digital discussions. The standard booth will function as an intimate area for discussions.

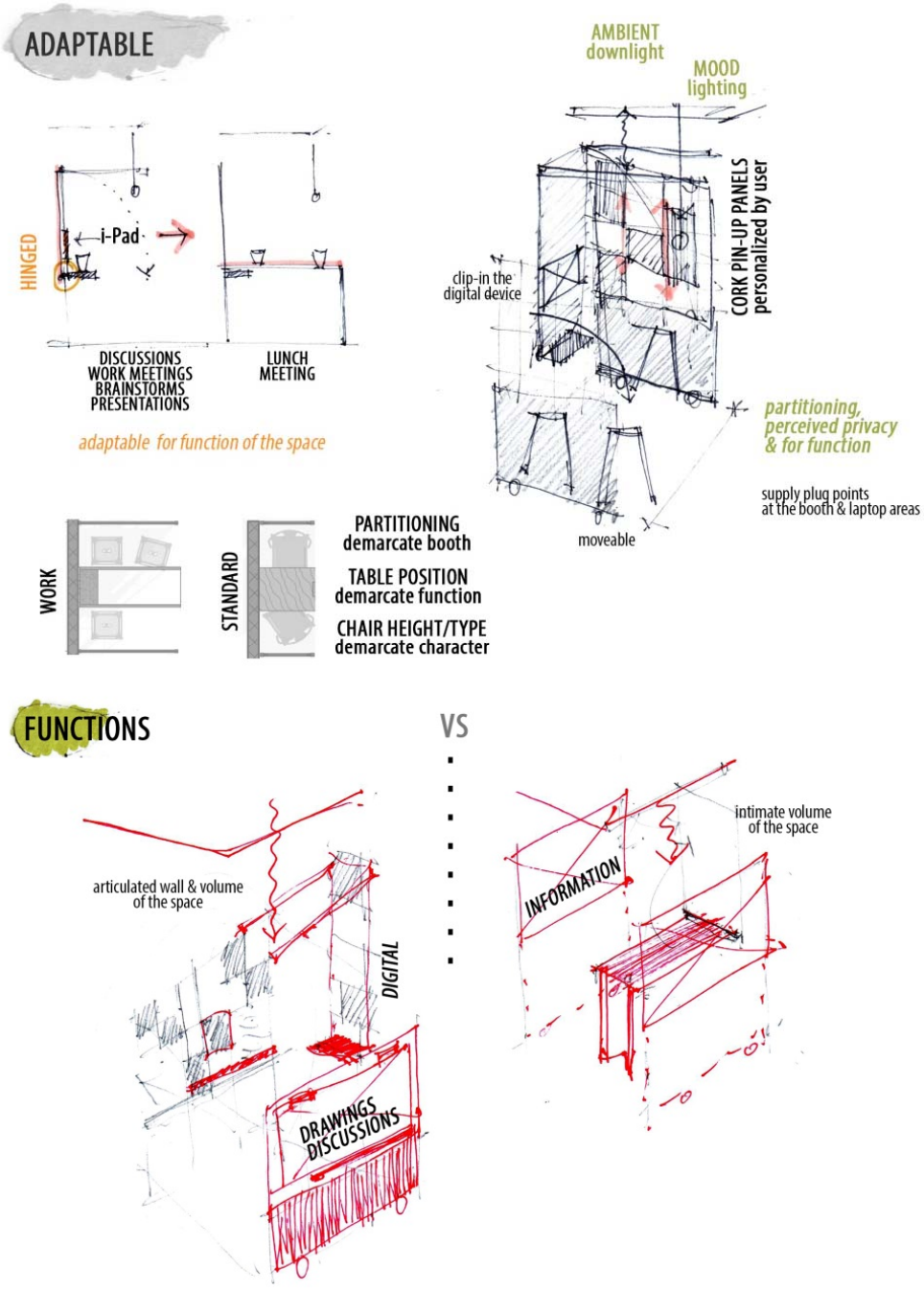

Diagram 4.7.1.E: Conceptual exploration of the booth seating configuration

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4.7.2
KITCHEN INTERFACE

The concept of the worktop interface in the kitchen areas are proposed *(diagram 4.7.2.A)*. Overhead suspended lighting elements, will be explored above each work station. The various electrical and water services in the kitchen will also be resolved.

The worktop will be used for the pre-prep, prep and finishing stations. The stations will be articulated in different manners and adapted for the required function.

The following characteristics are considered for the interface:

- Transparent surface quality, to make the processes visible.
- Hygienic, durable and water-resistant surface materials.
- Simplistic design for efficiency and to be used for various functions.

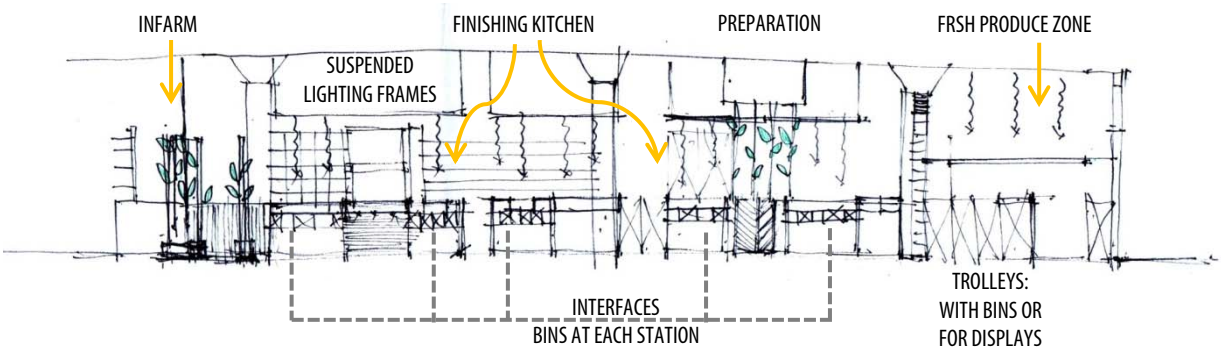

Diagram 4.7.2.A: Sectional diagram showcasing the kitchen interfaces and their articulations

An initial concept for the design was explored in a maquet *(figure 4.7.2)*. It comprises of a surface and loose containers, referred to as bins. The bins will be moveable and modular in size but different in surface materials and the amount of sides open. The placement of the transparent surface will showcase the elements; fresh produce, waste or equipment; contained within the bin. The bins will be accessed from two stations, depending on the open side of the bin.

The function of the interface is:

- The staff members must have a flat area to prepare produce or meals on.
- Prepared produce is stored in open-sided bins, placed on a cooling element *(diagram 4.7.2.E)*.
- The waste off-cuts will be deposited into a separate closed-sided bin.
- The clean or dirty equipment will also be stored in the bins.

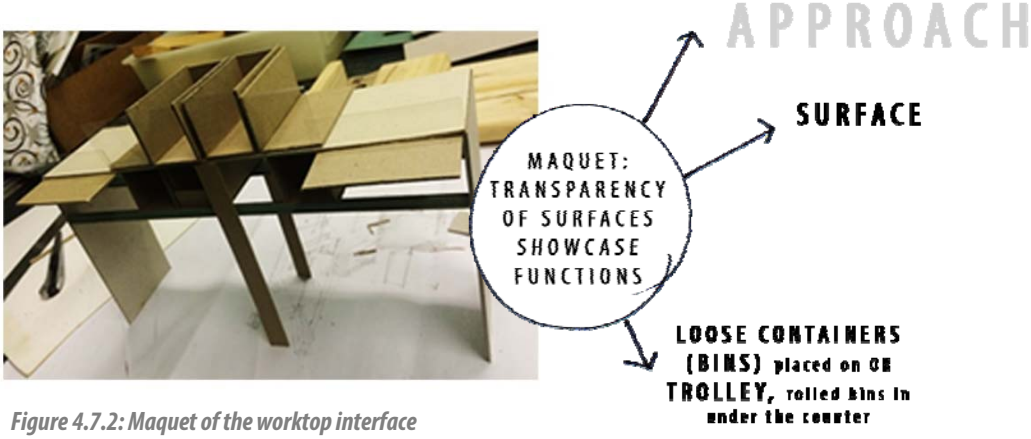

Figure 4.7.2: Maquet of the worktop interface

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The worktop interface of the kitchen is explored in its function, form and articulation *(diagram 4.7.2.B)*. The various interfaces are arranged in groups, demarcated with a frame structure. The frame will act as wayfinding device, function to emphasize the volume of the interior, connect the floor and soffit surface and lastly house the electrical connections within *(diagram 4.7.2.D)*. Task lighting will be applied in different ways onto the frame. The ceiling and the wall panelling on the service wall behind the stations will enhance the spatial quality, placing emphasis on the movement within the kitchen.

A transparent quality is created with the interface arrangement (*diagram 4.7.2.C),* grouping the production and consumption processes. The use of glass screens and the height difference for the display of the raw ingredients furthermore articulate the translation of the two processes.

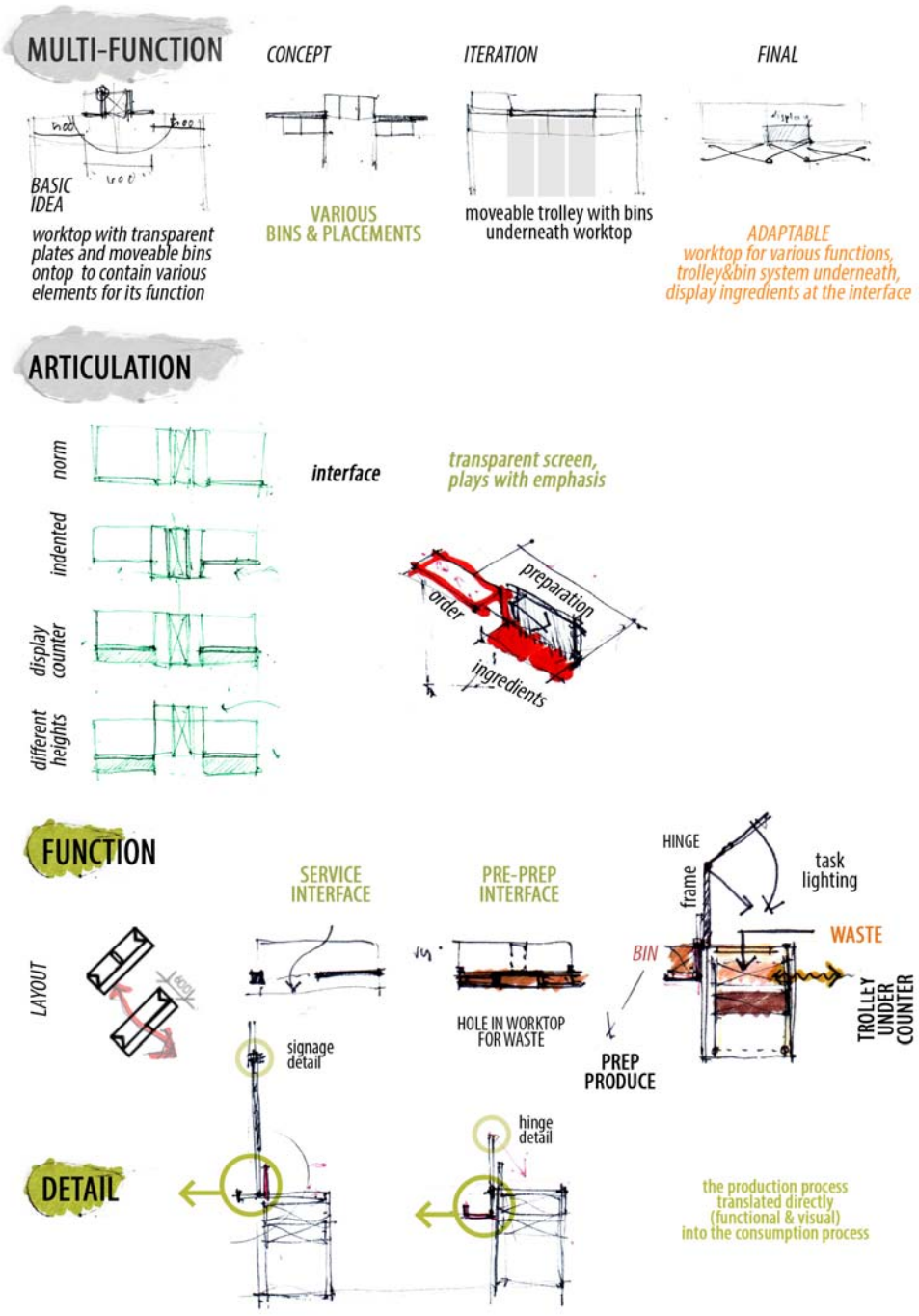

Diagram 4.7.2.B: Conceptual exploration of the kitchen interface

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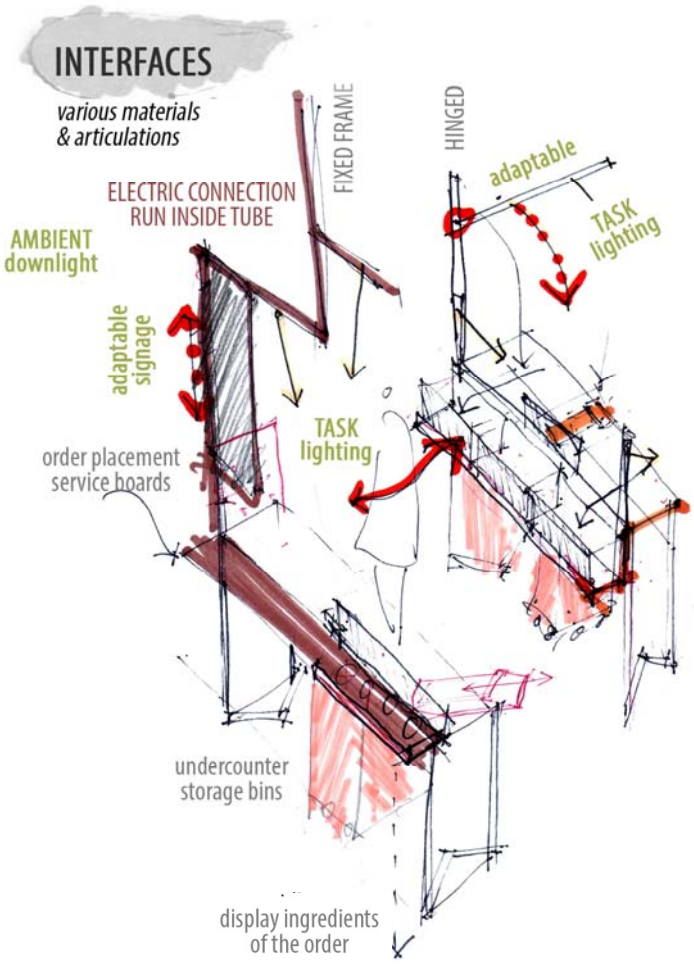

Diagram 4.7.2.C: The arrangement and concept of the kitchen interfaces

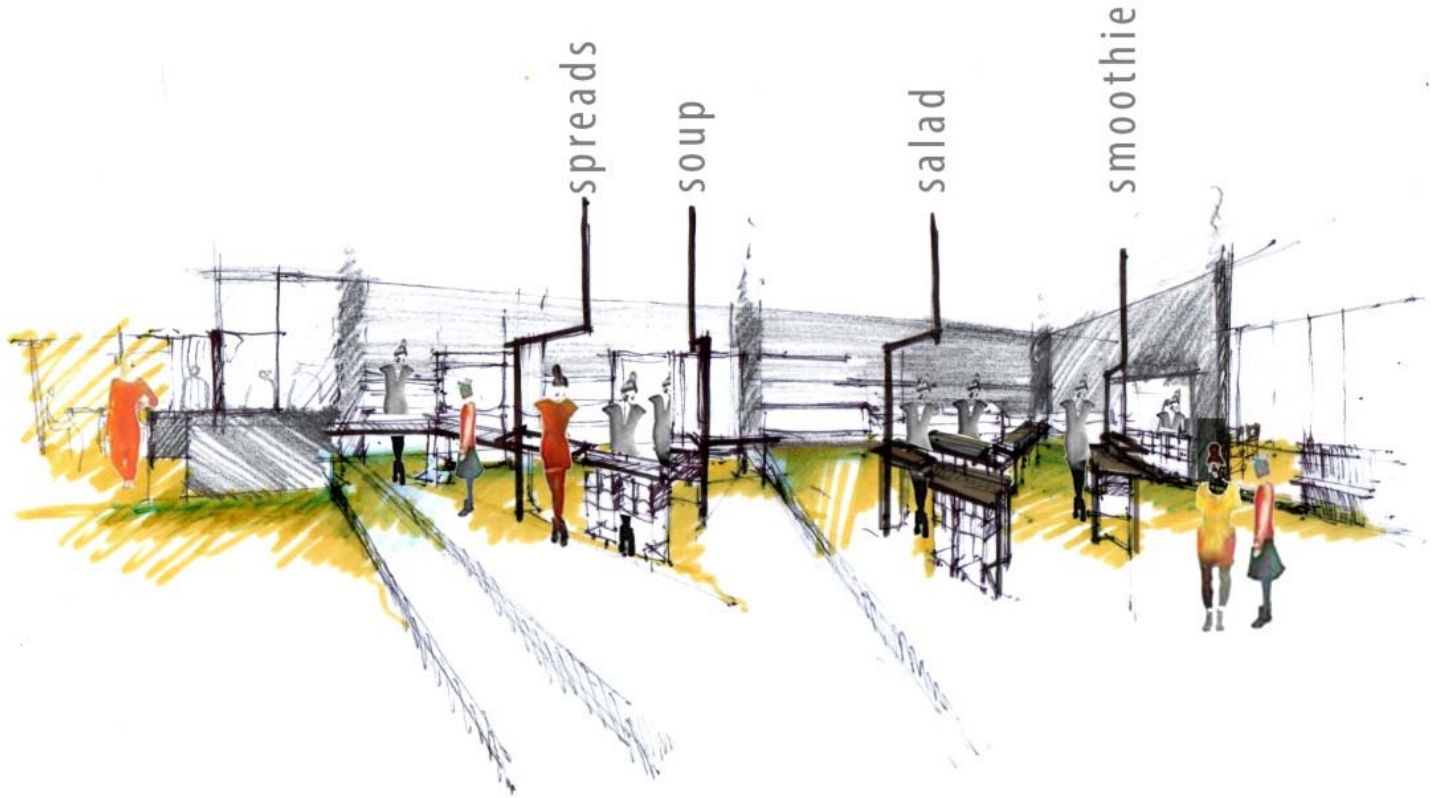

Diagram 4.7.2.D: Diagrammatic illustration of the kitchen articulation and its transparent quality

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Systems have been proposed to contribute to the operation of the restaurant *(diagram 4.4.2.3. (A))*. Two systems were introduced to support both the function and demarcation of the various kitchen interfaces *(diagram 4.7.2.E)*. These systems have separate applications and requirements but a similar design language. Both systems are dynamic and adaptable, to change in time or in its placement within the interior. A concept for each system is proposed.

4.7.2.A
TROLLEY & BINS SYSTEM

Adaptable and moveable trolleys are introduced. The trolleys will hold the various bins used *(diagram 4.7.2.E)*. It will assist to receive or exchange the fresh produce needed for the restaurant service. The produce will be from either the proposed urban farm at Sparks School, community farms in the surrounding urban context or from local suppliers in close proximity.

The bins will furthermore support the function of the interface at which it is placed, by either rolling in under the worktop or as freestanding element. The trolley in itself is seen as a functional element which changes the interior environment over time. It can be placed in specific areas to create a barrier, act as a form of display or for storage.

4.7.2.B
ADAPTABLE SIGNAGE

A signage panel will be implemented onto the structural frame at each service worktop interface *(diagram 4.7.2.E)*. It acts as a spatial wayfinding device by demarcating the various groups of the meals to order. The panel is joined in a structural yet gentle way, in order to be adaptable to change according to season or when the function of the interface intends to change *(refer to kitchen interface detail 2)*.

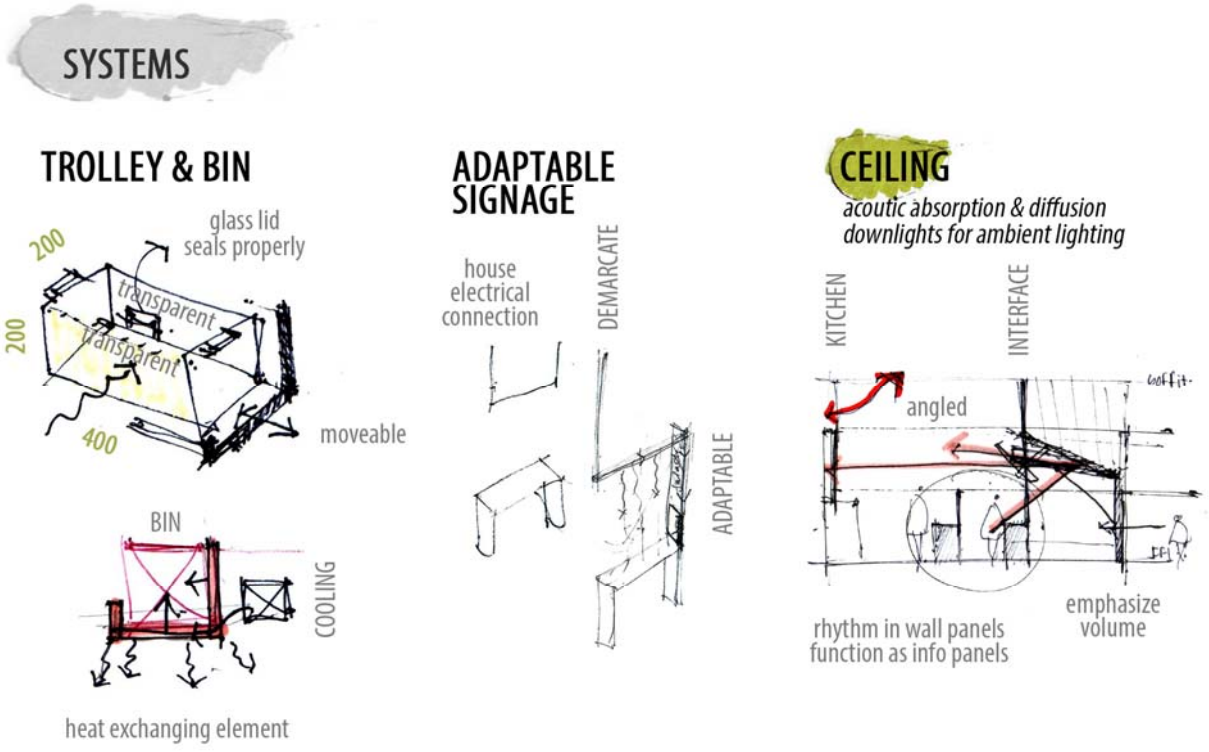

Diagram 4.7.2.E: Conceptual exploration of the systems supporting the function of the kitchen

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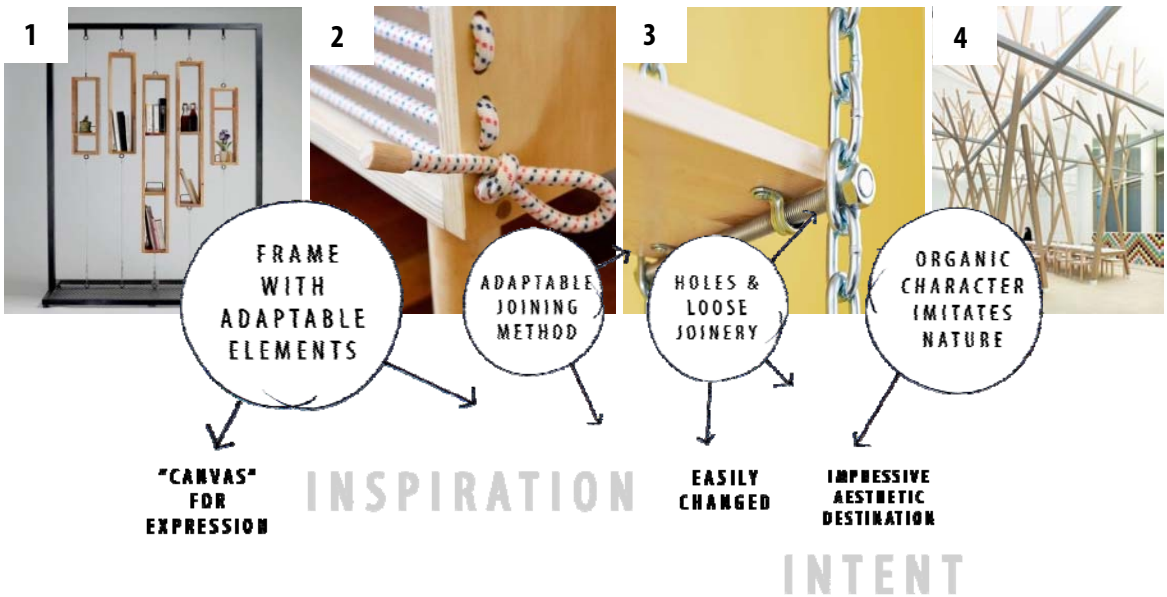
4.7.3
INTERACTION PLATFORM

An additional intervention is a central area for user interaction. The intention of the platform is to engage users with the process of growing in a creative manner., creating an intangible memory when the user's expression becomes a part of the bigger whole of the installation. Conceptual scenarios of the installation and what it can become are explored.

This area must be changeable in order to adapt to the various concepts. Concepts are generated over seasons, by various artists within the context. It is proposed that parts of the installation moves into the surrounding urban context when it changes over season. It will contribute to the creative nature of the Maboneng precinct while intriguing people of *the Inside* brand.

The following images were used as inspiration for the intent, form and materiality of the platform:

1. The platform will act as a blank canvas for an installation. It will spatially manifest when populated with the expressive medium *(Figure 4.7.3.1: Adaptable frame* (Nam, 2014)*)*.
2. Rope and holes are used as an adaptable surface or joining method. This detail resembles a sense of sewing and lends itself to a transparent quality whilst creating a semi-permanent screen *(Figure 4.7.3.2: Adaptable rope detail* (Gonzalez, 2015)*)*.
3. Holes and loose joinery creates an opportunity for change of a structure *(Figure 4.7.3.3: Adaptability of fasteners* (Lowe's, n.d.)*)*.
4. The platform will imitate nature an abstract way *(Figure 4.7.3.4: Aesthetic and organic pole structure* (Archdaily, 2012)*)*. Adaptability will imitate growth when the users interact on it.



The initial conceptual exploration used natural food colours for staining. Final proposals for the seasonal concepts as well as the form of the platform will be expressed within the technical development.

Figure 4.7.3.5: Images of the conceptual exploration using food colour for staining

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4.8
INTENDED SPATIAL MEANING

'Any building for humane purposes should be an elemental, sympathetic feature of the ground, complementary to its natural environment'
Frank Lloyd Wright.

As conclusion to the design development, various spatial experiences are dependent on the intended and perceived meanings.

Semiotics refers to the study of meaning. Meaning is found in signs, which resembles both an apparent functional meaning and a secondary intangible connotation (Königk, 2015). An interior environment can be seen as a series of signs. The signs are constructed to create a specific spatial expression which transfers meaning. The experience of these expressions and meanings are usual intangible aspects which is dependent on the intention of the designer and the interpretation of the user. Signs can take form within the branding or products of the space.

The various interior elements and their meanings, both functional and symbolic, are defined in the table below. The intended and intangible meaning of the proposed interior environment is the representation of growth. Users are encouraged to associate with nature and its growing lifecycle.

WHAT IT IS *The physical form or structure. The interior element/artefacts*	**WHAT IT DOES** *The function of the element*	**WHAT IT MEANS** *The associations and symbolic use of the element*
URBAN FACADE		
Shopfront intervention, infographics & façade panels (sandblasted)	Locates the intervention. Indicated with activity and with the brand logo. Gives information.	The transparent materiality introduces the quality of the interior identity. Act as a wayfinding device by indicating the access points.
Interior threshold panels with a time-lapse of growing elements	Introduction into the space.	Digital equipment suggests a contemporary approach. The growing scenes of the time-lapse resemble the essence of the proposed programme, by engaging the user with the process of production.
INTERIOR INTERVENTIONS		
Infarm: Vertical hydroponics systems	Houses the fresh produce, growth takes place within the interior environment.	Brings the user close to natural elements within the interior. Users engage with the growth process during the consumption process when it is witnessed or touched. Witness nature as a closed-looped and self-sustaining lifecycle.
Grow lights (pink)	Helps the plants grow without adequate daylight.	Mimics sunlight. Vibrant and warm. An artificial element resembling the "feel" of a natural element.
Adaptable frame installation *(interaction platform)*	Aesthetic art piece and central point for interaction.	A living organism, the core and seed of the space, where growth takes place.

Table 4.8.1: Spatial meanings of the urban façade and interior interventions

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KITCHEN INTERFACE *(diagram 4.8.2)*		
Angled ceiling, entering *the Inside*	Acoustic absorption.	Connect the outside to the inside. Resembles growth as something that opens–up. The movement from the intimate and individual panels to the shared and vibrant kitchen area emphasizes the kitchen as the centre. Also resembles the process of food – it starts small (various parts), grows, matures and transforms into an order.
Floor pattern of the aluminium strips & thresholds (memory of the old fabric)	Indicates movement into the specific user areas.	Subtle wayfinding device. Different elements resemble transitions through the eating process.
Waiting areas	Seating areas: - wait for the order - witness the preparation	Breakaway space within the interior, as within nature. Decluttered and simplistic space to breath in.
Ceiling and wall panels	Creates rhythm and depth. Wall panels secondary function as info panels.	Aesthetic support to the programme, as it resembles a pattern of growth. Emphasizes areas of importance.
Signage panel and kitchen interface structural detail	Demarcates the area. A wayfinding device. For electrical connections within the frame.	Create a rhythm as in nature. Makes a connection between the roof and floor which resembles the route of growing organisms. The adaptable signage latch onto the frame structure, mimicking the connective network of nature.
Kitchen interface (height difference, transparent screen)	See and collect the order.	Emphasize how and with what ingredients the meal is prepared. Heighten the experience of the service board by showcasing the end product of all the processes.
Moveable trolley and bin	Contain produce, waste, crockery or appliances.	Allows the space adapt and change (grow), to where it is needed.
Exposed task lighting	Illuminate the preparation surface to serve meals.	Emphasize the choice of produce. Focus on the vibrancy of the organic raw produce used within the orders.
Seasonal palette VISUAL	The structure for the menu and its orders.	Connects the user with the specific lifecycle of nature, by emphasizing what nature offers for our well-being
Foraging panels for herbs TOUCH	Spatial element where users interact, to get various spices and herbs.	Users are urged to make their own choices, based on preference (the choices are predefined and limited). This encourages users to make their own healthy choices and meals. Users engage organically with living elements (organic produce). The natural source is removed and used as benefit (for the body), implying the co-existence of natural elements.

Table 4.8.2: Spatial meanings of the kitchen interface

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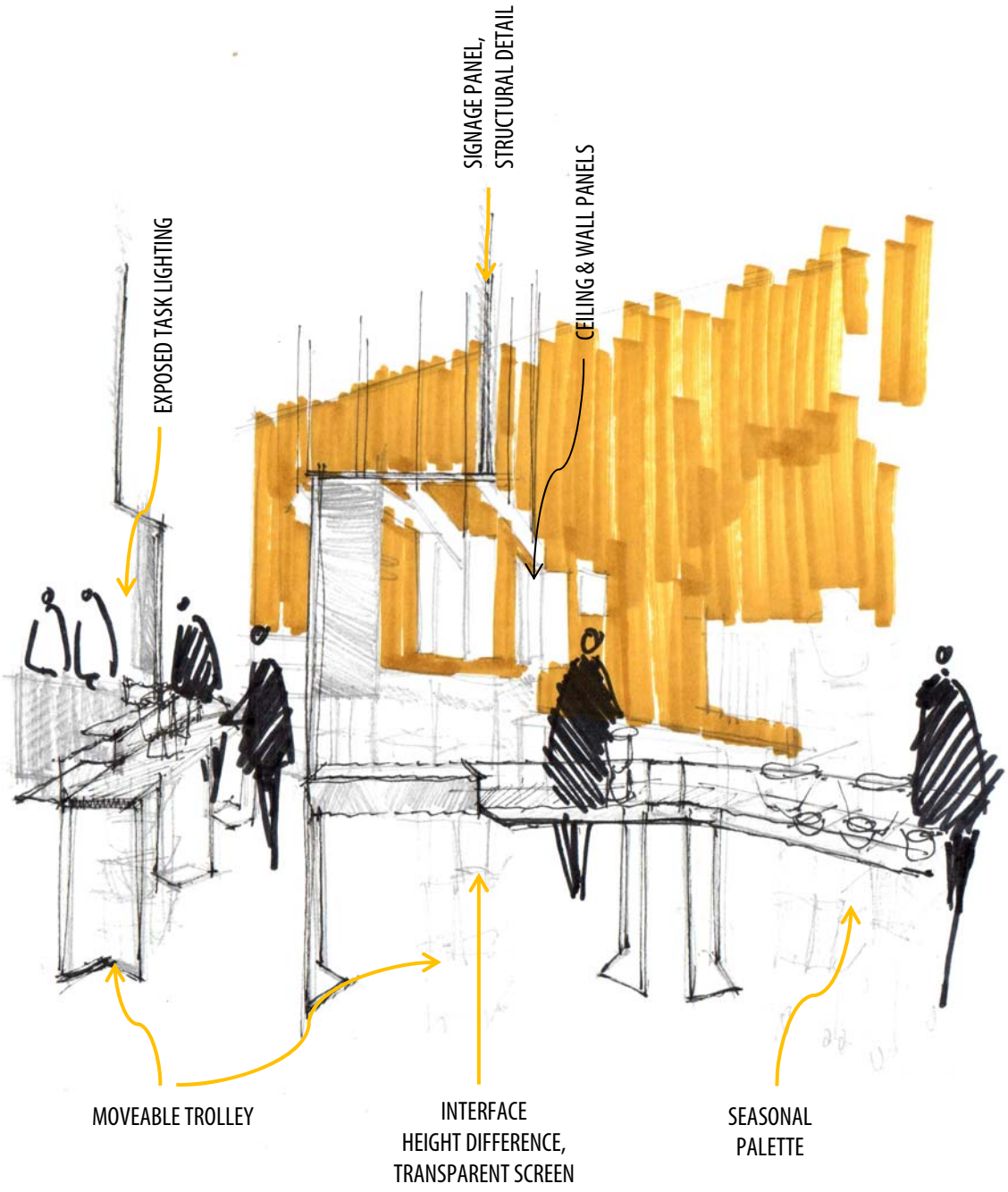

Diagram 4.8.2: Kitchen interface elements

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SEATING CONFIGURATIONS *(diagram 4.8.3)*		
Exposed steel frame elements	Structural support of the table or for the hanging indoor farming systems.	Support system, the base for growth. Patina (aging) showcases the lifecycle and change of natural elements.
Wood surface with bolted joints	Table which is used for eating (functional element).	The sense of craftsmanship in the joinery detail showcases the process of making. It is also a gentler approach to the joinery of different materials.
Cork surfaces (on the table)	Demarcate the seating portion of a user.	Restricts the movement of the service board on the table, while the tactile difference resembles the unevenness of natural elements. It also creates a visual barrier between the various users at the table.
Suspended mood lighting	Intimate feeling, warm. Relaxed environment.	Demarcates the seating areas activity. The exposed light sources seem organic with the different lengths resembling rhythms of growth.
Baffled ceiling	Acoustic absorption.	Creates rhythm and articulation, which supports the excitement and rhythm of the eating experience. Exposes the service above.
Cork surface (booth partitioning)	Pin-up board and partition (functional element).	The board is reusable and adaptable, resembling the same offering as natural elements.
DETAILS DURING CONSUMPTION		
Service board	Carry the order of the user.	The board details form part of the brand image. The demarcation of the order and the elements on the board emphasizes the ingredients. This enhances the eating process and the experience of the individual. Interaction with fresh produce, the crockery and cutlery is encouraged.
Staples joint	Connects two surfaces.	The joints resemble an imprint into natural elements in a gentle way (not a manufactured or processed method).
Wonkiware crockery	Used to plates up the meals.	The products are made of organic material, linking it to the earth. Creativity is resembled in the form and shapes of the handcrafted products.
Edible cutlery (spoon)	Utensil for eating.	Consuming the entire product without waste. A process oriented view is translated into the use of this element.

Table 4.8.3: Spatial meanings of the seating configurations

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Diagram 4.8.3: Seating configuration elements

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4.9 CONCLUSION

In this chapter the proposed concepts and theories were interpreted to inform all the design decisions. The design furthermore considered the requirements of a commercial kitchen.

The process oriented view theory and the organic movement informed the proposal for setting all the processes on display. This concept then translated into a transparent spatial quality informing the operational style of the programme, as a finishing kitchen. Principles of the changing kitchen furthermore supported this style as it desires central placement and simplified processes.

A brand was developed for the programme to compliment the transparent spatial quality. The menu is inspired to function around a seasonal palette, with various preparation interfaces and indoor farming systems which showcase the seasonal ingredients and how they translate into the orders. The users are encouraged to interact with the systems before and during the eating process, by foraging for herbs and spices.

It was recognized that the spatial intent must connect all the phases of the eating process, by communicating growth of organic produce in this urban context. It must also display back of house processes and waste areas for users to engage in and to create an educational value. A series of interior movements and a programme list defined this intention, from where it developed through an iterative layout process. It established the various interior thresholds and areas namely; the kitchen, foraging panels, seating and the interaction platform. Concepts and qualities of the above mentioned identified areas were explored.

As conclusion to the design development, the sensory interactions and the intended intangible spatial meanings of the materials and interior elements were defined. These interactions, predominantly with the senses of seeing and touching, create the story and experience which influence the users' way of living.

Technical development of the general layout, identified design details and the programmatic systems and frameworks follow in the next chapter.

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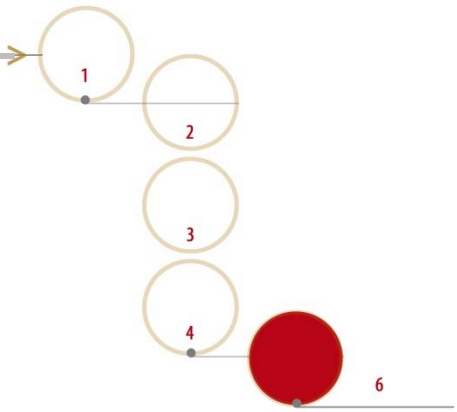
CHAPTER 5

TECHNICAL DEVELOPMENT



"An honest use of materials, never making the material seems as that which it is not, is a good method. Materials must be used optimally, never using one material where another can do the job less expensively, more effectively, or both"

Victor Papa nek, Austrian designer and educator.

Chapter five develops the various identified design details and layouts for the interior environment of the proposed programme. The elements are detailed in terms of specifications, materiality, joinery and various sustainable considerations. The technical development will be divided into three groups namely: materiality, electric approach and various frameworks. Together with the material group, the focus will be placed on the identified interior areas namely, the seating configurations, the kitchen interface, the interaction platform and the infarm systems. The lighting strategies, calculations, waste operation and the community integration framework are also defined. In this chapter, the South African National Standards are also stipulated as requirements for the interior interventions and details adhere to. Technicalities are expressed with plan layout drawings, sections, details, diagrams and photographs of prototypes.

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5.1
TECHNICAL APPROACH

Three aspects for technical development are identified within the categories of the design details *(diagram 4.7)*. All of these design interventions will be based on principles of sustainability.

An illustration summarizes the interior interventions' approach to sustainability *(diagram 5.1.1)*. It has become evident that the materiality of the interior plays an important role within the technical focus of the programme. Systems of energy consumption and recycling are also recognised.

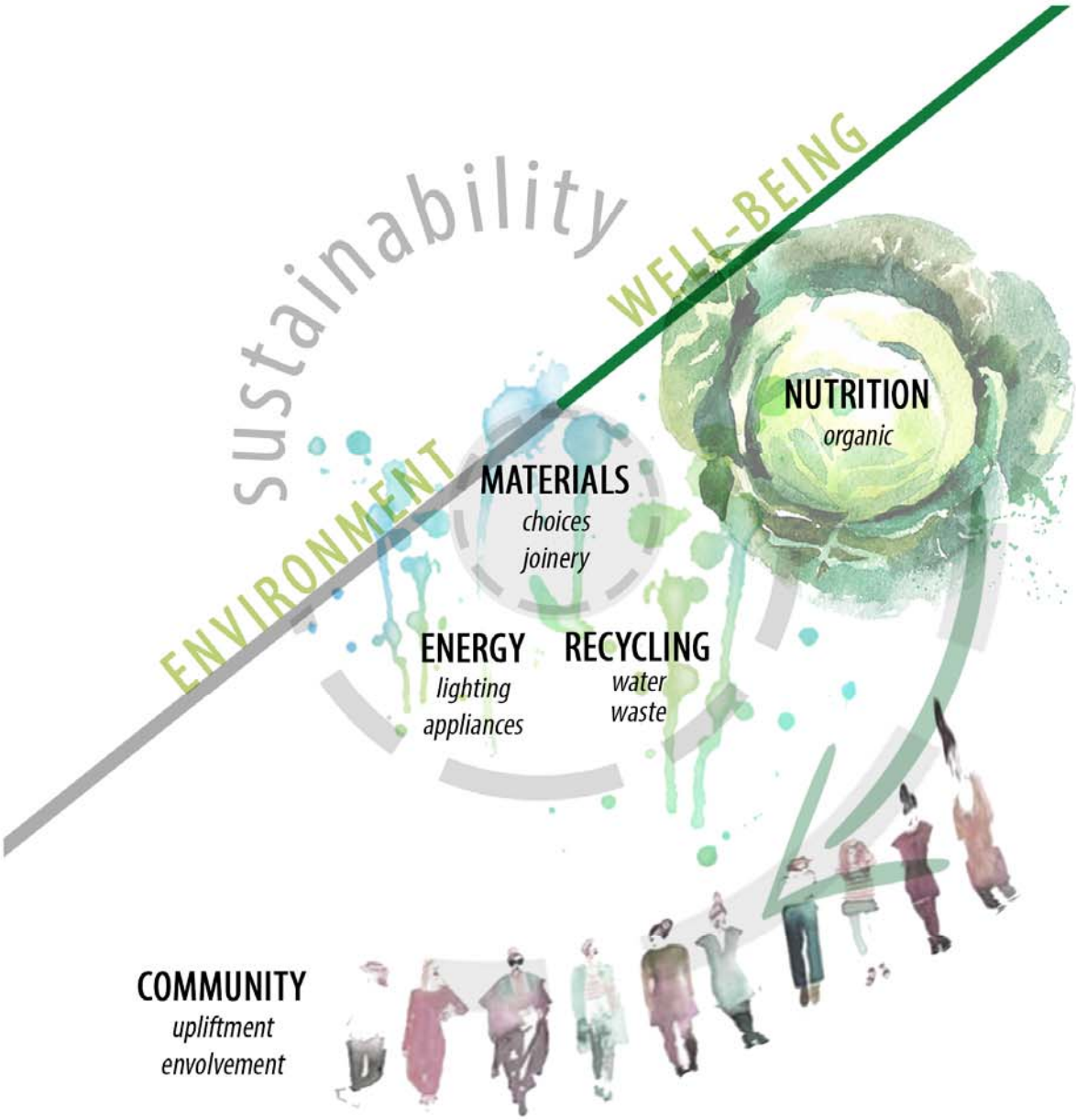

Diagram 5.1.1: Aspects of sustainability for the proposed programme

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The technical focus is primarily placed on the material choices and joinery *(as referred to in 4.6)*. Further technical development is placed on the electric approach and individual frameworks. An outline of the technical development is compiled *(diagram 5.1.3)*.

The specifications of the materials and the electric approach are defined with icons *(diagram 5.1.2)*, representing the assessment, considerations and principles of sustainability.

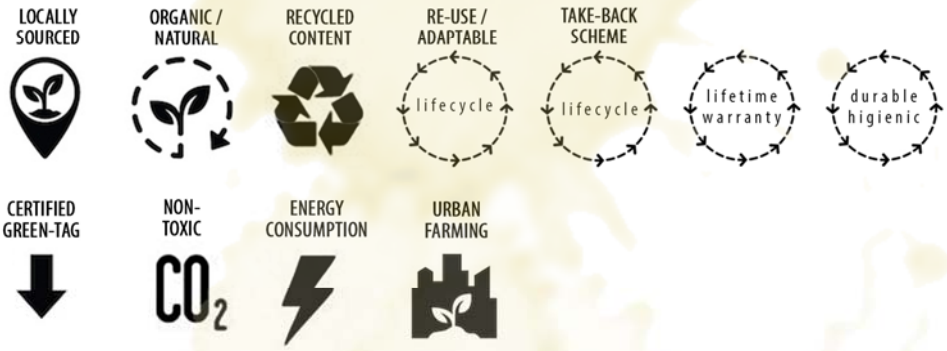

Diagram 5.1.2: Icons for material and electric specifications

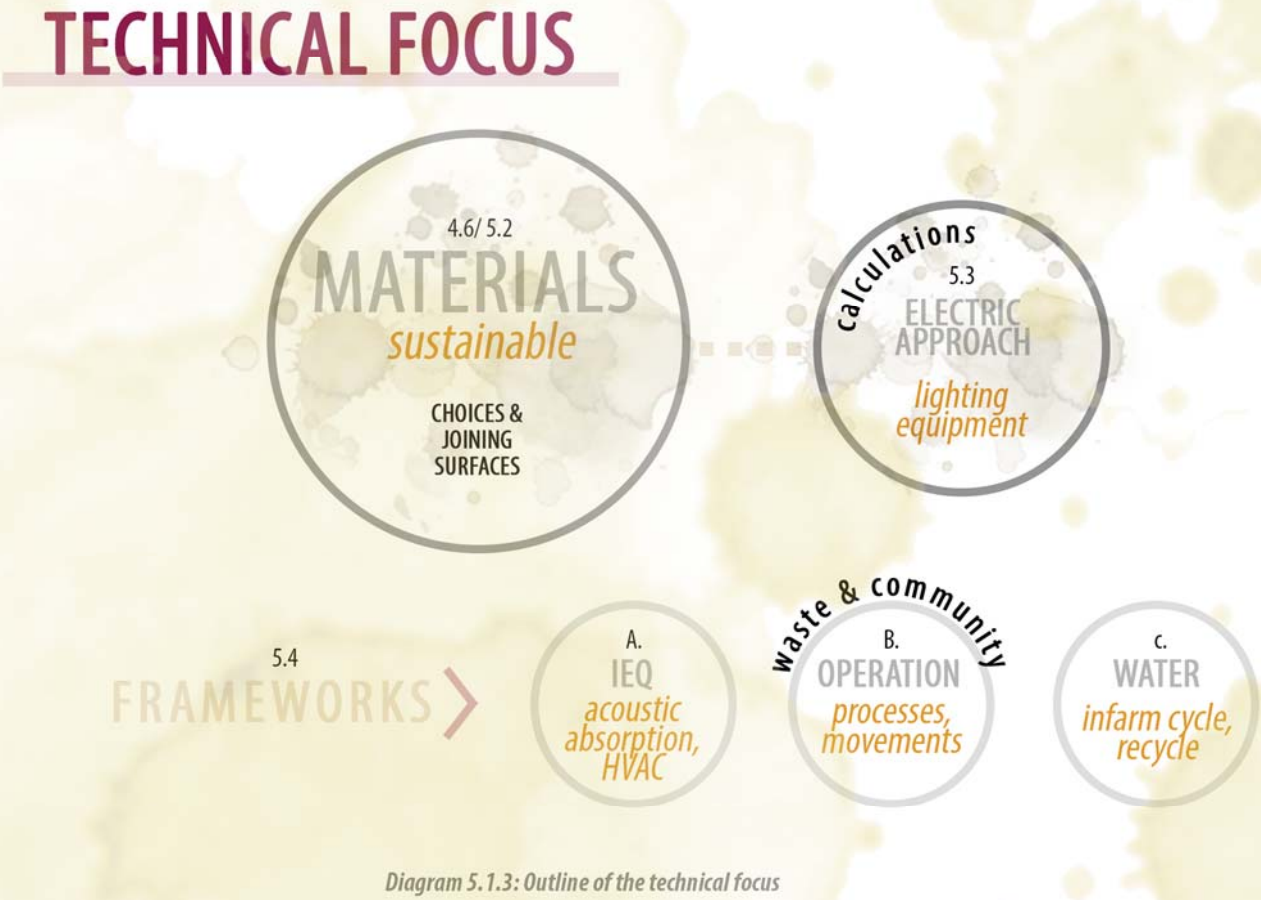

Diagram 5.1.3: Outline of the technical focus

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5.2
MATERIALS

Sustainable materials choices and surfaces are defined within the general layout plan *(figure 5.2.1 with reference to table 5.2.1).* The materials selection proposes both solid and transparent materials, in order to reveal the processes of the various elements and interfaces. A combination of materials is specified such as wood, Xanita x-board and cork in contrast with various steel metal elements. It is also important to consider and portray the lifecycles of the materials by means of its aging and patina. In conclusion, the various textures will contribute towards the sensory exploration of the user interactions.

The experience is of the restaurant is expressed with a sequence of views. Within the views, details are identified and developed within the following categories:

- Urban façade *(figure 5.2.2)*
- Kitchen interface *(figures 5.2.3 & 5.2.3.1 & 5.2.3.2)*
- Infarm systems *(figures 5.2.4 & 5.2.4.1)*
- Interaction platform *(figures 5.2.5 & 5.2.5.1)*
- Seating configurations *(figures 5.2.6 & 5.2.6.1 & 5.2.6.2)*

The general layout implemented the following standards:

1. GENERAL REQUIREMENTS

- The electrical works, plumbing and drainage installations require registered workmen.
- The aluminium floor strip details and joinery details require trained artisans.
- Shop drawings must be provided for the various floor and joinery details.

2. CIRCULATION

Accessible doorways and passage requires a clear opening width of 750mm, recommended to be 800mm (SANS Part S, 2011: 11). All the circulation routes, doorways and distances between interior elements will have a minimum width of 900mm. The floor is flush without level differences or obstructions (SANS Part S, 2011: 14-15). It furthermore meets the requirements of inclusivity with unisex ablution facilities including a disabled bathroom. The surface articulations, such as the proposed strip detail *(refer to diagram 5.2.1)* will act as wayfinding devices between the various thresholds. The installation adheres to SANS 10109-2 - *Concrete floors – Part 2: Finishes to concrete floors.*

3. WALLS AND PANELS

The existing shopfront doors will be adapted to sliding doors. A new urban interface with branded and moveable glass panels are proposed to make the intervention apparent for the approaching users. The newly constructed internal walls comply with requirements (SANS Part K, 2011: 21-22 & 46). It adheres to SANS 2001 - *Construction works – Part CM1: Masonry walling.* The following specifications are required for single leaf masonry walls (nominal thickness of 140mm), built form hollow units:

- Freestanding walls: maximum 1.2m height
- Supported on one vertical side: 2.5m length and 4.3m height
- Supported on both sides: 8m length and 4.6m height
- Drywall: nominal thickness of 90mm, 4.5m length and 3.4m height

4. FIRE

The existing and new fire installations will be tested and approved by a competent person. A fire protection plan will clearly indicated the escape route, doors and equipment. The programme will make use of the existing fire installations and automatic sprinkler system together with a newly proposed centrally placed fire extinguisher in the kitchen interface.

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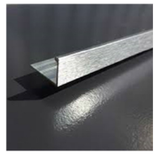
MATERIALS

Concrete cement screed, ploished finish
(spec by: Floorcote)

ORGANIC / NATURAL · RECYCLED CONTENT



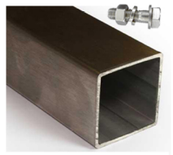
2500mm x 15mm Aluminium strip, straight edge trim,
floor finish as wayfinding device,
routed into exisitng concrete screed

ORGANIC / NATURAL · RECYCLED CONTENT · Durable Hygienic

Float / Laminated Safety Glass

used at seating as edging (float),
infarm hydroponics water tank &
kitchen interface screen(laminated)

ORGANIC / NATURAL · NON-TOXIC CO_2 · RECYCLED CONTENT · RE-USE



Mild Steel as structural elements
(Galvanized vs. exposed patina)
square tubing & flatbar
GMS nuts, bolts, washers (joining)

CONTENT: recycled pieces

RECYCLED CONTENT · RE-USE / ADAPTABLE · LOCALLY SOURCED · ORGANIC / NATURAL

Xanita, x-board as core structure,
1220mm x 2440mm x 16mm (standard size)
(spec by distributor: Antalis South Africa)

CONTENT: post-consumer recycled kraft & sugar cane bagasse waste, VOC-free

RECYCLED CONTENT · RE-USE / ADAPTABLE · NON-TOXIC CO_2 · ORGANIC / NATURAL · CERTIFIED GREEN-TAG

Wood vinyl boards,
78mm x 1244,6mm x 4mm
Range: Arlington, Colour: Sugarberry
(spec by: Belgotex flooring)

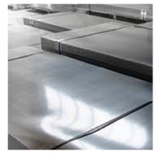
CONTENT: rubber crumb cushion backing,
100% post-consumer waste, manufactured
with solar electricity, GBCSA standards

RECYCLED CONTENT · NON-TOXIC CO_2 · CERTIFIED GREEN-TAG

Cork wall tiles
300mm x 300mm x mm,
strand, varnished
(spec by: Corksribas)

use as surface material:
kitchen interface & at table

ORGANIC / NATURAL · RECYCLED CONTENT



Stainless Steel worktop,
1600mm x 600mm x 3mm sheet,
polished

use in kitchen:
preparation interfaces

RECYCLED CONTENT · Durable Hygienic · LOCALLY SOURCED

Caeserstone quarts worktop,
1600mm x 600mm& 400mm x 20mm,
Series: Supernatural
Colour: 5211 Noble Grey

use in kitchen:
service interfaces

ORGANIC / NATURAL · Lifetime Warranty

FINISHES LEDGEND

1 — Aluminium strips floor finish
form a pattern for wayfinding
(refer to floor finishes detail 1)

2 — Dark red painted wall,
colour: fire cracker,
code: 95RR 07/271
(spec by: Dulux)
(refer to section A)

Green painted duct & freestanding concrete column in waste area,
colour: INDIAN IVY 3
code: 80YY 38/628
(spec by: Dulux)
(refer to ceiling & lighting layout)

NOTE Rest of the wall surfaces:
Painted white, matt, low VOC.
Brand: Dulux trade ECOSURE
(spec by: Dulux)

DOORS & ACCESS

existing doors reconstructed for operation

D1, D2, D3 — **ACCESS/ENTRY DOORS**
Sliding steel shopfront doors, manually operated
(also fire escape doors)

D4 — **EXIT DOORS**
Sliding steel shopfront doors, mechanical opening system

D5 — **FIRE ESCAPE EXIT DOORS**
used only for exit during fire

D6 — **ABLUTIONS**
Glass sliding door, mechanical opening system

D7 — Standard woodframe doors

D8 — **BOH**
Standard woodframe doors

D9 — **ACCESS: DELIVERIES COURTYARD**
Exisitng steelframe door

FIRE

The existing and new fire installations will be tested and approved by a competent person.
Fire protection plan: will indicate the escape routes, doors and equipment.

The programme will make use of the existing fire installations and its automatic sprinkler system together with a ***new proposed centrally placed fire extinguisher*** in the kitchen interface.

GENERAL LAYOUT

0 1 2 scale meters

Figure 5.2.1:

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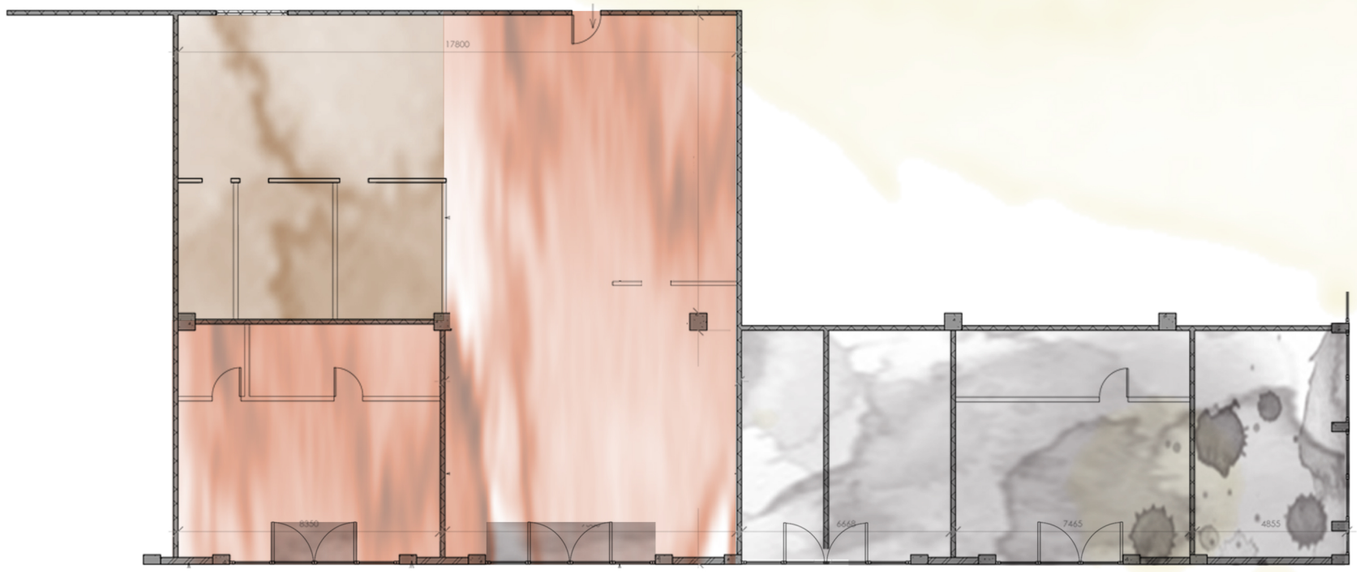
Existing floor finishes will be partially removed and re-used as indicated.



EXISTING FINISHES

FLOOR FINISH LEGEND

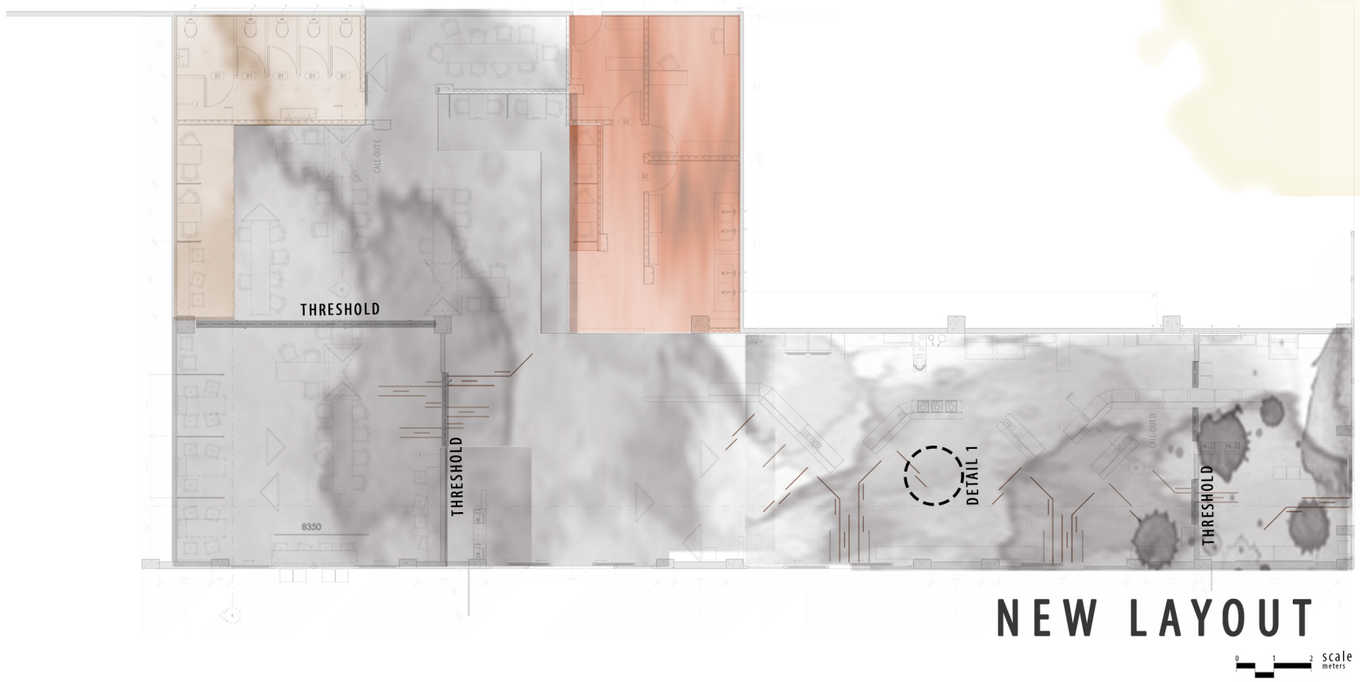
image

430mm x 173mm
Wood-look tile
(specification unknown)

300mm x 300mm
Floor tile, off white
(specification unknown)

Concrete screed,
painted/treated in areas

NEW:
Aluminium strips *(detail 1)*.
Removed interior walls: form thresholds.



NEW LAYOUT

scale meters

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SCHEDULES

Table 5.2.1:

FURNITURE SCHEDULE

VIEWS PLAN	VIEWS ELEVATION	SPECIFICATION	SUSTAINABLE ATTRIBUTE	IMAGE
		Tolix dining chair 450 x 520 x 500, powdercoated steel, white	TAKE-BACK SCHEME; lifecycle; RECYCLED CONTENT	
		Tolix barstool 430 x 430 x 760, powdercoated steel, white	TAKE-BACK SCHEME; lifecycle; RECYCLED CONTENT	
		Utility Shelving 1220 x 458 x 2135, powdercoated steel, grey, 3 shelves (870, 1670, 2070 from FFL) Used for the display of dry ingredients or products to purchase. Also used as worktop and shelving within the office.	RECYCLED CONTENT; craftmanship	
		Mobile Storage Shelf 1200 x 400 x 1600, Stainless Steel structure with castor wheels, 4 shelves Used for the storage/display of dry ingredients, crockery, equipment and fresh produce bins	MULTI-FUNCTIONAL; mobile; RECYCLED CONTENT	
		Plate rack display cabinet 915 x 305 x 762, Wallmounted, Galvinaized Mild Steel, powdercoated, grey Used for the storage of the service boards	RECYCLED CONTENT	
		Lockers 915 x 455 x 1830, Galvinaized Mild Steel, powdercoated, white (locker size: 280 x 455 x 855/1800) Used for the storage of of cleaning equipment or valueables of the staff	generic; RECYCLED CONTENT	
		Point of Sales system iPad screen system, money till and separate card machine		
		Service board 400 x 200 Plywood bespoke board with demarcating panels and cork surface, staple joints. **Packaging:** **Menu, Away-bag & Seeds packet** Brown paper, sewing thread joints.	LOCALLY SOURCED; ORGANIC / NATURAL; RECYCLED CONTENT; handcrafted; URBAN FARMING; community upliftment	1:1 prototypes
		Crokery (spec by: Wonki Ware) **WHITE GLAZE, white-beach sand:** Organic pudding bowl, 15cm x 6cm Wonki pudding bowl, 18cm x 5cm GREY **GLAZE, plain:** Organic soup bowl, 17.5cm x 6.5cm Medium salad bowl, 30cm x 6.5cm Small Etosha, 18.5cm x 3.5cm, white - cake lace Salt bowl, dish stone Squat Mug, thin stripe-charcoal	LOCALLY SOURCED; ORGANIC / NATURAL; RECYCLED CONTENT	
		Casserol 240mmx 120mm, cast iron pot, enamel coating: red(exterior) & cream(interior),domed glass-lid, steel rimmed 4.7 Liters, light weight Code: CICA024 (spec by: Snappy Chef)	RE-USE; lifetime warranty	
		Knife set Stainless Steel, magnetic stand, 6piece. Code: SSKS005 (spec by: Snappy Chef)	RE-USE; lifetime warranty; NON-TOXIC; CO_2	
		Trolley 460 x 460 x 860 generic size: 32 x 32 Galvinaized Mild Steel square tubing frame welded onto GMS base plate,on castor wheels 1. DISPLAY: 20mm Ceaserstone worktop 2. STORAGE: Worktop with stainless steel rack and side edge strips for holding bins 3. WASTE: 3 glass sides form a frame with perspex inner bin, cut-out in ceaserstone	DISPLAY; STORAGE; WASTE	
		Bin 360 x 180 x 200 container bin, 3mm Stainless Steel, brushed. One side is a 6mm toughened glass panel, crystyl glass silicone joint.	RECYCLED CONTENT	

FITTINGS SCHEDULE

VIEWS PLAN	VIEWS ELEVATION	SPECIFICATION	SUSTAINABLE ATTRIBUTE	IMAGE
		1830 x 762 Commercial clean-up sink, Stainless Steel, 2 bowls (915 from FFL) Sink mixer tap with pull-out rinsing spray, single-lever, starlight finish. Code:K7, 32 950 000 (spec by: Grohe)	adjustable flow rate limiter	
	in WC	Sensor pillar tap, surface mounted, chrome finish. Code: EL-JOE (spec by: Cobra South Africa) 600mm/1200mm Washtrough, Stainless Steel, wallmounted 850 from FFL. (spec by: Franke)	Low flow rate: 6 L/min; durable higienic; RECYCLED CONTENT; CERTIFIED ISO	
	in kitchen wash-up	Sensor spout tap, wall mounted 1200 from FFL, pre-blended temperature, solenoid valve. Code: EL-3002 (spec by: Cobra South Africa) 1800 x 480 x 170 Washtrough, Miranit (composite granite), wallmounted 850 from FFL, colour: Alpine White. Code:SOLX1800 (spec by: Franke)	Low flow rate: 6 L/min; CERTIFIED ISO; durable higienic; 80% natural minerals (calcium carbonate & quartz) 20% unsaturated polyester resin	
		360 x 500 x 455 Stainless Steel WC pan, floor standing and wallmounted, satin finish.Concealed dual flushing system with white seat. Code: CMPX597W (spec by: Franke)	Low flow rate: 4 L/min; RECYCLED CONTENT	

EQUIPMENT SCHEDULE

Primarily considered energy consumption:

VIEWS PLAN	VIEWS ELEVATION	SPECIFICATION	WATT	SUSTAINABLE ATTRIBUTE	IMAGE
		Display fridge 524mm x 450mm x 1083mm, 2˚C-10˚C R134a gas & electric temp control, 120L capacity, 4 adjustable shelves magnetic seal double glaze windows Code: CDF2000 (spec by: Salvador) (supplier: BBRW catering equipment Jhb)	0.48kW 230V	ENERGY CONSUMPTION; GAS	
		Combi Steam Gas Oven 900mm x 770mm x 880mm, 0-280°C, 7 trays (70mm spacing) Code: COP9207 (spec by: Magellano, Piron) (distributor: BCE Johannesburg)	0.8-16.5 V/kW	ENERGY CONSUMPTION; GAS	
		High speed blender Capacity: 710ml/532ml, BPA free plastic, Accessible replacement: Extractor Blade/ Milling blade compact & efficient, easy clean (spec by: Nutribullet)	600W	RE-USE / ADAPTABLE; lifespan replace; NON-TOXIC; CO_2; RECYCLED CONTENT	
		Induction stove 405mm x 340mm x 80mm, tempered black crystal-glass top Code: SCS002 (spec by: Snappy Chef)	0.2-2kW	ENERGY CONSUMPTION; instant heat	
		Coffee Machine Bravilor 205mm x 340mm x 430mm, regulating hot plate and 2 glass jugs 1.7L in 5 min Code: CMB0001(spec by: Novo) (distributor: BCE Johannesburg)	2.1kW	ENERGY CONSUMPTION; RECYCLED CONTENT; compost used content	

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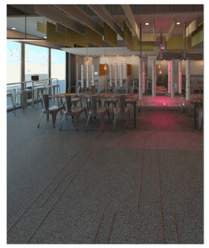

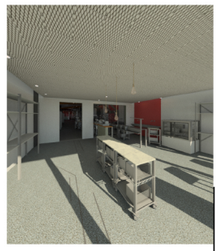

SECTION A
1:50

SECTION E
1:50

Figure 5.2.2:

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KITCHEN INTERFACE

Figure 5.2.3:

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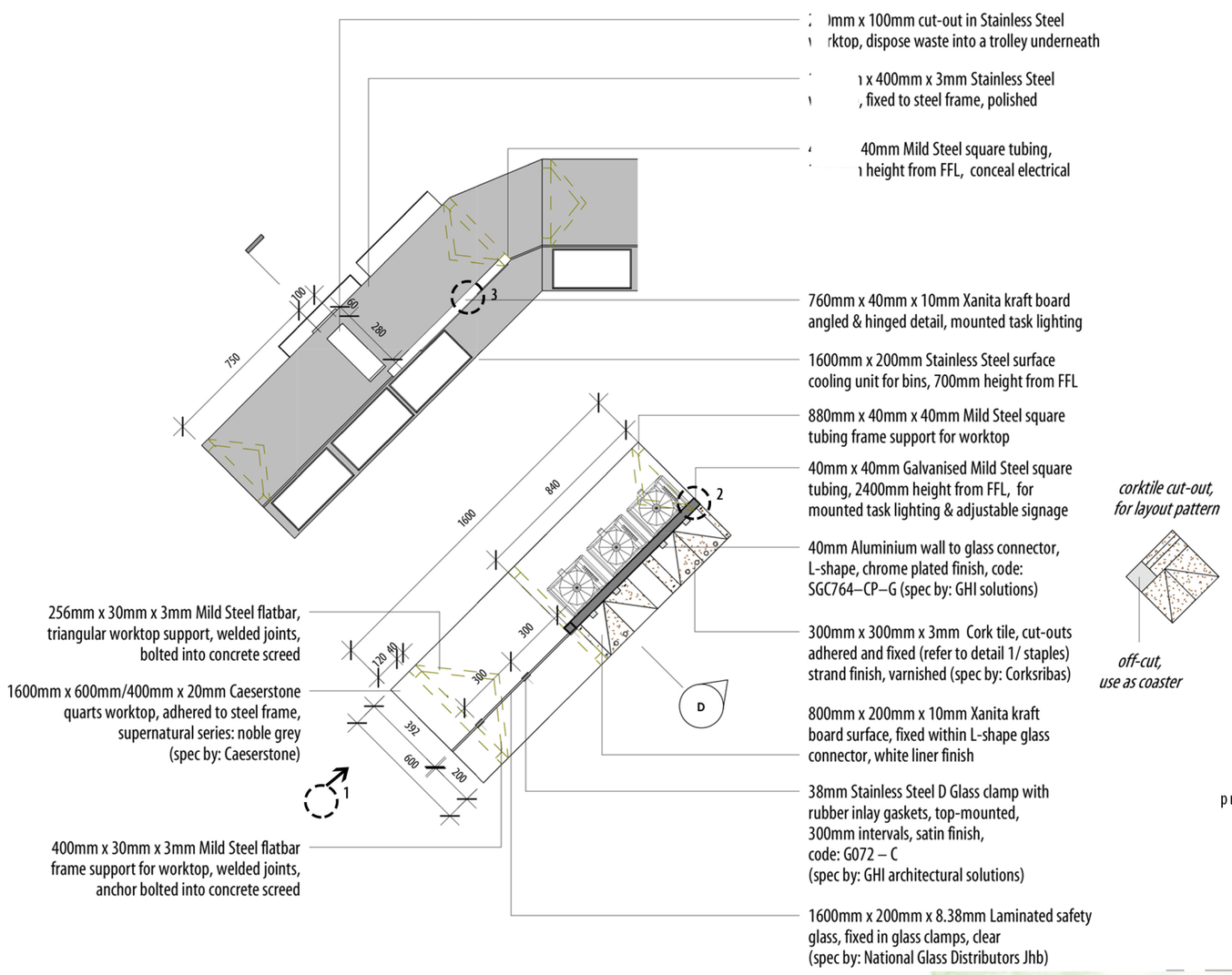

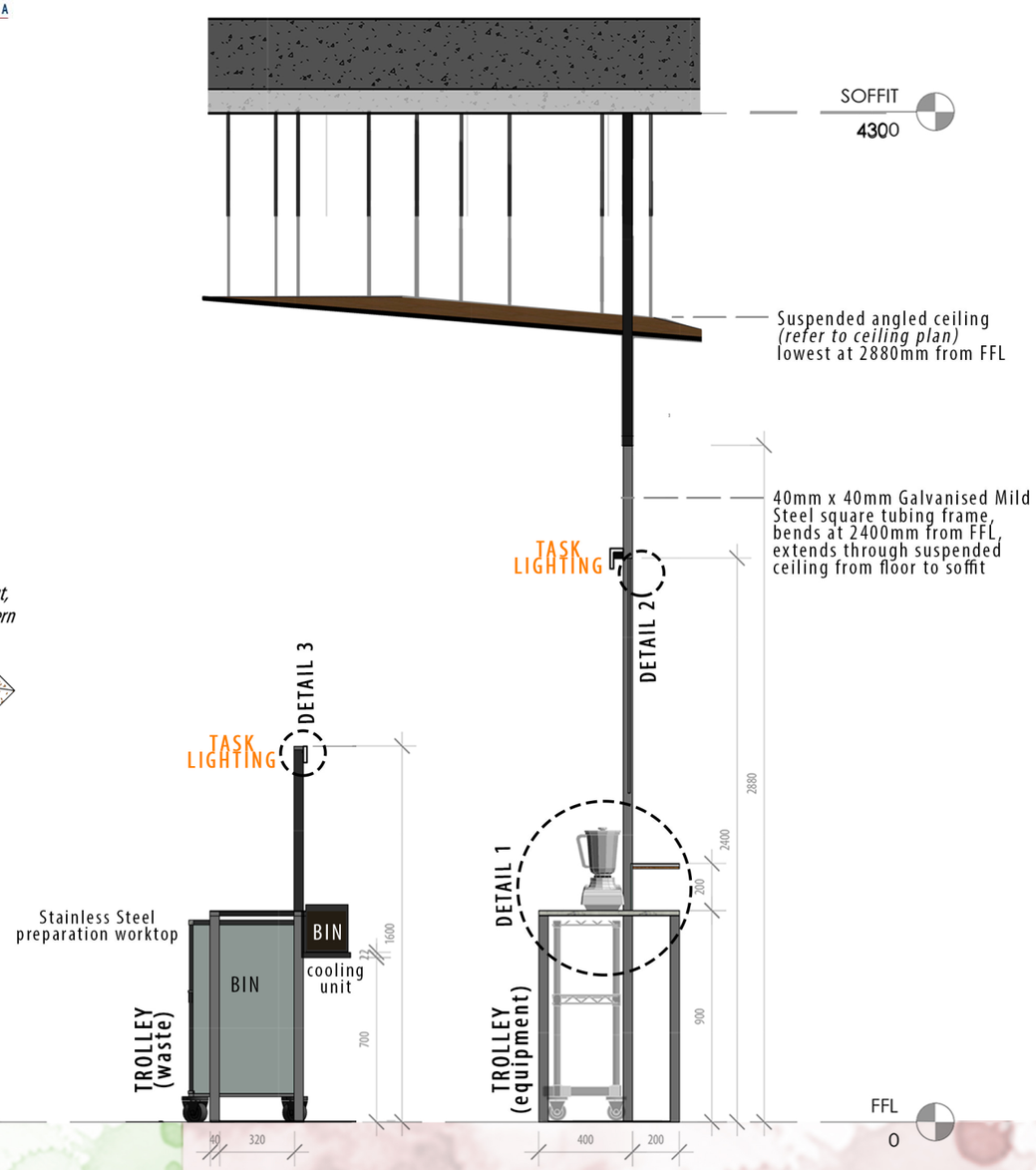

CALL-OUT D

SECTION D

PRE-PREP INTERFACE

SERVICE INTERFACE

An adaptable and simplistic design is required to extend the function and lifecycle of the kitchen worktop. The interface materiality and joinery articulations *(detail 1)* will demarcate and emphasize the processes of eating, from its preparation and ingredients through to the finishing and waste accumulation.

An adaptable signage panel are proposed to demarcate the various kitchen stations *(detail 2)*. The task lighting and its fixing within the preparation interface on a hinging frame will also be explored with a prototype *(detail 3)*. The trolley & bin system are moveable elements within the areas of the interface, for the storage of organic produce, cutlery or equipment.

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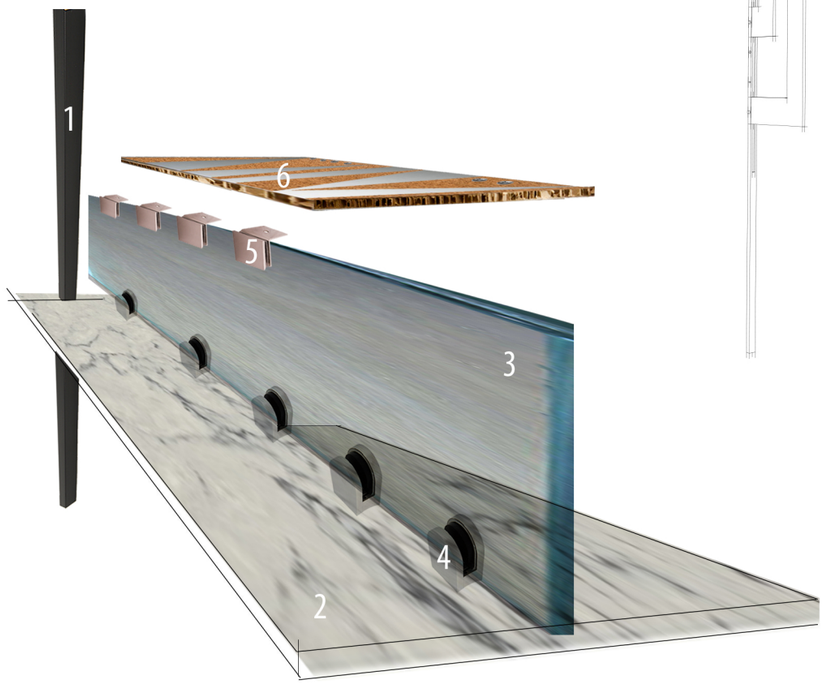
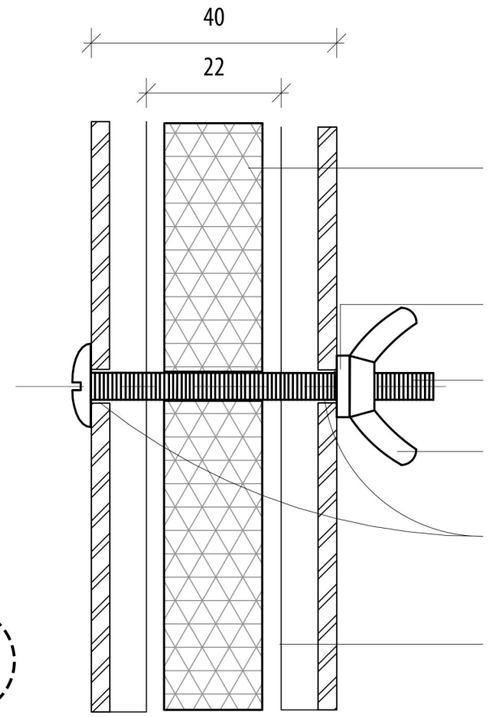
Figure 5.2.3.1:

DETAIL 1
materials & joinery



1. Galvanised Mild Steel square tubing frame
2. Caeserstone worktop
3. Laminated glass
4. D-shape glass clamp with rubber inlay gaskets
5. Wall to glass L-shape connector
6. Xanita kraft board surface,
   with fixed cork tile cut-outs

DETAIL 2



Adaptable signage panels, differentiated in various shapes which will be temporarily fixed within the pre-drilled holes in Galvanised Mild Steel frame structure.

The panels will be made of Xanita kraft board, with printed or painted graphics and words.

16mm Xanita kraft X-board,
various shapes adaptable signage panel,
fixed between square tubing,
printed or painted words/graphics

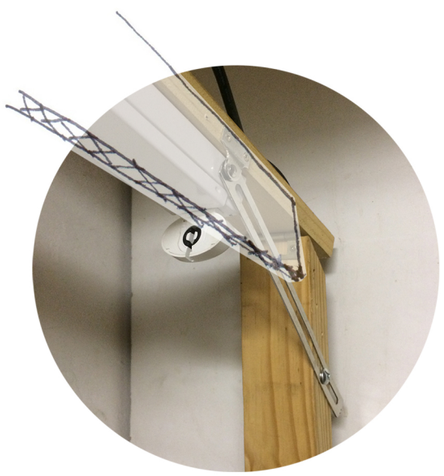
6ø x 2mm Galvanised Mild Steel
spring washer

6ø x 60mm Galvanised Mild Steel
stove bolt with truss head

M6 x 12mm Galvanised Mild Steel
wing nut

6ø pre-drilled holes in tubing frame,
200mm intervals, demarcate places for fixing

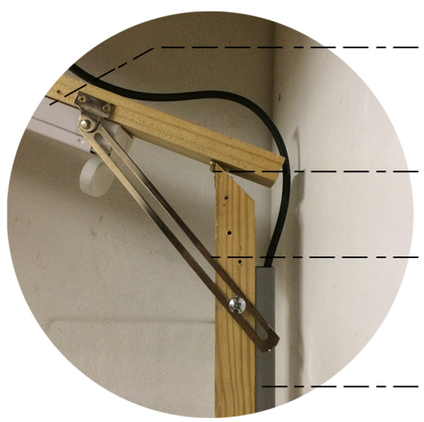
40mm x 40mm Galvanised Mild Steel square tubing frame in kitchen interface, angle grinded 22mm out to fit signage panel



Conceal luminaire,
with xani

DETAIL 3

Task lighting lamp horizontally fixed on the overhead steel frame structure and a hinged detail of the preparation station. This lighting detail will emphasize the intricate preparation processes.



LED tube task lighting,
surface mounted G13
to xanita x-board

Flush hinge

Galvanised Mild Steel
sliding stay hinge

40mm x 40mm Galvanised
Mild Steel square tubing,
(representation)
electric cable within

Timber represents 16mm
Xanita kraft x-board

PROTOTYPE

KITCHEN INTERFACE

Figure 5.2.3.2:

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Figure 5.2.4: INFARM DETAILS

PROTOTYPE
FORAGE PANEL

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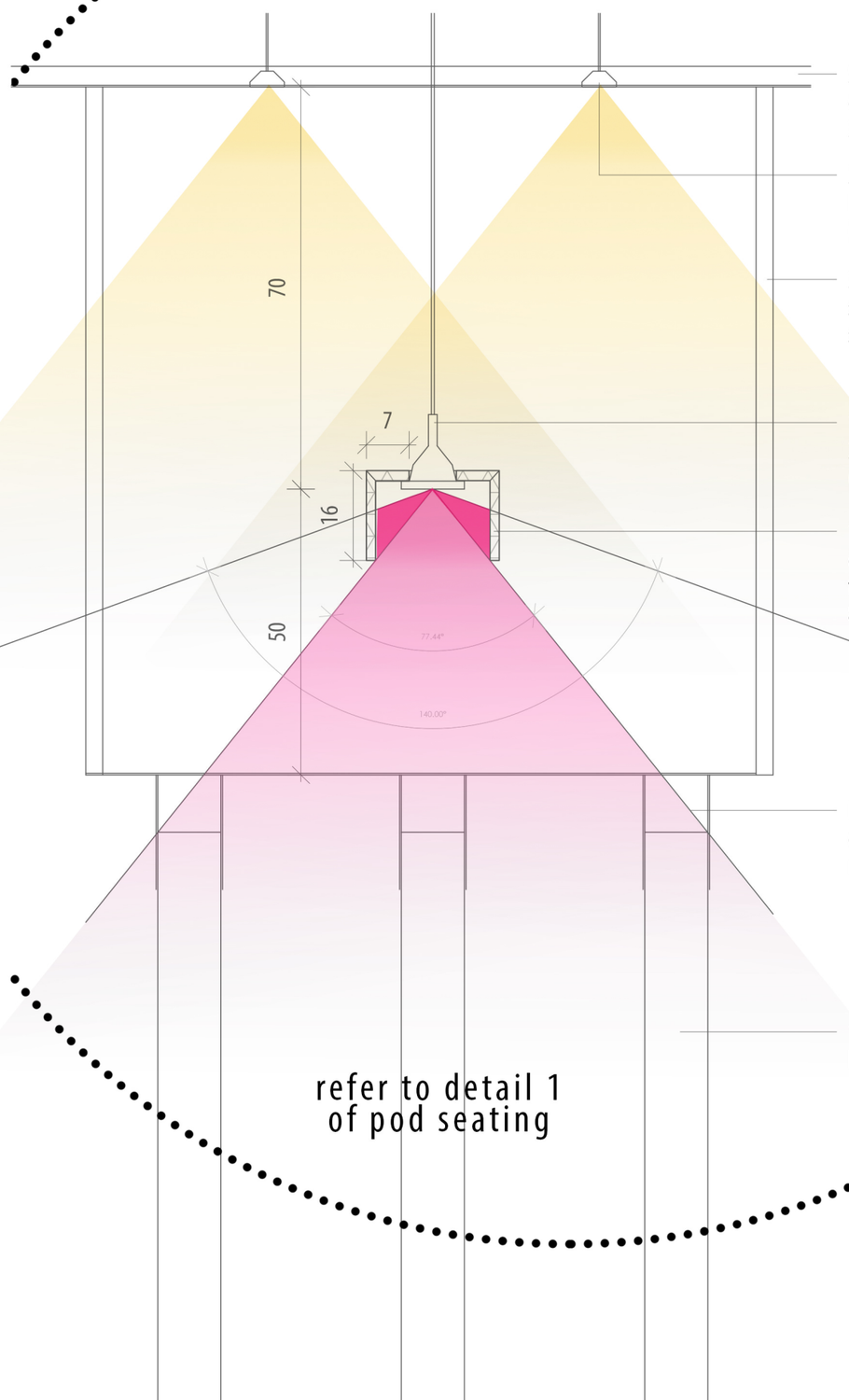
DETAIL 1

grow light: conceal source



Suspended bulkhead, cable tray frame within, 3300mm from FFL

5.5V Downlight, recessed in bulkhead cable tray (spec by Pharox)

30mm x 30mm x 1200mm Mild Steel square tubing hydroponics frame, suspended 2100mm from FFL

12V Grow light, suspended, 2600mm from FFL (spec by Pharox) **(APPENDIX C)**

16mm thick Xanita kraft x-board, conceals and placed over grow light, folded 90° corner detail joint, 82Ø centred cut-out for lamp

Beam angle, original: 140° new: 77.4°

110ø x 1200mm uPVC hydroponic pipes

refer to detail 1 of pod seating

Leca, grow medium, placed within netpots

55Ø/75Ø x 52mm x Netpots, with Neoprene discs or net

30-45Ø Stainless Steel pipe clamp, installed around tubing

8mm Thinwall tubing water for reticulation pipes & dripperline, clear, connect to sprinklers

Submersible water pump, 1500L / hour, 25 W. Code: F1500, Number: 7040002

herb types

The design must reflect the same industrial and aesthetic identity of the proposed programme. The design of the pipe joining within the systems will be adaptable in order to rotate the herbs within the space or outside *(detail 1: seating configuration)*. The required water capacity and parts for the systems is specified.

Adapted pump specifications, required volume of water resevoir:
- 10L required for 9 plants
(10 Watt pump circulates 700L/hour)

- 25L required for 27 plants
(25 Watt pump circulates 1500L/hour)

Proposed programme:
INFARM FRAME: 3 pipes, 9 plants/pipe
= require 25L capacity
frame inner dimension
=1200-40-40–16 (glass)
= 1104 mm
25L = 0.025m³
0.025 = 1.104 x w x h
Where w = h
0.025 = 1.104 x h x h
0.025/1.104 = h^2
$\sqrt{0.023} = \sqrt{h^2}$
= 0.155 m
1104mm x 155mm x 155mm

Change: 1040mm x 100mm x 210mm

POD: 6 growing pipes, 9 plants/pipe
= require 50L capacity
frame inner dimension
=L:1200-40-40–16 (glass)
=W:1800-40-40–16 (glass)
= 1104 mm x 1704
With 50L = 0.050m³
0.050 = 1.104 x 1.704 x h
0.050/1.88 = h
$\sqrt{0.027} = \sqrt{h}$
= 0.164m

1104mm x 1704mm x 165mm

Hydroponic systems are design for the interior environment. The systems are integrated within the interior as freestanding frames or as part of the pod seating configuration.

The design is based on existing innovations and systems within the field of hydroponics. Parts used within the systems are specified by suppliers *(Greenthumb, 2014)*.
A Nutrient Film Technique (NFT system) proposed.

The grow lights must be installed in conjunction with other light sources to reduce its intensity on the user eyes.

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Figure 5.2.4.1:

Figure 5.2.5: INTERACTION PLATFORM

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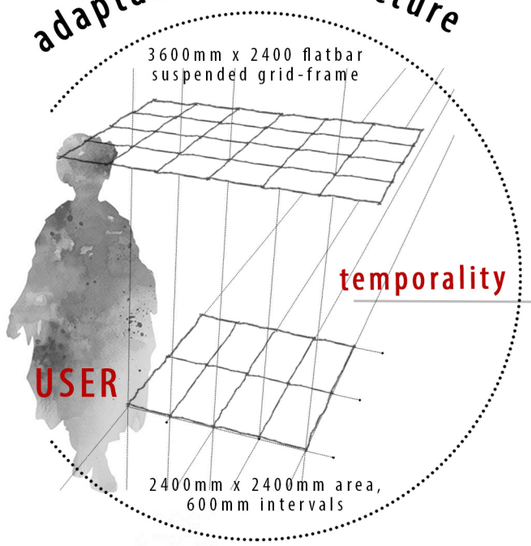
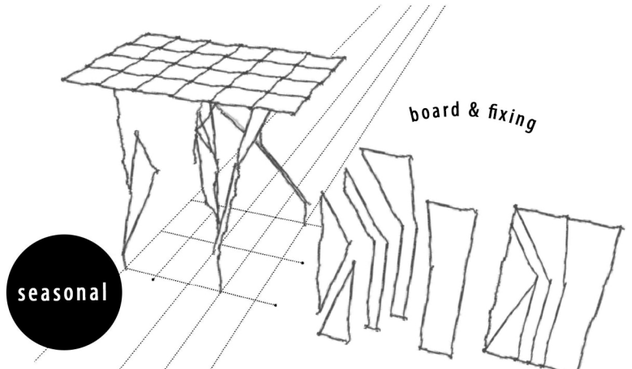
CONCEPTS

SPATIAL
adaptable grid structure



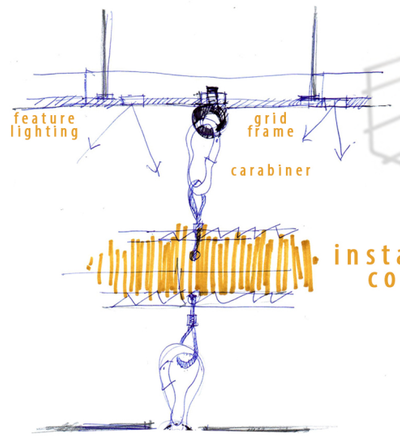
Routered holes into the existing concrete screed with chemically anchored eyebolts. The eyebolts correlate with the overhead suspended grid-frame.



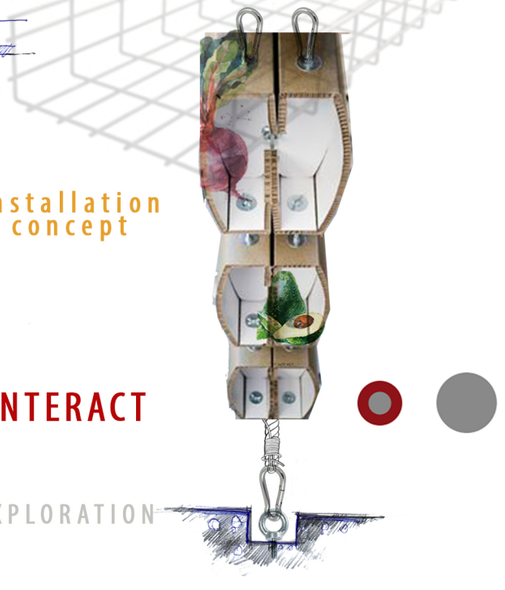
CRAFTER

PROPOSAL
Changes per season with various conceptual installations to be designed by artisans or creatives within the community.

STRUCTURE
1-2 Xanita kraft x-board per concept with fixing accessories (5mm Stainless Steel cable, nylon rope, wing nuts, bolts and carabiner hooks *(appendix A))*.



MESSAGE



INTERACT

EXPLORATION

RATIONALE
Practice sustainable principles by living in simplicity. Encourage a raw food diet, less processing, less stress, more sleep, reduce environmental footprint. Rethink and balance your life. Enjoy life with less.

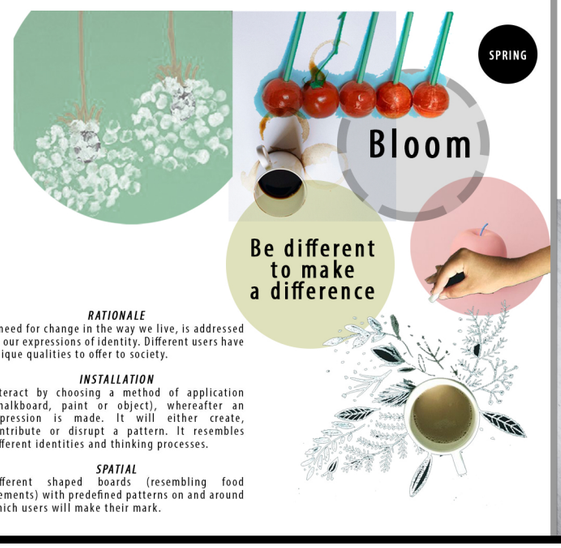
INSTALLATION
Interact by playing a simplistic game: nots & crosses. Enjoy the small things in life, as they are and for what they are. It furthermore resembles a shared experience (team effort), for another person is needed to play a game.

SPATIAL
Long and linear installations with big scale nots & crosses, played with food elements.

RATIONALE
Showcase the accumulating waste of restaurants , indicating what is used in processes/operations.

INSTALLATION
Users will interact by throwing elements into demarcated/categorized boxes. They are also encourages to take photos behind transparent panels, alluding to what goes on within their bodies. It informs users of the ingredient within meals and how they work within the body.

SPATIAL
Two parts:
1. Various shaped transparent or open core depositing boxes, in which elements are placed.
2. Transparent "x-ray" panels with decals.



RATIONALE
A need for change in the way we live, is addressed by our expressions of identity. Different users have unique qualities to offer to society.

INSTALLATLION
Interact by choosing a method of application (chalkboard, paint or object), whereafter an expression is made. It will either create, contribute or disrupt a pattern. It resembles different identities and thinking processes.

SPATIAL
Different shaped boards (resembling food elements) with predefined patterns on and around which users will make their mark.

RATIONALE
Users usually have a preference of what colour/type of fruit/vegetable they like or not. Various colours indicate the nutritious value we require, although not always practices. The earth provides for our bodies according to season.

INSTALLATION
Paint made from food/spice concentrates are provided. Users will pick a colour and stamp on the installation (this will highlight what others consumers prefer). Furthermore encouraged to capture a photo under the installation.

SPATIAL
Half circle, resembling a rainbow. The user interaction will apply the colours to the rainbow in a natural and expressive way.

Figure 5.2.5.1: INTERACTION PLATFORM

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Figure 5.2.6:

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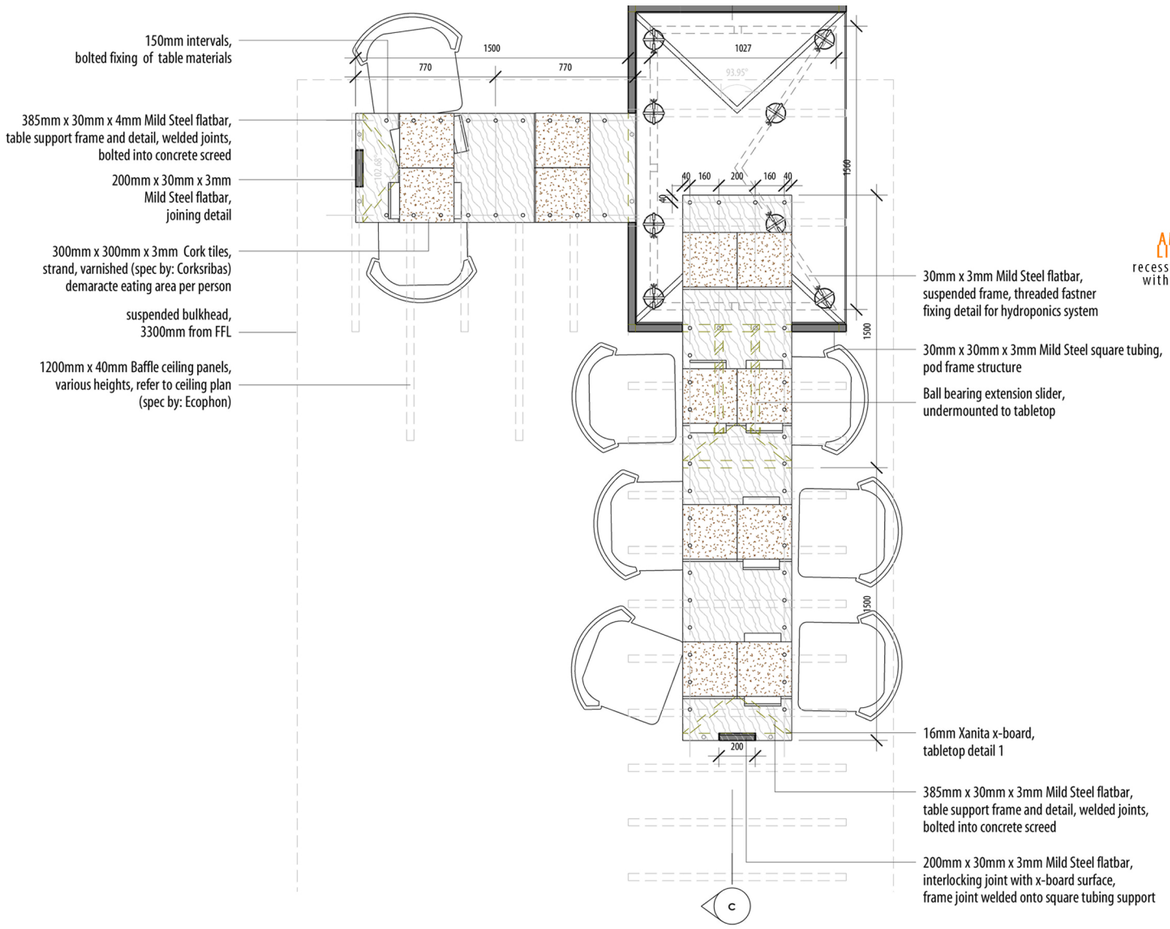
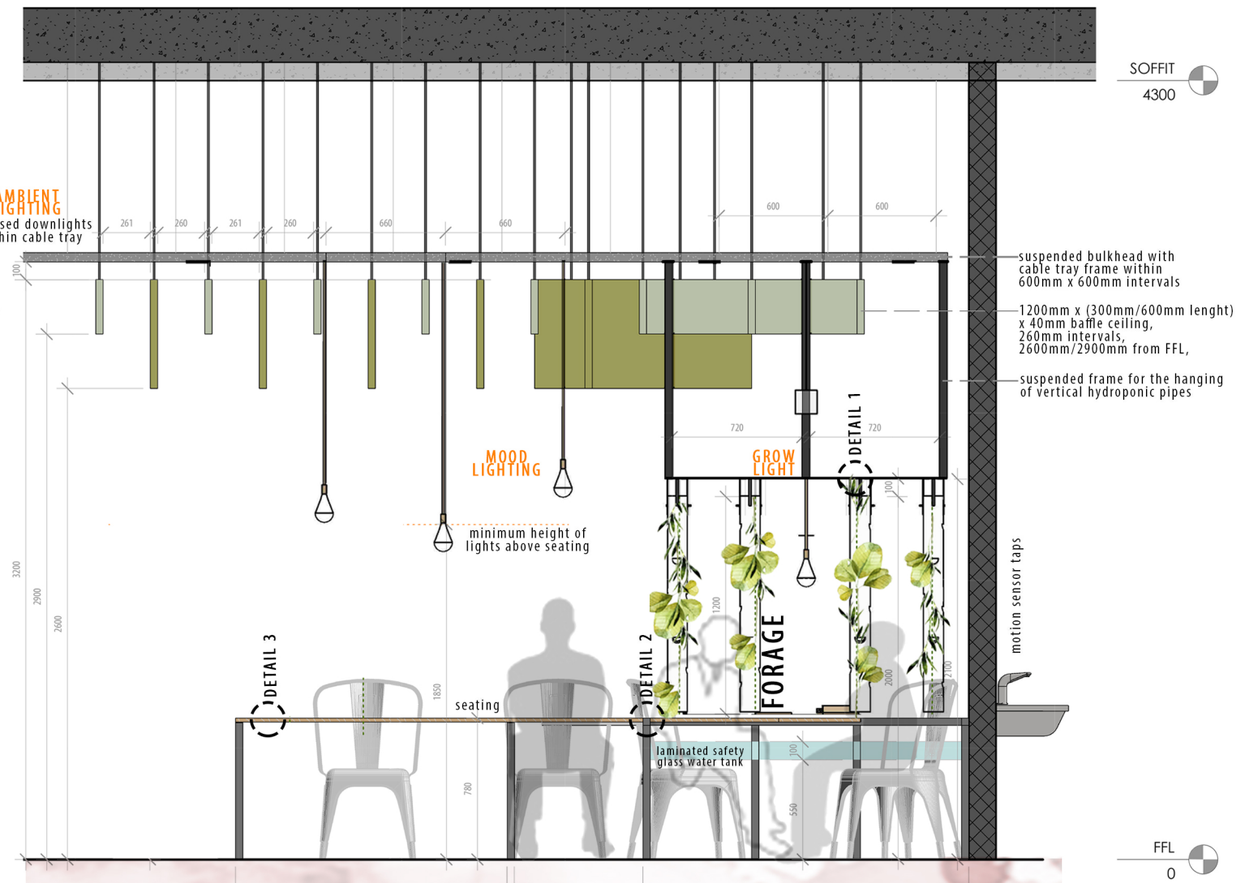


CALL-OUT C



POD SEATING SECTION C

Figure 5.2.6.1: POD CONFIGURATION

0 1 2 scale meters

Seating with integrated hanging vertical farming systems, forming the core of the structure. It is accessible, bespoke and adaptable in its fixing method *(detail 1).*

The interface focus on both adaptability of the table *(detail 2)* and the joining of the material surface *(detail 3).*

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DETAIL 1

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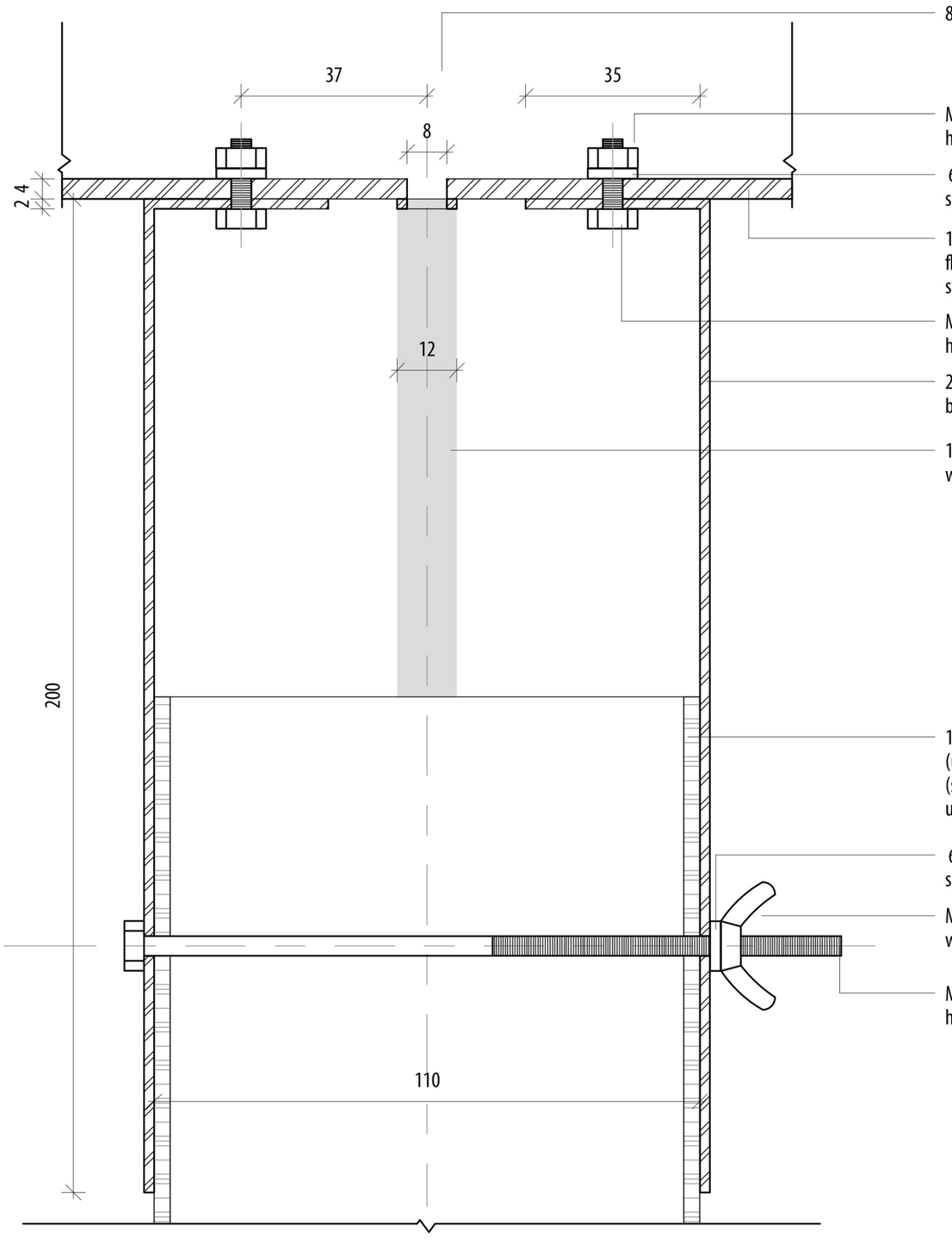
DETAIL 1



8mm opening for 6mm water tubing

M6 x 4mm Galvanised Mild Steel hexagonal lock nut

6ø x 2mm Galvanised Mild Steel spring washer

1560mm x 30mm x 4mm Mild steel flatbar, suspended frame for infarm systems, welded to square tubing frame

M6 x 14mm Galvanised Mild Steel hex head bolt

200mm x 12mm x 2mm Mild steel flatbar, bolted joint to frame, natural patina

150mm x 12mm x 2mm Mild steel flatbar, welded joint to frame, natural patina

scale 1:1

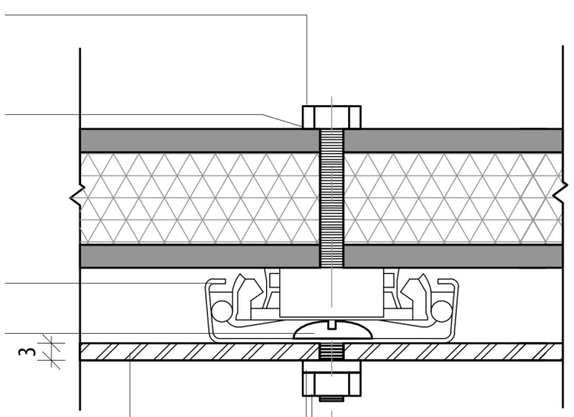
110ø x 1200mm Unplasticised Polyvinyl Chloride (uPVC), white, standard lenght 6000mm (spec supplier: DPI Plastics (Pty)Ltd, brand: Freeflo) upcycled for indoor vertical hydroponics system

6ø x 2mm Galvanised Mild Steel spring washer

M6 x 12mm Galvanised Mild Steel wing nut

M6 x 140mm Galvanised Mild Steel hex head bolt, partially threaded

DETAIL 2



M6 x 30mm Galvanised Mild Steel hexagonal nut

Silicone sealant, clear (spec by: Pratley)

45mm x 600mm Steel ball bearing runner, full extension slide, bright zinc plated, allows for 50kg dynamic weight, Product code: RTS621 (spec by: Roco Fittings)

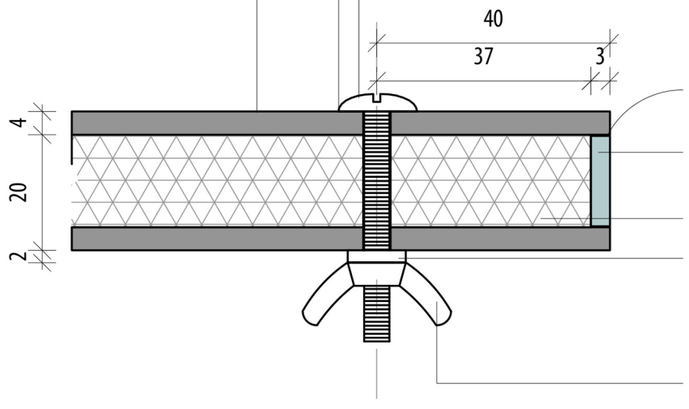
6ø x 10mm Galvanised Mild Steel stove bolt with truss head

32mm x 32mm Mild Steel square tubing, cut to form a 3mm flatbar section

6ø x 2mm Galvanised Mild Steel spring washer

M6 x 4mm Galvanised Mild Steel hexagonal lock nut

DETAIL 3



4mm Wood vinyl board, Range: Arlington, Colour: Sugarberry (spec by: Belgotex flooring)

Silicone sealant, clear (spec by: Pratley)

6ø x 40mm Galvanised Mild Steel stove bolt with truss head

Silicone sealant, clear (spec by: Pratley)

3mm Float glass, clear with silicone sealed edges

16mm Xanita kraft X-board core

6ø x 2mm Galvanised Mild Steel spring washer

M6 x 12mm Galvanised Mild Steel wing nut

Figure 5.2.6.2:

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5.3
ELECTRIC APPROACH

The electric approach is defined in the ceiling and lighting plan, communicated together with the different ceiling types *(figure 5.3.1).* The equipment specifications *(referred to in table 5.2.1)* primarily considered energy consumption, whereas the lighting installation will significantly portray the concept of the proposed programme by either exposing or concealing the luminaires.

The electric and lighting installations in compliance to SANS 10142: *the wiring of premise and* SANS 10114: 2005: *the artificial lighting of interiors,* consider the following aspects:

- It is urged that only the areas being used are lit. Parts of the interior will have dimmable installations for energy saving when the natural lighting is sufficient. The dimmable sections will also serve as an indication of the occupancy of the space.

- The grow lights must be installed with other light sources in close proximity. This is to reduce the users' eye sensitivity to the specific colour spectrum of the light. A detail will be designed to further conceal the grow light source.

- Motion sensors are proposed in the ablutions, as its occupation level is low and inconsistent.

Natural lighting and ventilation requires 10% of the total floor area (SANS Part O, 2011)*:*

10% x 435m² (total floor area) = 43.5m²
Transparent glazing shopfront doors: 77.5m² (adequate)
Shopfront door openings: 23.8m² + 7.8m² = 31.6m² (not adequate)
(fire escapes closed during normal operation)

The shopfront doors therefore comply with adequate natural daylight (77.5m²), but the openings on the external façade wall (31.6m²) do not meet the requirements. A new mechanical ventilation system will be proposed *(refer to figure 5.3.1).* This system will supply the seating and back of house storage areas with fresh air, from where it will passively extract through the shopfront openings. Furthermore an extractor hood and duct is proposed above the induction stoves within the kitchen area. This duct will service out to the exterior façade, from where its visibility will be concealed with a branded element detail *(figure 5.3.1: diagram 2 & 3 and figure 5.2.2).* Both of the ventilation systems require the approval and installation of a certified engineer.

The interior consists of both natural and artificial lighting. Artificial lighting will provide the interior with the minimum specified lighting levels, independent of the natural lighting. Different types of LED lighting strategies are placed within the interior environment for different moods or tasks, adding to the sensory experience. A smart lighting system will furthermore control some of the spatial zones.

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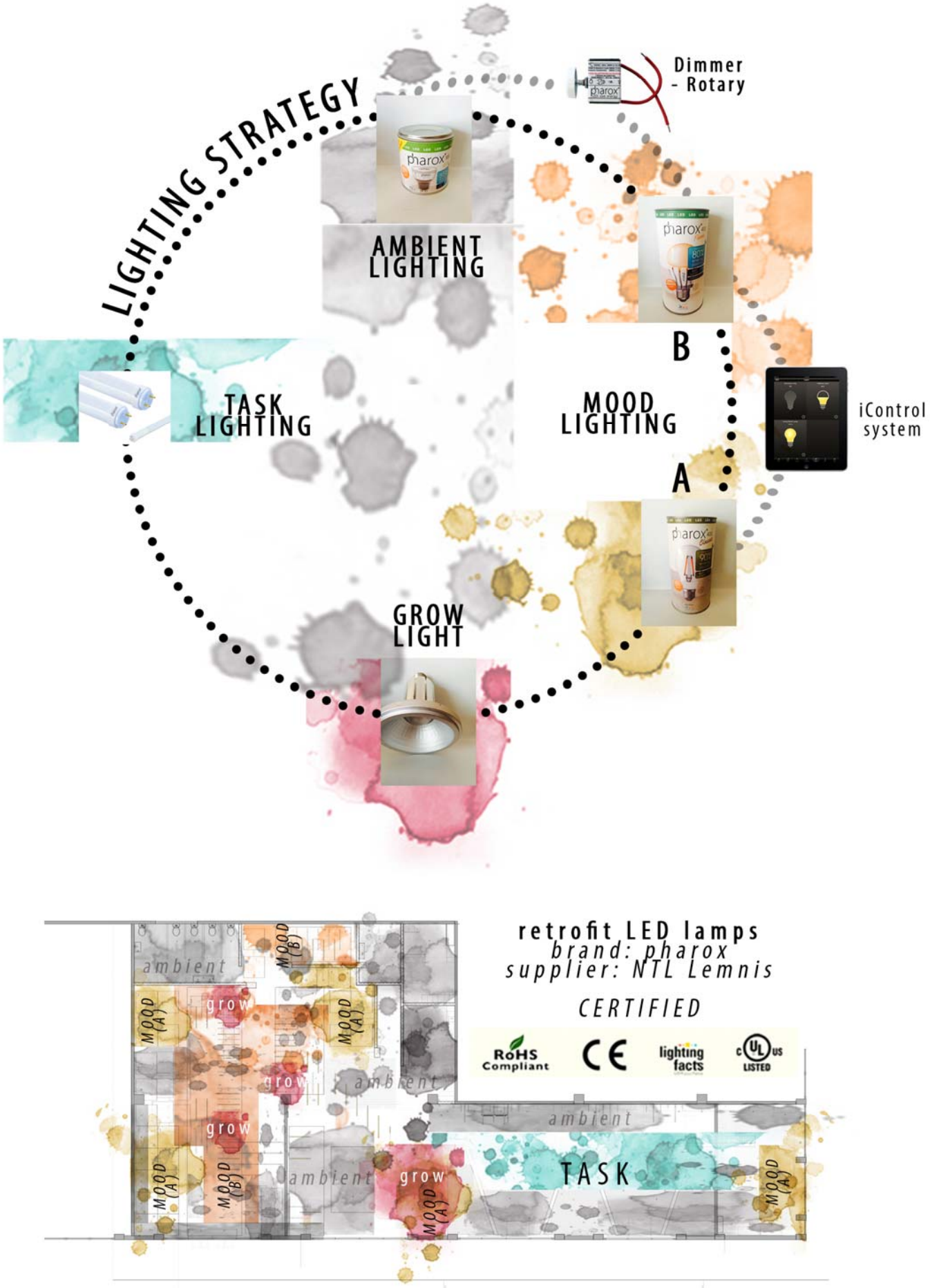

Diagram 5.3: Exploration of the lighting strategy of different LED's with different moods or tasks

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CEILING PLAN

Figure 5.3.1: Ceiling & lighting layout

LIGHTING LEDGEND

Table 5.3.1: Lighting specifications

TYPE	SYMBOL	LAMP SPECIFICATION	LUMINAIRE SPECIFICATION	COLOUR RENDERING	ENERGY RATING (per Pharox)
Ambient lighting		Pharox 300 downlight, dimmable, 38˚beam angle	Recessed in bulkheads, GU10 normal fitting (in bulkhead 1, 2 & solo panel)	3000 K , warm white	A: 85%
Mood lighting (A)		Pharox 400 Classic	Suspended lamps, E27 normal fitting (at working & standard booths, infarm, fresh produce mesh)	2800 K, warm white	A++: 90%
Mood lighting (B)		Pharox 400 Flame, dimmable	Suspended lamps, E27 normal fitting (between baffle ceilings: pods)	2200 K, ambience	A: 80%
Task lighting		T8 LED tube, 600mm length, 150˚ beam angle	Surface mounted, G13 normal fitting, powder coated, white (tubing/hinge frame, refer to kitchen interface detail 3)	5000 K, cool white	A+
Grow light		Lemnis Oreon Retrofit LED growlight, 120˚beam angle	Suspended lamp, E27 normal fitting (refer to infarm: detail 2)	90:10 Combi, (red:blue) Pink hue	*(refer to appendix B)*

ELECTRIC LEGEND

- SA/Slimline combo socket, stainless steel cover plate screwless base plate (spec by: CBi electric)
- 1 or 2 Lever light switch (2x4 switch) 2-way, 240V AC, SABS 164 stainless steel cover plate, screwless base plate (spec by: CBi electric)
- iControl system, Automated lighting control distribution board with a detatched iPad, all lighting circuits in the seating areas are connected to this smart system. Manufacturer: iLED

NOTIFICATION BOARDS INDICATE;
lighting placement; open seating, power consumption and waste accumulation

CEILING LEGEND

- 100mm indentations articulations in existing concrete slab
- 1 — Angled bulkhead *(indicated with arrow)*, 2900mm-4000mm angle from FFL **(DIAGRAM 2)** acoustic absorption & diffusion (spec by: Ecophon). With recessed downlights as wayfinding devices.
- 2 — Horizontal bulkhead, 3300mm from FFL, acoustic absorption tiles (spec by: Ecophon) cable tray frame within for recessed downlights
- 3 — Mesh bulkhead, *REFER TO SECTION A* 2600mm from FFL (infarm & produce zone) suspended mood lighting (A) & downlights in overhead cable trays

SOLO BAFFLE CEILING

REFER TO SECTION A (spec by: Ecophon) installation: adjustable wire hanger and hook, glass wool core, certified

light refelectance

- 49% — 1200mm x 600mm x 40mm, 2600mm from FFL, Akutex FT colour: Pure Olive (S2010-Y)
- 75% — 1200mm x 300mm x 40mm, 2900mm from FFL Akutex FT colour: Pale Garden (S1005-G10Y)

SOLO PANELS

VARIOUS HEIGHTS & ANGLES (spec by: Ecophon) Solo Square panel, 1200mm x 1200mm x 40mm, installation: connect adjustable wire hanger & absorber anchor, Akutex FT colour: White Frost (S0500-N)

- 85% — 2300mm x 2600mm angled from FFL, some contain recessed downlights
- 1 — 2300mm from FFL, with centred suspended mood lighting A
- 2 — 2700mm from FFL with equally spaces intervals of downlights, mood light A suspended within centre of booth
- 3 — 2700mm x 2900mm angled from FFL

FRAME LEGEND

- ***REFER TO SECTION C*** Suspended frame structure. 2100mm from FFL, suspended from 3300mm bulkhead, located within the pod seating for the fixing of hydroponics infarm systems
- ***REFER TO PROTOTYPE*** Freestanding moveable frame structure, 1200mm x 2000mm, on castor wheels, for the fixing of hydroponics infarm systems

ARTICULTATION OF FUNCTIONS & SERVICES.

EXTRACTION HUB

900 x 600 Stainless Steel extraction hood, ceiling mounted, 172 W
(160 W motors and 12 W LED lamps)
Energy efficiency class A+
Code: LF98BB542 (spec by: Siemens)

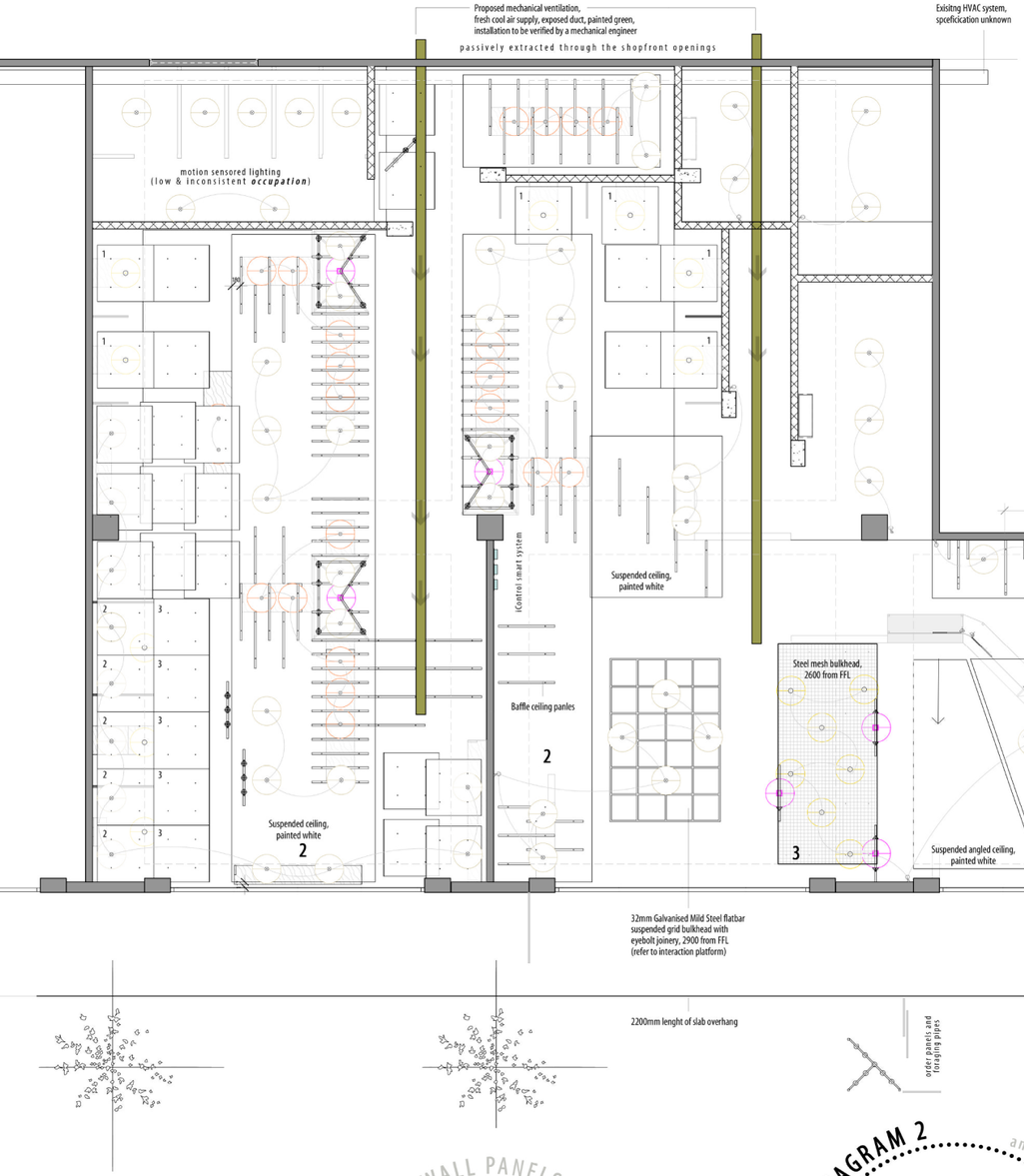
WALL PANELS

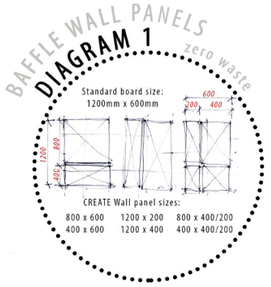
40mm Baffle wall panels, wall anchored or suspended, (spec by: Echophon) various heights, depths and angles
(refer to: DIAGRAM 1 and SECTION A)

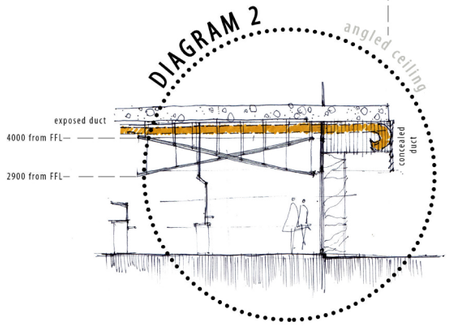
CONCEPT

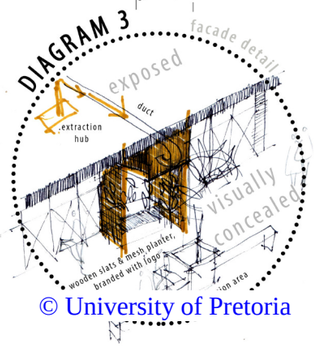
CONCEPT

Solo baffle: creates rhytm









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CEILING & LIGHTING LAYOUT

0 — 1 — 2 scale meters

cut-plane, 2400mm above FFL
REFER TO SECTION A

5.3.1 LIGHTING CALCULATIONS

The different lighting specifications are given. All of the lamps are LED retrofit globes, specified by Pharox and distributed by NTL Lemnis South Africa.

TYPE	QUANTITY	WATT	LUMINOUS FLUX (lumen)	EFFICACY (lumen/watt)	TOTAL LUMINOUS FLUX	AREA (m^2)	ILLUMINATION (lux)
Ambient lighting	84	5.5 W	300 lm	55 lm/W	25200 lm	Total: 435	58
Mood lighting (A)	22	4 W	440lm	110 lm/W	9680 lm	*n/a*	-
Mood lighting (B)	22	8 W	400 lm	50 lm/W	8800 lm	*n/a*	-
Task lighting	11	9 W	855 lm	95lm/W	9405lm	Kitchen: 112	84
Grow light	6	12W	300lm	25lm/W	1800 lm	*n/a*	-

Table 5.3.2: Lighting calculations

Illumination calculation is compiled for the kitchen, seating areas and elements within the fresh produce and purchase zone. It indicates that the required levels are achieved for the various tasks.

Illuminance calculation: $lux = \frac{luminous\ flux\ (lumens)}{area\ (m^2)}$

SPACE OR TYPE OF ACTIVITY	REQUIRED ILLUMINANCE LEVEL (Lux)
Kitchen: preparation	500
Kitchen: general area, food stores	100 -150
Cafeterias, dining rooms	100-200
Retail shop: counters or wall display	500
Offices, general working surfaces or counters	300-500

Table 5.3.3: Illumination requirements
(Compiled by author with reference to (Saflii, 2003) (Pioneerlighting, n.d.) (Lamps & Lighting, 2016))

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KITCHEN	SEATING
Kitchen worktop interface: ***TASK LIGHTING*** (Required illumination: 500 lux) $lux = \frac{855}{(1.6 \times 0.6)}$ $= 891\ lux$	***Pod table surface (2 seats):*** ***MOOD LIGHTING (TYPE B)*** (Required illumination: 100-200 lux) $lux = \frac{400}{(0.75 \times 0.6)}$ $= 889\ lux$
Kitchen area: ***TASK LIGHTING + AMBIENT LIGHTING*** (Required illumination: 100 -150 lux) $lux = \frac{(11 \times 855) + (22 \times 300)}{122}$ $= 143\ lux$	***Standard booth table surface (2 seats):*** ***MOOD LIGHTING (TYPE A)*** (Required illumination: 100-200 lux) $lux = \frac{400}{(0.75 \times 0.6)}$ $= 978\ lux$
	Work booth table surface (4 seats): ***MOOD LIGHTING (TYPE A) + AMBIENT LIGHT*** (Required illumination: 300-500 lux) $lux = \frac{(1 \times 400) + (2 \times 300)}{(1.5 \times 0.6)}$ $= 1111\ lux$
Purchases seasonal display trolley: ***MOOD LIGHTING (TYPE A)*** (Required illumination: 500 lux) $lux = \frac{440}{(0.4 \times 0.4)}$ $= 2750\ lux$	***Laptop table surface (4 seats):*** ***AMBIENT LIGHT*** (Required illumination: 300-500lux) $lux = \frac{(2 \times 300)}{(3.0 \times 0.4)}$ $= 500\ lux$
Fresh produce POS counter: ***AMBIENT LIGHTING*** (Required illumination: 300-500 lux) $lux = \frac{(2 \times 300)}{(1.75 \times 0.4)}$ $= 857\ lux$	***Seating area:*** ***MOOD LIGHTING (TYPE A & B) + AMBIENT LIGHTING + GROW LIGHTS*** (Required illumination: 100 -200 lux) $lux = \frac{(9 \times 440) + (22 \times 400) + (32 \times 300) + (3 \times 300)}{173}$ $= 134\ lux$

Table 5.3.4: Illuminance calculation

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5.4.A
INDOOR ENVIRONMENTAL QUALITY

Acoustic absorption:
Various ceiling types and wall panels
(refer to figure 5.3.1)

Air quality:
Extraction hub above the hot areas (kitchen)
Mechanical cool air supply (seating areas)
Indoor farming systems

User connection to nature:
imporves air quality
+ adds natural green elements
connects users with nature

5.4.B
OPERATIONAL FRAMEWORK

WASTE
Consider the recycling of packaging and the composting of organic waste. The Inside will also function as a food bank which donates excess food, and a drop-off and collection point for general waste from where it will be recycled or re-used.

COMMUNITY
1. Making of the brand elements (menu, packaging, cutlery and crockery).
2. Supply cycle of produce: The urban farms in the surrounding context and proposed at Sparks School.
3. Work within the restaurant, trained to prepare the fresh produce, educated about seasonal produce, recycling systems and farming systems.
4. Interventions as roll-outs of the Inside, such as speciality foods (pickling or pesto making) or medicinal herb health products.

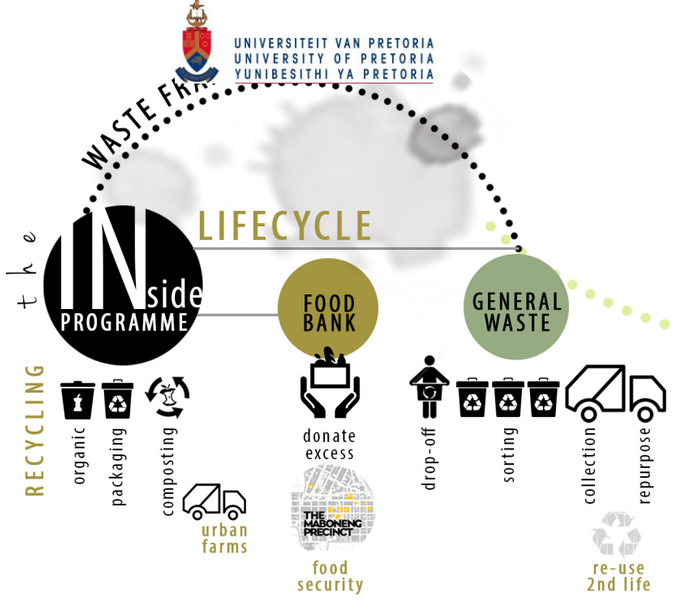
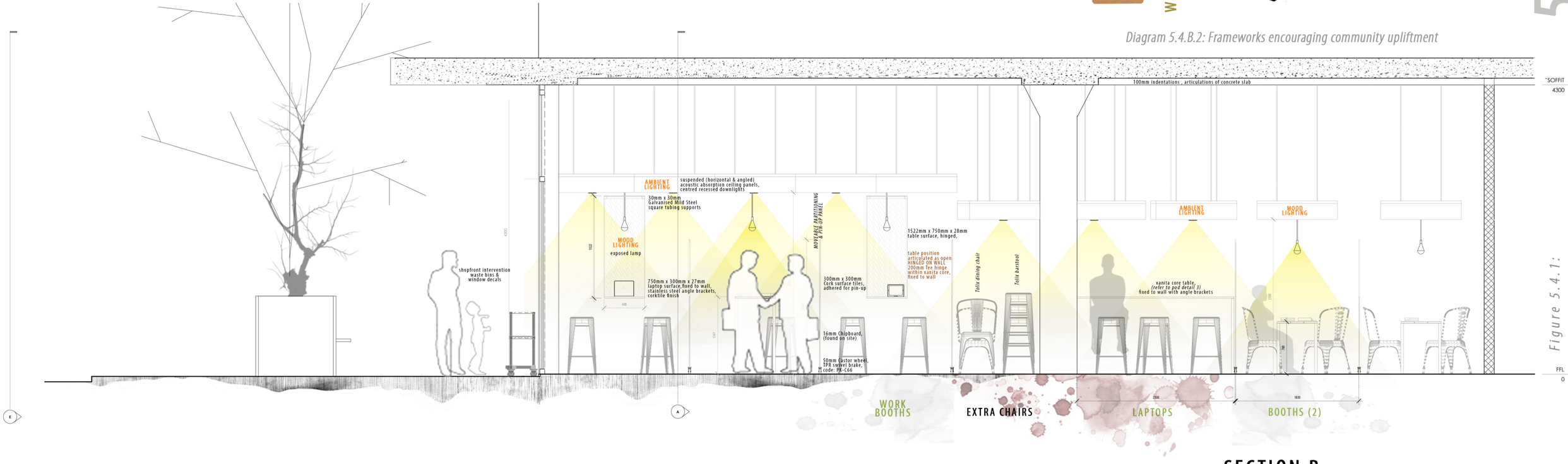


Diagram 5.4.B.1: Proposed waste framework

Diagram 5.4.B.2: Frameworks encouraging community upliftment



SECTION B

0 1 2 scale meters

Figure 5.4.1:

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5.4.C
SECONDARY FUNCTIONS

Primarily function: the inside restaurant

Flexibility & changeability
of interior elements & spaces

Secondary functions:

1.Raw food cooking classes.
Users can interact with the chefs or can prepare or compete. Chairs and trollies (designated to the users by containing the equipment and ingredients) will be arranged around the kitchen stations.

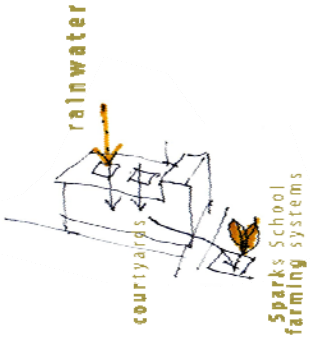
2.Exhibition space.
The kitchen interface will be the social area. The seating and infarm areas can be rearranged for exhibitions. The adaptable partitioning boards, moveable frame structures and the joinery elements of the interaction platform can be appropriated.

Diagram 5.4.C: Secondary functions of the interior

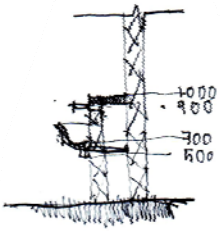
5.4.D
WATER

Hydroponics systems are recycling systems; Soilless systems, closed-looped.

Rainwater collection:
Open rooftop space of Access City
(reticulated down the courtyards).
Excess water: serviced to Sparks School.
The entire installation & specification verified and implemented by a qualified engineer.



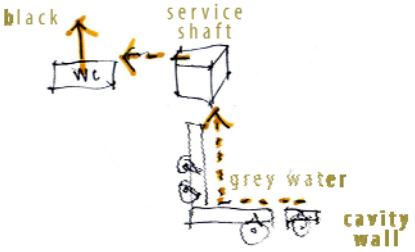
RETICULATION
Service wall sinks within a cavity wall
(requires fall of 1:60 to the service shaft)



$$\frac{1000}{60000} = \frac{x}{(16000+10100)}$$

$$= \frac{26100}{60}$$

= 435mmheight needed for fall



COMPLY: Height of the service traps and pipes are 500mm above FFL.

The grey water from the sinks will be serviced in the cavity wall to an existing service shaft, from where it will be recycled to the ablutions, which will be connected to the existing services within the deliveries courtyard.

Diagram 5.4.D: Diagrammatic water reticulation

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5.5 RATING

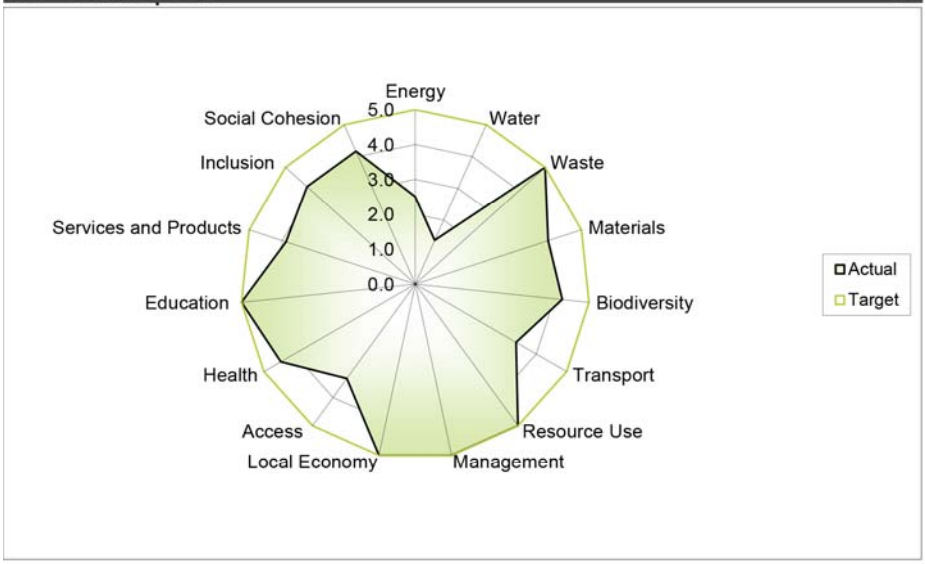
As part of the technical development, the programme and its context are rated in term of sustainability. The sustainable building assessment tool (SBAT) and the Green Building Council of Southern Africa: GreenStar Interior tool was used.

It has a high rating in waste and education as specific strategies were proposed. The urban context greatly influenced the social rating with the integration of Sparks School, Trim Park and the community framework. The water rating is very low, as showers and hot water services was not considered.

As conclusion, the results indicate a holistic sustainable approach achieved, as all of the design considerations were based on sustainable principles.

Achieved

SB SBAT REPORT 4.0



SB4 Environmental, Social and Economic Performance	Score	Percentage
Environmental	3.4	68 %
Economic	4.3	87 %
Social	4.3	87 %
SBAT Rating	4.0	

BI 1	Building Targets	Target	Achieved
EN	Energy	5.0	2.5
WA	Water	5.0	1.4
WE	Waste	5.0	5.0
MA	Materials	5.0	4.0
BI	Biodiversity	5.0	4.2
TR	Transport	5.0	3.3
LE	Local Economy	5.0	5.0
MN	Management	5.0	5.0
RE	Resources	5.0	5.0
SP	Services and Products	5.0	3.3
AC	Access	5.0	4.4
HE	Health	5.0	5.0
ED	Education	5.0	3.9
IN	Inclusion	5.0	4.2
SC	Social Cohesion	5.0	4.2

BI 2	Priority Key (Not Performance Key)	
VH	Very High	5.0
HI	High	4.0
ME	Medium	3.0
LO	Low	2.0
VL	Very Low	1.0
NA	None / Not Applicable	0.0

Table 5.5.1: SBAT rating

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GREEN BUILDING COUNCIL SOUTH AFRICA

greenstar

Score Sheet

Green Star SA - Interiors v1

Credit	Credit Name	Aim of Credit	Points Available	Points Targeted
Management Category				
Int-Man-1	Green Star SA Accredited Professional	To encourage and recognise the engagement of professionals who can assist the project team with the integration of Green Star SA aims and processes throughout all stages of a fitout's design and construction phases.	1	1
Int-Man-2	Commissioning & Tuning	To recognise effective commissioning and tuning processes during a project's design and construction phase that ensure all services and installations can operate to their optimal design potential.	2	1
Int-Man-3	Occupant Users' Guide	To encourage and recognise the provision of information to fitout owners and users that helps them understand a project's systems, environmental attributes, and maintenance requirements.	1	1
Int-Man-4	Environmental Management	To encourage and recognise the adoption of a formal environmental management system in line with established guidelines during construction.	1.5	1
Int-Man-5	Construction Waste Management	To recognise and encourage management practises that minimise the amount of demolition and construction waste going to disposal.	2	2
Int-Man-6	Workspace efficiency	To recognise the design of workspaces that provide spatial efficiency and improve productivity and occupant performance.	2	2
Int-Man-7	Green Lease	To recognise and encourage collaboration between the building owner and tenants in order to manage and operate the building along environmentally sustainable principles whilst realising mutual benefit.	2	2
Int-Man-8	Learning Resources	To encourage and recognise sustainability initiatives implemented in the development as learning resources for building users and visitors	1	1
Management credits			12.5	11
Indoor Environmental Quality Category				
Int-IEQ-1	Quality of Internal Air	To encourage and recognise projects that provide high quality air to occupants.	4	3
Int-IEQ-2	Thermal Comfort	To encourage and recognise fitouts that achieve a high level of thermal comfort.	2	1
Int-IEQ-3	Lighting Comfort	To encourage, recognise and reward well-lit spaces that provide appropriate levels of lighting comfort to occupants.	3	3
Int-IEQ-4	Visual Comfort	To recognise the delivery of well daylit spaces that provide high levels of visual comfort and views to fit-out occupants.	3	3
Int-IEQ-5	Acoustic Quality	To encourage and recognise buildings that are designed to provide appropriate acoustic qualities to enable the functionality of the space.	2	2
Int-IEQ-6	Reduced Exposure to Air Pollutants	To recognise projects that safeguard occupant health through the reduction in internal air pollutant levels.	5	3
Int-IEQ-7	Mould Prevention	To encourage and recognise the design of services that eliminates the risk of mould growth and its associated detrimental impact on occupant health.	0.5	0.5
Int-IEQ-8	Ergonomics	To recognise the choice of equipment and design of spaces that promotes wellbeing, efficiency and effectiveness	2	2
Int-IEQ-9	Indoor Plants	To encourage and recognise the installation of indoor plants that improve indoor environment quality and also provides occupants with a connection to nature.	1.5	1.5
Indoor Environmental Quality credits			23	19
Energy Category				
Int-Ene-1	Greenhouse Gas Emissions	To encourage and recognise projects that minimise the greenhouse gas emissions associated with tenant fit outs.	12	9
Int-Ene-2	Electrical Sub-metering	To encourage and recognise the installation of electrical energy sub-metering to facilitate on-going management of electrical energy consumption.	2	2
Energy credits			14	11
Transport Category				
Int-Tra-1	Commuting Mass Transport	To encourage and recognise developments that select a site near public transport and facilitate the use of mass transport.	1	1
Int-Tra-2	Local connectivity	To encourage and recognise projects that are located within walking distance of high quality amenities such as shops and parks, thus reducing private vehicle use and the associated negative environmental impacts.	1	1
Int-Tra-3	Alternative Transport	To encourage and recognise projects that promote and facilitate the use of alternative modes of transport over the use of private cars.	2	1
Transport credits			4	3
Water Category				
Int-Wat-1	Potable Water	To recognise projects that minimise potable water consumption	6	4
Int-Wat-2	Water Sub-metering	To encourage and recognise the installation of sub-metering to facilitate on-going management of water consumption	2	1
Water credits			8	5
Materials Category				
Int-Mat-1	Operational Waste Management	To encourage and recognise developments which include space and an operational waste management plan that facilitates the recovery of resources used within the developments to reduce waste going to disposal.	2	2
Int-Mat-2	Furniture	To recognise the selection of fit-out furniture that has a reduced environmental impact when compared to available alternatives.	8	6
Int-Mat-3	Assemblies	To recognise the selection of fit-out assemblies that have a reduced environmental impact when compared to available alternatives.	8	6
Int-Mat-4	Flooring	To recognise the selection of flooring that has a reduced environmental impact when compared to available alternatives.	6	5
Int-Mat-5	Wall coverings	To recognise the selection of wall coverings that have a reduced environmental impact when compared to available alternatives.	3	3
Int-Mat-6	Local Sourcing	To encourage and recognise the environmental advantages gained, in the form of reduced transportation emissions, by using materials and products that are sourced within close proximity to the site.	2	2
Int-Mat-7	Sundries Materials Sourcing	To recognise the selection of fitout finishes that have a reduced environmental impact when compared to available alternatives through responsible manufacturing, product stewardship and resource efficient design.	1	1
Materials credits			30	25
Land Use and Ecology Category				
Int-Eco-1	Site selection	To recognise and reward a tenant for selecting their space in a building that reduces their environmental impact due to the building's base building design attributes.	4	1
Land use and Ecology credits			4	1
Emissions Category				
Int-Emi-1	Impacts from refrigerants and insulants	To encourage and recognise developments that minimise light pollution into the night sky.	3	1
Int-Emi-2	Light Pollution	To encourage and recognise the avoidance of substances that contribute to the deterioration and long-term alteration of the Earth's atmosphere.	1.5	1.5
Emissions credits			4.5	2.5
Innovation Category				
Int-Inn-1	Innovative Strategies & Technologies	To encourage and recognise pioneering initiatives in sustainable design, process or advocacy.		4
Int-Inn-2	Exceeding Green Star SA Benchmarks	To encourage and recognise projects that achieve environmental benefits in excess of the current Green Star SA benchmarks.		
Int-Inn-3	Environmental Design Initiatives	To encourage and recognise sustainable building initiatives that are currently outside of the scope of this Green Star SA rating tool but which have a substantial or significant environmental benefit.		2
Innovation credits			10	6
		TOTAL POINTS AVAILABLE	100	83.5

Table 5.5.2: GreenStar rating

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5.6 CONCLUSION

The programme and all of its interventions were developed, with a focus on the identified sustainable approaches and principles.

The final general layout as well as a ceiling layout showcases the various movements and articulations. Various drawings and perspectives furthermore explained the intended concepts, specifications and joinery details of the spatial interventions. The views and details were identified as: the kitchen interface, the indoor farming area, interaction platform and the seating configurations.

Together with the detailed design development, the materials, finishes, lighting strategies, equipment and frameworks for the operation of the programme were specified.

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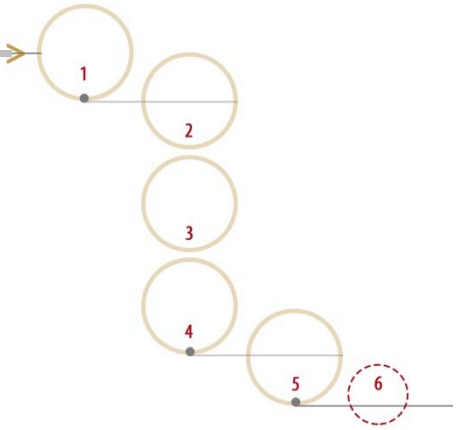
CHAPTER 6

CONCLUSION



"Nature holds the key to our aesthetic, intellectual, cognitive and even spiritual satisfaction"

Dr. Edward O. Wilson, American environmentalist and researcher.

Chapter six is a conclusion to this dissertation. It commences by giving an overview of the study. The identified problems, aims, objectives and theoretical investigations are contextualized within a programme and context. The overview furthermore addresses the main theoretical ventures, their spatial intention and the design development. The areas of focus in the dissertation are also specified together with the dissertations significant contribution towards the discipline of interior design. As an outcome of the dissertation, a number of interior design principles and strategies which encourage sustainable living are expressed. Lastly, recommendations for further design iterations and studies are stated.

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6.1
OVERVIEW OF THE STUDY

This dissertation addressed two aspects which is that of sustainable living and the creation of influential experiences within interior environments. This problem and approach originated out of a concern with healthy living and sustainable environments within the social context of the restaurant industry. Theoretical undertakings with regards to a redefinition of food, the eating process and sustainable living practices, developed a conceptual restaurant approach named, *the Inside*, which defined attributes for creating an eating experience. The programme was specifically placed within the urban context of the Maboneng precinct, Johannesburg CBD, as it holistically address the problem with the notion of urban farming. It furthermore developed a holistic retail concept, brand and interior environment identity based on sustainable principles. With the implementation of various design concepts, iterations and principles, it is established that sustainable living can indeed be encouraged within and through our interior environments.

The design development focussed on four areas namely, the kitchen interface, the seating configurations, the interaction platform and indoor farming systems. All of these areas focussed on sustainable and experiential principles, which was based on the event ontology philosophy by Alfred North Whitehead (1978). It establishes a process oriented view, where objects such as food or an interior environment, does not merely exist. This concept linked to the trending farm-to-table concept, and how the farming process will be accessible in an interior environment. It developed a transparent spatial quality which exposes all the processes of growing fresh produce, consumption and waste within the restaurant kitchen and seating areas. It deliberately encouraged user interaction with the eating process. It influenced sustainable material choices, joinery and adaptable qualities, such as the innovative material joining detail and elements with Xanita x-board.

A significant contribution of this dissertation is the establishment of guidelines and the meaning for experiential design, contextualised within the interior discipline. Theoretical principles and specific spatial strategies are defined for the design process. The meaning of an interior experience consists of two aspects, considering both the principles of user experience and experience design. User experience outlines the specific emphasis on how to create and consider specific psychological needs, behaviours, habits and patterns of the occupants. Experiential design on the other hand views an interior as a story, an intangible spatial journey with a series of interactions and sensory explorations, narrated by the designer. In creating various spatial experiences and meanings, the process oriented view concept will be realized.

It is established that the way users live is directly linked to their interactions, dominantly visual and touch, within their interior environments. As interior designers it is necessary to address and educate the matters of sustainability, by creating an influential and experiential memory for the user to attain.

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6.2 OUTCOMES

It is established that a number of interior design principles and strategies does encourage sustainable living:

- The designer must create an intentional design concept and environment which is set in and around sustainable principles, considering aspects such as materiality, electrical approaches and recycling systems. The design is formulated as an integrated whole of sustainable principles, which will holistically encourage this way of living.

- The users must interact with the interior and its various processes, elements and products. It is furthermore established that the senses of touch and vision engage users the most in order to adapt the message of the interaction.

- The users must be connected to various phases of the interior processes. This is achieved by transcending the boundaries and thresholds within the interior to make more of the concealed spaces visible.

- An educational value added to the interior makes the experience more significant than just merely functional.

- Sustainable living is suggested within the forms and frameworks of the interior. The perceptions of the forms are intangible qualities such as: growth or growing elements, community involvement and education on seasonality and local productions.

- The experience must be regenerative to be sustained and internalized by users.

6.3 CONTRIBUTIONS

This dissertation made the following contributions towards the discipline of interior design:

- The design of the proposed programme introduced integrated farming systems within the interior environment. These indoor farming systems connect the users to the production phase of the eating process, referring to “the farm”. It aims to make this process accessible to the occupants within the space.

- Sustainable attributes are attained with the various designed interior experiences, movements, views, sensory and spatial interactions. The design elements and details aim to educate the users on sustainable concepts, principles and materiality.

- The dissertation attributes experiential design guidelines and the implementation of a process oriented view in interior environments. It significantly contributes towards sustainable notions and practices within the discipline of interior design.

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6.4 RECOMMENDATIONS

The design allows for further iterations and studies such as:

- This dissertation must be seen as a baseline study for the implementation of urban farming within an interior environment. Integrated farming systems and its detailing can be further developed and implemented within other interior environments and programmes.

- The proposed urban framework for community integration and regeneration as well as the proposed programmatic sutainable systems (water, waste, produce supplies and production) should be further developed and technified.

- There is an opportunity for a design investigation and programme which specifically adddress the problem of food security in urban environments.

- Further interior design ventures will be the exploration of sesonsory specific eating concepts within the proposed programme or the development of the proposed roll-out retail stores. The programmes must build on sustainable development concepts and implement the established experiential design strategies.

6.5 CONCLUSION

As conclusion to this dissertation and an overview of the study is given. It highlights the departure point, problem statement, aims, objectives, intentions, theories, spatial development and qualities of the *Green (Inside)* dissertation. It is established that the way users live is directly linked to their interactions within their interior environments. It also specifically states the established guidelines for experiential design, achieved by the dissertation investigation. The various outcomes, contributions and recommentations for futher studies conclude this study.

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APPENDIX A
EXPLORATION OF THE LAYOUT

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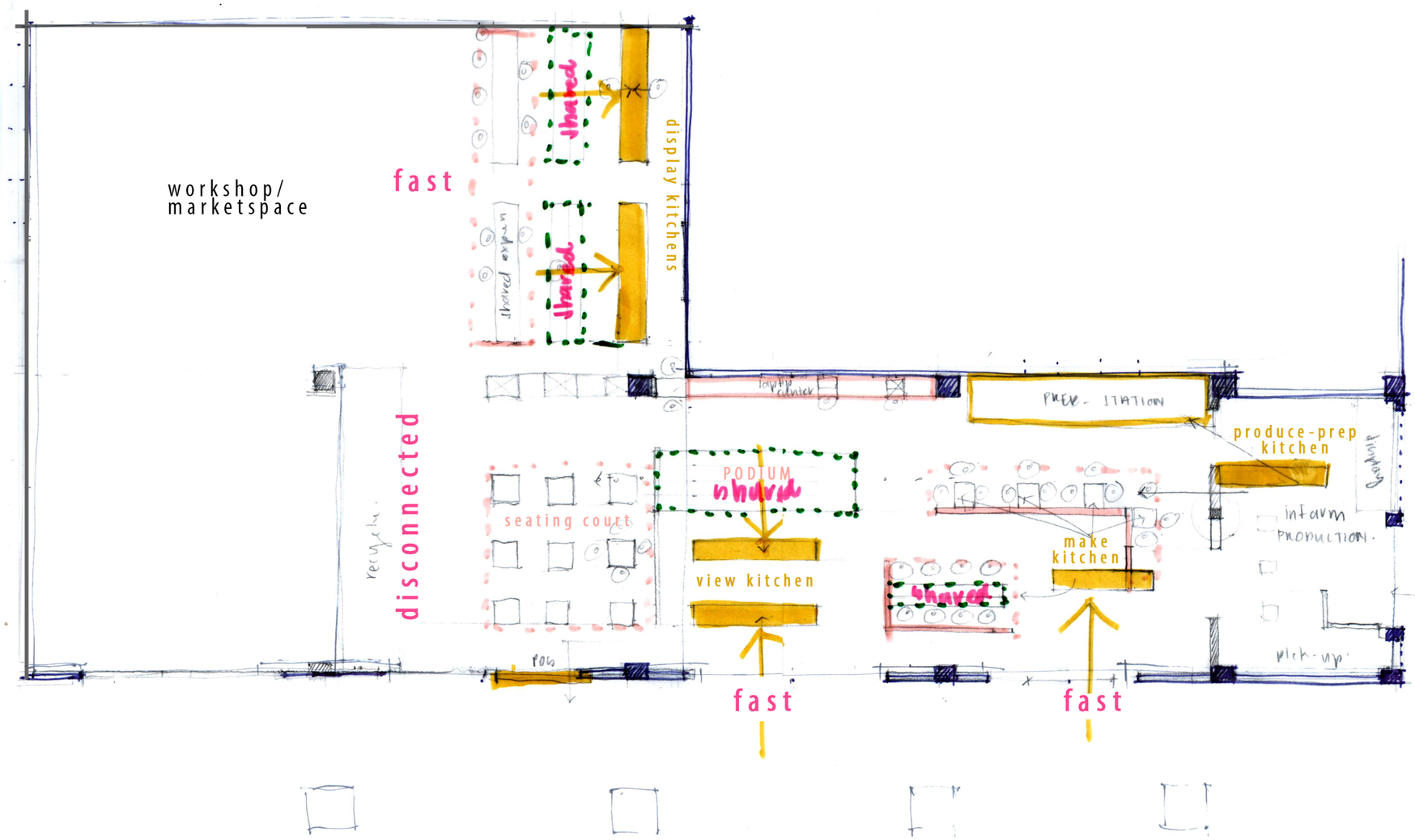

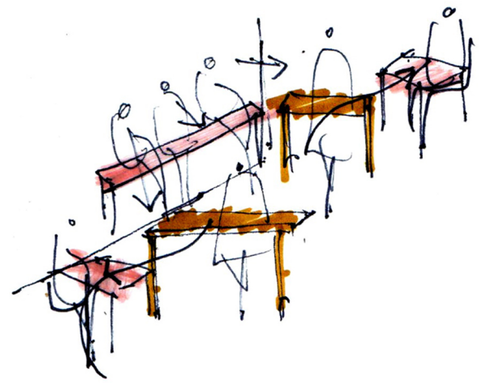

In this layout a frequent flow of the production to consumption process is practiced to be witnessed by the users. This constant exposure involves the users, but creates a complicated interior.

There are multiple movements and no demarcation of zones or connections. The movements are fast paced in their directionality.

Another aspect is the lack of the last process of disposal.

multiple kitchens

VARIOUS ACTIVITIES

Diagram 4.4.2.1 (A)

A1

4.4.2.1 (A)

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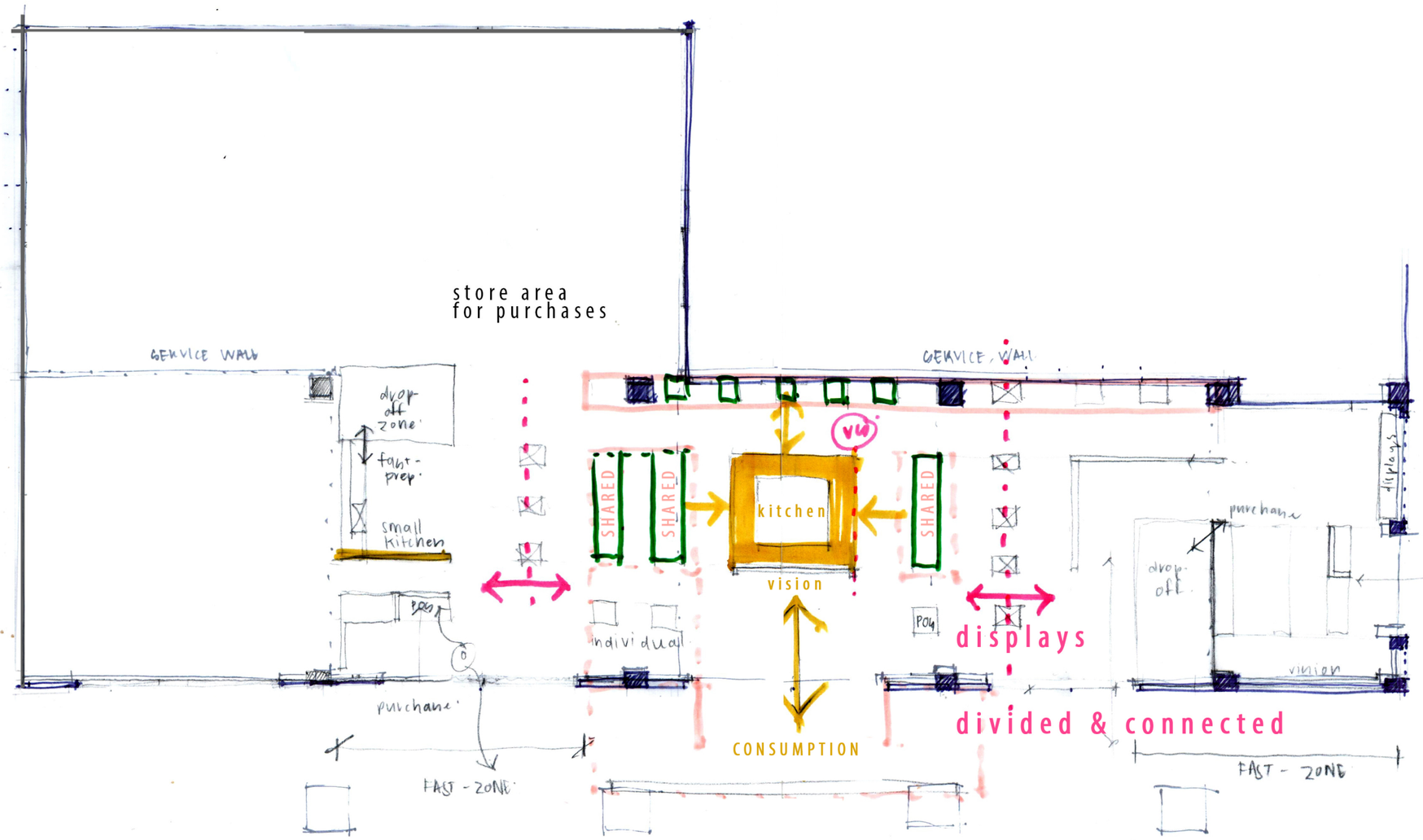

The central kitchen creates a focus on the process of making. Shared seating is applied around the kitchen to further emphasize the process.

The zone is proposed to be divided but also connected through displays. This result into empty interior areas if only the kitchen zone is occupied.

To conclude, this layout is too static and the seating lack in quantity.

central kitchen

THE FOCUS ON CONSUMPTION

Diagram 4.4.2.1 (B)

A2

4.4.2.1 (B)

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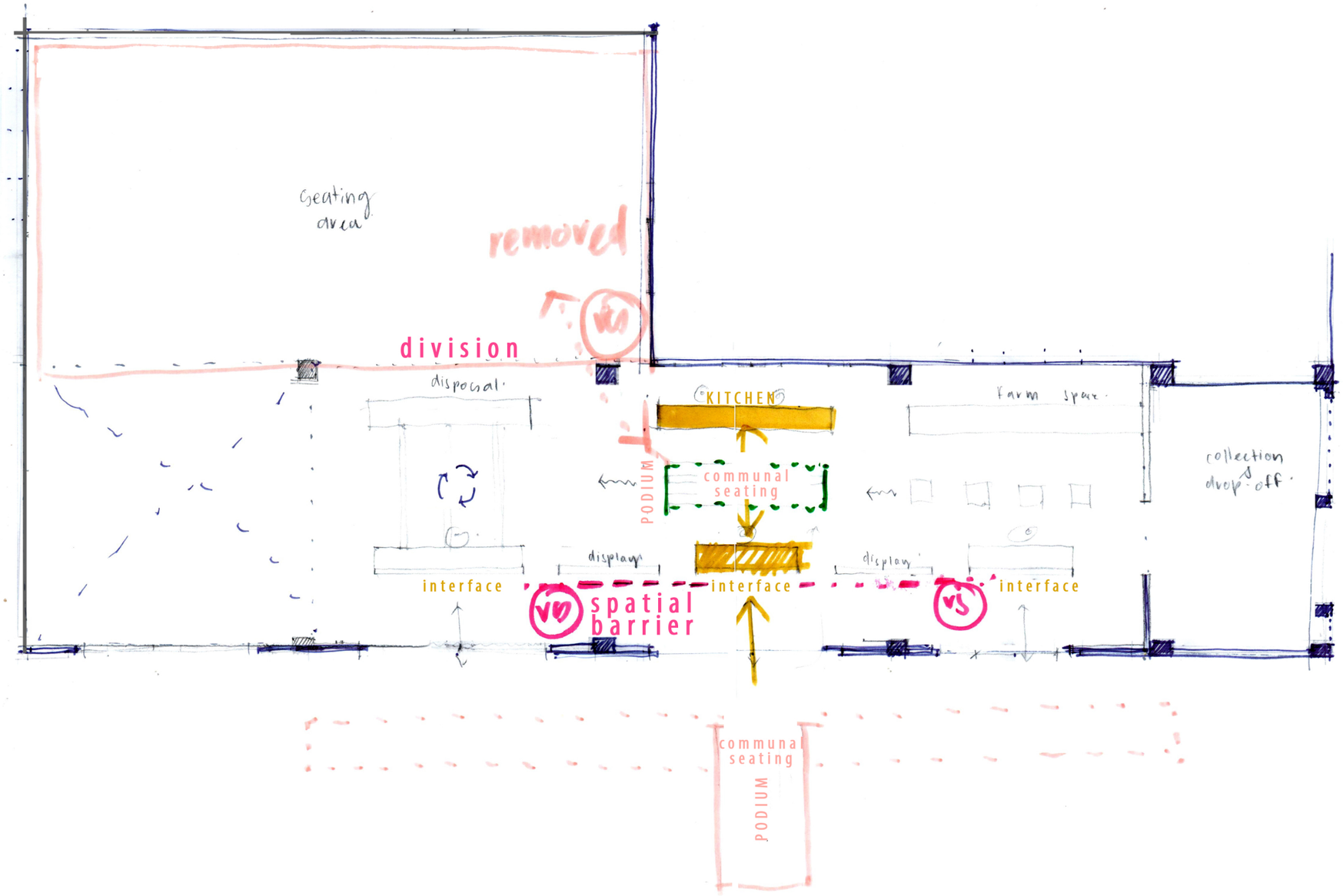

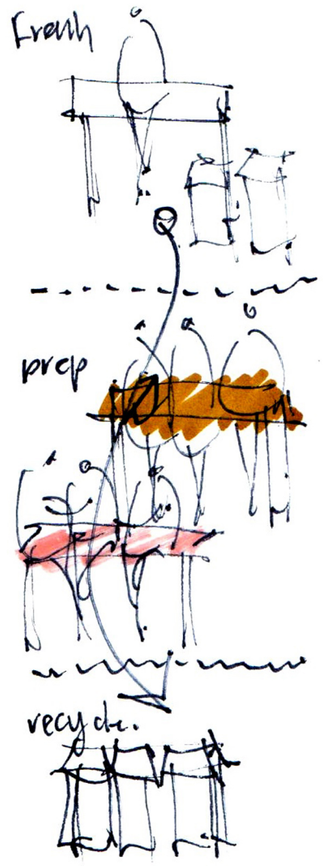

By implementing 3 nodes for users to go through in the interior, directionality (flow) of the processes is witnessed.

Contrasting this quality, the placement of the interfaces creates spatial barriers which conflicts the movement.

In this iteration the seating is also removed from the process which divides the users from the process.

3 nodes

DIRECTIONAL ACTIVITY

Diagram 4.4.2.1 (C)

A3

4.4.2.1 (C)

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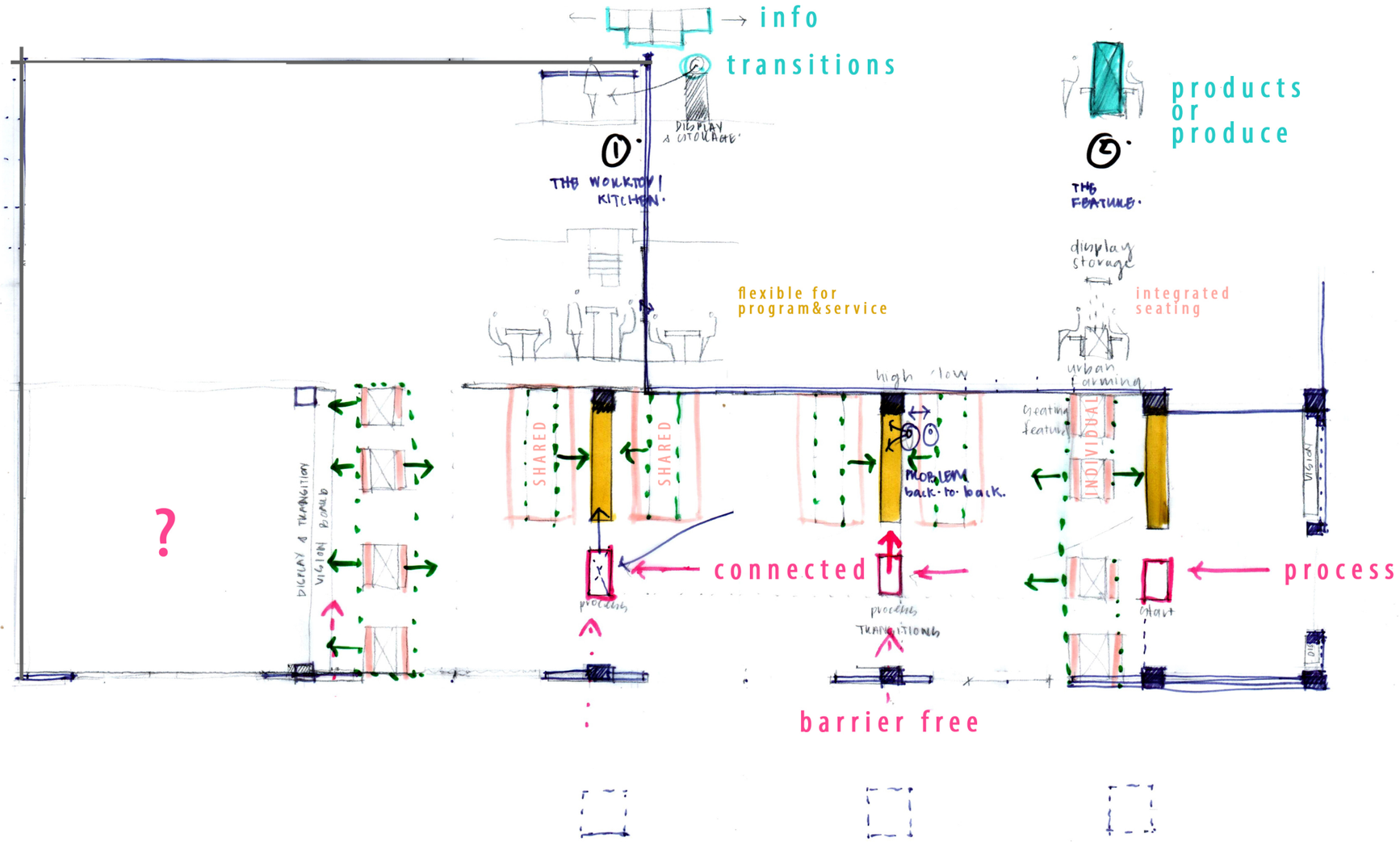

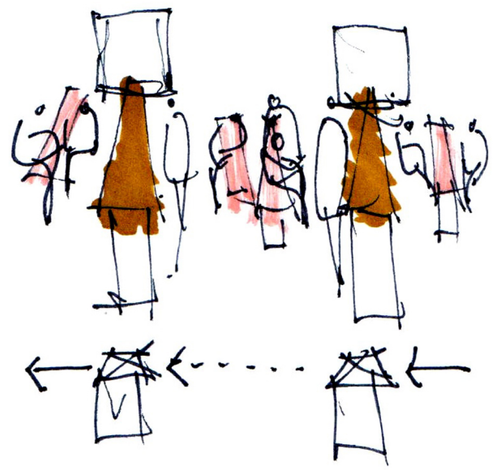

This layout implemented a flexible worktop. It lends itself to a process oriented view by suggesting transitional spaces/installation between them.

It also implemented integrated seating features around the worktop zones to make it a part of the process.

This layout connects the concept but lacks in practicalities, not considering spaces for pre-prep, prep and deliveries.

2 systems

THE WORKTOP & THE FEAUTURE

Diagram 4.4.2.1 (D)

A4

4.4.2.1 (D)

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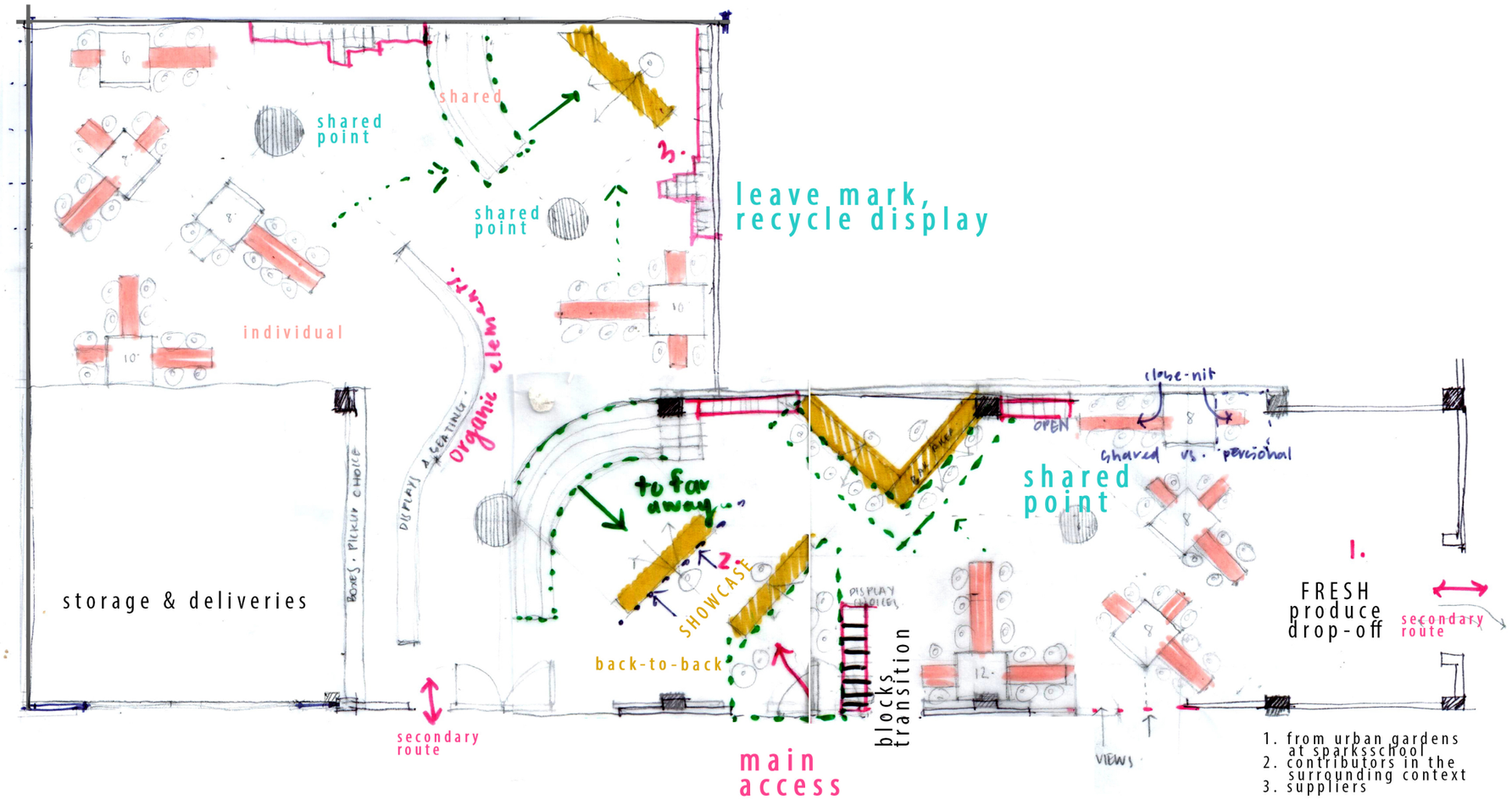

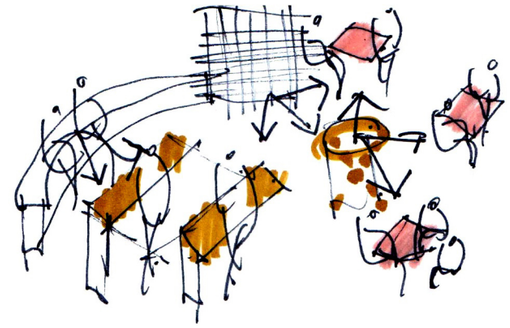

This iteration implements centrally placed shared points. Seating areas will be structured around these points. It encourages user engagement whilst going through the transitions of the space.

A valuable exploration is the idea of the kitchen. It resembles a stage for the food process to be showcased on. A supplemental secondary "bar" interface was also implemented next to the kitchen.

The movement of the user is considered. Organic curved seating and display elements make the movement less static and linear. Main and secondary access points are defined. The idea of the produce zone is also defined.

Various negative aspects occur. The layout disconnects the 3 processes. The kitchen areas are not grouped. Back of house was not considered.

sharing structure

NODES SUPPORTING THE STORY

Diagram 4.4.2.2 (A)

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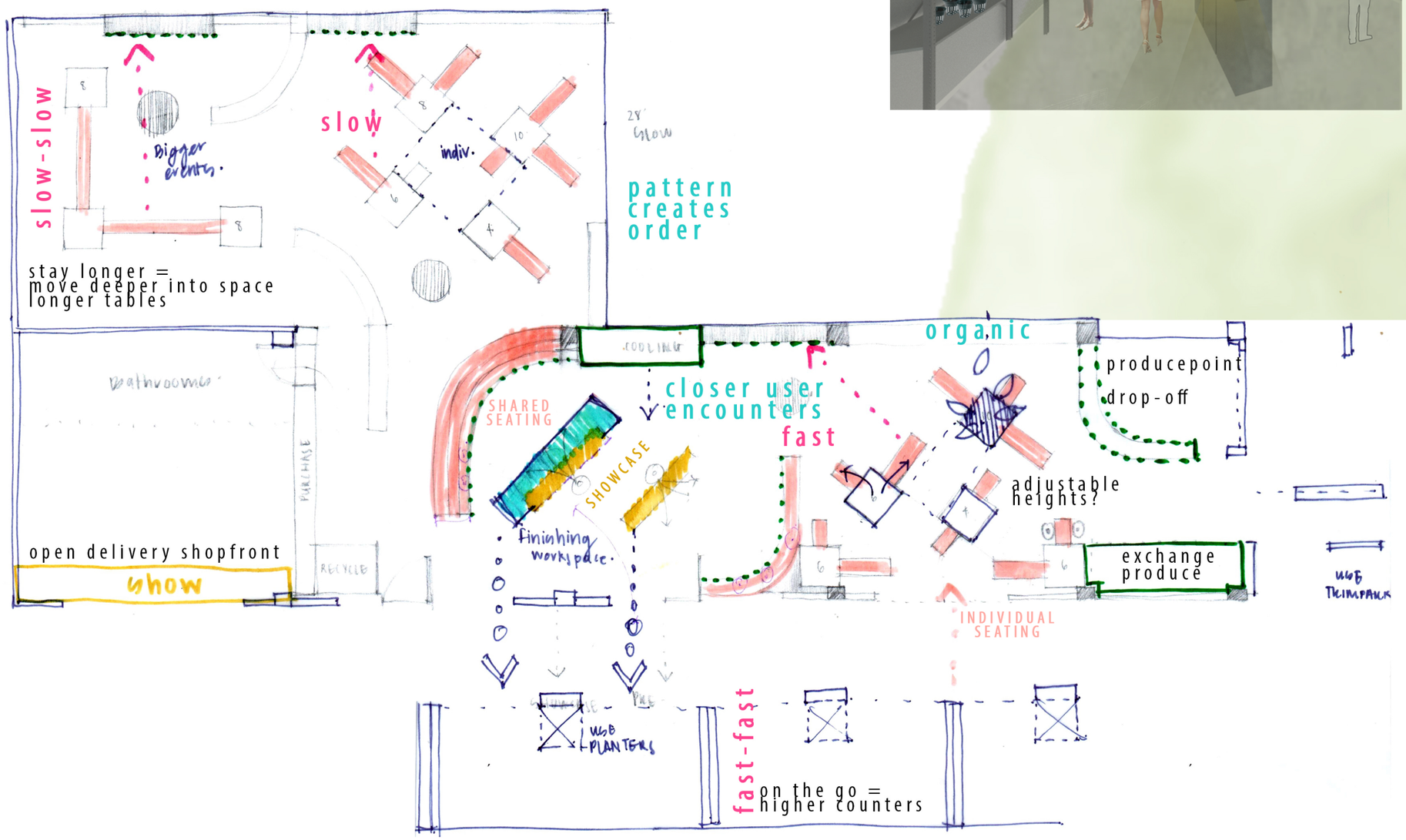

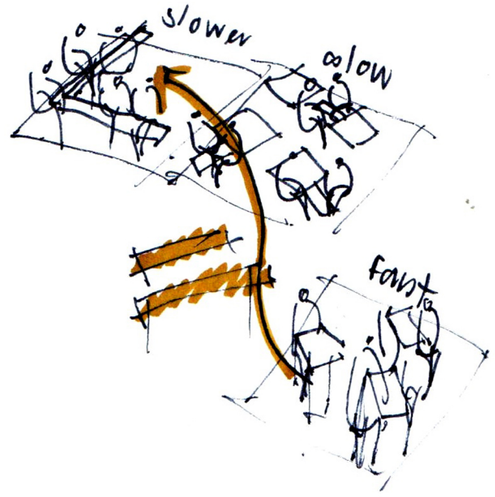

More organic elements are introduced in the form of indoor urban farms. These implementations create more user encounters with the spatial concept of people involved in the growing aspect of food. Playing on the aspect of growing, the implementation of patterns in the layout of the seating creates order. It allows for spatial demarcations, each assigned with various "seating speeds".

Use of the last shopfront as a display space.

Although the kitchen and prep-spaces are visible, it is still too little to meet the requirements and too far removed from the users.

seated to speed

DEMARCATED MOVEMENT ZONES

Diagram 4.4.2.2 (B)

4.4.2.2 (B)

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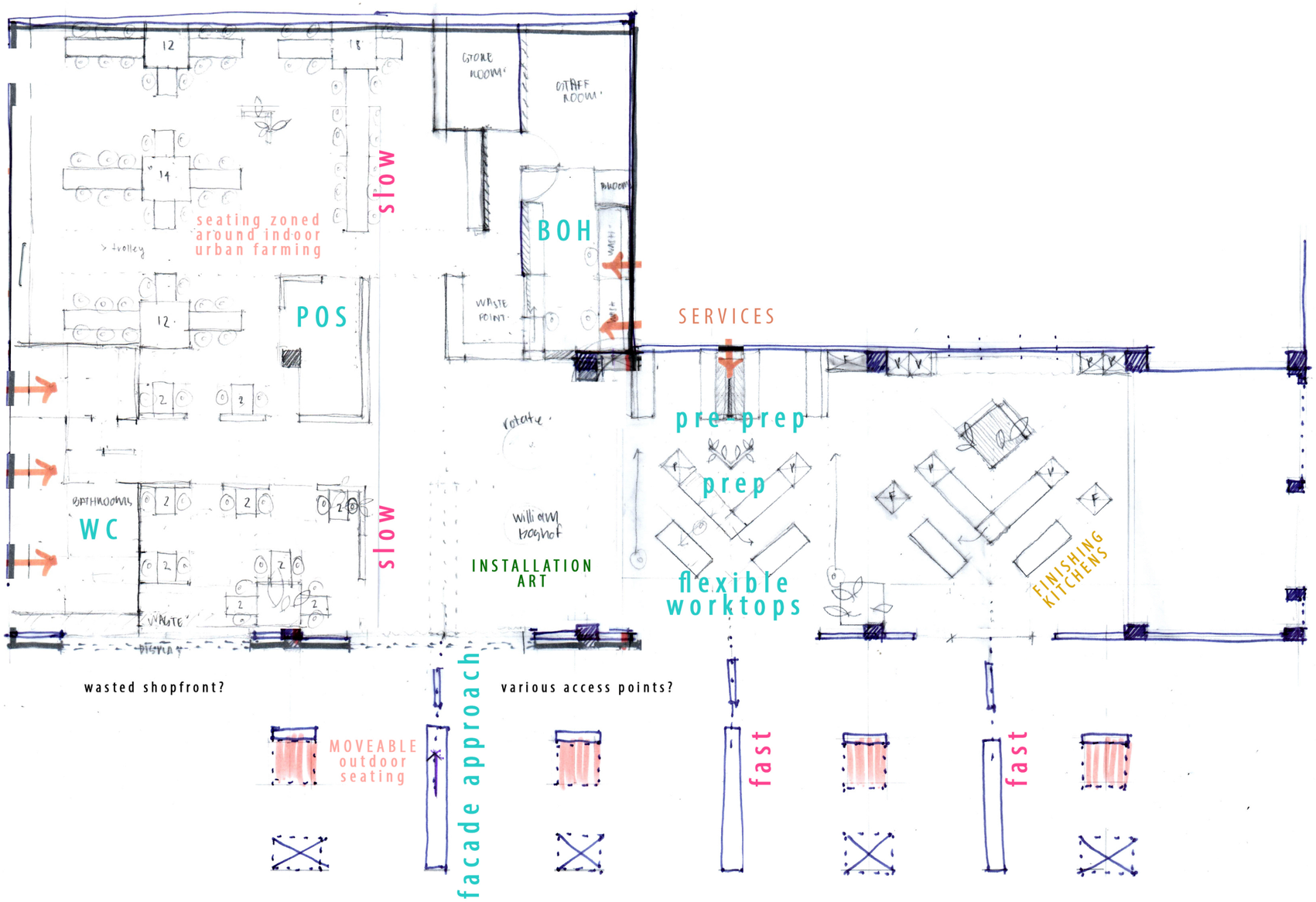

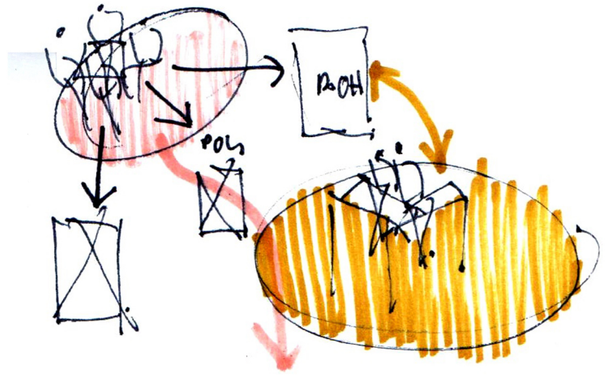

A more detailed approach is taken towards the layout. Various table sizes are organized and integrated with the urban farming systems. The concept for a finishing kitchen is explored. It defines the kitchen as a series of pre-prep, prep and finishing worktops. Together with this specification, specific sizes and groupings of certain functions according to commercial requirements are applied.

In addition, a point of sales, back of house and ablutions are added. In this layout the seating is placed in a defined area. A valuable approach is also the integration of the urban façade, to emphasize the intervention and lure the users in from the outside. A central point for an experience in the form of installation art is proposed.

The access into the interior and the movement within is still un-directional. This can be explored through wayfinding principles or with specific access points.

technicalities

REQUIREMENTS & CONCEPT

Diagram 4.4.2.2 (C)

4.4.2.2 (C)

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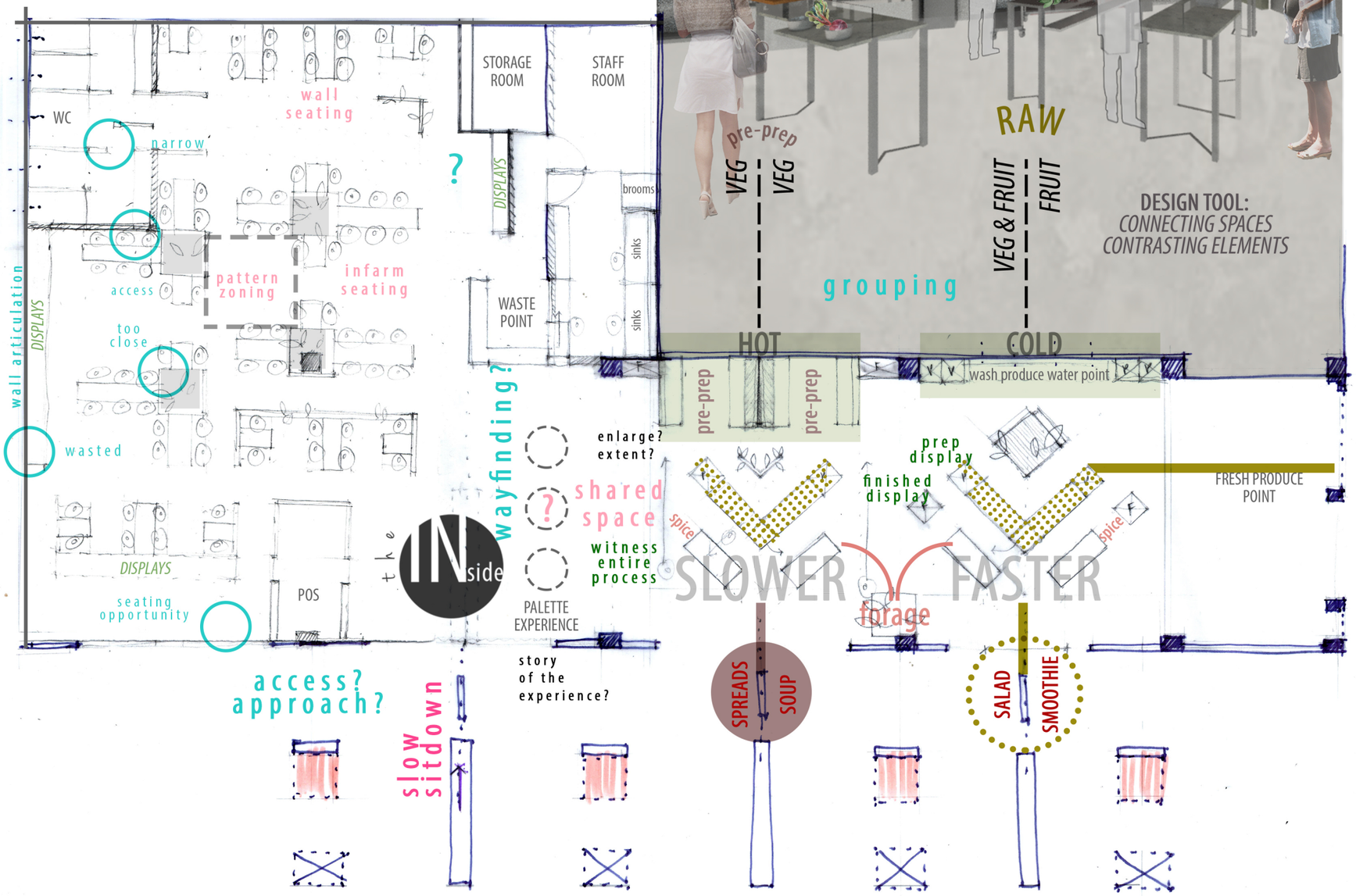
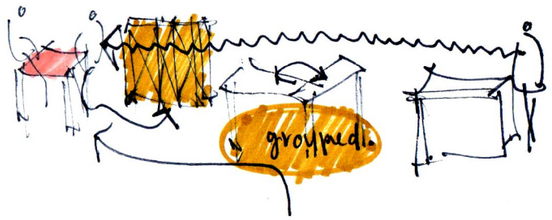
explore different types of seating: consider loose chairs





The menu design for the intervention was established (refer to 4.2.2). It was necessary to determine the style of the operation in order to define the spatial requirements and grouping. Clarity from the menu led to the adjustment of the layout to fit the programme's different needs. The finishing tables are also grouped according to similarities.

With specific focus on materiality of the worktops, the exploration of transparent qualities will create interior views. The views will link the concept of farm-to-table (produce to consumption & waste) in a spatial manner. Applies access and views to the back of house.

The central point for an experience is explored further. It proposes three platforms for three conceptual experiences to take place on. Each platform will be a display, focussing on he three phases of the eating process.

Due to the linear nature of the layout the interior seems like a production line, which effects and weakens the quality of the experience. Various access points and interior routes exist. Wayfinding principles need consideration.

process orient view

MENU DESIGN APPLIED

Diagram 4.4.2.2 (D)

4.4.2.2 (D)

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APPENDIX B

XANITA X-BOARD

a natural fibre based composite board consisting of recycled kraft core sandwiched between printable white liners

PRODUCT RANGE

print

kraft

MDF

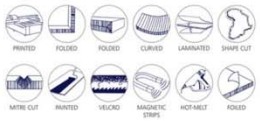
ATTRIBUTES

What is Xanita Board made of?

Xanita Print has a high crush strength paper core and is manufactured from post-consumer recycled paper and sugar cane waste. Specialised coatings and the selection of key raw materials ensure optimum board stability.

100 % upcycled
non-toxic
recyclable, repulpable, reusable
lightweight & load bearing
easily flatpacked
labour saving
versatile

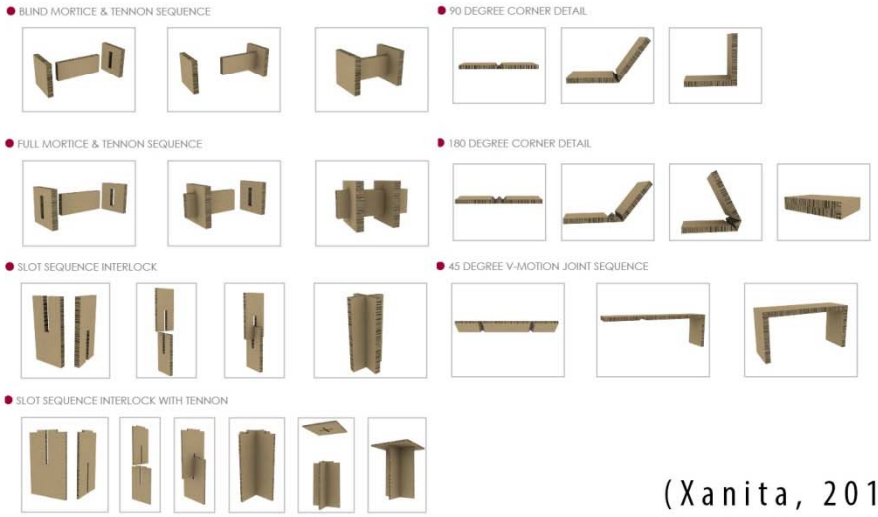
- Printed – UV inkjet or screen
- Upholstered
- Laminated
- Painted
- Pressed with decorative foils
- Mitre cut
- Shape cut
- Folded
- Curved
- Photo-mounted
- Fastened with Velcro, magnetic strips or hot-melt adhesive



APPLICATION

- Point of purchase displays
- In-store seasonal decorations
- Exhibition stands
- Pop-Up Shops
- Exhibition furniture
- 3D Lettering & signage
- Ceiling Beams and bulkheads
- Gondola ends
- Header boards
- Standees
- Podiums & Plinths

POSSIBILITIES: JOINERY & CRAFTMANSHIP



(Xanita, 2016)

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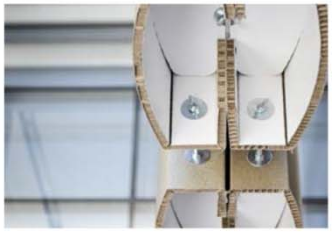
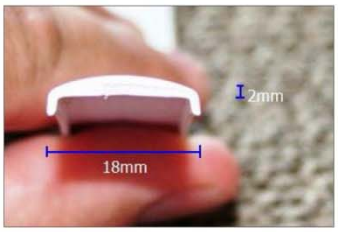
PROPOSED ACCESSORIES



The crafters will be supplied with the following accessories when developing the concept of the interaction platform



PVC Flexible "C" Section Edge Band

Semi-permanent structures.

Code: XAC-001
Description: Black or White 6mm, 8mm, 10mm, 12mm or 16mm
Minimum Quantity: 200m

Xanita PVC Screw

Semi-permanent structures.

Code: XAC-002
Description: Black, white or clear 52mm (long) 30mm (short)
Minimum Quantity: 1000 per type

Xanita PVC Screw Driver

For fastening and unfastening of PVC screws.

Code: XAC-003
Description: Black only
Minimum Quantity: 3

M6 Bolts + Wing Nuts & Washers

Attaching return sections of Xanita Board.

Code: XAC-008/1 | XAC-008/2 | XAC-008/3
Description: M6 Wing nut, M6 x 32mm washer/ M6 x 50mm galvanized hex.
Minimum Quantity: 100

Adjustable Gripple Hanger with Loop

For suspended structures.

Code: XAC-013
Description: No.2 Gripple with loop end & 5m cable.
Minimum Quantity: 20

M6 Eye Bolts

For suspended structures.

Code: XAC-014
Description: To fit M6 spring nut.
Minimum Quantity: 20

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PROPERTIES

Appearance
The surface of the material is free of blisters, foreign matter, marks, etc. The colour and finish is a commercially acceptable match to the customer approved master sample.

Printability
- Both sides show the same visual surface properties as well as print performance.
- Excellent printability: solvent screen, UV digital and screen.

Board Thickness
10mm, 16mm
Other thicknesses available on request.

Board Sizes
- 1220 x 1830mm
- 1220 x 2440mm
- 1220 x 3050mm

Special lengths available depending on quantity ordered. Up to 3600mm.

Stability
- Excellent rigidity and stability under indoor humidity and temperature fluctuations.
- Excellent condensate and moisture hold out under varying conditions.

Eco-friendly
- All components are classified as non-hazardous according to the EEC Hazard Classification.
- All components are not considered as chemical or biological hazards.
- No volatile carcinogenic decomposition.
- VOC (volatile organic compound) none to negligible—none less than 5 ppm
- X-Board Print is classified as fully repulpable in normal paper and pulping lines.

Fire Resistent
- DIN 4102 and SANS 10177 approved.
- No toxic fumes when burned.
- Non-explosive.
- Low fire load rating based on low calorific value when burning.

Converting Temperature
- Recommended application temperature range: 5° and 45°
- Recommended room temperature for CNC cutting: 21° ± 3°

Physical Properties

	Weight	Crush Strength ASTM C473 – 03	Flexural Strength ASTM C473 – 03
10mm	2,2 kg/m^2	90 ton/m^2	39 kg
16mm	2,4 kg/m^2	90 ton/m^2	55 kg

Climate Resistance

Test	Results
Low Temperature Resistance Exposure to -5° C for 48 hours.	No visible changes
High Temperature Resistance Exposure to 70° C for 48 hours	No visible changes
Humidity Resistance ASTM C473: Vertical exposure in humidity cabinet for 48 hours 90 % humidity and 40° C	No visible changes, deformation, warping, swelling or fungi growth.

reference

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Head Office Paardevlei, De Beers Avenue, Somerset West 7130, South Africa
P.O. Box 407, Somerset West 7129, South Africa

For your closest Xanita Board accesories supplier, please contact one of our overseas distribution partners at **xanita.com/distributors/**

Xanita, 2016. Xanita. [Online]
Available at: http://xanita.com/#
[Accessed 12 August 2016].

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APPENDIX C
GROWLIGHT SPECIFICATIONS

Lemnis
Greenhouse Lighting

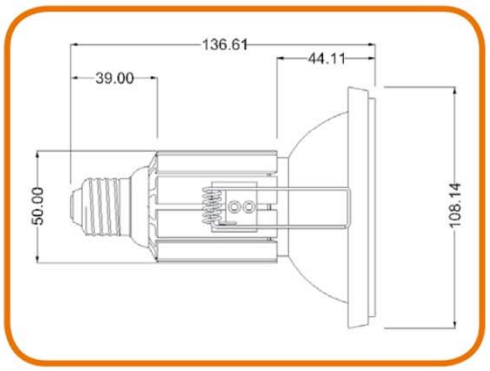
PROPERTIES

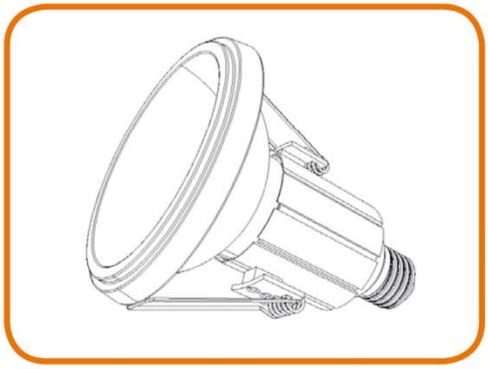
Lemnis Oreon Retrofit

Technical data		
Power consumption	12	W
Input voltage*	230 / 50 Hz 110 / 60 Hz	V
Input voltage range	150 – 260 80 – 140	V
Power factor	0,85	
Maximum ambient operating	0 – 45 °C / 85% RH	
Storage	0 – 60 °C/ 85% RH	
Life (L70)	50.000	hrs
Fixture*	E27 BC22 E26	
Reflector	Diffuse Brushed Aluminum	
Body	Anodized Aluminum	
Weight	300	g
Ingression Protection	IP 54	
Size	136.6 x 108.1	mm
Lamp package	115 x 115 x 140	mm
Certifications	CE UL EMC IEC 61000-3-2 EN 55015 NEN 60598 – NEN 62301	

* Customers choice at order

Color possibilities		
Lemnis Oreon Color	**Plant effect**	**Light output PPF (µmol/s)**
Deep Red	Growth	22 µmol/s
Far-red	Stretching	16 µmol/s
Optical specifications		
Radiation angle	120°	degrees





reference

Email correspondence:
NTL Lemnis South Afirca,
Francois van Tonder

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APPENDIX D
PERSONAL REFLECTION

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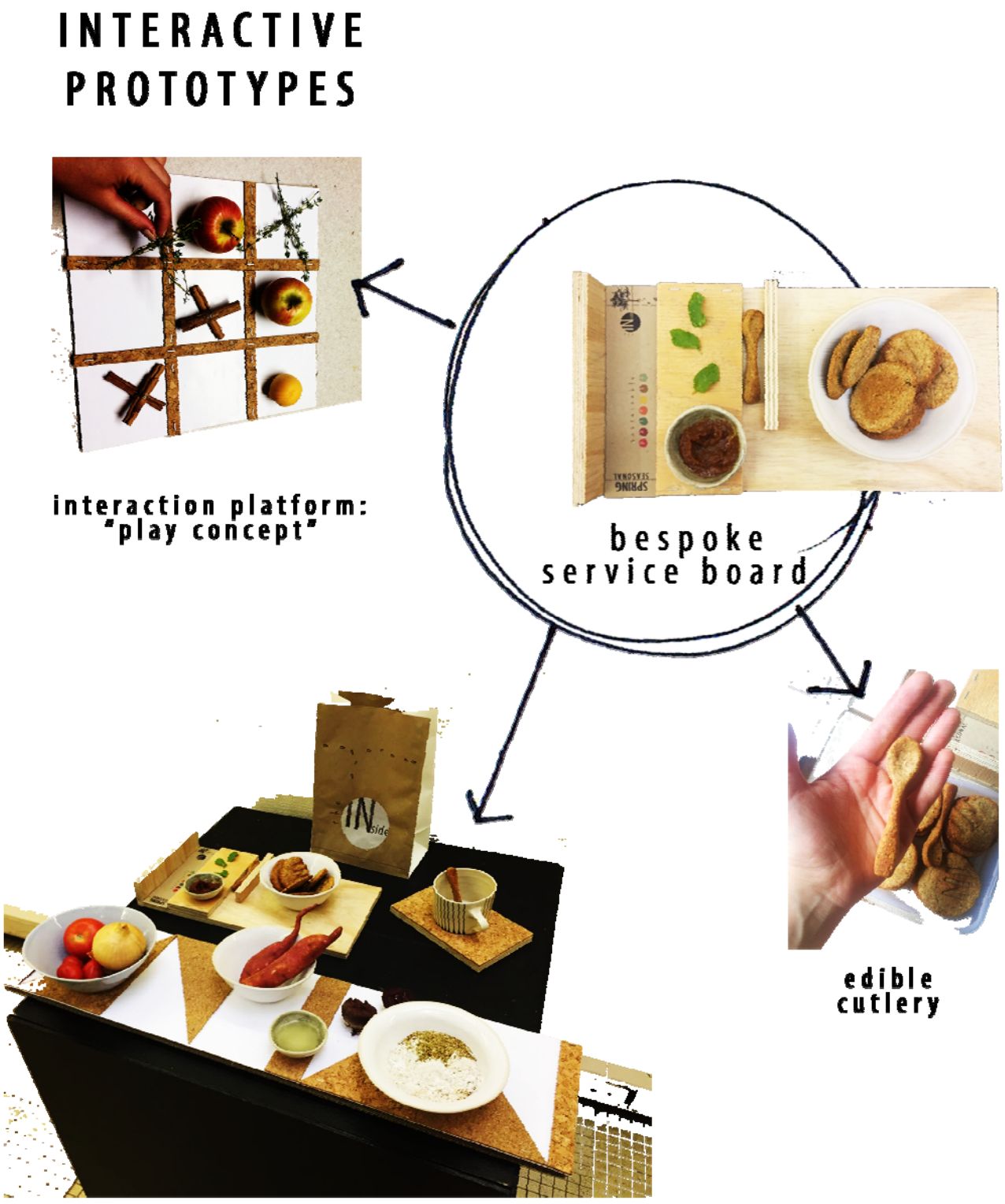
APPENDIX E
FINAL PROTOTYPES



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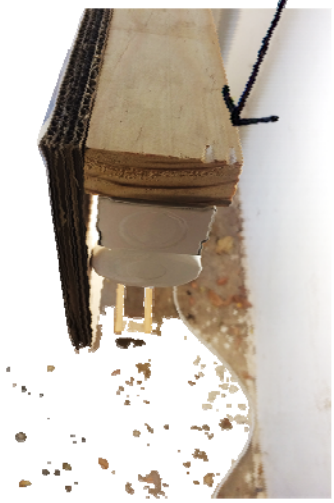
LIGHTING PROTOTYPES

concealed growlight detail

various strategies



concealed task lighting (kitchen interface)

mood lighting (seating)

E2

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