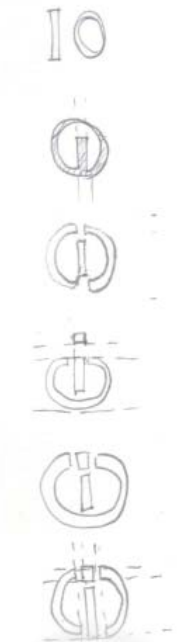
06 design development



ifi InsideOut Interiors Biennale 2013

activate

The chapter proposes a brand strategy and design synthesis for the IFI Interiors Biennale 2013 by applying the theoretical approach and design concept founded in previous chapters. The concept development process relied on a series of sketches, cardboard models, computer generated images and scaled prototypes.

6.1 BRANDING THE EVENT

Experience and perceptions create a platform for brands. Mitchell and Rudner (Gigli et al., 2007:69) argue that these perceptions are what drive the reality of brands in the minds of consumers and other target audiences. The IFI Interiors Biennale 2013 could serve as starting block to initiate a "rebranding of interior design to align the perception and reality of the profession" (Gigli et al. 2007:74).

Locker (2011:18) describes the exhibition stand in a commercial context as a three-dimensional expression of a brand. The stand could communicate through the stand itself and by means of virtual and paper-based material. She states that all the communicative material needs to be instantly recognisable as belonging to a particular brand image.

The proposed title of the IFI Interiors Biennale 2013,

InsideOut

relates to the normative position established in Chapter 2. The inaugural theme will be:

Celebration of the Found Space

According to Linden and Creighton (2010:25), the theme selected by the would-be host city for the event is particularly relevant to an issue of global significance. The theme, Celebration of the Found Space, comments on the global condition of urban sprawl. It suggests rather a re-use and re-inventing of the existing built infrastructure and spaces.

6.1.1 THE BRANDMARK

A logo or brandmark is a graphically designed symbol that identifies the brand at a glance. It is an essential tool for fusing different types of two- and three-dimensional brand materials together, but more importantly, connecting the user directly to the brand.

a

b

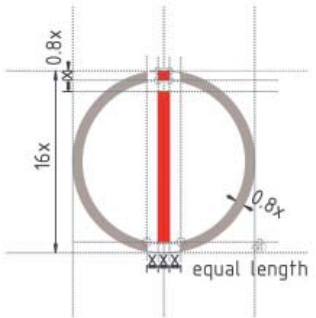
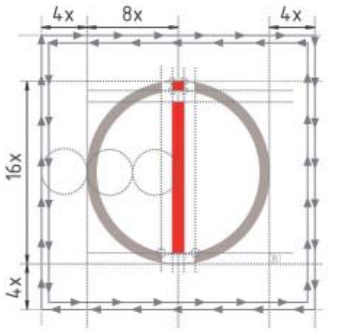


FIGURE 6.1 (a-c) IFI InsideOut Interiors Biennale logo

6.1.2 PROTECTING THE INTEGRITY OF THE BRANDMARK

With some clear space

c



And careful colour management

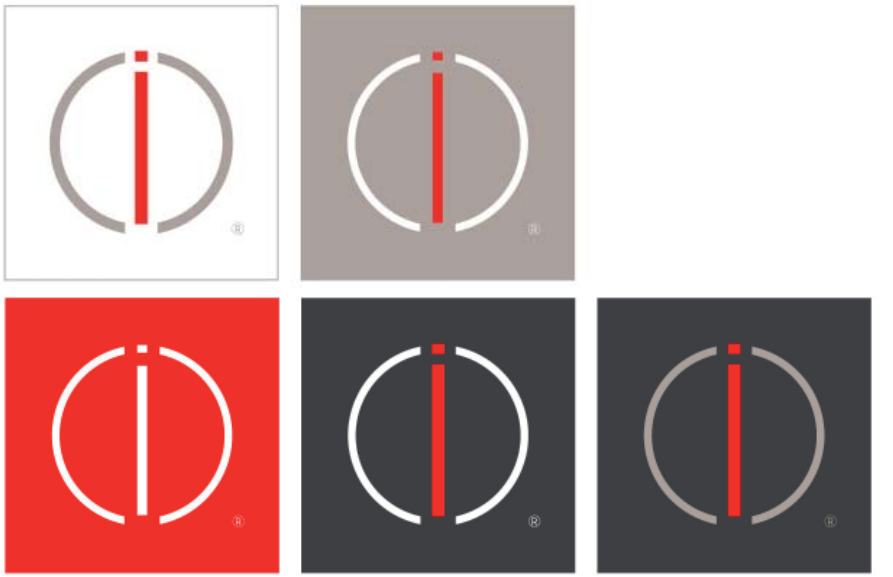


FIGURE 6.2 IFI InsideOut Interiors Biennale logo: colour management

6.1.3 CROPPING THE BRANDMARK

FIGURE 6.3 IFI InsideOut Interiors Biennale logo: cropping

Cropping the ends, but still obviously the brandmark.

Use the brandmark as a cropped graphic, but only with the full brandmark represented.

6.1.4 MULTIPLYING THE BRANDMARK

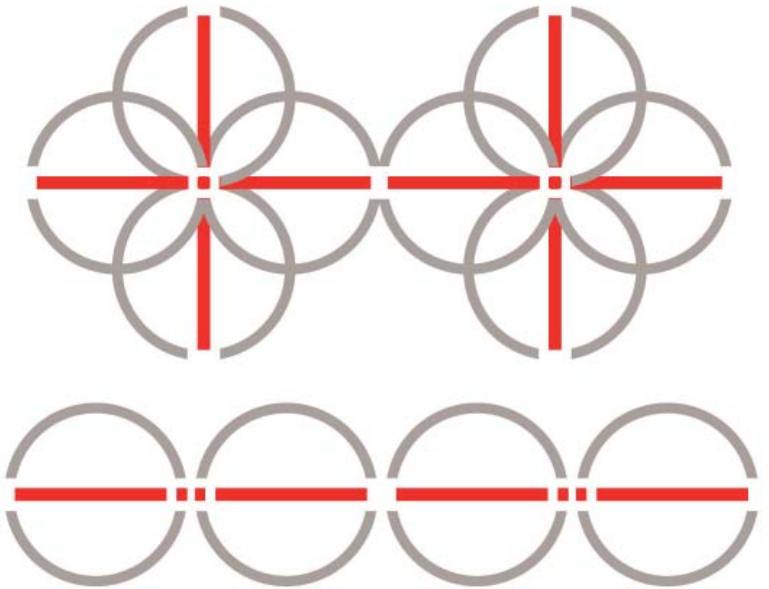


FIGURE 6.4 IFI InsideOut Interiors Biennale logo: multiplying

Use the pattern graphic with discretion and only with the full brandmark represented.

6.1.5 COLOURS USED

PANTONE UNIVERSE
Red 032 C

PANTONE UNIVERSE
Warm Gray 6 M

PANTONE UNIVERSE
19-4305 TPX

6.1.6 TYPOGRAPHY

Use Isocpeur for printed and electronic elements.

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn

Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz

6.1.7 APPLYING THE BRAND TO THE IFI INTERIORS DECLARATION

The design brief has already established that the IFI Interiors installation will manifest the seven core principals stated in the IFI Interiors Declaration.

Relevance

Knowledge

Culture

Business

Responsibility

Value

Identity

The principals as stated in the IFI Declaration (above) are generic terms applied to the interiors discipline. When these values are translated into interior design(er) manifestos they are better able to convey spatially the qualities of the IFI Declaration.

Interior design(er) manifestos:

a

FIGURE 6.5 IFI InsideOut Interiors Biennale sub-brands (a, b)

6.1.8 SUB-BRAND BRANDMARKS

b

Spacing between brandmark and sub-brand indicated by circular spacers above; determined by size of brandmark used.

Product Application:

FIGURE 6.6 insideOut brandmark application to assembly document

6.2 DESIGN PROPOSAL A: JUNE 2011

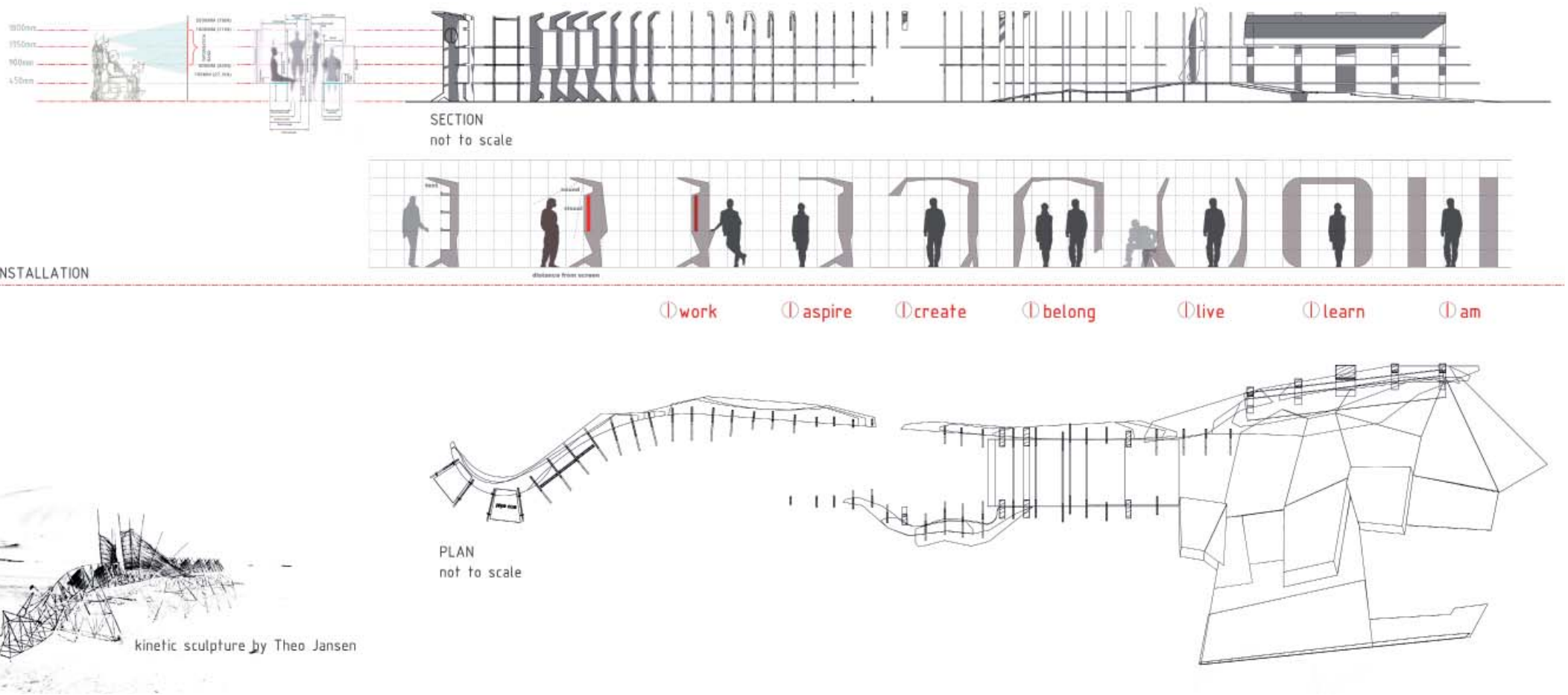
The following general arrangement plan for the SCC and IFI installation design proposal was presented in June 2011. This initial proposal will be subjected to the design concept and approach discussed in the previous chapter, as well as a spatial exploration of the container and iconic volumetric study to further inform the intuitive design of the seven principal spaces.

FIGURE 6.7 June 2011 general arrangement layout Exhibition 1, SCC

Information band heights:

The design of exhibition graphics requires careful organisation so that important information remains at heights accessible to the majority of visitors.

FIGURE 6.8 June 2011 IFI Installation proposal: section and plan



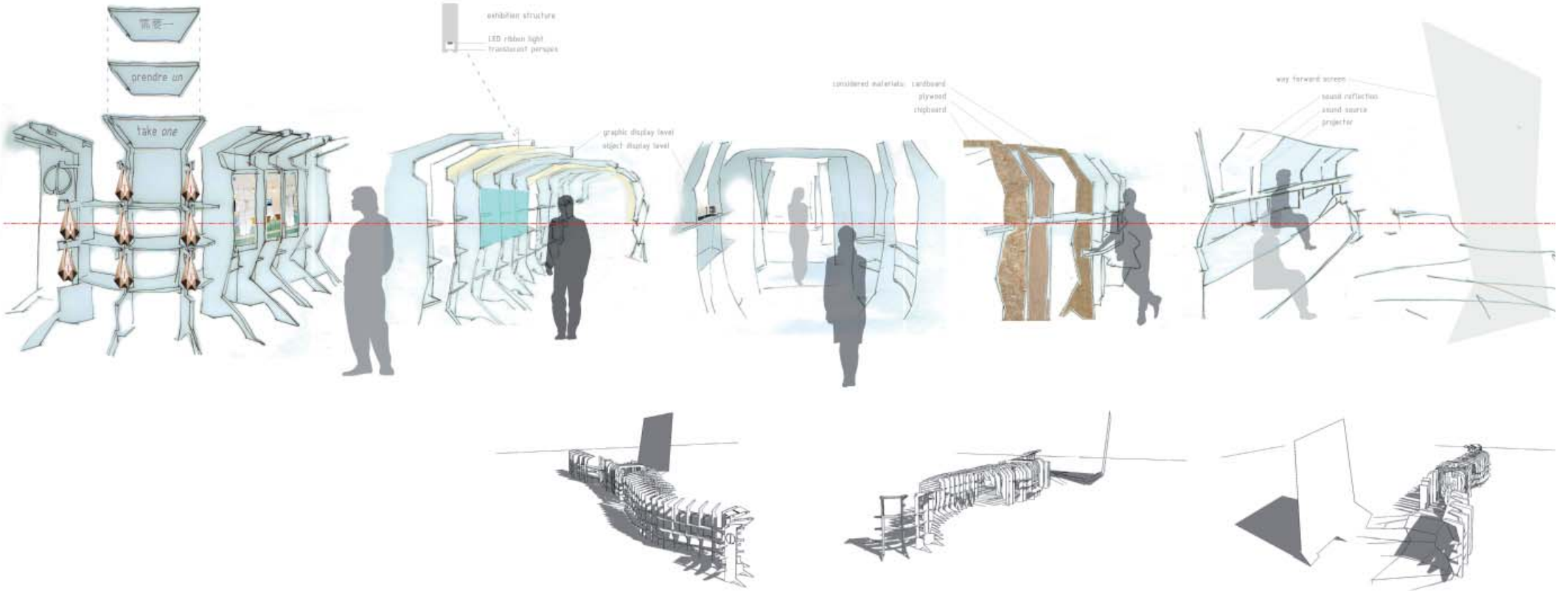


FIGURE 6.9 June 2011 IFI Installation proposal: 3D images

The installation design conveys the inside-out approach within the exhibition space, but requires a support system that allows the event to reach outside the venue. The 'Shift' system is designed to fulfil this function and serve as exhibition infrastructure throughout. The 'Shift' combines exhibition and ergonomic principles to create an adaptable secondary exhibition system.

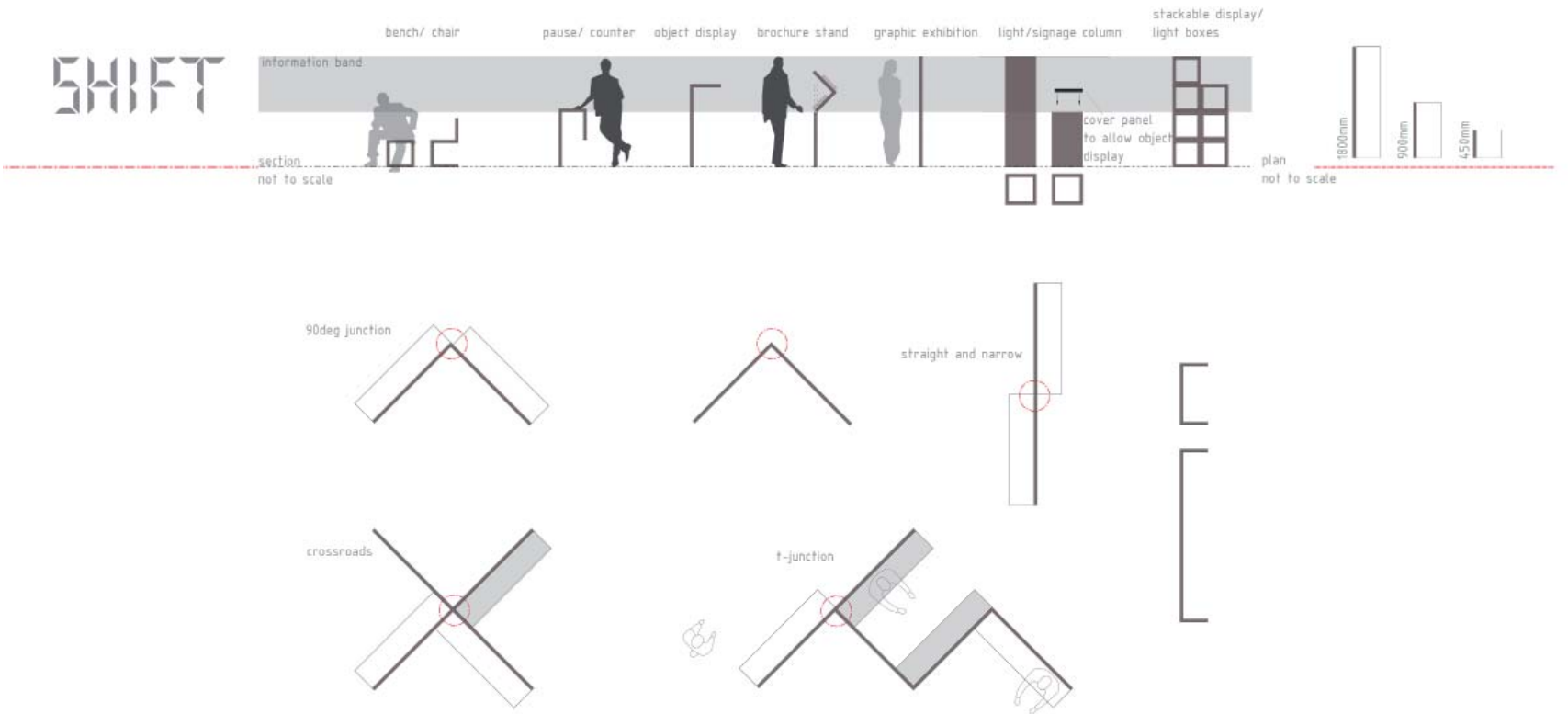


FIGURE 6.10 SHIFT: The supporting exhibition system

6.2.1 DESIGN PROPOSAL A: CRITIQUE

The June 2011 design proposal aimed to incorporate exhibition information principles, user ergonomics and a sense of movement. Whilst these aims were incorporated in the design, the footprint is inflexible. The installation requires the ability to adapt to different exhibition venues to ensure its success as travelling exhibition. The assembly of components is mostly set, unable to accommodate the curator's adaptation of the exhibition in different countries.

Although the panel sizes took into account the internal dimensions of the container, it did not fully utilise the available space. This will be further explored.

The 'Shift' would still be proposed as supporting exhibition system, but the IFI Installation as primary scheme will be explored and developed further.

6.3 DESIGN PROPOSAL B: FINAL

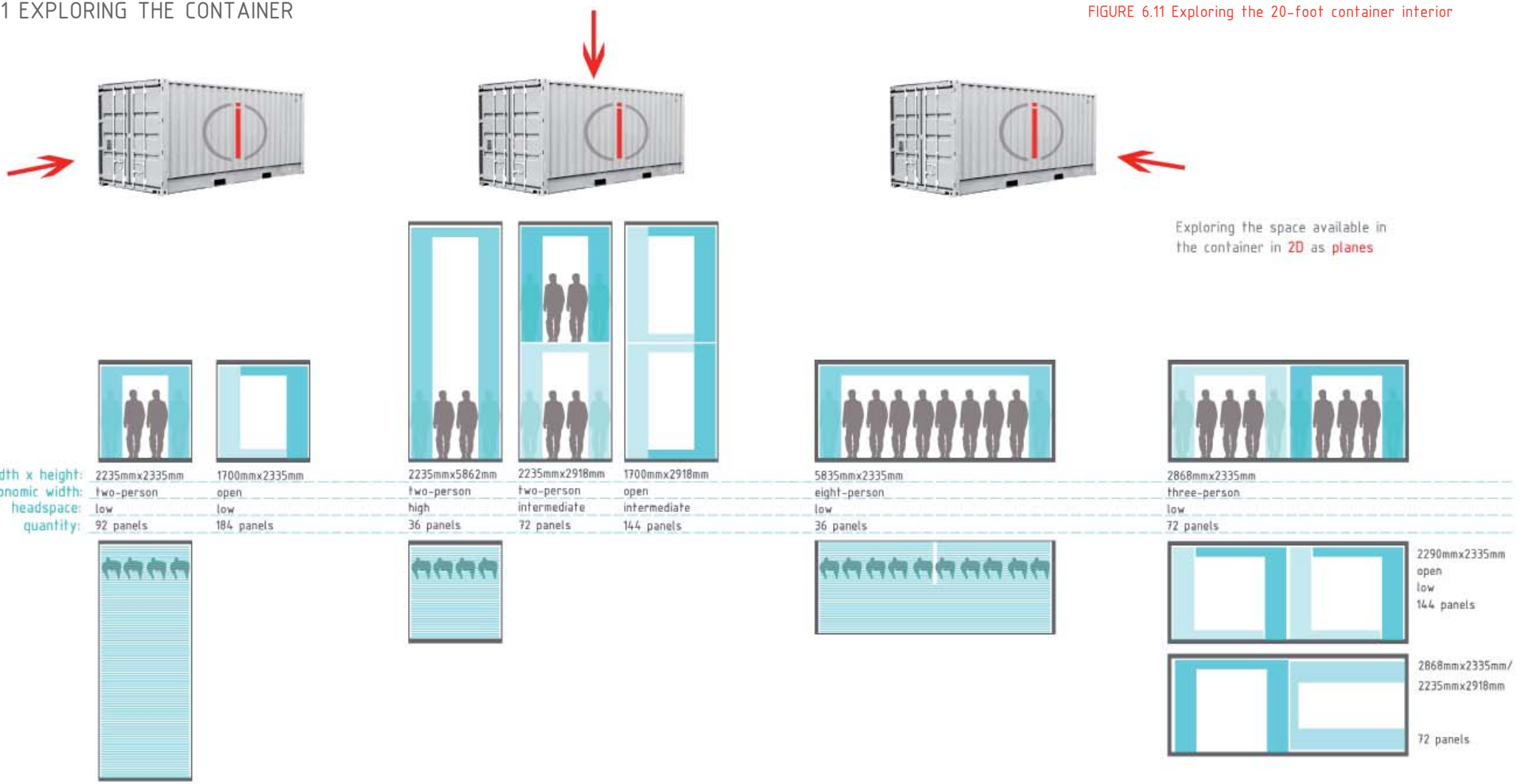
An adjustable installation system consisting of three design assemblies was developed as a reaction to the initial design and to evaluate its relevance within the established design and physical context.

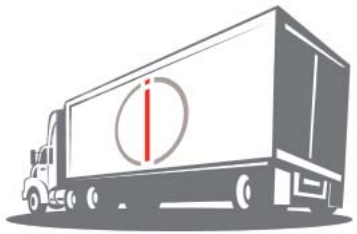
Both the client brief and travelling exhibition typology were established as primary design generators. The premise of narration derived from the client brief (IFI Declaration) has already been discussed in the previous chapter. The transport mode (container) discussed in the context chapter is investigated further.

The possible panel sizes, influenced by the container's internal dimensions, user population and storage, will be applied in the design development.

6.3.1 EXPLORING THE CONTAINER

FIGURE 6.11 Exploring the 20-foot container interior





6.3.2 THE INSTALLATION IN PRIMARY ASSEMBLY FORM

The IFI Interiors Biennale 2013 travelling exhibition consists of planar surfaces that shift to create a three- dimensional installation. During transport the planes explore the available space inside the intermodal container within a two-dimensional capacity. For the duration of the Biennale, the planes investigate and populate the host, shaping a three-dimensional space. The fourth dimension, time, is added when the user is introduced to the exhibition.

In its initial form, the installation represents a basic linear narration.

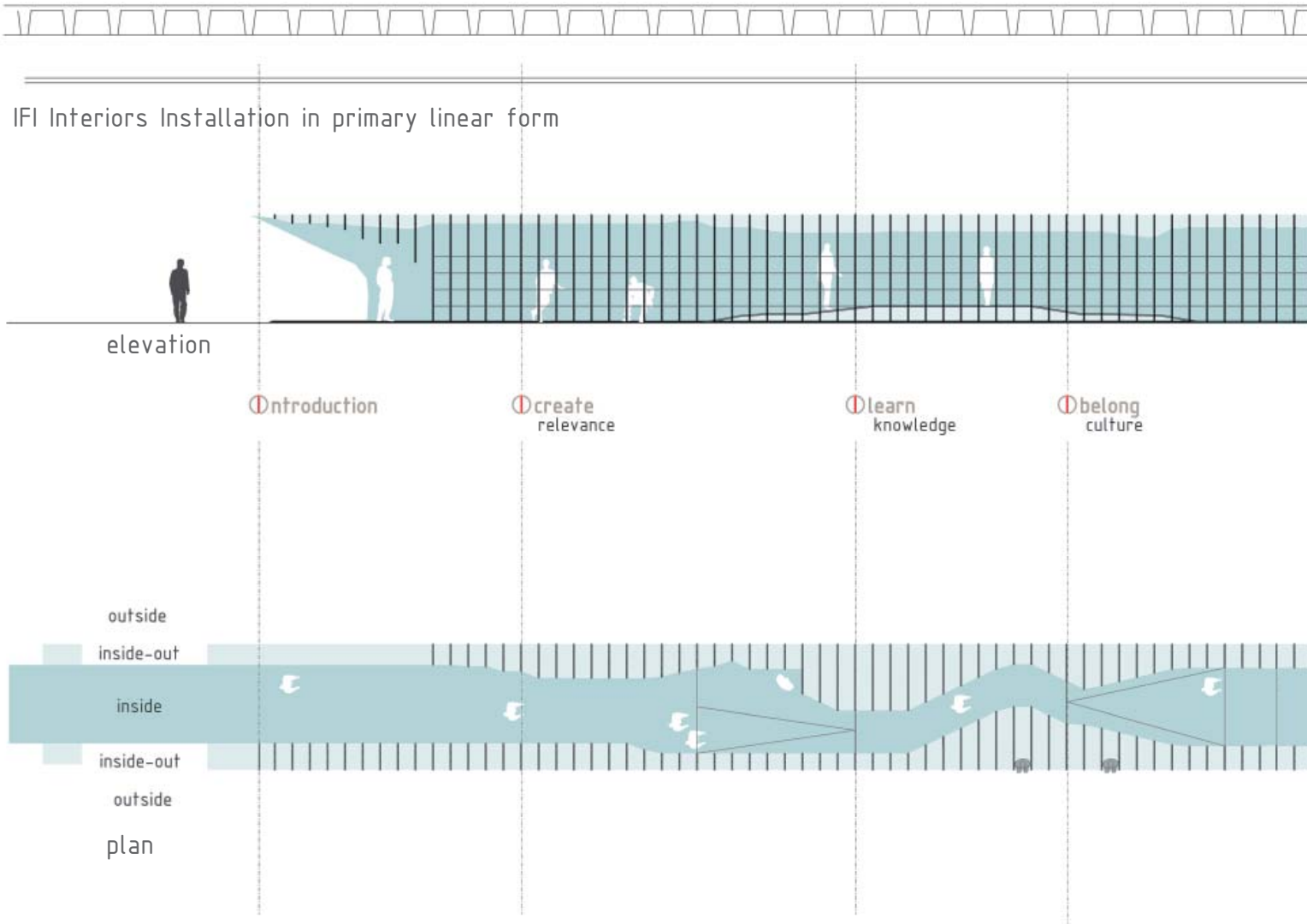
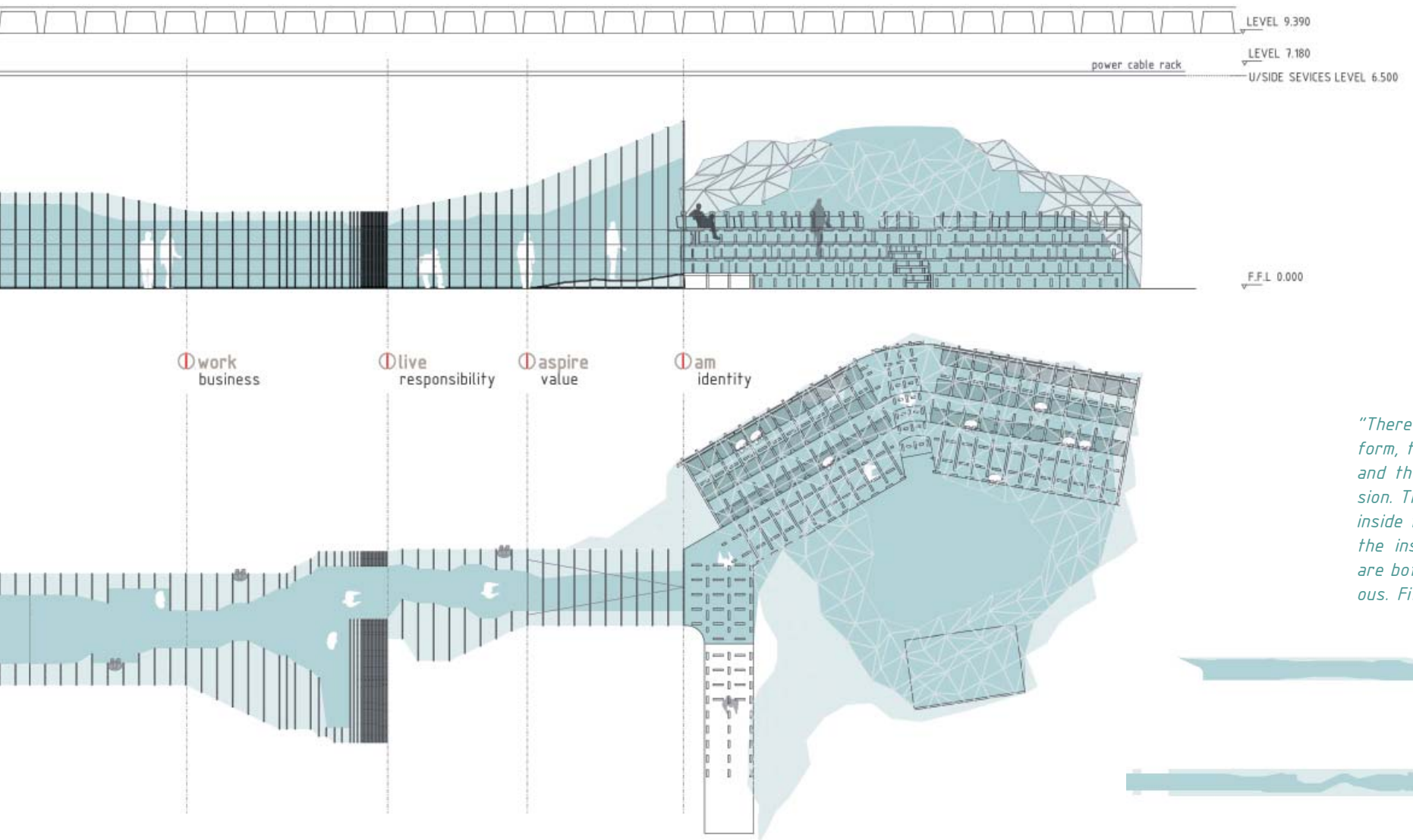


FIGURE 6.12 Final proposal for IFI Interiors Installation in linear form: elevation and plan



"There's the outside of the outside form, the inside of the outside form, and then a space in perpetual tension. Then there's the outside of the inside form and finally, the inside of the inside form. Inside and outside are both coincidental and discontinuous. Fit and misfit." (Moss 1999)

"In the movement from plane to spaces the clash of planes gives rise to body" (Klee 1961)

FIGURE 6.13 IFI Interiors Installation in linear form: 3D image (digital model)

6.3.3 EXHIBITION KIT OF PARTS: THE FIRST DESIGN ASSEMBLY

Six of the seven IFI principles are represented in the IFI Installation's preliminary layout by the first design assembly type: The kit of parts.

The kit of parts is developed based on a 450x450mm module, based on ergonomic increments and exhibition display requirements. This also facilitates adaptability.

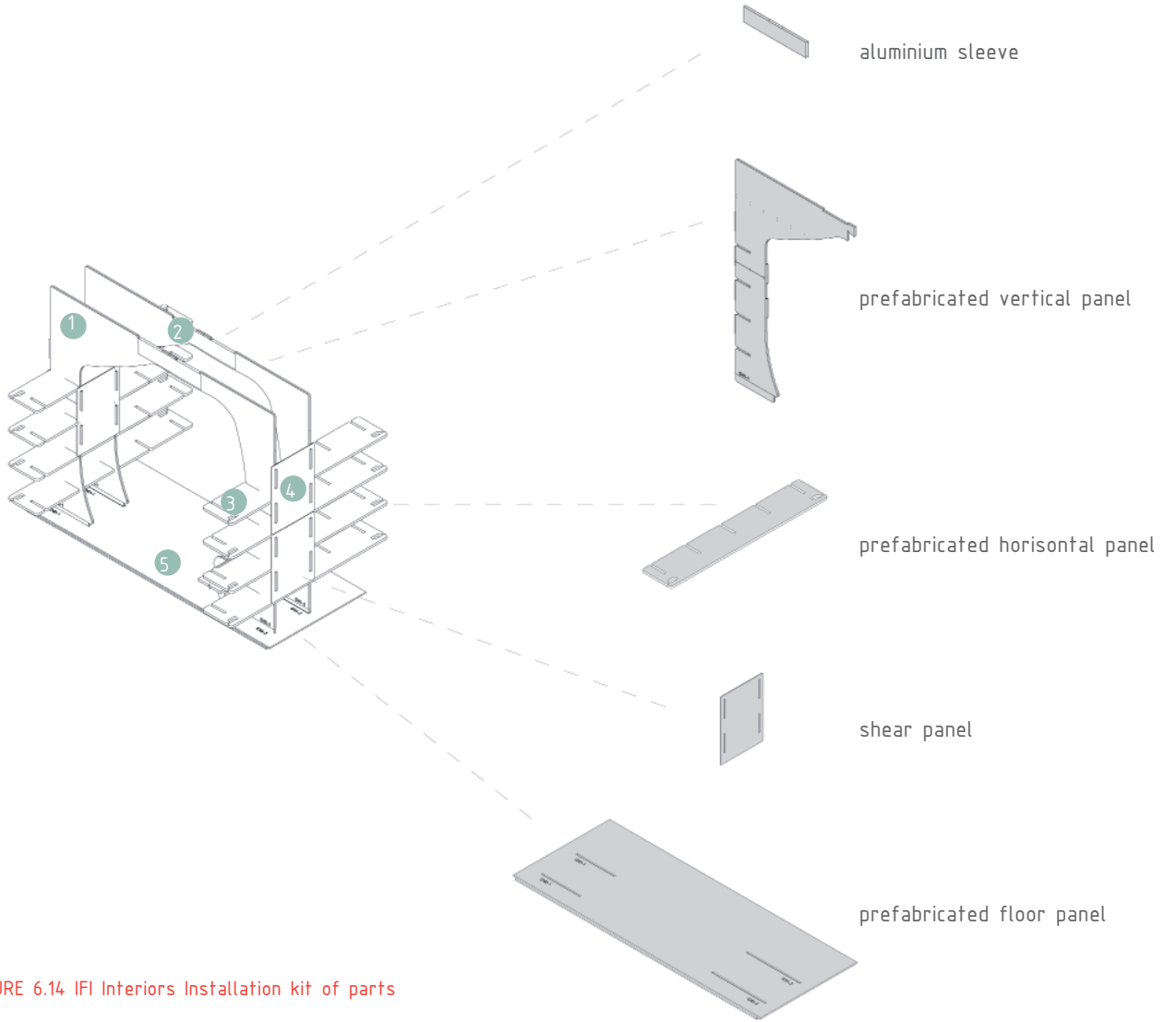


FIGURE 6.14 IFI Interiors Installation kit of parts

1 Prefabricated vertical panel

The internal contour of the vertical panel is profiled to accommodate the expression of the IFI Declaration, while the external profile remains geometric and modular to allow versatility and ease of storage. The vertical panels consist typically of two parts. They are joined with a dovetail joint and slide-over aluminium sleeve. The prefabricated horizontal and shear panels slot into and hook onto the vertical panel. The vertical panel fits into the associated slot in the floor panel.

The external edge of the vertical panel is allocated to a colour, based on the IFI Declaration principle it represents.

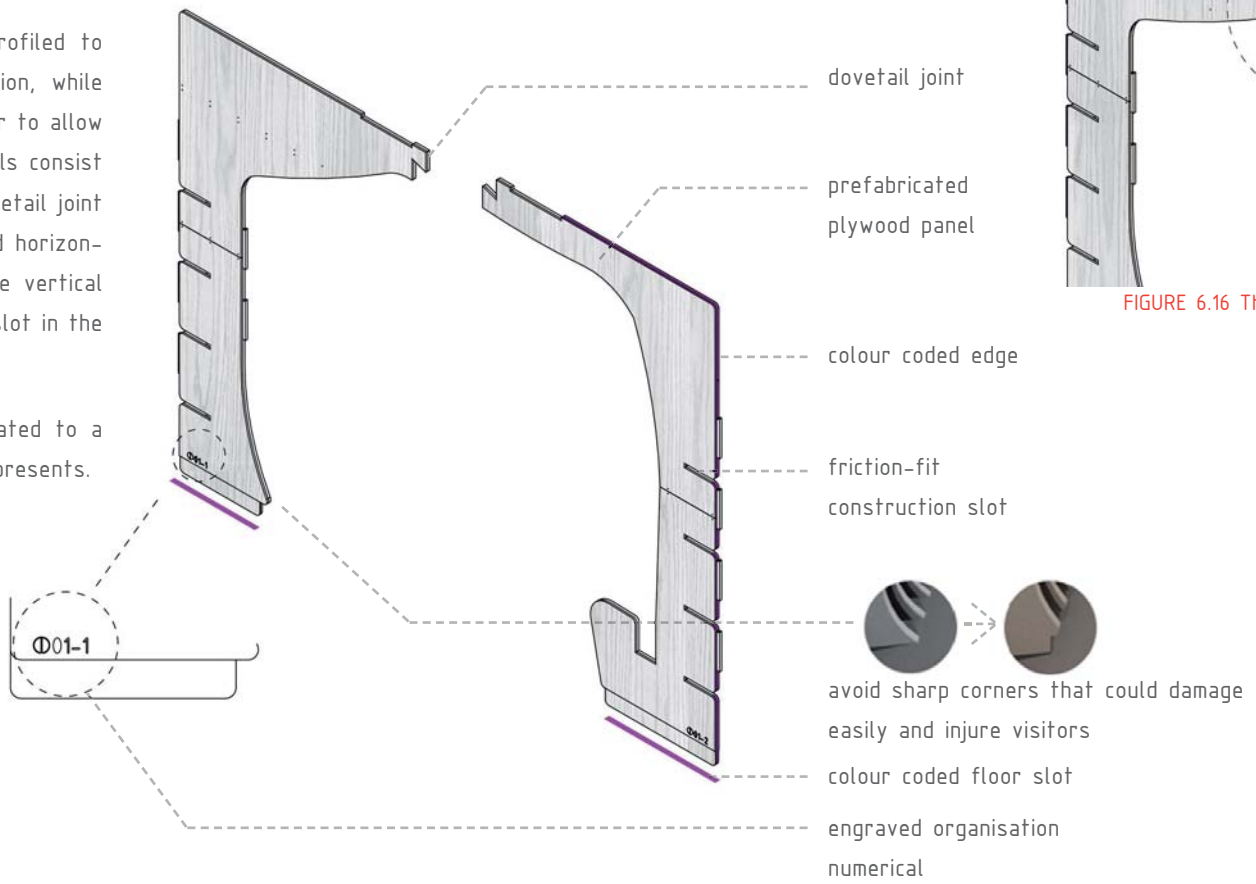


FIGURE 6.15 The kit of parts: vertical panel

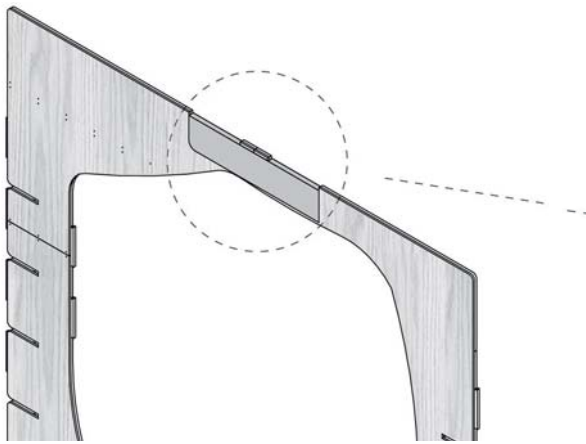
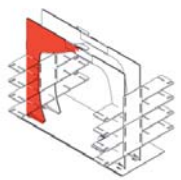
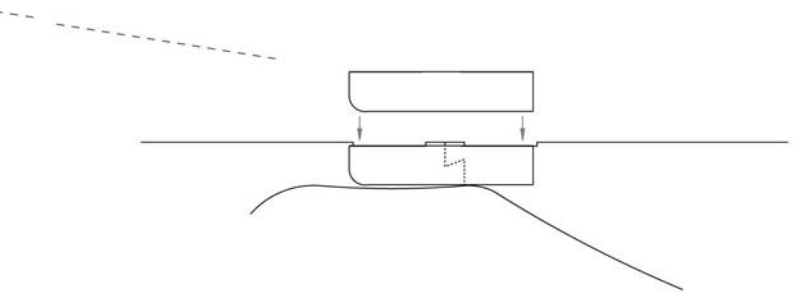


FIGURE 6.16 The kit of parts: aluminium sleeve



2 Aluminium sleeve

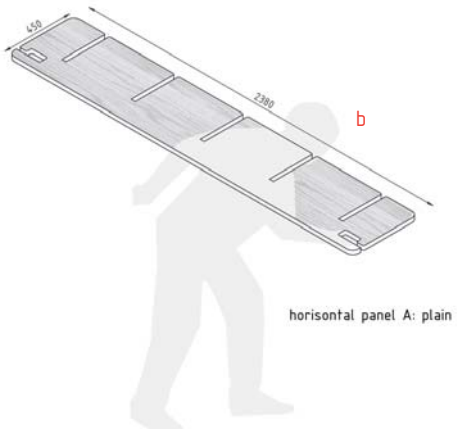


Profiled aluminium sleeve to fit over and secure temporary joint between vertical panels.

3 Prefabricated horisontal panel

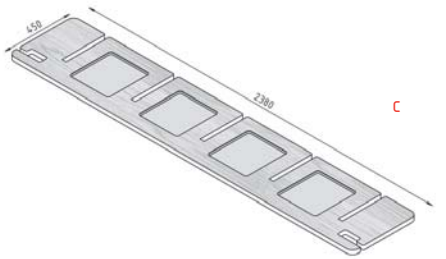
a

The horisontal panel heights are derived from 450mm modules. This allows the horisontal components to accommodate both the anthropometric proportions of the user and the preferred exhibition information band height (Locker 2011:120).



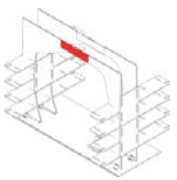
b

horisontal panel A: plain



c

horisontal panel B: with lightbox



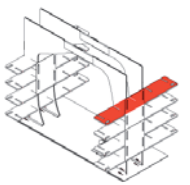


FIGURE 6.17 (a-c) The kit of parts: horisontal panel

The horisontal lightshelf (panel B) could be used as:

downlight for display when light is positioned downward

to create **lightbox** for translucent shear panel with information or graphic

FIGURE 6.18 The kit of parts: horisontal panel facilitating object display

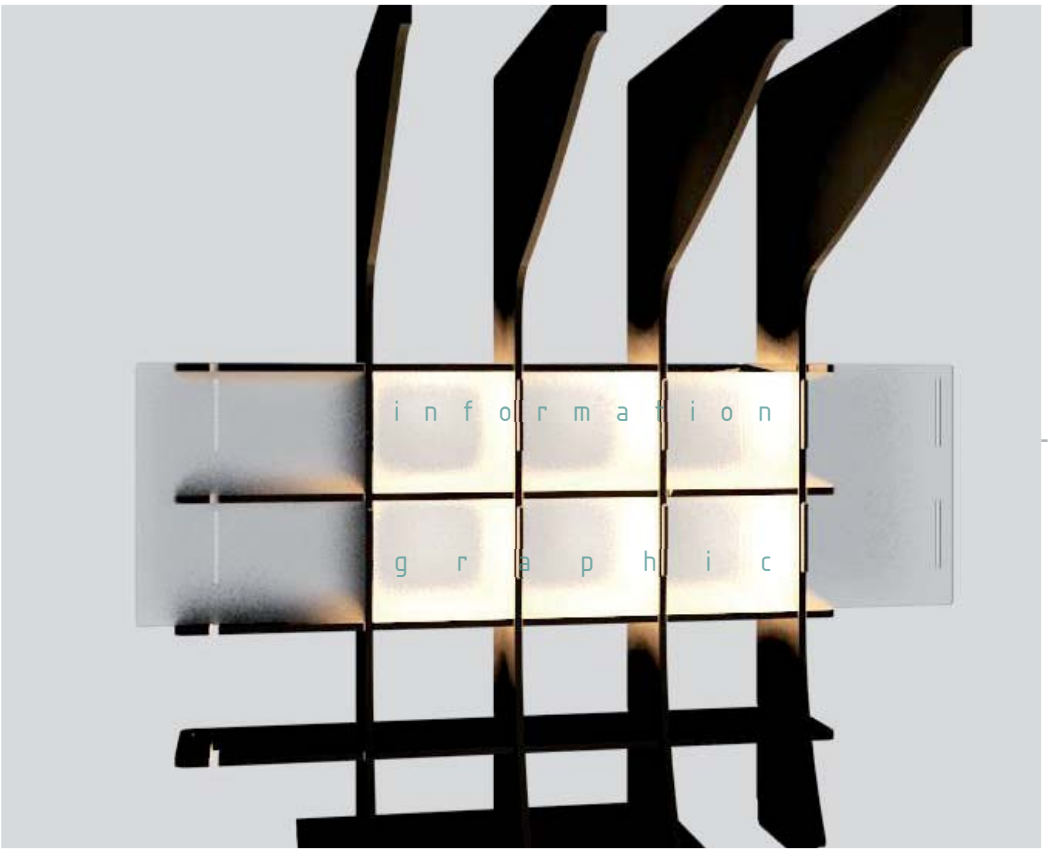


FIGURE 6.19 The kit of parts: horisontal panel facilitating a lightbox

4 Shear panel

The shear panel is the most adaptable component of the IFI Installation. It can be moved or replaced easily based on the curator's needs. These panels enable the installation to communicate with the user through graphic, digital and printed information. The shear panel also manages the permeability (visually and physically) of the route, directing the link the user experiences between inside and out.

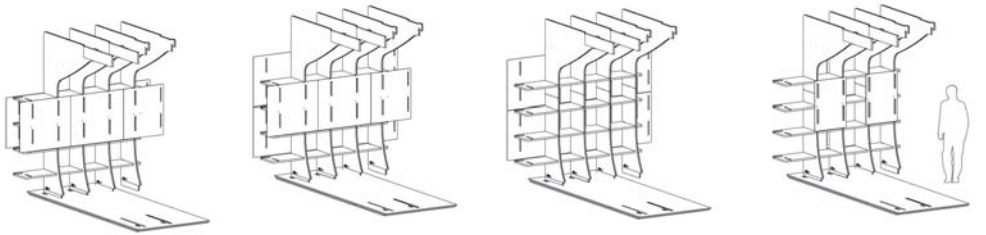
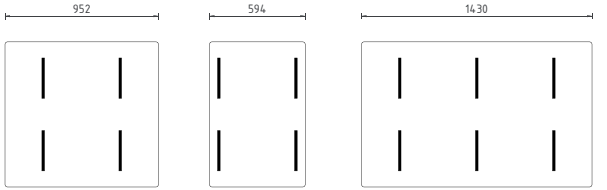


FIGURE 6.21 Shear panel possible configurations

3 standard shear panel templates:



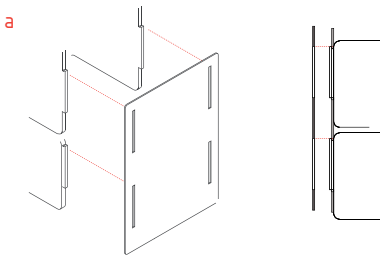
b

double wide double narrow tripple wide

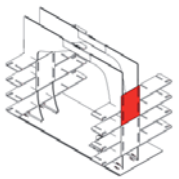
c

transparent translucent opaque smooth textured

a



slide over and hook in



possible attachments: digital screen touch screen graphic display system eventscent

FIGURE 6.20 (a-c) The kit of parts: shear panel

FIGURE 6.22 Shear panel prototype: Perspex

FIGURE 6.23 Shear panel with graphic

5 Prefabricated floor panel

The prefabricated floor panel allocates the position for the vertical panels.

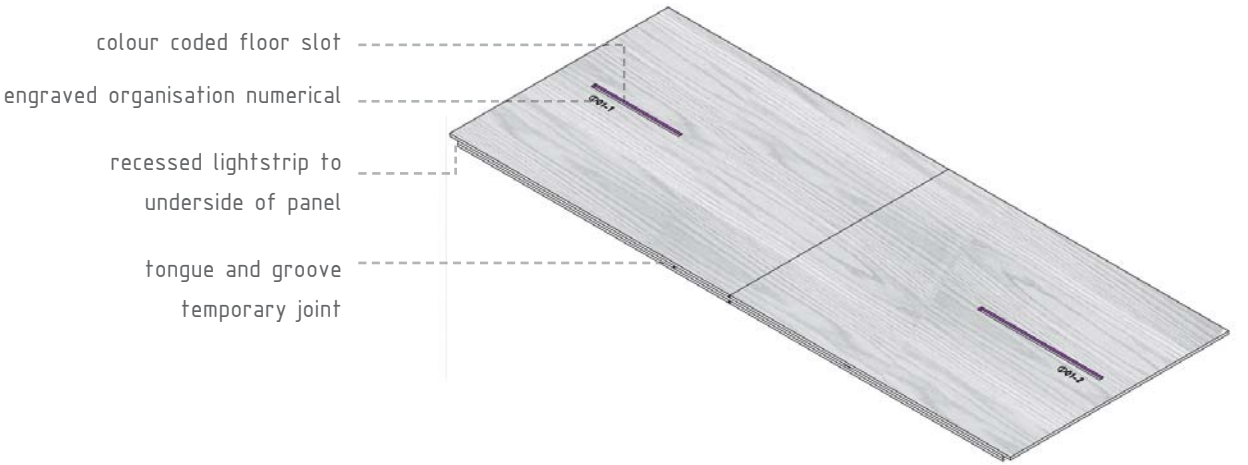
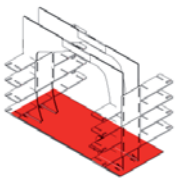


FIGURE 6.24 Kit of parts: floor panel



6.3.4 KIT OF PARTS PROTOTYPING

Process:

The previous chapter has already defined CNC cutting and established its relevance to the IFI Installations fabrication process. CNC laser cutting was used to cut the prototype components whilst CNC routing will be used to cut the final installation components.

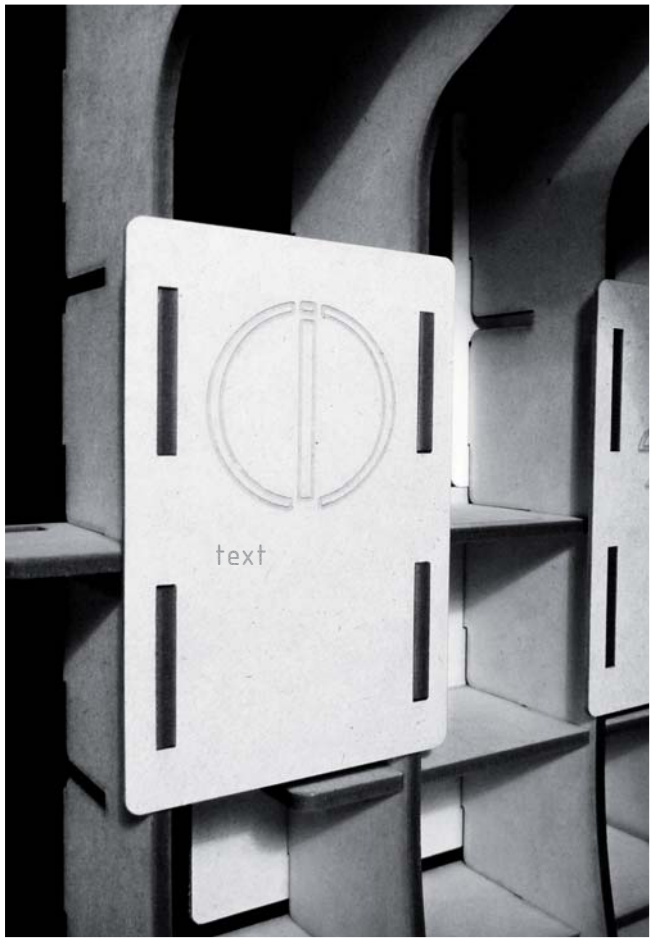
A correlation between CNC routing (final product) and CNC laser cutting (prototype) is investigated to generate a realistic prototype.

The drawings prepared for both CNC cutting methods are mostly similar, differing only in the line colours allocated for cutting or engraving. The different CNC machines' 'bed sizes' vary, as well as the maximum material thickness it is able to cut. It was found that that CNC laser cutters generally have a smaller bed size than CNC router machines. Commercially available lasercutting facilities in Pretoria, South Africa, usually cut timber panel products of up to 4mm, where an industrial CNC router could handle a 300mm thick panel product.

To ensure the success of the friction fit slots in both the installation and prototype, a relation between the thickness of the panel product used in the final construction (28mm Plywood) and the prototyping material (3mm MDF) was used to determine the scale of the model.

The CNC input drawings prepared for the IFI installation cutting will be added in the technical chapter.

FIGURE 6.25 Kit of parts prototype: engraved shear panel



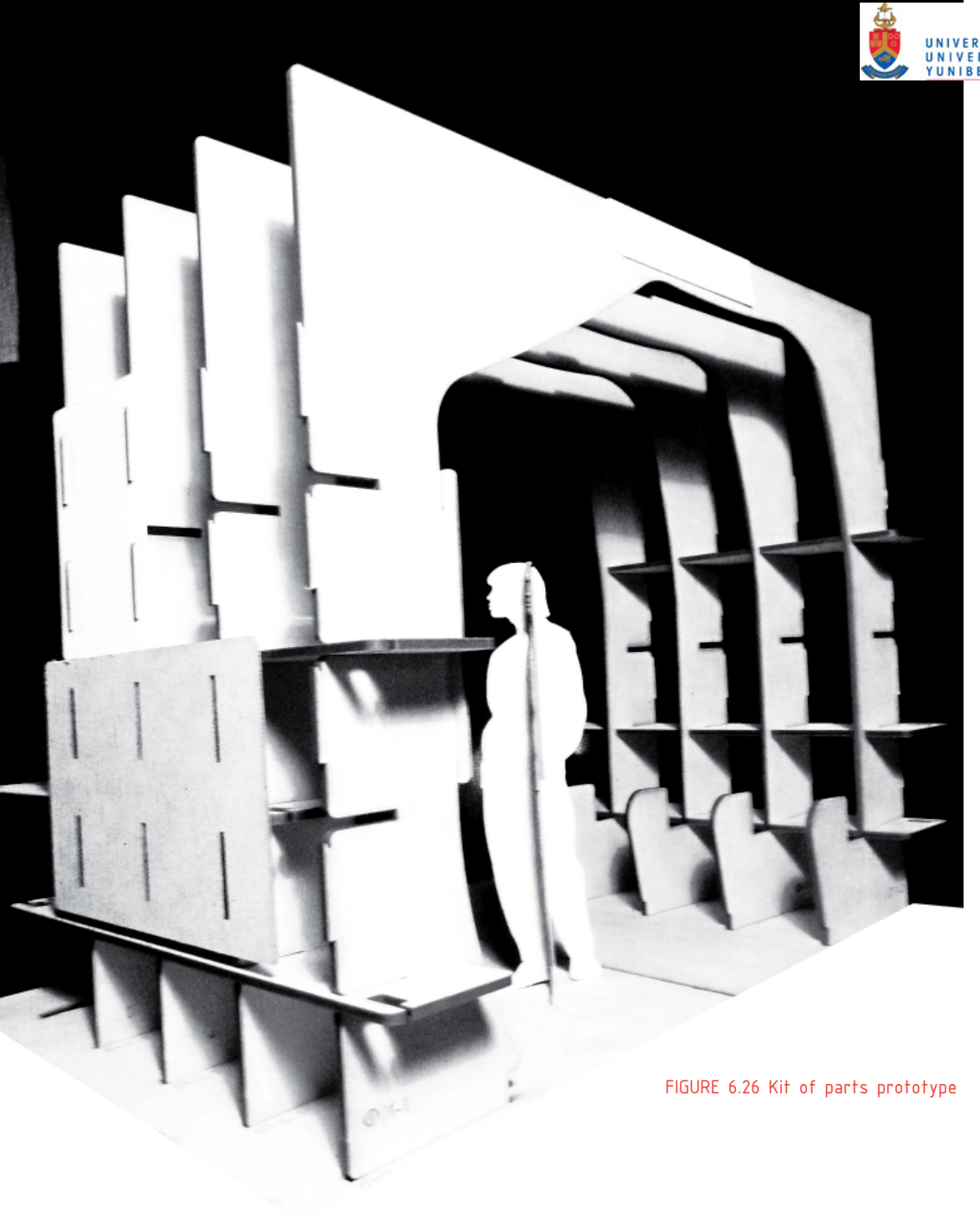


FIGURE 6.26 Kit of parts prototype

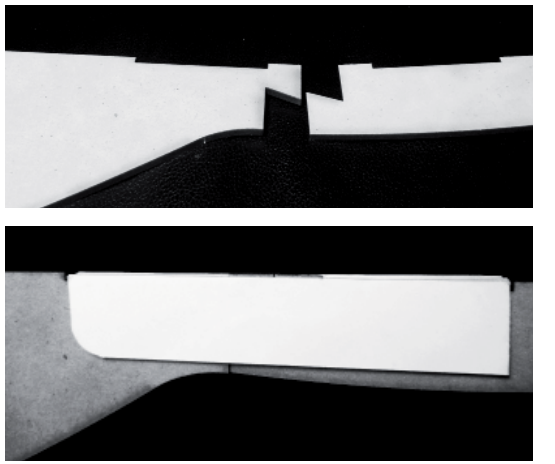


FIGURE 6.27 Dovetail joint

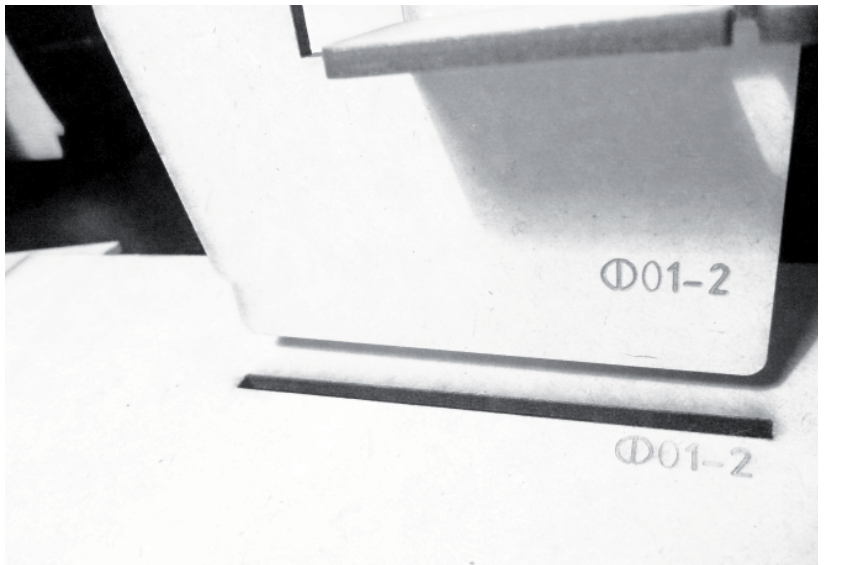


FIGURE 6.28 Numbered floor panel construction slot with corresponding vertical panel

Conclusion:

The kit of parts prototype established the exact tolerance associated with CNC cutting. The initial joint slots were detailed to be the exact width of the panel thickness, which resulted in the friction fit being too tight. The construction slot should allow for a slightly higher tolerance (+0.05mm when prototyping with 3mm MDF).

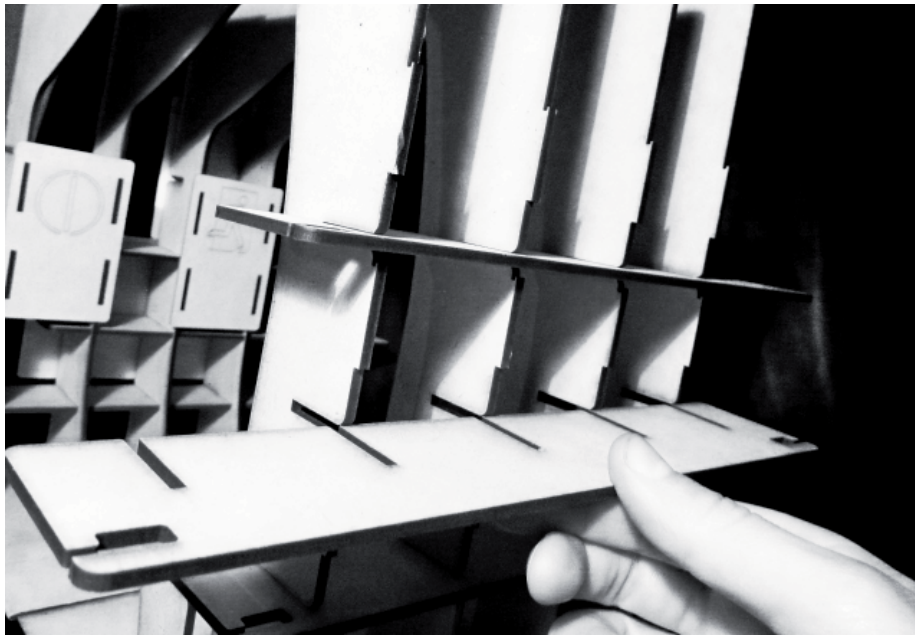


FIGURE 6.29 Horisontal and vertical panel assembly

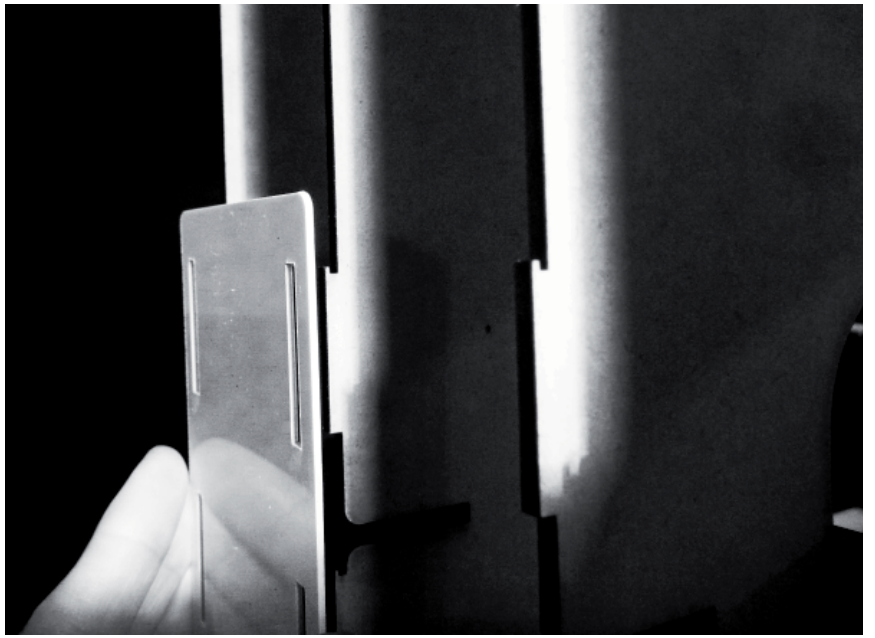


FIGURE 6.30 Shear panel assembly

6.3.5 APPLYING ORGANISTATION PRINCIPLES

The kit of parts is organised according to the numeric and colour-coded organisation of the vertical panels.

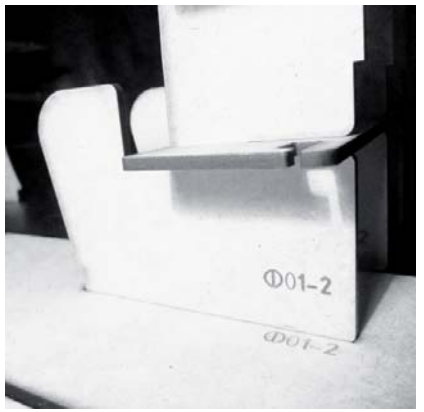


FIGURE 6.31 Vertical and floor panel numeric organisation

Pantone colours translated to Plascon colours for paint application:

Pantone	Plascon
Pantone 19-1764	R3-B1-1 Garnet Shadow
Pantone 18-3027	P5-B1-3 Sparkling Plum
Pantone 14-1307	03-E2-2 Camels Hump
Pantone 16-5418	B1-B2-1 Mystic Fog
Pantone 15-1050	07-B1-2 Taste of Summer
Pantone 18-0538	Y2-D1-2 Baby Sprout
Pantone 13-0632	Y4-B2-1 Yellow Mystery

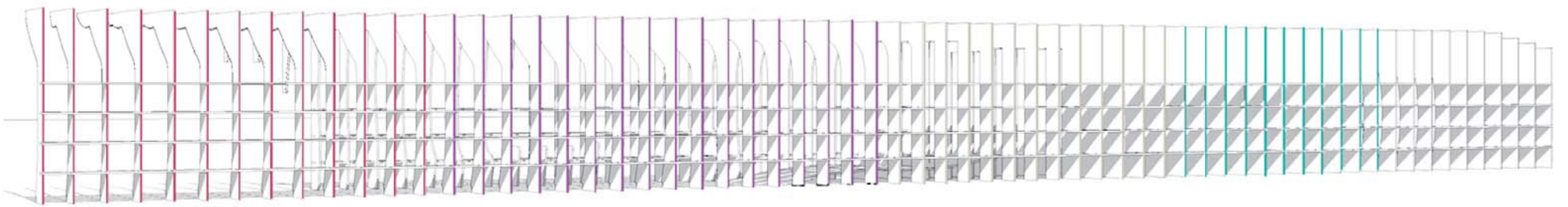


FIGURE 6.32 Colour coded external edges of vertical panels

6.3.6 Intermediate

:THE SECOND DESIGN ASSEMBLY

To allow the installation to react to the found space, a transitional element is introduced. The intermediate section is the second design assembly. This transitional segment permits adaptation without compromising the integrity of the seven core spaces.

These in-between elements allow 90 and 45 degree bends, as well as straight lengthening sections.

The intermediate segments also create a spatial and visual threshold between the principal spaces and pause areas to reduce museum fatigue. The components are interchangeable in order and orientation.

Intermediate sections allow the IFI installation to adapt to the found space. As the installation explores the host, external spaces are created within the space, strengthening the inside out and imprint theories.

THE 90 DEG BEND

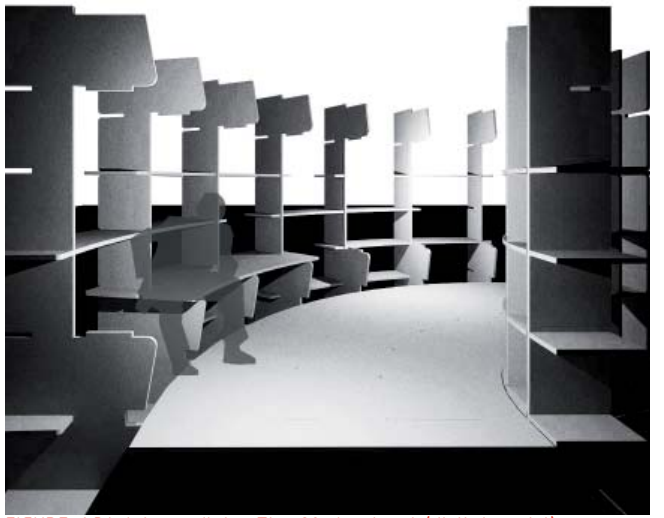


FIGURE 6.34 Intermediate: The 90 deg bend (digital model)

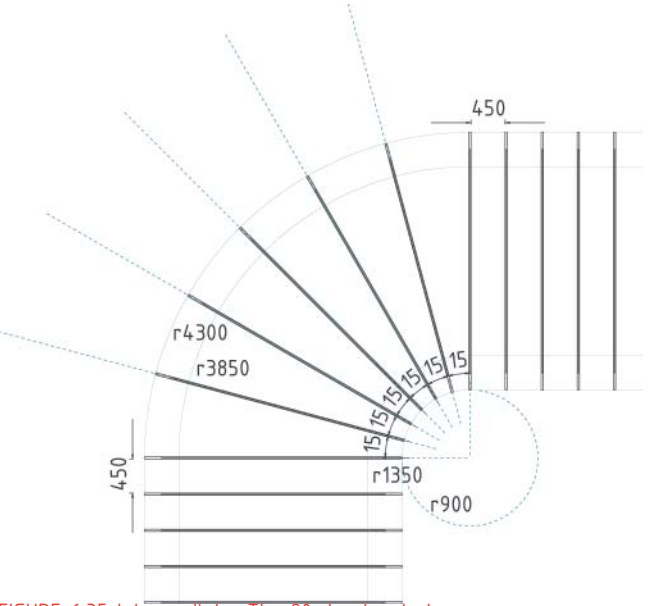


FIGURE 6.35 Intermediate: The 90 deg bend plan

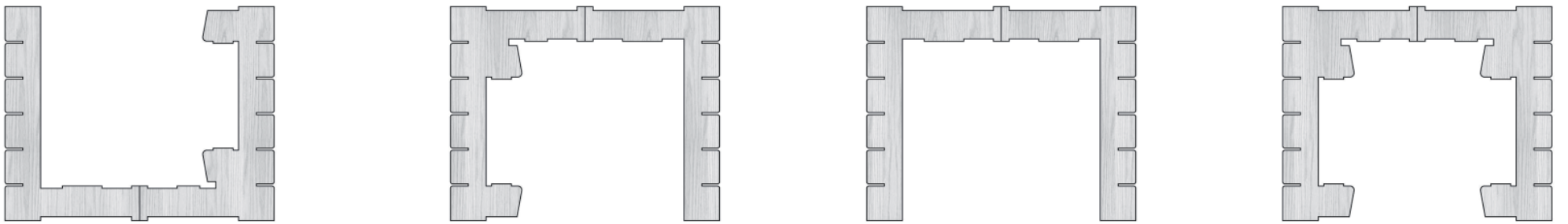


FIGURE 6.33 Intermediate: vertical panel assembly options (interchangeable)

THE 45 DEG BEND

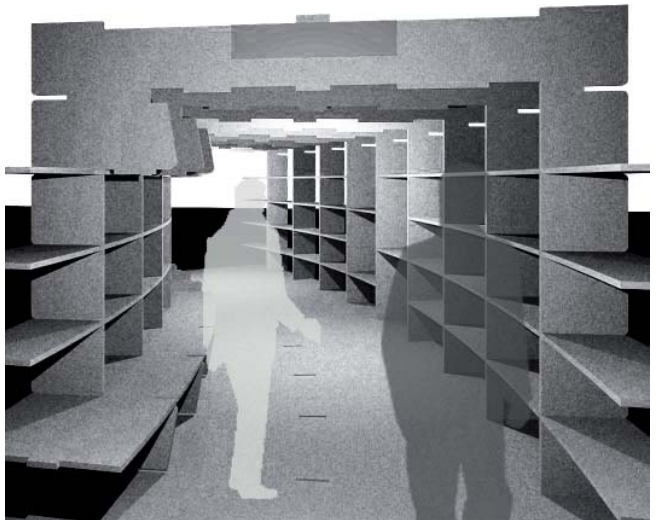


FIGURE 6.36 Intermediate: The 45 deg bend (digital model)

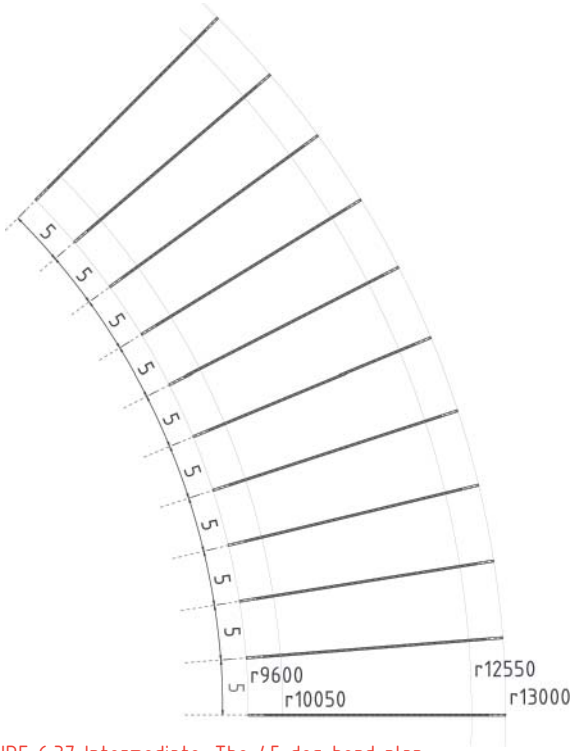


FIGURE 6.37 Intermediate: The 45 deg bend plan

THE STRAIGHT

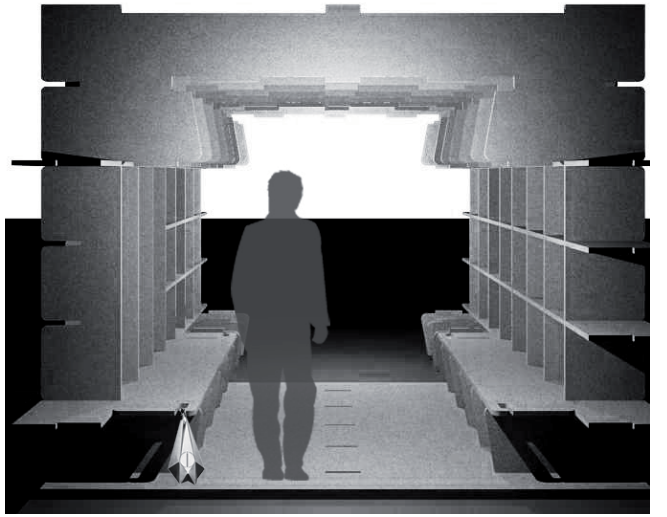


FIGURE 6.38 Intermediate: The Straight (digital model)

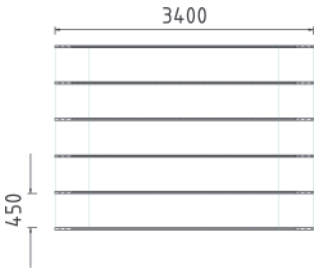
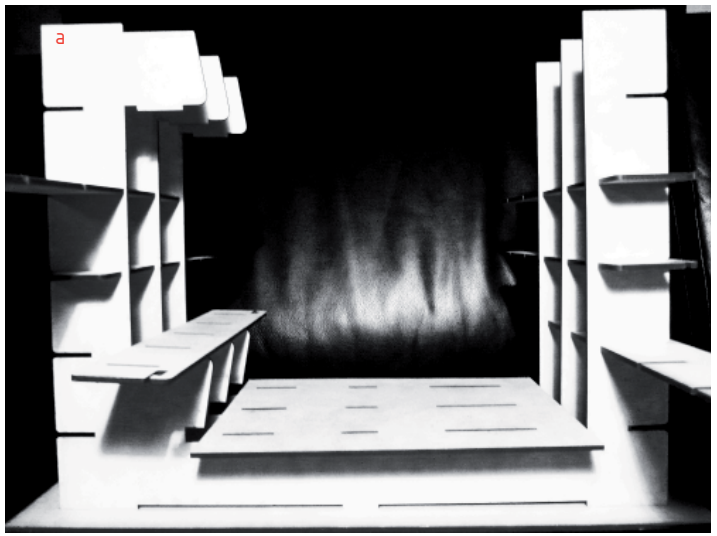
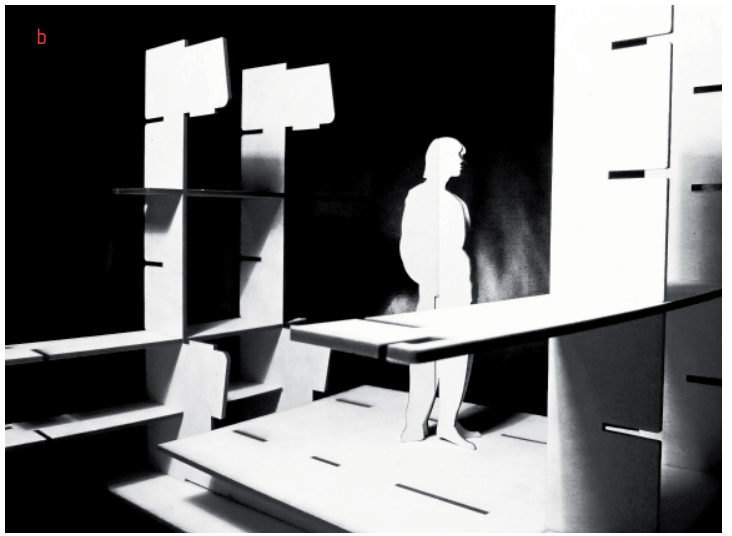


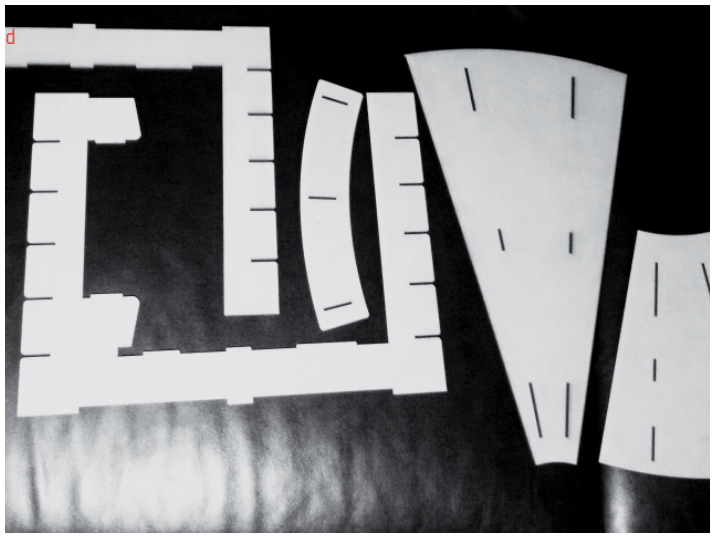
FIGURE 6.39 Intermediate: The Straight plan

6.3.7 Intermediate PROTOTYPING

FIGURE 6.40 (a-d) Intermediate prototypes







The intermediate segment is introduced between the principal spaces.

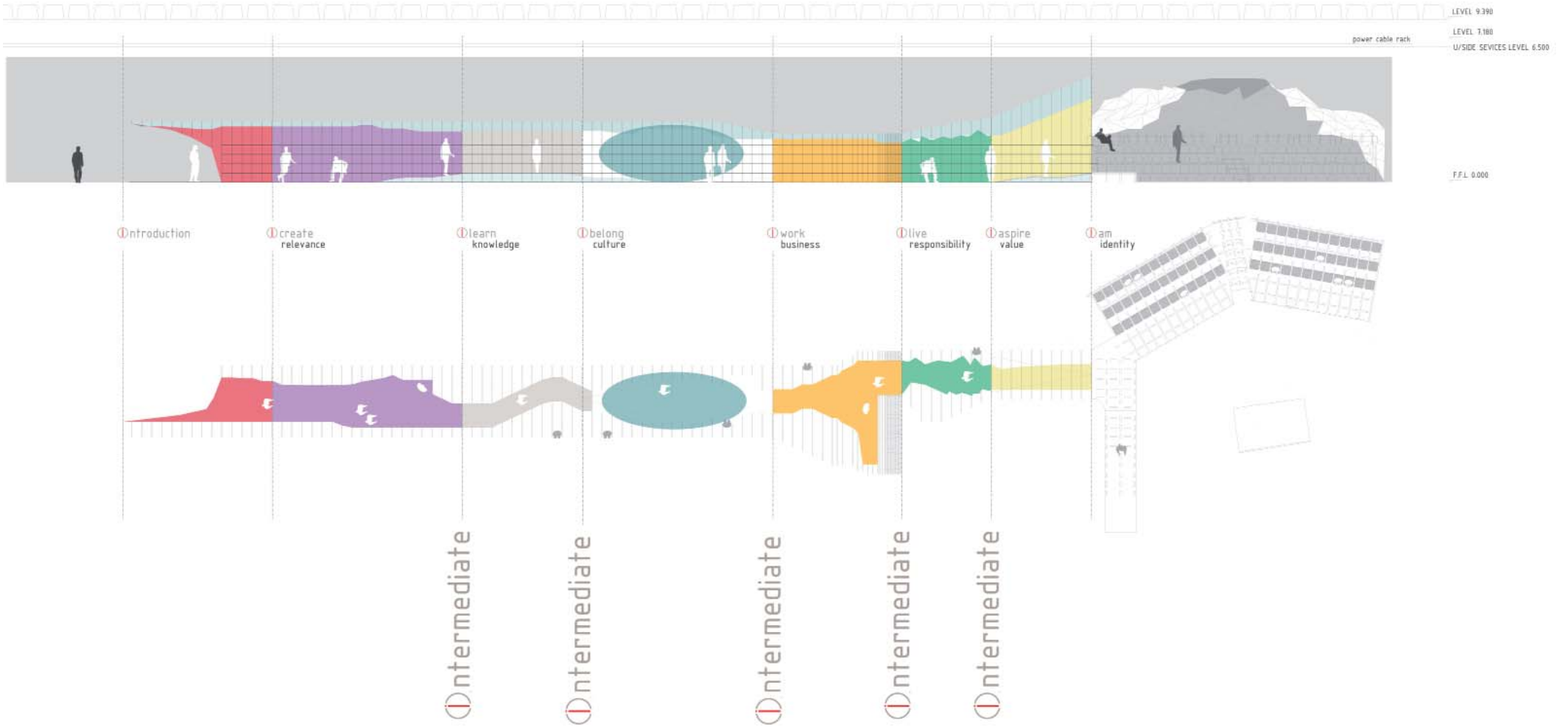
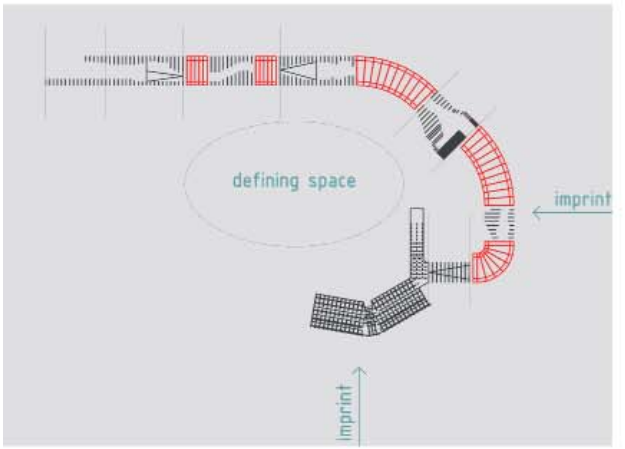
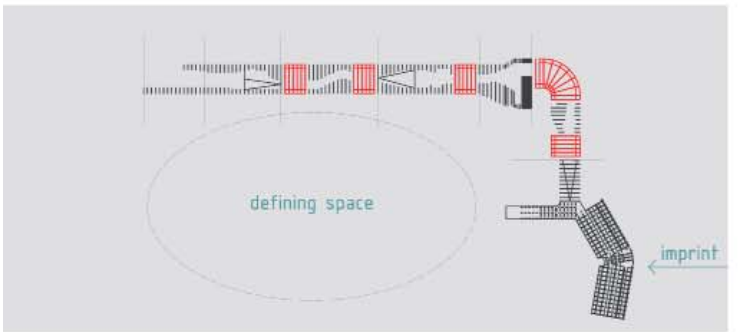
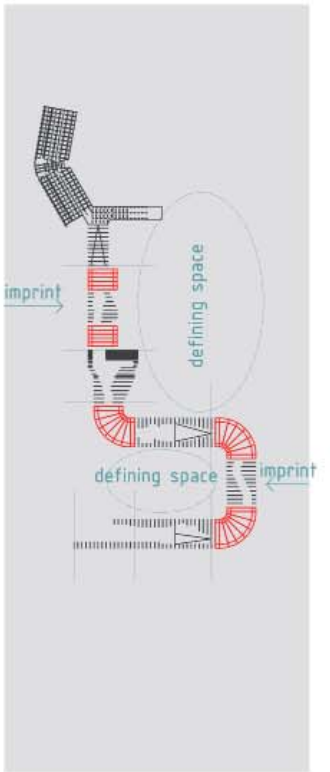
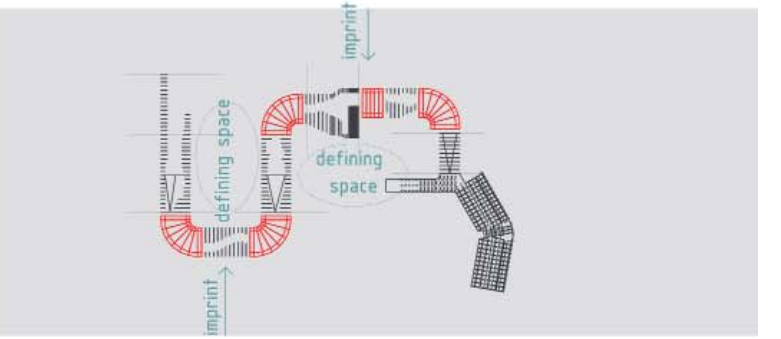


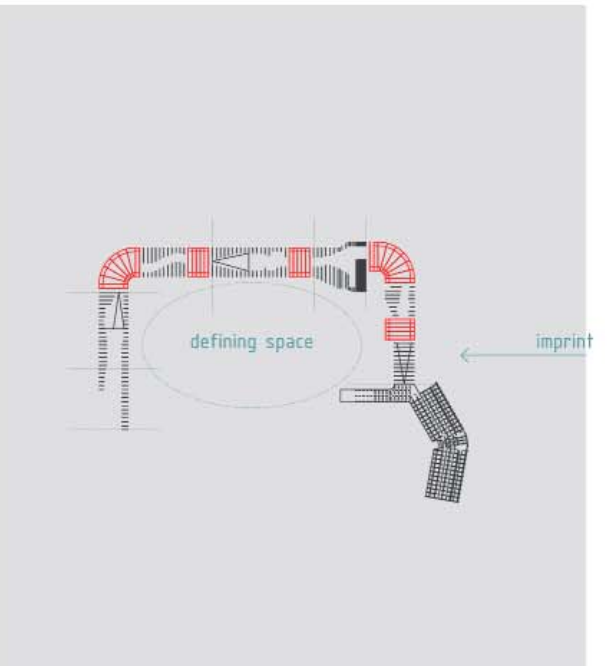
FIGURE 6.41 Intermediate segment positions within IFI Installation (linear with principle colours)











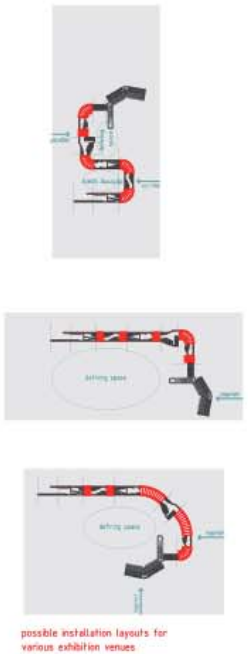
The Intermediate sections allow the IFI installation to adapt to the found space. As the installation explores the host, spaces are defined within the exhibition venue. Strengthening the inside out and imprint theories.

FIGURE 6.42 IFI Installation with intermediate sections: possible site reactions

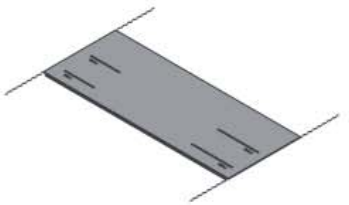
6.3.7 ASSEMBLY PROCESS

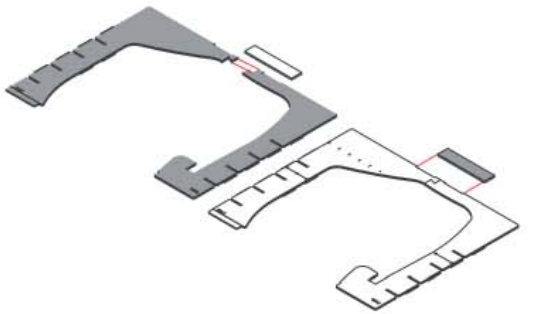
IDEAL ASSEMBLY TEAM: 4 PEOPLE

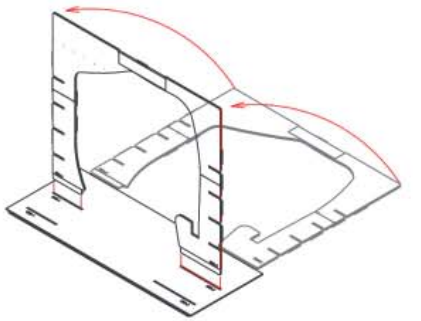
TOOLS REQUIRED: RUBBER MALLET



possible installation layouts for various exhibition venues





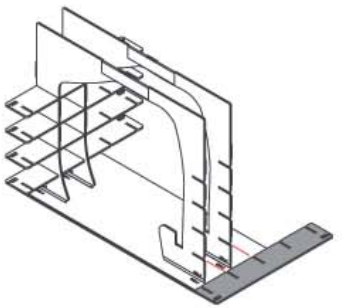


1 determine preferred layout for IFI installation

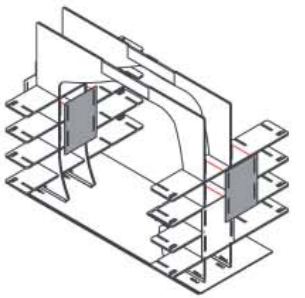
2 lay floor panels according to planned layout

3 link corresponding panels

4 slot linked panels into corresponding floor slots



5 slot horisontal panels in place



6 hook shear panels in place

input voltage switch

115V (110-130V) or 230V (220-230V) is selected by switch BEFORE power on. Check input voltage to avoid damage.

7
-determine host country supplied voltage
-select the appropriate voltage on input voltage alternator and switch to correct voltage
-connect to electrical supply
-switch power supply on at distribution board

6.3.8 THE CONTEMPLATION PAVILION: THE THIRD DESIGN ASSEMBLY

The i-am segment or contemplation pavilion is the culmination of the IFI Installation. The pavilion is also designed for (dis)assembly consisting of CNC routed Plywood components. The 450mm design module, based on ergonomic and exhibition principles, is used throughout the design. The parts are numbered to ensure success of assembly and storage when travelling. The structural stability of the friction fit construction is established by prototyping.

The Pavilion components:

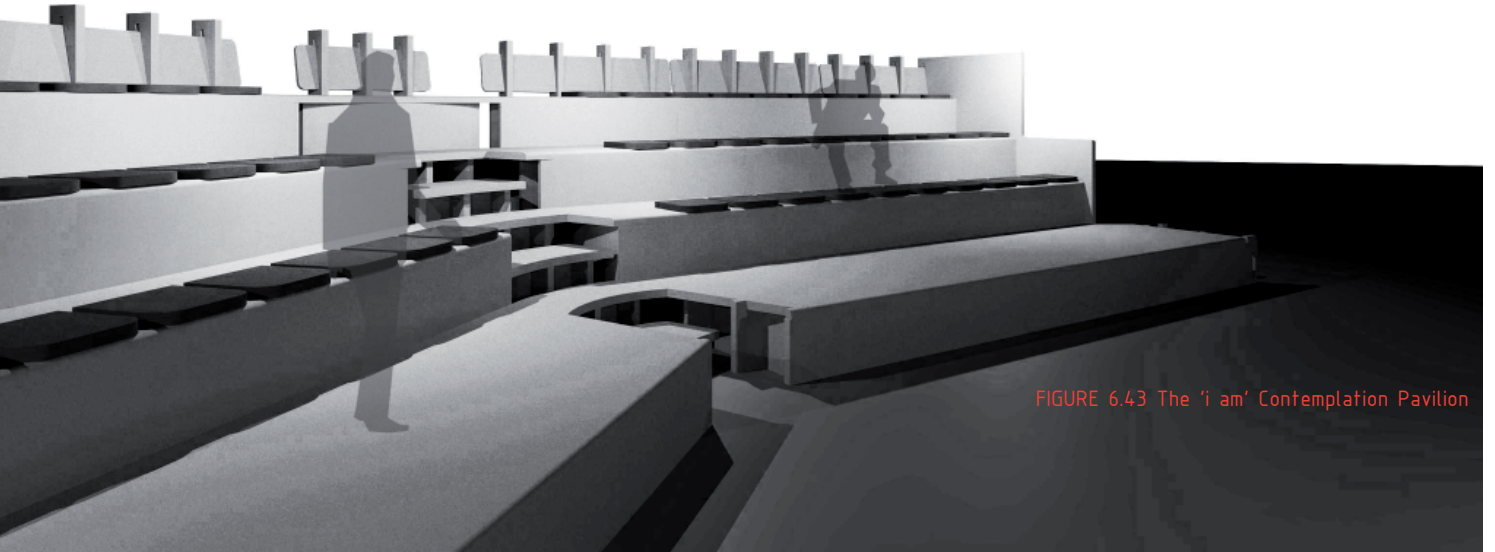


FIGURE 6.43 The 'i am' Contemplation Pavilion

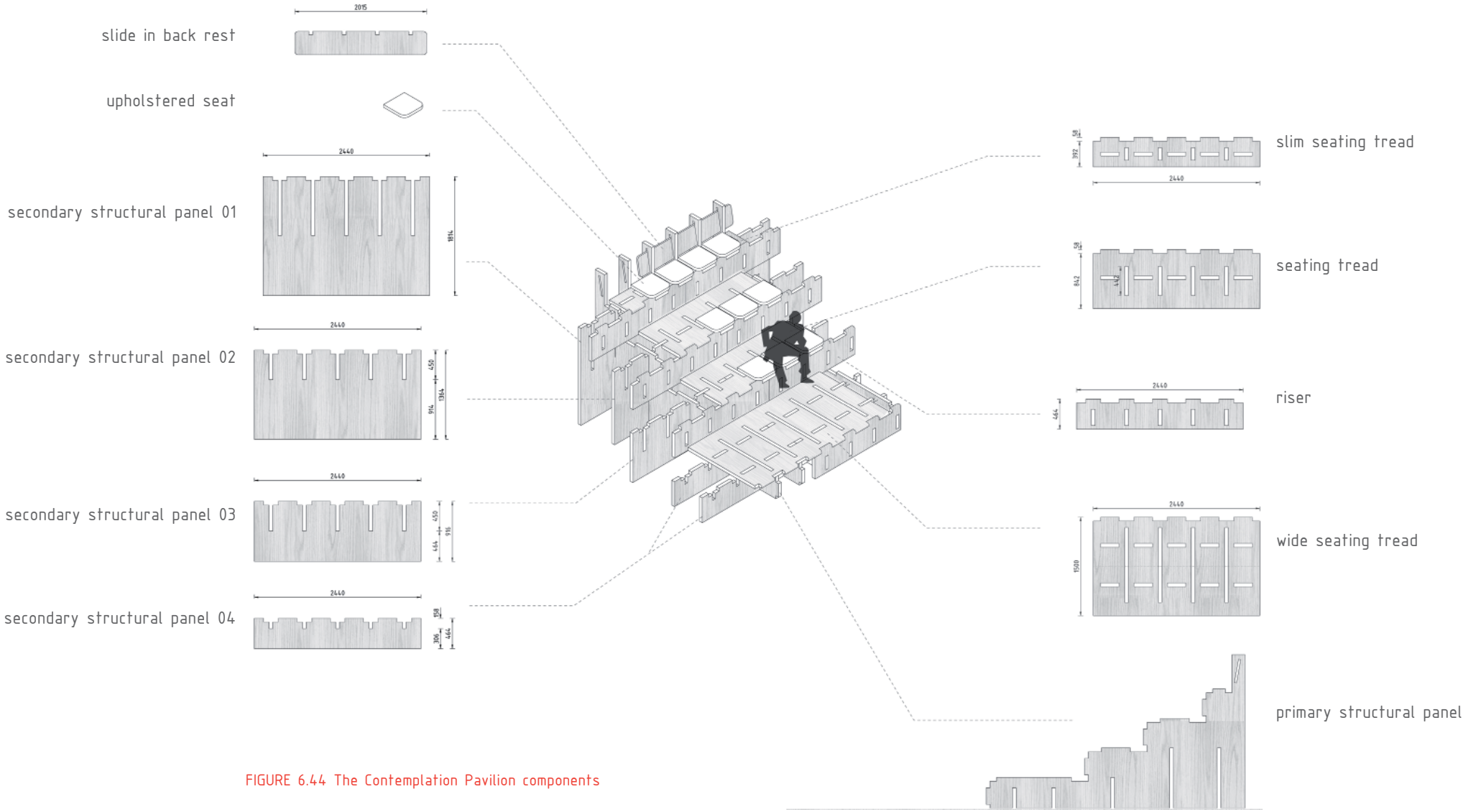


FIGURE 6.44 The Contemplation Pavilion components

THE PAVILION ASSEMBLY

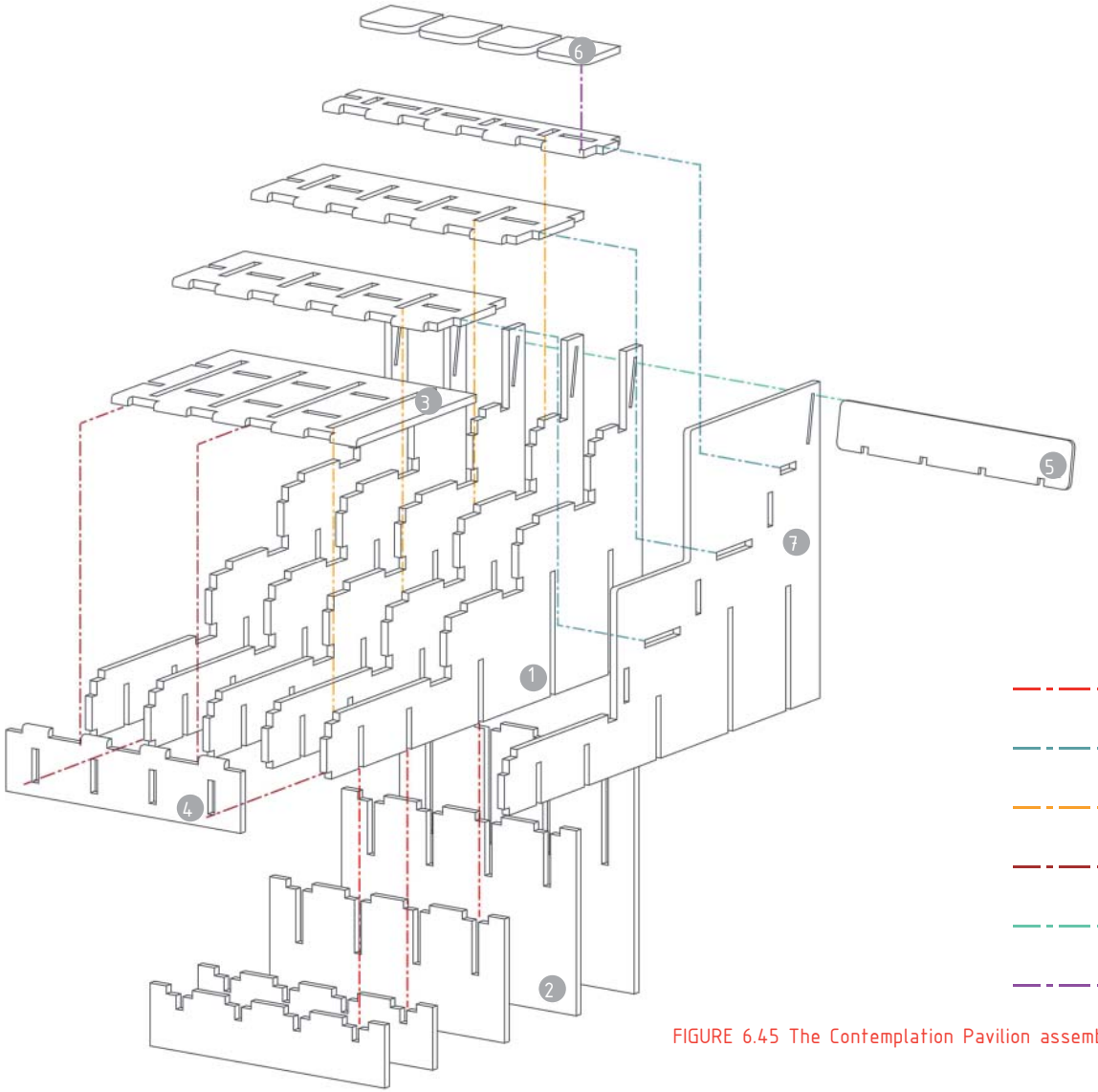


FIGURE 6.45 The Contemplation Pavilion assembly

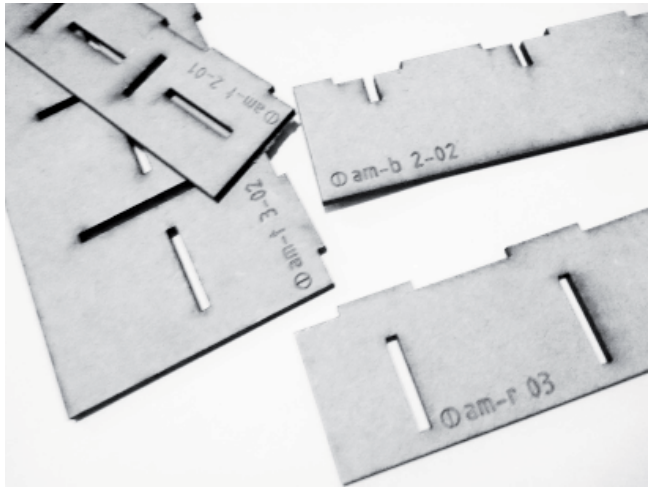


FIGURE 6.46 The Contemplation Pavilion prototype components

step 01: slot primary (1) and secondary (2) structural panels together

step 02: Side component slotted (7) into primary structural panel (1)

step 03: fit tread panel (3) onto structural components (1&2)

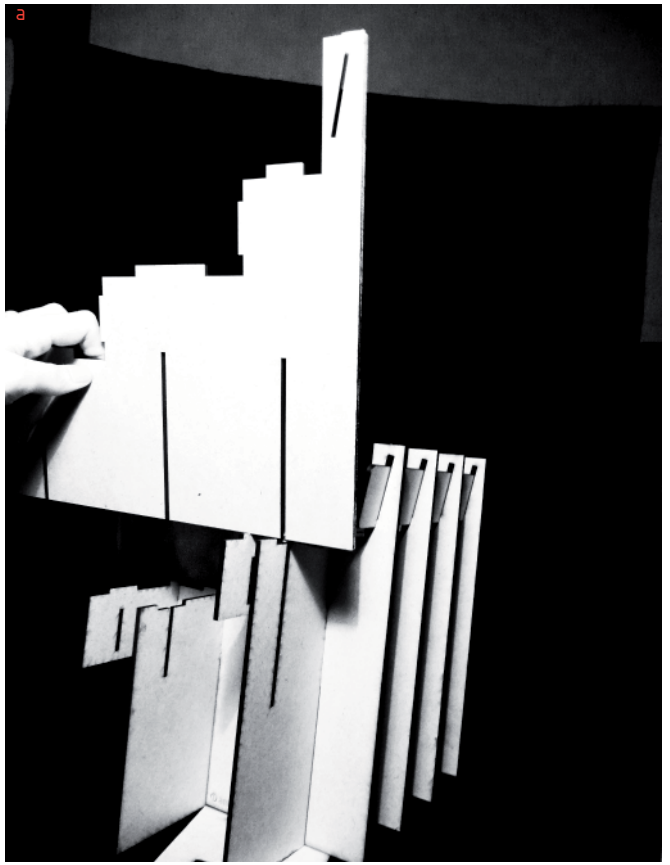
step 04: fit riser (4) onto tread (3) and support panel (2)

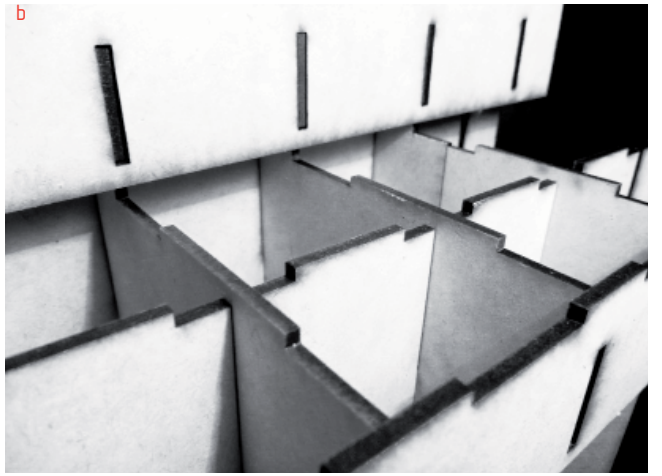
step 05: slide and slot backrest (5) into primary structure (1)

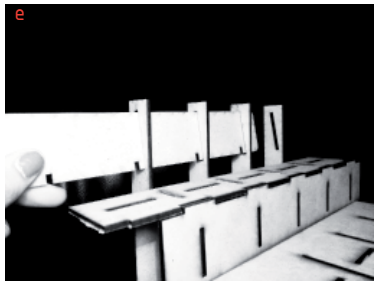
step 06: place seating (6) on tread (3) – secured with velcro

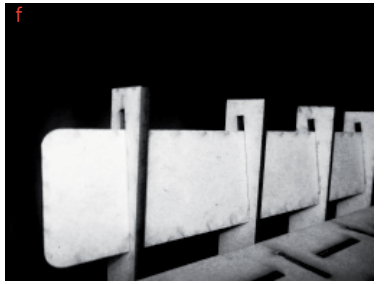
6.3.9 THE CONTEMPLATION PAVILION PROTOTYPE

FIGURE 6.47 (a-f) The Contemplation Pavilion prototype assembly









Conclusion

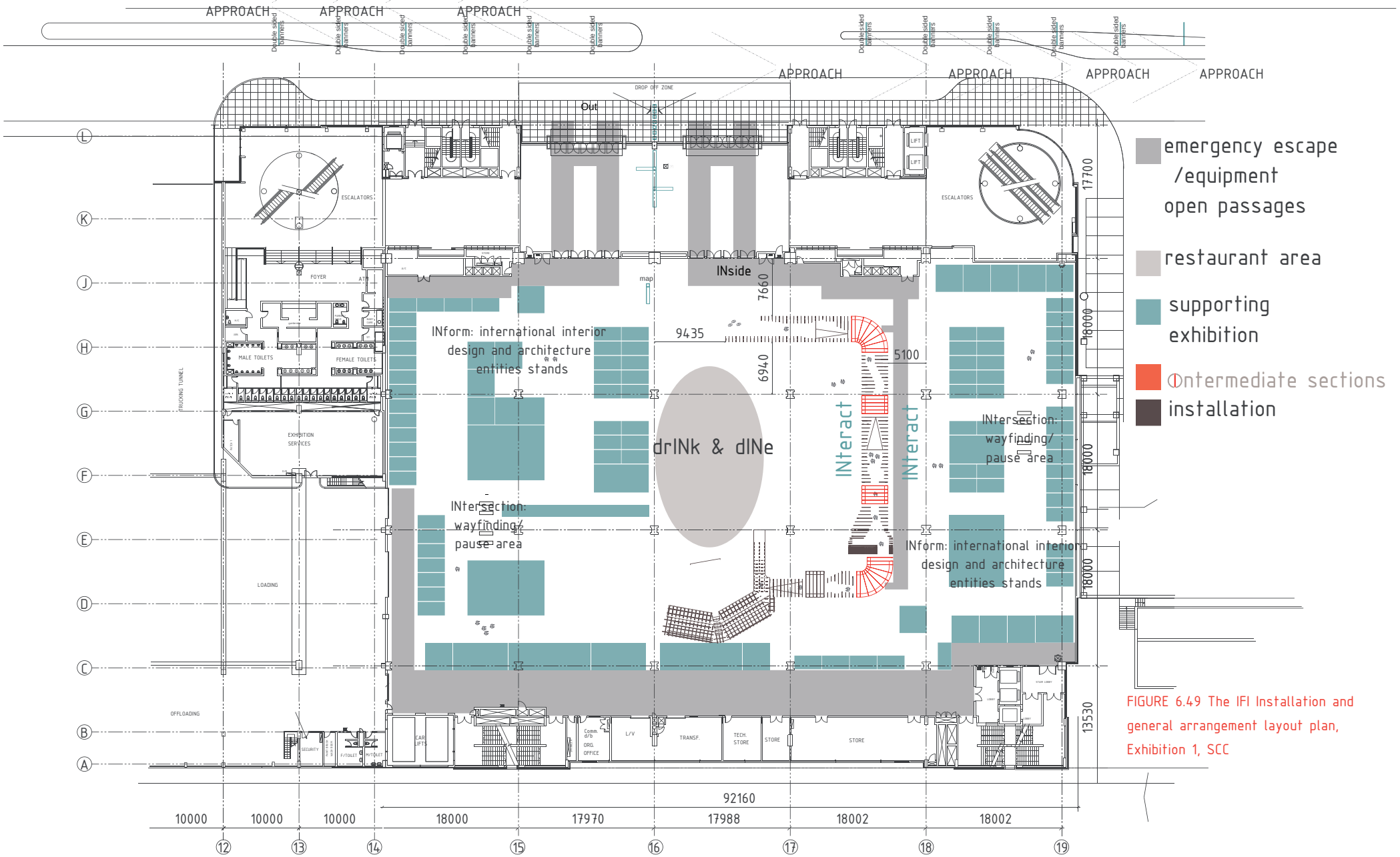
When the joint tolerance was increased slightly, the prototype assembly relying on resistance joints between prefabricated components, resulted in a sound structural composition.

FIGURE 6.48 The Contemplation Pavilion prototype

6.4 THE IFI INTERIORS BIENNALE 2013 IN THE PROTO-SITE

Proposed IFI Interiors Biennale 2013 layout in Exhibition 1, Sandton Convention Centre:

The site-specific footprint of the IFI Installation within the SCC, defines the event specific layout for the IFI Interiors Biennale 2013, demarcating the position of the supporting exhibition facilities.



emergency escape /equipment open passages

restaurant area

supporting exhibition

Intermediate sections

installation

FIGURE 6.49 The IFI Installation and general arrangement layout plan, Exhibition 1, SCC

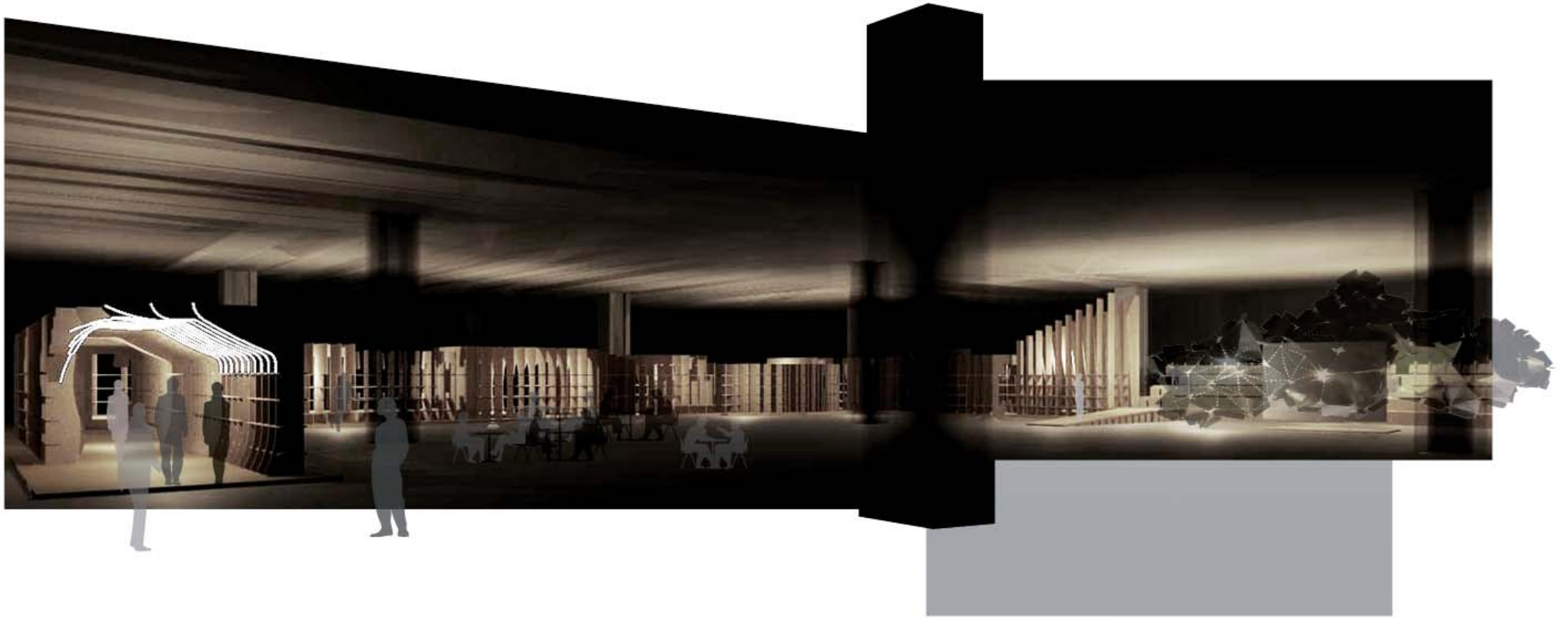


FIGURE 6.50 The IFI Installation in Exhibition 1, SCC: 3D image (digital model)

6.5 THE IFI INTERIORS BIENNALE 2013 HOST SPECIFICATION

exhibition host location

within 30min public transport time
via primary public transport means
from international airport

5mins walking from primary public transport node
approximately 0.5 kilometre (0.31 mile)

access to secondary public transport node

access to urban recreational centre
via primary or secondary public transport
proximity: 5 kilometre (3.1 mile) radius

access to large scale accommodation
via primary or secondary public transport
proximity: 5 kilometre (3.1 mile) radius

exhibition facility

international commercial exhibition &
conference facility

comply with universal design requirements

at least 2 boardroom facilities
on site: 70 pax

min dedicated exhibition area
5 000 m2 (53 819.5 square foot)

min 6000mm clear height in exhibition hall

rigging below soffit for lighting and
suspended component

electrical access points (under floor/ column)
@ 9000mm ctc max

6.6 EXPERIENCING THE IFI INTERIORS DECLARATION

"The Biennale... will be designed to manifest (for physical experience) the IFI Interiors Declaration." (Caan 2011)

The seven principles included in the IFI Interiors Declaration have already been established as one of the primary design generators of the IFI Interiors Installation design. The principles have also been interpreted as interior design(er) manifestos in the beginning of this chapter. By subjecting these statements to volumetric studies of iconic interior, the intuitive design process is initiated.

Volumetric study conclusion:

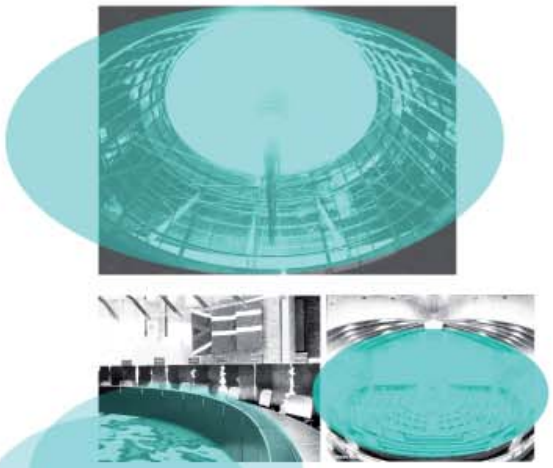
The volumetric study generated spatial forms that informed the design development of the IFI Installation's physical narrative.

iconic designer-Zaha Hadid interiors

create RELEVANCE

the lecture hall

learn KNOWLEDGE



the parliamentary chamber

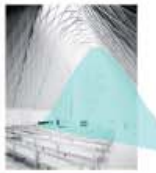
belong CULTURE

FIGURE 6.51 Volumetric exploration of iconic spaces

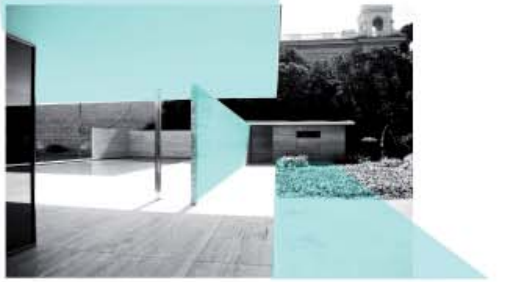
the office

The apparently random form was derived from the constraints placed by the site – a tree root here, a water tank there, as well as existing foundations scattered around.

responding to life



the religious volume



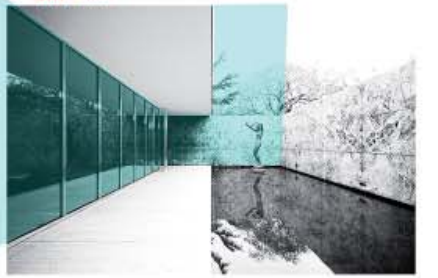
inside and out: intrinsically connected

work BUSINESS

live RESPONSIBILITY

aspire VALUE

am IDENTITY



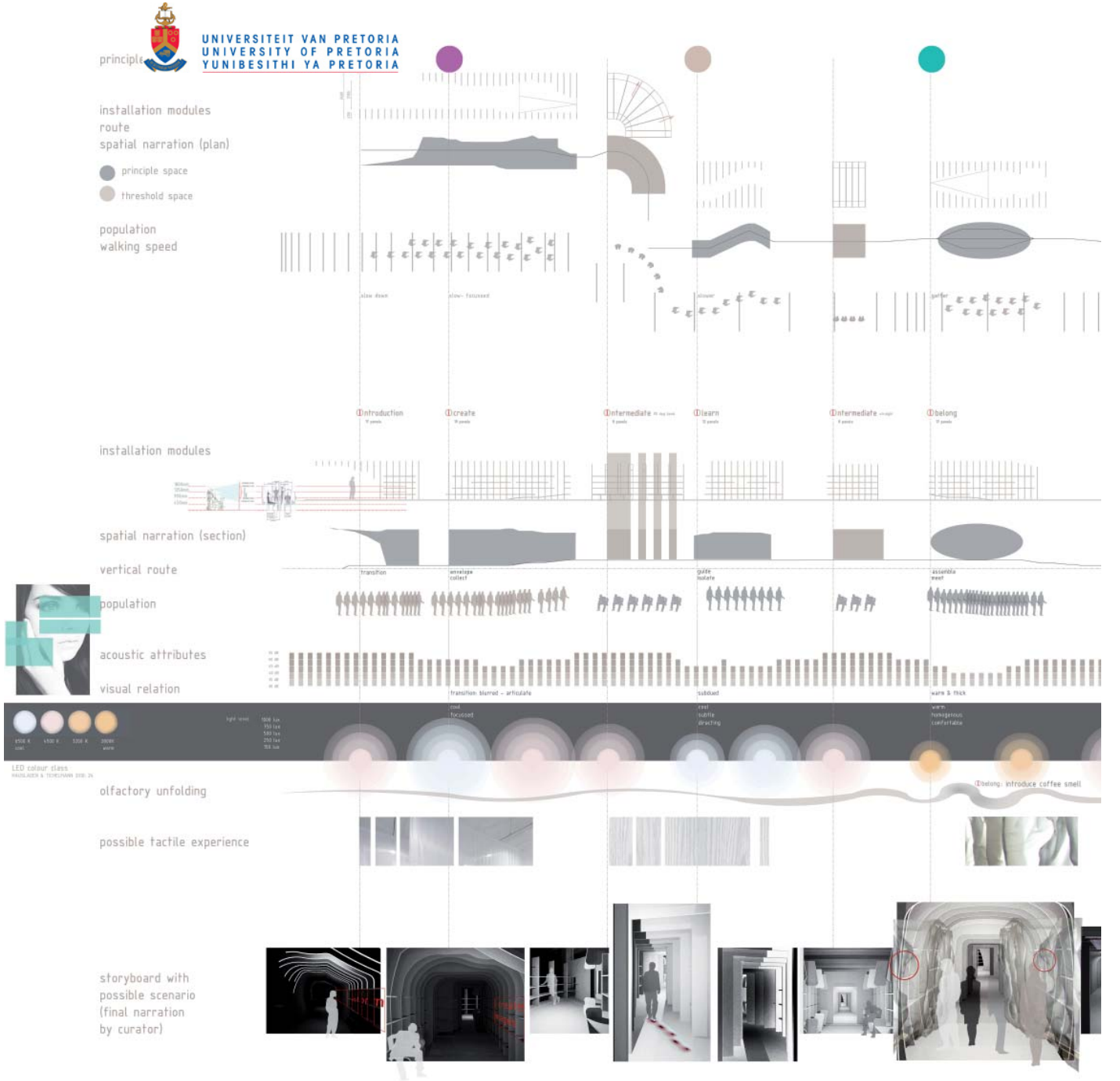
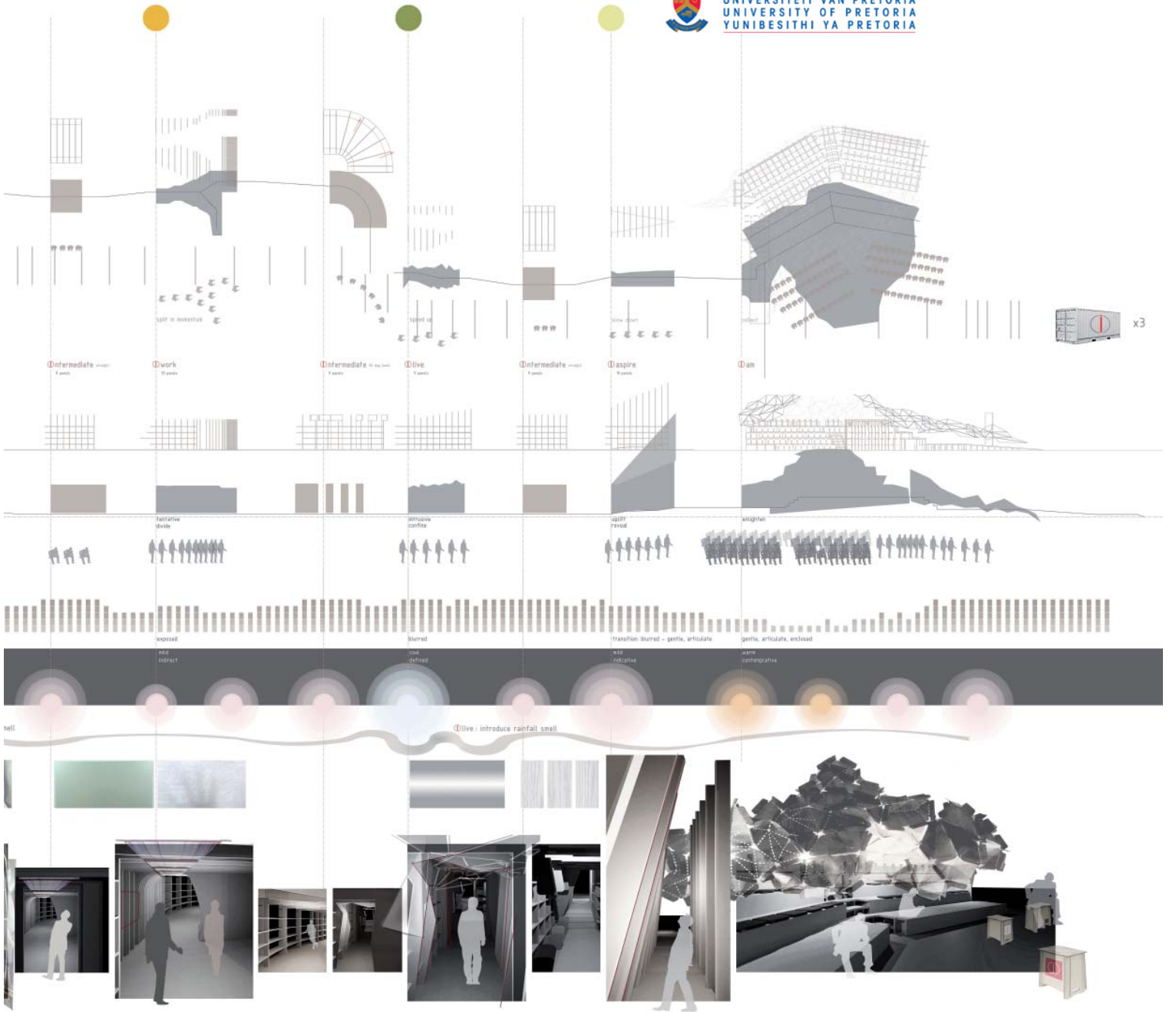


FIGURE 6.52 Storyboard narrative


x3
①intermediate
①work
①intermediate
①live
①intermediate
①aspire
①an
split in momentum
speed up
slow down
collect
habitative
divide
obtrusive
confine
spirit
reveal
enlighten
exposed
mild
indirect
blurred
cool
defined
transition: blurred - gentle, articulate
mild
indicative
gentle, articulate, enclosed
warm
contemplative
①live : introduce rainfall smell