05 design philosophy and approach

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DESIGN PHILOSOPHY:

DESIGN FOR (DIS)ASSEMBLY

Having established the context, it is apparent that the site typology (universal) would have the least impact on the design development with the event typology (specific: travelling exhibition), and with the design brief (specific: IFI Interiors Declaration) driving the process.

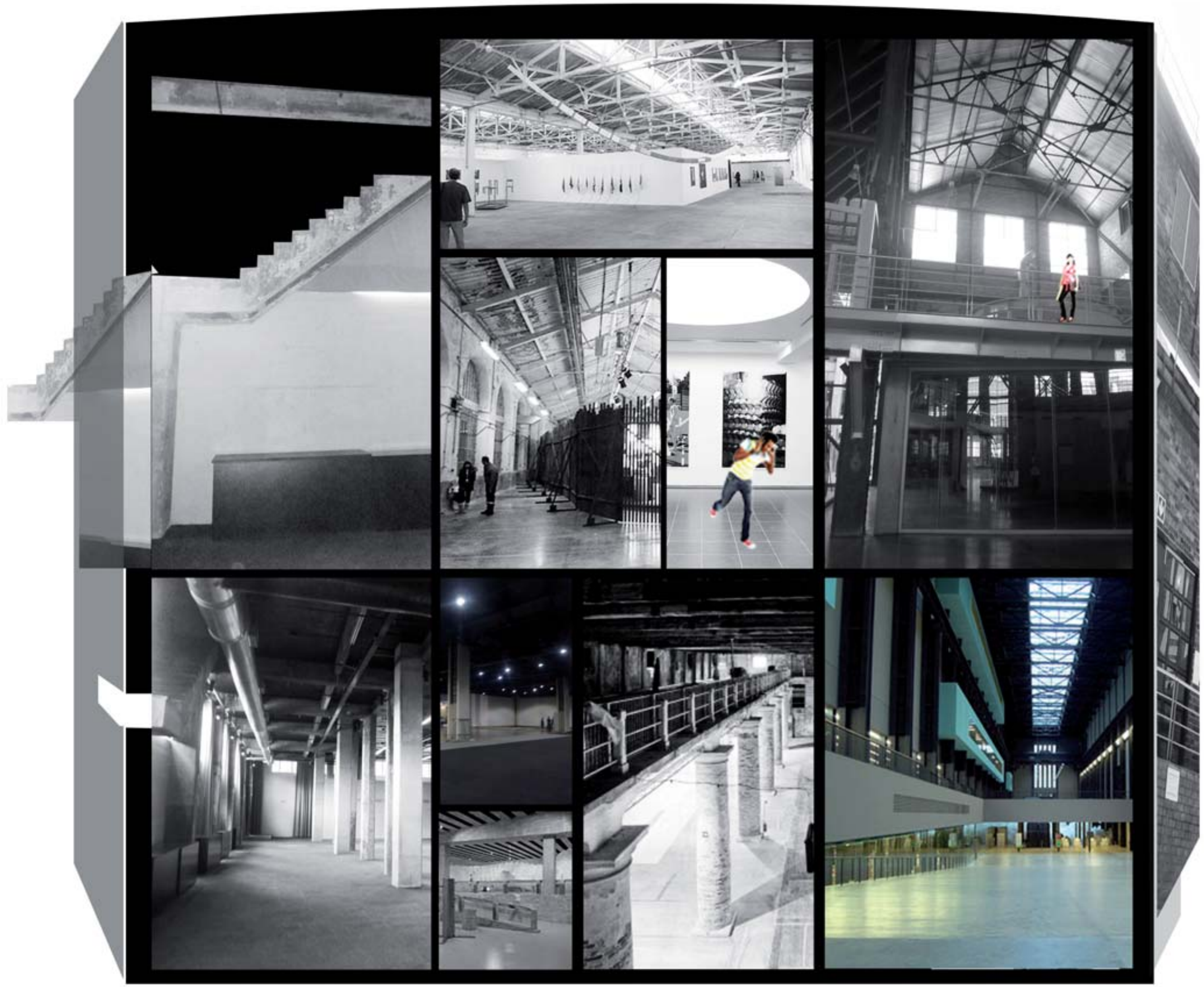
This chapter reviews a design approach that regards the environmental impact, mobility and lifespan of the installation. From this, pertinent criteria is derived and formulated towards rendering an effective design proposal.

The investigation points to an adaptive solution (design for disassembly) that can respond to various exhibition sites. Prefabricated elements with various assembly configurations offer an effective solution to constraints such as economy of manufacture, transportation and ease of assembly.

Following is a discussion of the cutting method (CNC) suitable for the construction (slotted) as well as the material type (plywood) chosen for the IFI Interiors Biennale 2013 installation.

FIGURE 5.1 Composite graphic depicting the conceptual approach: Inhabiting a warren of rooms

5.1 CONCEPTUAL APPROACH: INHABITING A WARREN OF ROOMS



From Edinburgh College of Art (ECA) interiors studio practice, derives a conceptual design approach (Hollis & Milton 2007:3). Three principles established by the ECA are realised in the nature of the IFI Interiors Biennale 2013 installation, namely, 'The language of architecture' relating to the exhibition host, 'rooms' communicating the habitation of the host as well as the installation's narration provided by the IFI Interiors Declaration. The seven interiors principles establish the rooms' 'sense of place' and cultivate 'the art of telling a good story'.

The Edinburgh College of Art interior design principles:

<u>1. The language of architecture</u>

All interior design sites or conditions are, literally or analogically, architectural.

<u>2. Rooms</u>

Rooms are the site of ways of behaving, a sense of place and occasion.

<u>3. The art of telling a good story</u>

Always altering things that already exist. The interior designer is not the author of a work, but its teller.

Spankie (Gigli et al. 2007:242) strengthens the premise of narration and sense of place, stating that while the exterior is described as a whole, the interior is described as a series of fragments that are defined by use, for example: kitchen, dining room or living room. She describes an interior as "...a sequence of spaces...particular moments on our way".

The conceptual approach generates a design strategy that regards the three-fold nature (architecture, warren of rooms and narration) of the IFI Interiors installation: Design for disassembly.

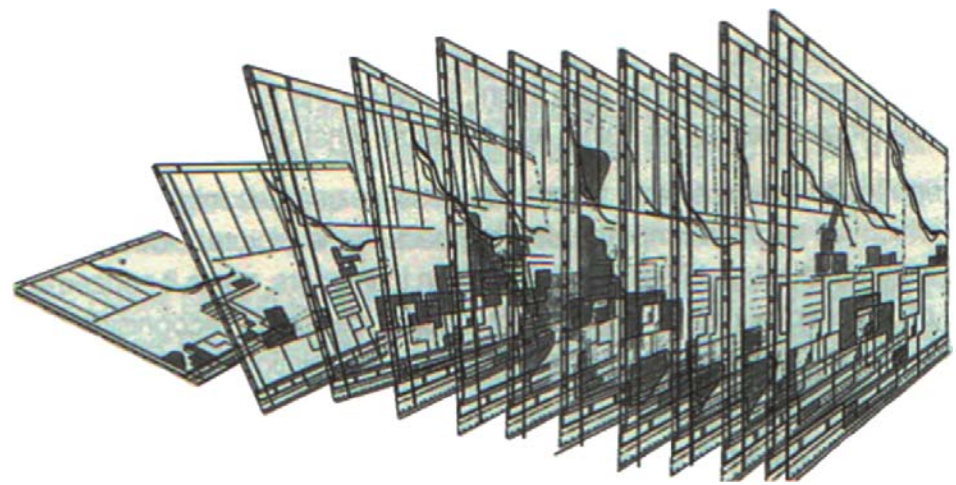


FIGURE 5.2 Fragmented section by Anne Algne

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5.2 REPAIR THE CYCLE: DESIGN FOR DISASSEMBLY

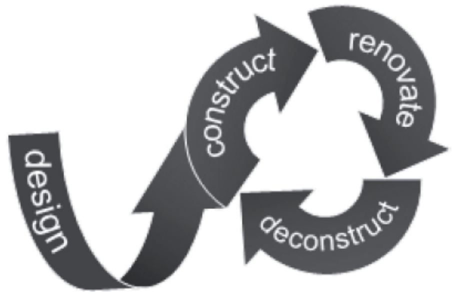


FIGURE 5.3 DfD process diagram

Current product design philosophy (and the design of the production process itself) often leans towards disposable objects with built-in obsolescence (Larson 2011). Design for Disassembly (DfD) is a design strategy that considers the future need to disassemble a product for repair, refurbishment or recycling (Diener 2010). Ultimately, consumer re-education without production redesign is an exercise in futility.

Given environmental and cost constraints, a designer's challenge is as much product de-creation as it is creation. Therefore, DfD strategies are applied throughout the entire design cycle; discover waste, set goals, create solutions, and then monitor results through production, release, use, and end-of-life.

5.2.1 DESIGN FOR DISASSEMBLY AND THE INTERIOR

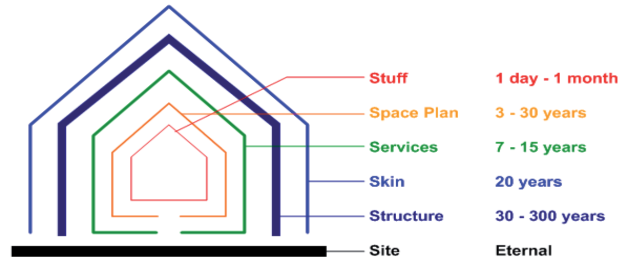


FIGURE 5.4 Stewart Brand's 6 S's from How Buildings Learn

When applying DfD to the built environment, it is necessary to understand the lifespan associated with the built environment. Duffy (Brand 1994:13) states that "a building properly conceived is several layers of longevity of built components." When considering Brand's 6 S's (1994:13) of permanence, one could derive that the stuff, services and space plan fall within the interiors discipline based on its lifespan, internal relation to the structure and intimate relation to the occupant.

Even though the lifetime of interior design is brief when compared to that of the building envelope, it could be argued that interior elements and systems design and construction overlook the conclusion of its short lifespan. There arises within the interiors industry a need for designing for disassembly, and not demolition.

5.2.2 ENVIRONMENTAL CONTEXT

GREEN BUILDING COUNCIL SA
MEMBER ORGANISATION

FIGURE 5.5 GBCSA logo

The Green Building Council of South Africa (GBCSA) encourages and recognises designs that minimise the embodied energy and resources associated with demolition (GBCSA technical manual 2008). The Design for Disassembly credit in the GBCSA technical manual facilitates the reduction in consumption of construction materials through reusing, redesigning or reconsidering conventional approaches to building. The whole lifecycle of a project, including the end-of-life reuse and recycling, and the materials used in its construction should be considered from the design stage to examine the materials, resources or components of the building fabric which might be taken apart and easily used again or recycled.

Semi-permanent construction methods could also reduce the construction time and waste production on site considerably. The dimensions of whole prefabricated units could be reduced if the component could be assembled with ease on site. This could reduce transport volume, thereby reducing its embodied energy. It also encourages the honest use of materials and reduces the need for toxic adhesives.

5.3 DESIGN TO C-O-N-N-E-C-T

The Design for Disassembly approach will influence the construction of both the prefabricated components and the IFI installation assembly on site.

Conventional exhibition construction methods are reviewed. Traditional methods, as well as contemporary fastener and adhesive-free joining methods (temporary joints), are investigated for the primary in-situ construction.

The premise of assembly is that the object or structure has one passive disassembled state and one or more assembled active states with the objective to save space. The IFI Interiors Biennale 2013 installation would exist within the passive state when transported between exhibition venues, and actively populate and react to the host space during exhibitions. During the assembled state the prefabricated pieces should be joined with ease and speed resulting in a temporary, sound structure with post-exhibition dismantling in mind.

5.3.1 EXHIBITION SYSTEM CONSTRUCTION

As stated in the previous chapter, two typical stands can be found at a commercial exhibition; the standard or shell scheme which could be personalised to a certain degree, and the custom built stand, bespoke in nature and designed and built for a specific event, rather than using 'off the shelf' components.

a) The Shell Scheme

Standard exhibition modules are designed to accommodate flexibility, reusability, and ease of assembly and dismantling. The most commonly used international system is the 'Octanorm Exhibition System' (Octanorm 2011).

The octanorm structure consists of aluminium extrusions with individual wall in-fill panels. The system dimensions and part numbers are identical worldwide. The kit of parts is easily transported, set up and dismantled.

Conclusion

Although the Octanorm Exhibition System construction is trusted and successful, it seems too standard and could lack the ability to create a sense of place to shape temporary interiors that convey the IFI Interiors Declaration.

FIGURE 5.6 Octanorm wall system at Markex 2011, SCC

FIGURE 5.7 Octanorm raised floor system at Markex 2011, SCC

b) The Custom Stand

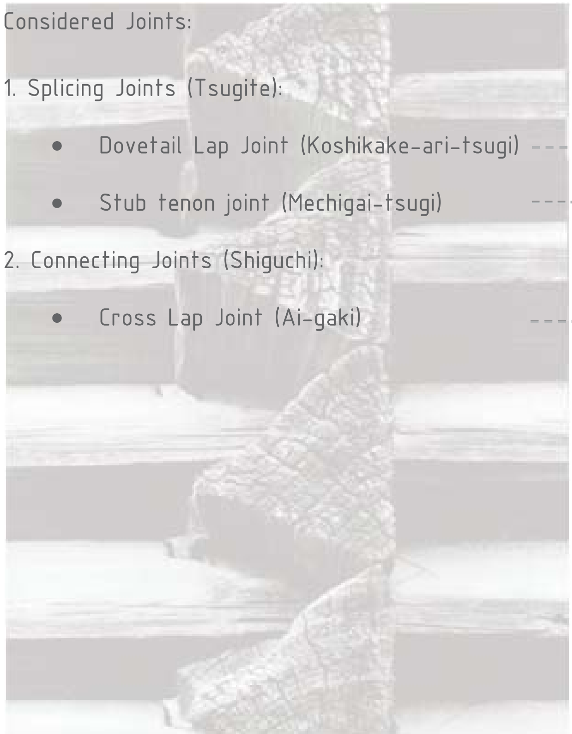
The bespoke stand is an event and client-specific structure, neither flexible nor reusable. Cilliers (2011) states that construction methods used, relate to that of shop-fitting-practices. Panel products such as chipboard and medium-density fibreboard (MDF) are used, being joined with nails and adhesives. The structure would then be demolished post exhibition by literally tearing the stand apart during the 'break-down' phase.

Conclusion

The design of the IFI Interiors Biennale 2013 installation falls within the premise of custom built stands, but the construction methods used are too permanent. A construction method that combines the adaptability of shell scheme construction with the design freedom of the bespoke stand will be explored.

5.3.2 EASTERN JOINERY

Traditional Japanese joinery represents complex timber joints. Members are held together without the use of adhesive, enabling the pieces to be disassembled as required.



Considered Joints:

1. Splicing Joints (Tsugite):
   - Dovetail Lap Joint (Koshikake-ari-tsugi)
   - Stub tenon joint (Mechigai-tsugi)
2. Connecting Joints (Shiguchi):
   - Cross Lap Joint (Ai-gaki)

FIGURE 5.8 'IID House' at Grand Designs Live 2011

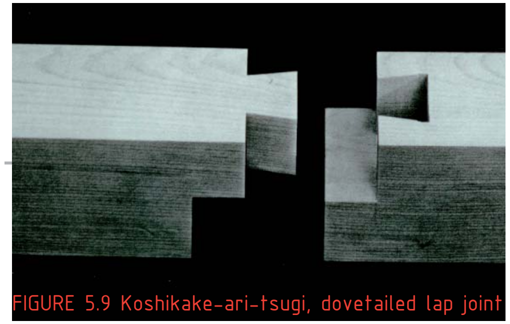


FIGURE 5.9 Koshikake-ari-tsugi, dovetailed lap joint

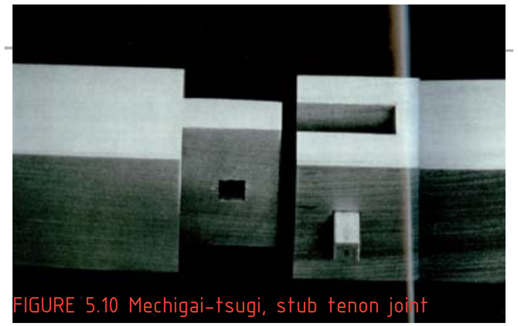


FIGURE 5.10 Mechigai-tsugi, stub tenon joint

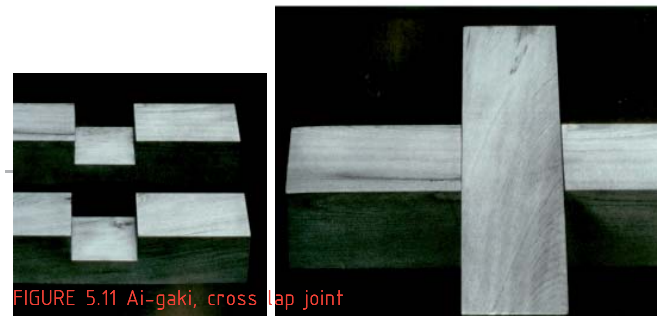


FIGURE 5.11 Ai-gaki, cross lap joint

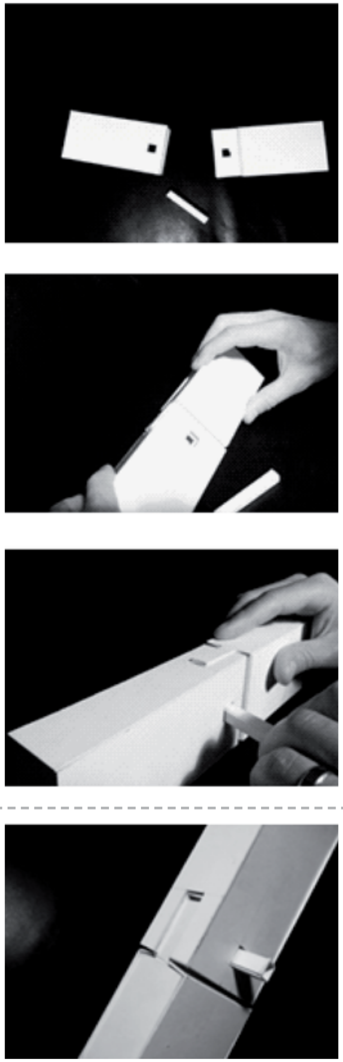


FIGURE 5.12 Prototyping the stub tenon joint

Conclusion

The stub tenon joint was explored by prototyping. It was found that the loose pin does not contribute structurally and it could complicate the storage and travelling process.

Seike (2010:100) classifies the two members of a joint as male or female. Ordinarily, whether a joint is male or female is determined by its shape (dovetail lap joint and stub tenon joint), but with some joints the two members are identical. The latter (cross lap joint) would provide more adaptability and versatility and will therefore be considered.

5.3.3 OTHER TEMPORARY JOINTS CONSIDERED:

a) Magnets

Barkwadraat by Greentunadesign and Joenes:

FIGURE 5.13 Barkwadraat magnet joint

The base of the table snaps together using strong magnets (Greentunadesign 2011).

b) Rubber rings

Poles Apart by Adrian Bergman:

FIGURE 5.14 Poles apart rubber ring joint

A modular retail display system that is only held together by rubber rings. Rubber rings on both sides of angled holes in the table top hold the legs in place (Bergman 2011).

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c) Wedges

Plywood birdbox by Jack Smith:


FIGURE 5.15 Plywood wedge joint by Jack Smith

The two flat pieces are bent and joined together using pins (Notcot 2011).

d) Shape and gravity

Traliccio by 4P1B Design Studio:


FIGURE 5.16 Shape and gravity joint by 4P1B Design Studio

Traliccio is a library wall in wood and metal. The shelves can be easily moved either vertically, by utilizing the teeth found on the back of the two supporting columns of wood, or horizontally so as to leave the user maximum freedom of composition (4p1b 2011).

e) Slotted joint

Link chair by Cragelmeyer:


FIGURE 5.17 Slotted friction-fit joint by Cragelmeyer

Slot together plywood chair. There are no tools, fasteners or glue needed (Cragelmeyer 2008).

f) Lap joint

Skalor shelving by Norman Hadler:


FIGURE 5.18 Slotted lap joint by Norman Hadler

A plug-in shelving system that can be assembled and modified quickly without tools. (Hadler 2011)

g) Interlocking shape and tension

Table by Plydea:


FIGURE 5.19 Tension joint by Plydea

The Plydea (plywood) products aim to use the thinnest material with the least waste. This is achieved by selective tensioning in the products. The furniture uses no fasteners and no tools are required for assembly. The parts are joined using integrated joints (Plydea 2011).

h) Twist joint

Stand up by Raw Studios:


FIGURE 5.20 Twist joint by Raw Studios

'Stand up' is a laptop stand. The stand, made of plywood, could be assembled using a twist joint (Raw Studios 2011).

i) Shape

Join table by ding3000:


FIGURE 5.21 Cut-out shape joint by ding3000

Three different cut-outs subtracted from the wooden legs fit into each other, providing structural stability without any tools, by means of the simple enigmatic principle of the slightly transformed devil's knot (ding3000 2011).

j) Stacking (gravity) and hook and loop (mechanical)

STACK by AWS Designteam:


FIGURE 5.22 Stack and mechanical joint by AWS Designteam

STACK is a modular furniture system that is reduced to just one element. The elements are stacked and stuck together with industrial Velcro (AWS Designteam 2011).

k) Stacking (gravity only)

Living nature installation by Hector Ruiz Velazquez:


FIGURE 5.23 Gravity construction joint by Velazquez

Creating space within space by stacking brown cardboard boxes with reusability, flexibility and driving the process (Velazquez 2011).

Conclusion

After an evaluation of the various types of temporary joints, it has been found that slotted construction offers the most potential in terms of:

- ease of (dis)assembly and versatility (simple joint)
- structural stability gained through the use of both gravity and friction fit: less assembly security in gravity only
- joint durability: magnets and Velcro become less effective over time
- minimum number of prefabricated elements: ease of assembly/organisation also pins, wedges and rubber bands could get lost or damaged during travelling
- planar nature of disassembled elements: space saving during transport and storage.

The slotted joint will be explored further.

5.4 SLOTTED CONSTRUCTION

Slotted construction is a friction fit joining method associated with flat pack construction and prefabricated planar elements. The system falls well within the design for disassembly premise.

5.4.1 JOINT ANALYSIS THROUGH DRAWING:

a) <u>ZA11 Pavilion</u> by Stefanescu, Bedarf and Hambasan (Jet 2011):

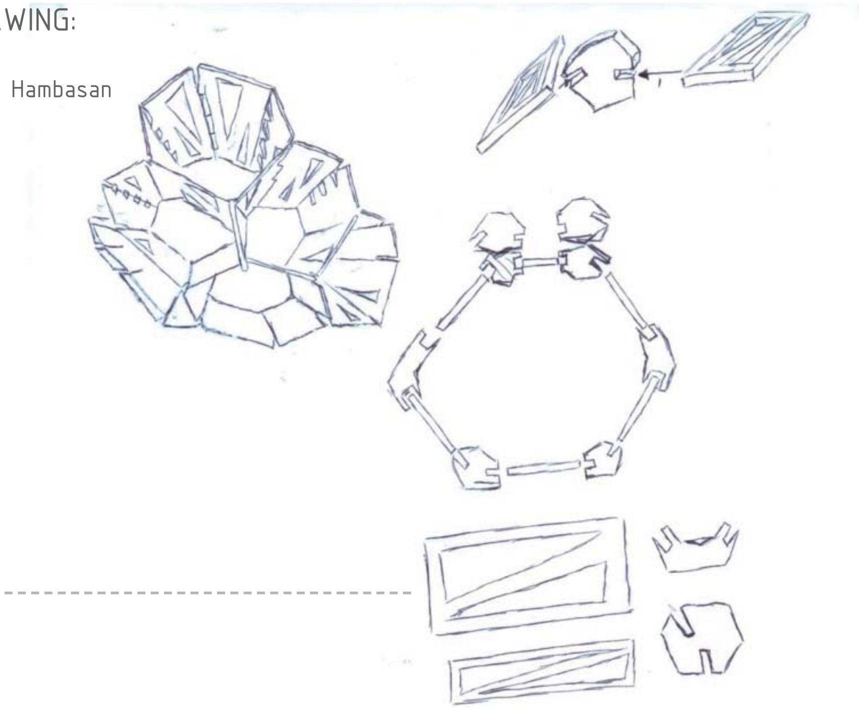
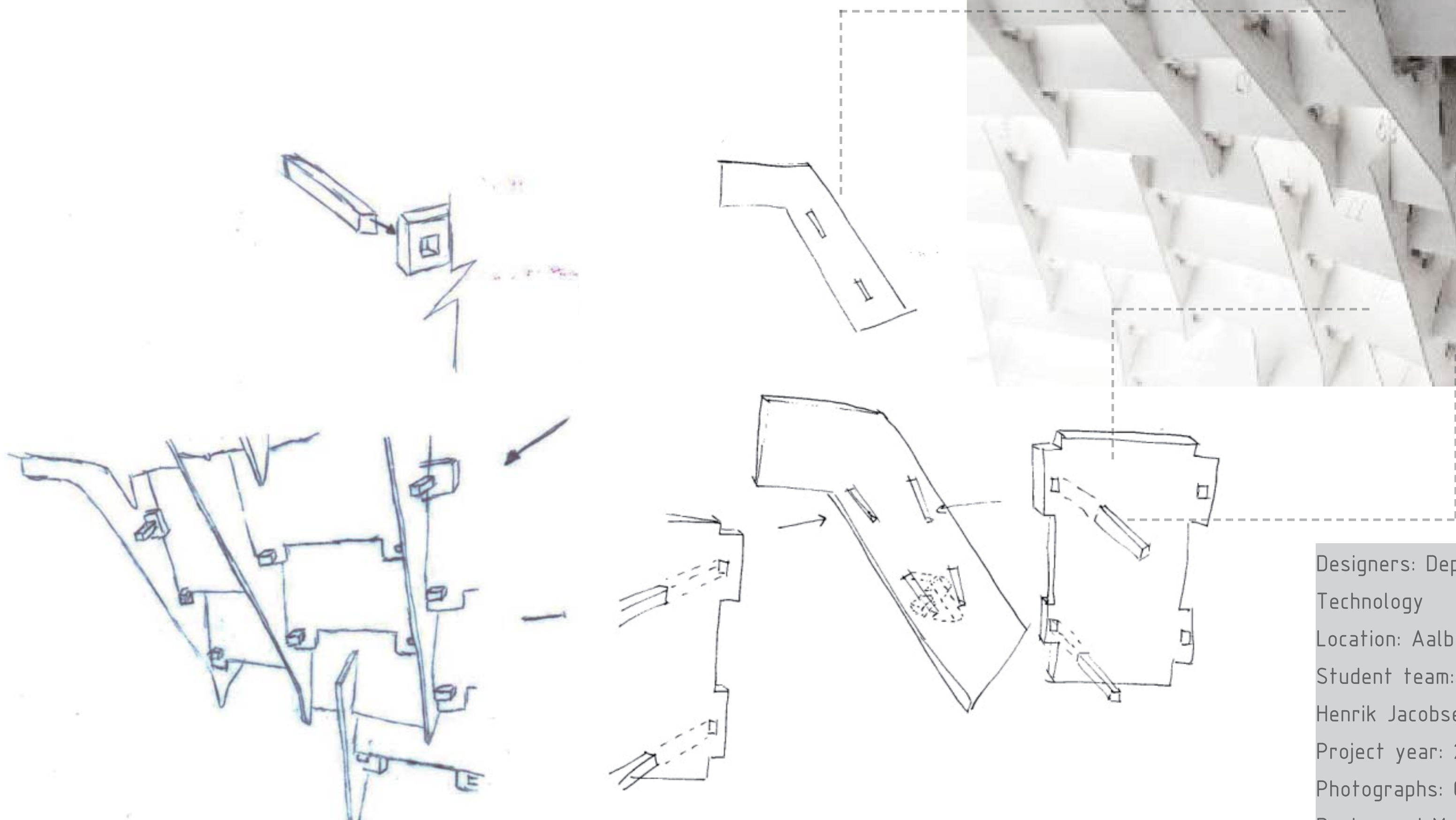


FIGURE 5.24 ZA11 Pavilion (Stefanescu, Bedarf and Hambasan 2011)

Designers: Dimitrie Stefanescu, Patrick Bedarf, Bogdan Hambasan
Location: Cluj, Romania
Project Year: 2011
Photographs: Patrick Bedarf, Georgiana Hlihor, Daniel Bondas, Georgeta Macovei

b) <u>Aero pavilion</u> by Department for Architecture Design and Media Technology, Denmark (Rosenberg 2011)



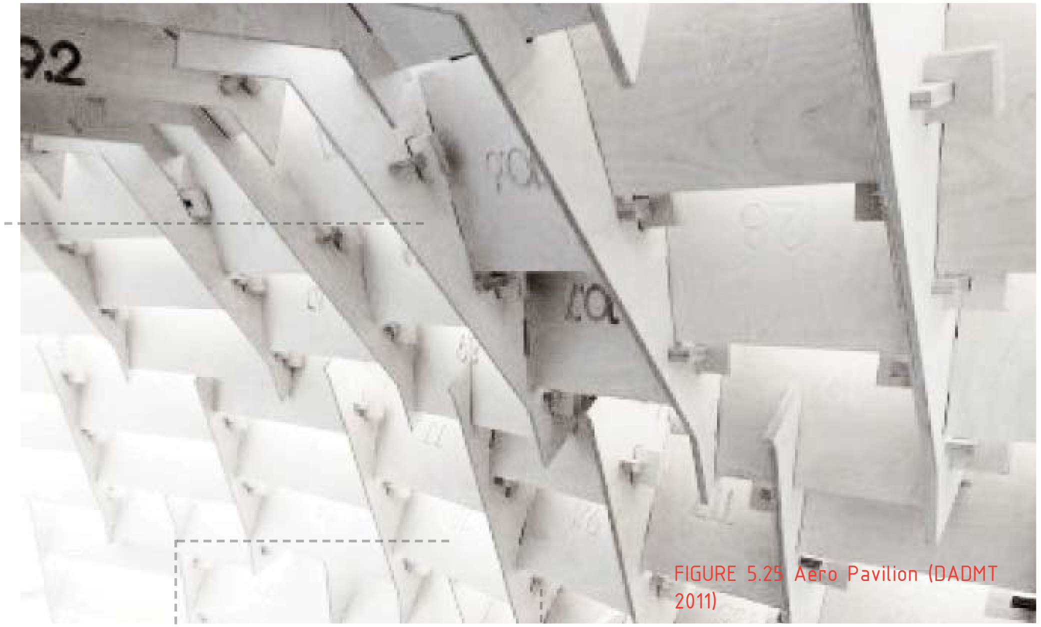


FIGURE 5.25 Aero Pavilion (DADMT 2011)

Designers: Department for Architecture Design and Media Technology
Location: Aalborg, Denmark
Student team: Jonas Nielsen, David Thomsen, Mads Skak, Henrik Jacobsen, Phillip Klausen, Laura Bogstad
Project year: 2011
Photographs: Courtesy of Department for Architecture Design and Media Technology

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Conclusion

The investigative drawings allow a conceptual understanding of slotted construction and its components. This joint will be further explored through physical and digital prototyping in the following chapter.

Another factor to consider is the organising systems and materials which these typologies are likely to require. These will be investigated in the next section of the chapter.

c) Slotted products:

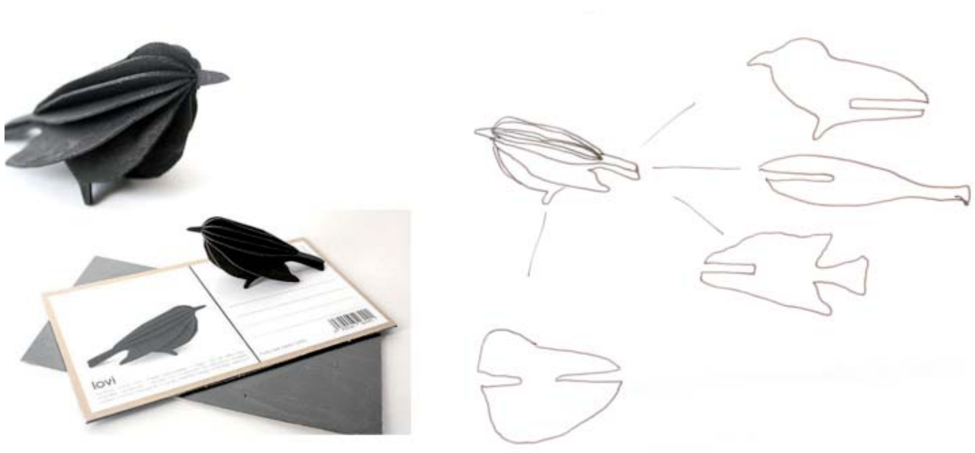

FIGURE 5.26 Plywood bird postcard by Lovi

FIGURE 5.27 Flat pack table (series ii) by Matthew de Moiser

5.5 FACILITATING THE ASSEMBLY

A practical organising system is investigated to ensure the success of in-situ assembly.

The international success of the project's onsite assembly relies on universal arrangement and communication methods.

Both colour coding and numeric organisation can be understood internationally, bridging the language barrier.

5.5.1 COLOUR CODING

Colour coding in architecture is often used to orientate the user, as is evident at Madrid Barajas Airport Terminal 4, also known as the Rainbow Airport.

FIGURE 5.28-29 Interior and exterior views of Madrid Barajas Airport Terminal 4 (Renau 2004)

Designers: Richard Rogers and Antonio Lamela
Location: Madrid, Spain
Project Year: 2004
Photographs: Manuel Renau

Application

The IFI Interiors installation will use colour coding as primary ordering system. A specific colour is allocated to each principal section to aid assembly, disassembly and storage.

The short life span associated with interior design influences its trendy nature. The Pantone fashion report (Pantone 2011) inspired the colours chosen to translate this nature.

- Pantone 13-0632
- Pantone 15-1050
- Pantone 16-1546
- Pantone 19-1764
- Pantone 18-3027
- Pantone 19-1526
- Pantone 16-5418
- Pantone 18-0538
- Pantone 14-1107
- Pantone 14-1307

5.5.2 NUMBERING

Secondary organisation is accomplished by numbering the elements.

FIGURE 5.30 EXOtique (PROJECTiONE 2011)

FIGURE 5.31 Aero Pavilion (DADMT 2011)

EXOtique by PROJECTiONE (http://Projectione.com 2011)

Aero pavilion by Department for Architecture Design and Media Technology, Denmark (Rosenberg 2011)

Designers: PROJECTiONE
Location: Ball State University, Muncie, Indiana, USA
Project year: 2011
Photographs: Courtesy of PROJECTiONE

Designers: Department for Architecture Design and Media Technology
Location: Aalborg, Denmerk
Project year: 2011
Photographs: Courtesy of DADMT

Application

The ten digit (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) numeral system known as Hindu-Arabic numerals are the most commonly used (Britannica 2011) and will therefore be applied to the IFI Interiors installation.

5.6 MATERIAL SELECTION

The repeated (dis)assembly of the IFI Interiors installation and the specific joint requires a suitable material. A wood derivative panel product is considered, based on economic, structural and environmental viability.

Timber is a natural material, which provides an extensive range of species and grades. Faults such as shrinkage and deformation result in unwanted structural movement. The development of wood derivatives with the use of mechanisation and chemistry allow timber to be reproducible, uniform and trustworthy (Kula and Ternaux 2008:20). Wood derivatives such as medium-density fibreboard, oriented-strand board, chipboard and plywood are also known as Engineered Wood Products (EWP).

5.6.1 PLYWOOD

Plywood is considered based on its predominant use in the slotted construction industry. The rationale for investigating plywood as a feasible alternative is derived from its:

- dimensional stability
- flatness
- homogenous edge (deciding factor)
- flexibility
- equal strength lengthways and perpendicular to this (deciding factor)
- possibility of being given fire rating (deciding factor)
- suitability for machining (deciding factor)
- renewability and recyclability
- economical viability
- weight
- availability

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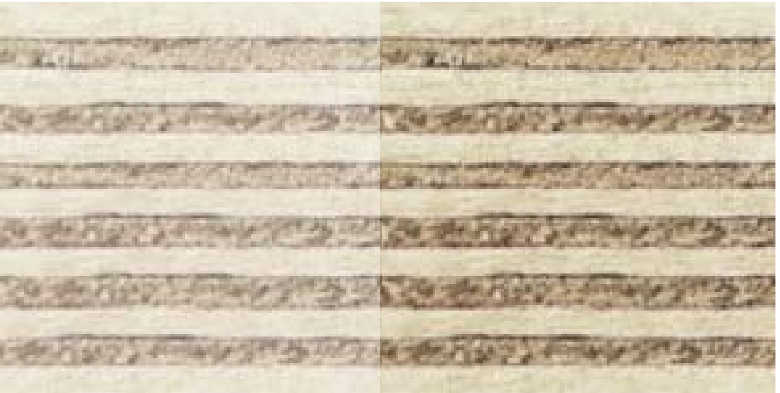

a) Description

Plywood is a composite sandwich material which allows certain limitations and drawbacks of wood to be resolved. It is fabricated from unrolled sheets of veneer, each called a ply, always in an odd number (3-15), where the direction of the grain is alternated for each ply.

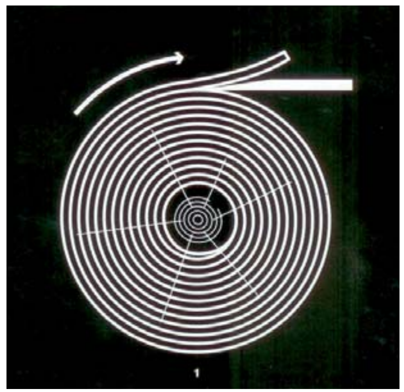

FIGURE 5.32 Veneer production: continuous rotary cutting (Kula and Ternaux 2008:19)

b) Fire Resistance

Other factors to consider are exhibition material, safety and fire implications. The SCC states that "any flammable construction, building and/or other materials shall be treated with a fire retardant substance and certified as such prior to commencement of construction" (Annexure B: SCC Interim Exhibitor Handbook).

For plywood, fire retardant treatments are impregnated into structural sheathing plywood (LeVan & Collet 2011). Fire retardants work by altering the combustion chemistry of wood. They reduce the flammability of wood by (1) reducing the rate at which flames travel across the wood surface, thereby eliminating progressive combustion, and (2) reducing the rate of heat release.

c) Sustainability / Lifespan

Plywood as a building material is a source of formaldehyde exposure in buildings. Conventional plywood contains urea-formaldehyde. Formaldehyde is classified as a volatile organic compound (VOC). VOC's are chemicals that become a gas at room temperature. As a result, products made with formaldehyde will release the gas into the air. This is called off-gassing. If high concentrations of formaldehyde are off-gassed and breathed in, it could cause health problems (Minnesota Department of Health 2010).

To solve this indoor environmental problem, the use of PureBond technology which utilises a formaldehyde-free adhesive is proposed. Replacing traditional urea formaldehyde (UF) plywood construction with non-toxic soy-based PureBond enables a VOC free exhibition environment (Oosterhouse 2011).

FIGURE 5.33 FSC logo

The timber is sourced to manufacture the plywood to be certified by the Forest Stewardship Council™ (FSC). FSC certified forest products are verified from the forest of origin through the supply chain. The FSC label ensures that the forest products used are from responsibly harvested and verified sources (Forest Stewardship Council 2011).

d) Plywood Disposal

The plywood used for the IFI Installation could be disposed of post IFI Interiors Biennale 2013 in three ways according to Plywood manufacturers and suppliers WISA (WISA 2011). The three possible discarding methods are:

i) Recycling

The most recommendable way to dispose of plywood is to find a new end use application for it.

ii) Incineration

Plywood has a good fuel value and it can be utilised as energy. All uncoated plywood panels and plywood panels coated with phenolic films can be burned at power plants with suitable conditions, where, for example, the temperature is high enough (min. 850ºC).

Wood is renewable energy source so burning wood does not increase the amount of carbon dioxide released to the atmosphere – tree bounds the same amount of carbon for growth as it releases when wood is burned for energy or decaying.

iii) Landfill

Plywood products can be dumped in a landfill, with the exception of impregnated plywood. Plywood decomposes very slowly

Conclusion

As the preferred plywood disposal method (WISA 2011), a new end use application for the IFI Interiors Installation is suggested when the system is damaged and worn beyond the desired use and effect. When disassembled (as intended) the larger plywood panels could be re-cut and used as hidden structural elements or formwork in construction. Smaller panels could be altered to become components of cabinetry or furniture.

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5.7 CNC ROUTING

Slotted construction requires exact precision within the joint. A CNC router has a tolerance of approximately 0.05mm and would allow the IFI Installation components to join accurately during assembly.

Numerical control (NC) refers to the automation of machine tools that are operated by programmed commands encoded on a storage medium, as opposed to manually controlled via hand wheels or levers, or mechanically automated via cams alone (MultiCam 2010).

Computer numerical control (CNC) machining process allows end-to-end component design using computer-aided design (CAD) and computer-aided manufacturing (CAM) programs. The programs produce a computer file that is interpreted to extract the commands needed to operate a particular machine via a post-processor, and then loaded into the CNC machines for production.

CNC routing is a powerful overhead router moving under computer control to cut and profile sheet materials laid on a bed surface. The bed size or working envelope (image) varies between CNC routers. A large machine could house panel sizes of up to 5100 x 2100mm with a material thickness of 300mm.

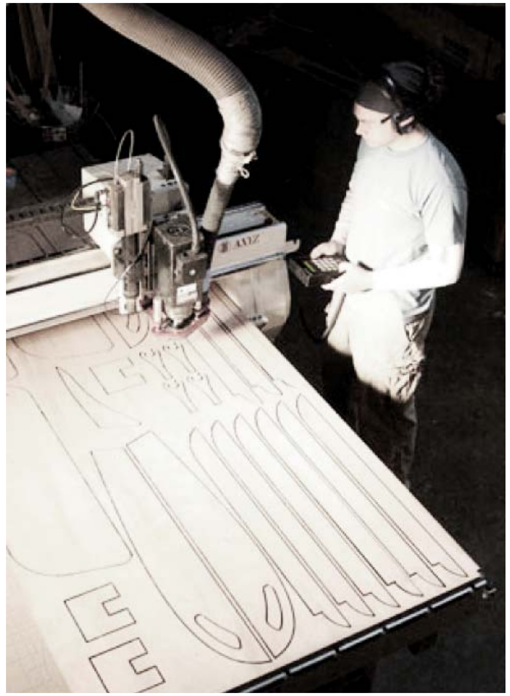

FIGURE 5.34 CNC routing process (Chesapeake Light Craft 2011)

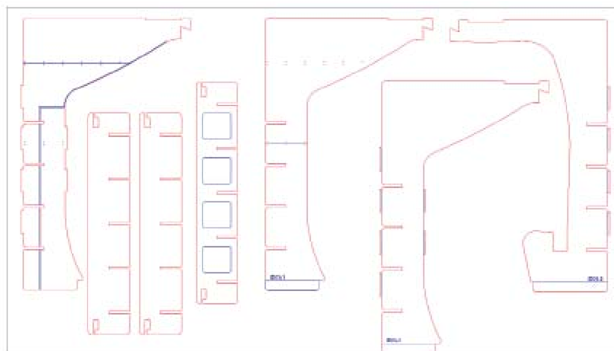

FIGURE 5.35 CAD document for CNC cutting

When preparing a CAD drawing for CNC routing, the separate pieces are placed on a layout which corresponds to the size of the panel used. The panel size is determined by standard panel and CNC working envelope dimensions.

The layout of the design in CAD should consider the economic use of material by reducing off-cuts.

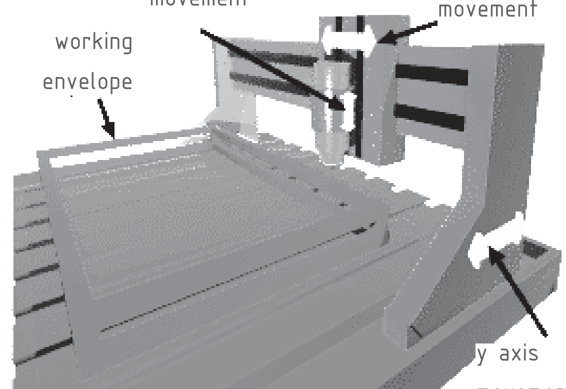

FIGURE 5.36 CNC router (Schenectady Schools 2011)

5.8 ASSEMBLY PRECEDENT STUDIES

5.8.1 THE ARCHITECTURAL ASSOCIATION SUMMER PAVILIONS

2005/6 Fractal Pavilion

2006/7 Bad Hair Pavilion

2007/8 Swoosh Pavilion

2008/9, Driftwood Pavilion

Designers' notes: Architectural Association (AA)

The AA Summer Pavilion programme has been running since 2005. The AA have produced a student-designed pavilion at Hooke Park each year that has explored the architectural potential of experimental timber construction.

Review: Author

The AA Summer pavilions create interactive temporary spaces. Low-tech timber construction is used to generate elegant, contemporary designs. The on-site assembly of this structural typology require prefabricated components with mechanical joints. These attributes influence the design development of the IFI Interiors Installation 2013.

Designers: AA students
Location: Hooke Park, London, United Kingdom
Project Year: Annually
Photographs: Courtesy of AA

FIGURE 5.37 Fractal Pavilion (AA 2005/6)

FIGURE 5.38 Bad Hair Pavilion (AA 2006/7)

FIGURE 5.39 Swoosh Pavilion (AA 2007/8)

FIGURE 5.40 Driftwood Pavilion (AA 2008/9)

5.8.2 MUSEUM OF MODERN ART (MOMA) HOME DELIVERY: FABRICATING THE MODERN DWELL-ING

Home Delivery: Fabricating the Modern Dwelling is both a survey of the past, present and future of the prefabricated home, as well as a building project on the Museum's vacant west lot (MOMA 2008).

Four prefabricated full-size homes were commissioned and built outside the museum. The life-size exhibition allows visitors to walk through the structures, which include both currently viable domestic structures and futuristic visions. The exhibition attests to the diversity of procedural, formal and technological innovation in prefabricated architecture, and illustrates its role in architectural invention, material and formal research, and sustainability.

"This diverse collection of material illustrates how the pre-fabricated house has been, and continues to be, not only a reflection on the house as a replicable object of design, but also a critical agent in the discourse of sustainability, architectural invention, and new material and formal research." (MOMA 2008)

'Housing for New Orleans' (Massachusetts Institute of Technology School of Architecture and Planning) and the 'Burst home' (Jeremy Edmiston and Douglas Gauthier, New York) are discussed based on their relevance to the IFI Installation.

a) Housing for New Orleans

<u>Designer's notes: Massachusetts Institute of Technology School of Architecture and Planning</u>

"The project was interesting in its juxtaposition of opposites: a highly digital process one day, hammering and wedging the next; automated and technically innovative machining of components... coupled with an ancient ethos of friction-joined parts; a very small, wooden structure designed for a region in desperate need of homes to inhabit fields of now empty lots... displayed in Midtown Manhattan.

As a structure, it is a mixture of tough computing, tough fabrication, and tough assembly.

We assembled the structure and trim in only 18 days with an average of three people every day." (Sass 2008)

FIGURE 5.41 Friction-fit construction: Housing for New Orleans interior (Barnes 2008)

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Review: Author

The friction-fit construction of prefabricated elements and the use of plywood in this construction typology are influential to the project. The ease and speed of assembly, evident from the small assembly team and brief construction time, are deciding factors in the IFI Installation design process.

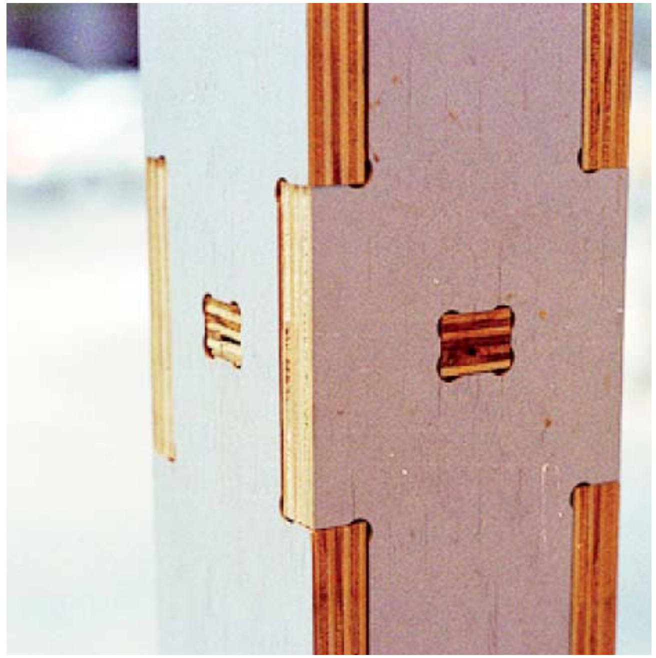

FIGURE 5.42 Friction-fit detail: Housing for New Orleans (Barnes 2008)

Designer: Massachusetts Institute of Technology School of Architecture and Planning with Associate Professor Lawrence Sass (Cambridge)

Location: New York, United States of America

Project Year: 2008

Photographs: Richard Barnes

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b) Burst Home

Designer's notes: Jeremy Edmiston and Douglas Gauthier

The BURST*008 team has been on site longer than any of the teams from the other houses in the show. That is because the house functions not as a ready-made but also as a new type of prefabricated building system. It might be more accurate to call BURST*008 a kit home.

While prefabricated houses are often made up of several large parts slotted together on site, BURST is made up of thousands of individual pieces.

Review: Author

The Burst home consists of prefabricated components constructed on site. Whilst the premise of the structure is within the realm of design for disassembly, the mechanical and diagonal joints as well as unmarked elements used, result in extended construction time.

The use of plywood as primary construction material influenced the project material choice.

FIGURE 5.43 Fin construction detail: Burst Home (Barnes 2008)

Designer: Jeremy Edmiston and Douglas Gauthier (BURST*008)

Location: New York, United States of America

Project Year: 2008

Photographs: Richard Barnes

FIGURE 5.44 fin construction: Burst Home (Barnes 2008)