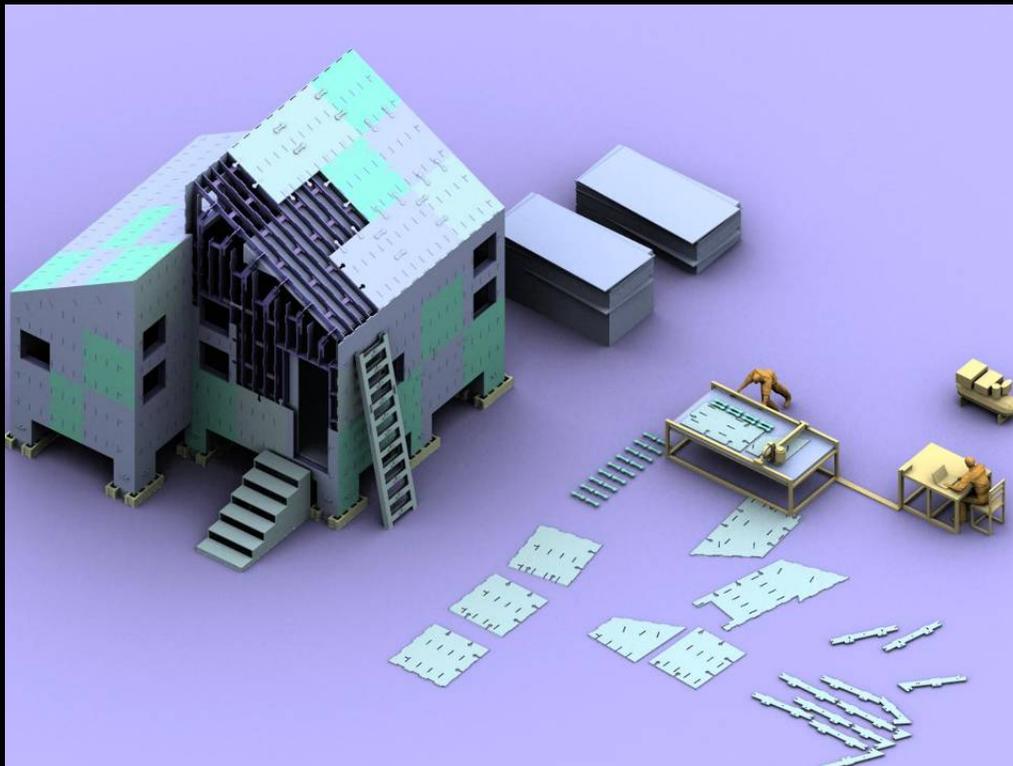


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4.510 Digital Design Fabrication
Fall 2008

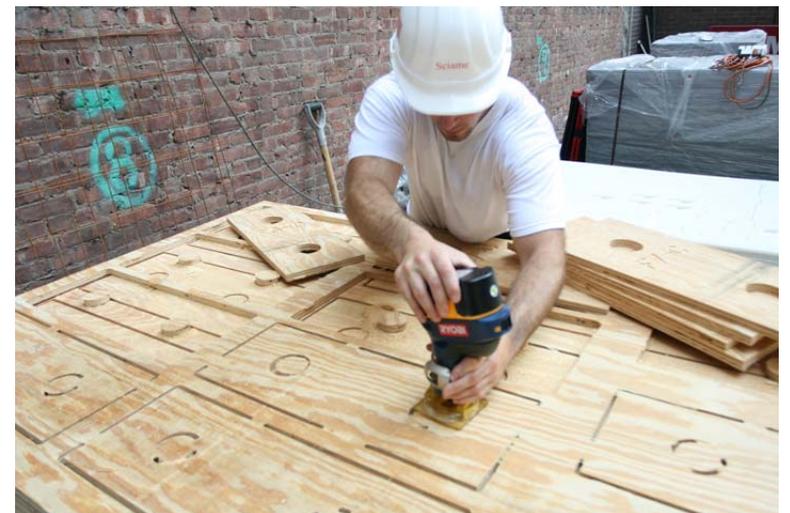
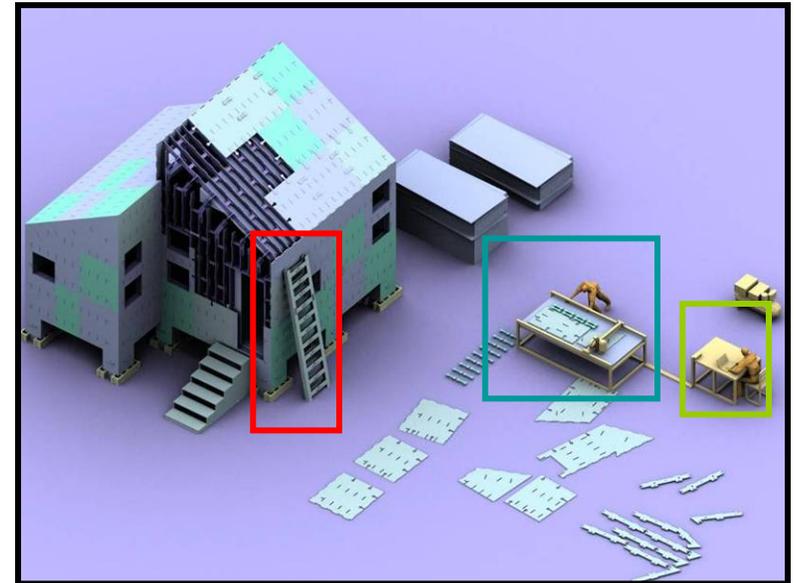
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Digitally Fabricated Housing



Digitally Fabricated Housing

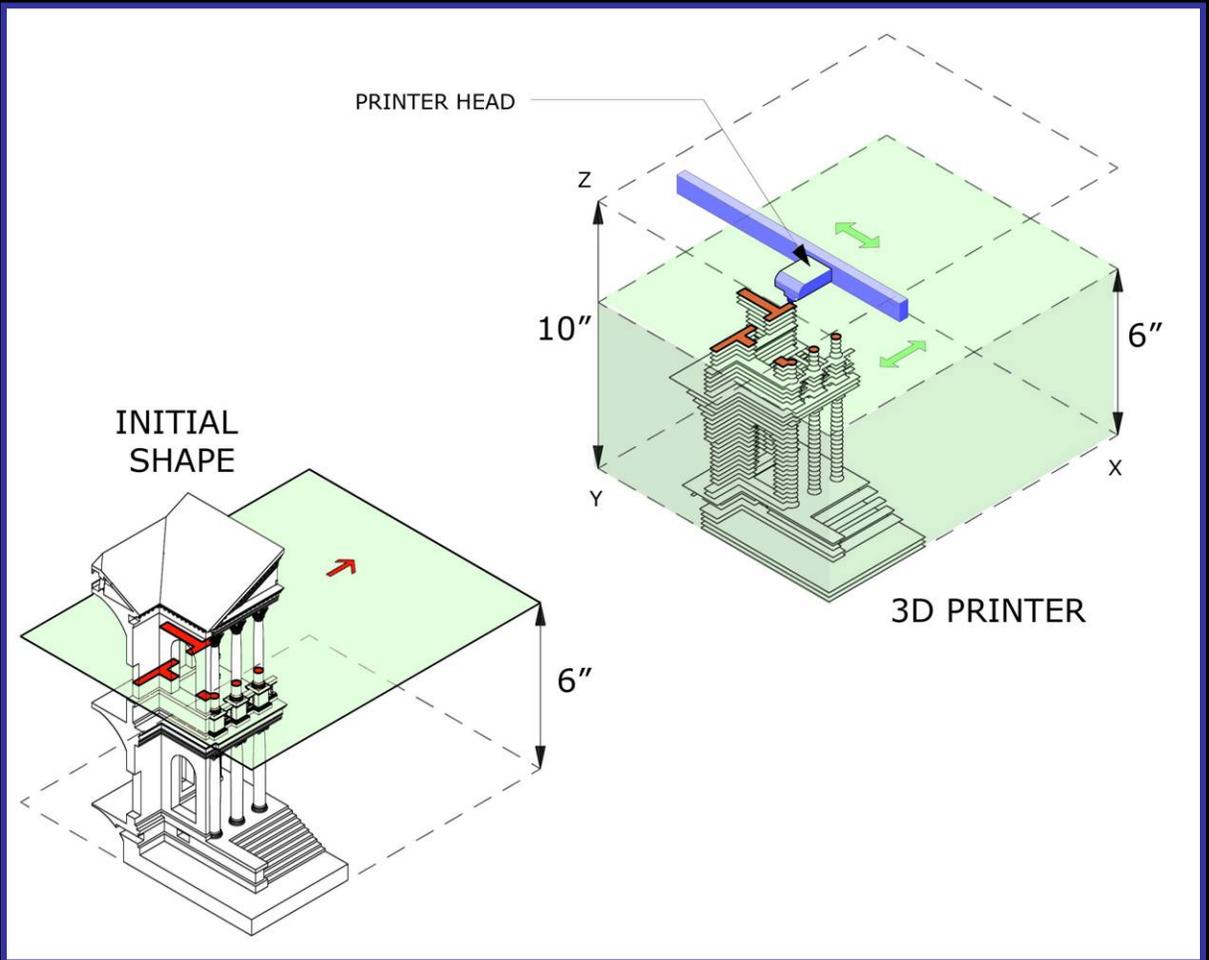
- Concept - Shape to machine delivery by computer
- Challenge - Invention of a production system for the process
- Purpose - Faster, cheaper and higher quality in construction



Inspiration

Computing a model

1. Precise measuring
2. Manufacturing Layered
3. Automated Assembly



Steps

(Design & Physical Grammar)

[1]

Design &
3D printing

[2]

Product
modeling

[3]

manufacturing

[4]

Delivery &
Assembly

[5]

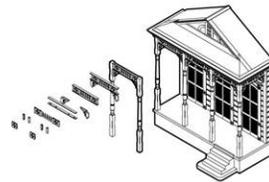
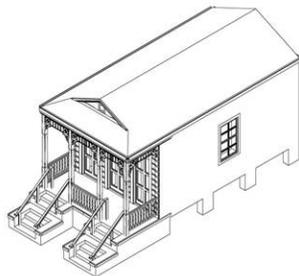
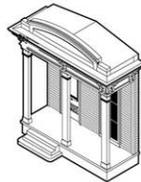
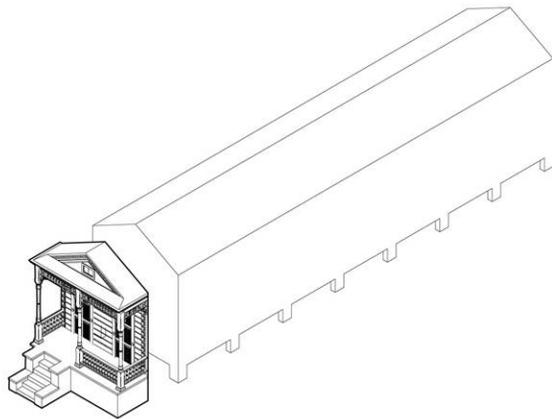
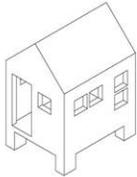
Siding &
Ornament.



Production: Design

(Design Grammar)

Step 1



Stiny, G., *Palladian Grammar*, Environment and Planning B, Vol. 1975

Duarte, J., *Siza Grammar*, Environment and Planning B, Vol. 2004



Production: Product Modeling

(Construction Grammars)

Step 2

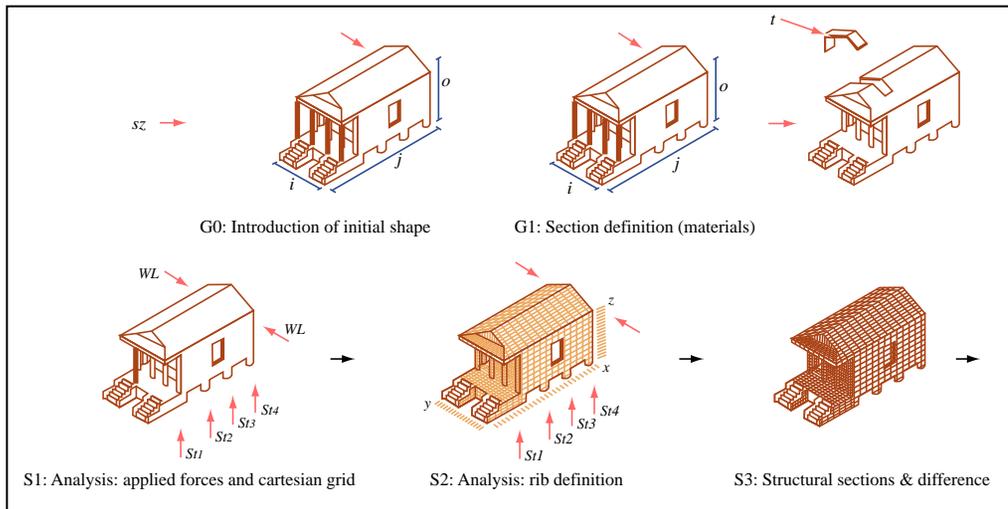


Figure by MIT OpenCourseWare.

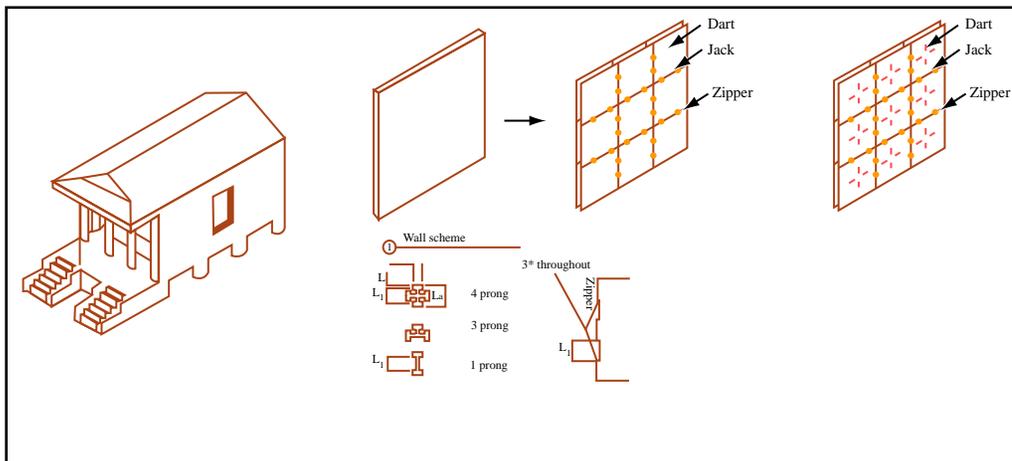


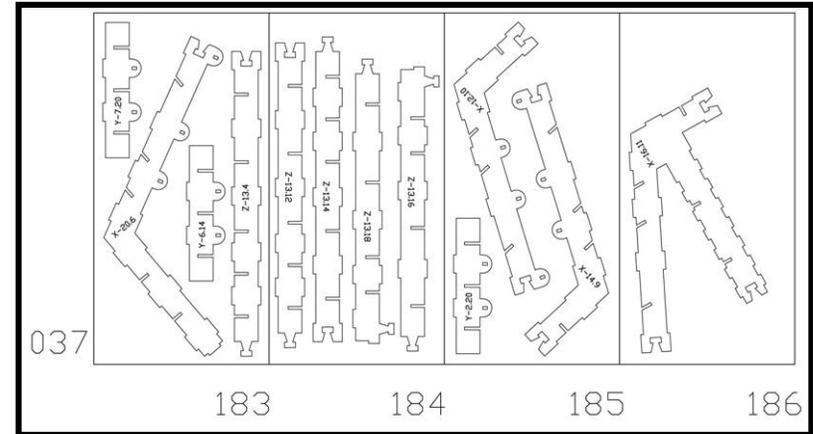
Figure by MIT OpenCourseWare.



Production: Manufacturing

(Computing for manufacturing)

Step 3



On-Site: Structure

(Assembly Only)

Step 4



On-Site: Ornamentation

(Multi-lateral Layering)

Step 5

