

# · INTROSPECTION OF THE FRAGILE CREATURE

PAVILION

BRNO · CZECH REPUBLIC ·

DESIGN :



TEAM :

ROBERT VIERLINGER ·  
EVA BLSÁKOVÁ

SEMESTER :

SS · 2013 ·

UNI :

DIE ANGEWANDTE · FAKULTA  
ARCHITEKTURY VUT BRNO

SUPERVISION :

ROBERT VIERLINGER ·  
ANDREI GHEORGHE

COURSE :

ON DIGITAL FABRICATION

**the workshop's intent** is to explore the use of parametric tools within the process of designing a pavilion, generating fabrication data through labelling and nesting, cutting the parts on a cnc mill, and finally building up a full 1:1 structure on site.

**the choice of material and machines** is set by the beginning of the workshop, as to constrain the design of a structural system to a certain pool of possibilities, that needs no additional elements, other than what can be fabricated by the provided resources. these are plywood plates of 4mm in thickness and dimensions of 90 x 200 cm, to be cut by a cnc mill.

**my proposal**, which got chosen by a voting of tutors and students, aims to be structure and skin at the same time : a system of self-interlocking elements that can be extracted from flat sheets, but ultimately together form a volumetric puzzle, rather than a surface dividing interior from exterior.

**the building site** is a semi-public passage through the old town of brno. as a tribute to the arcs and columns that adorn the open courtyard of the brno house of arts, we continue a formal language of domes as an extension of the arc in 3<sup>rd</sup> dimension.

**the overall shape** of the pavilion comprises of two spherical shells that meet asymmetrically, one being smaller than the other. the twin dome dissolves into a grid of spikey, deformed rectangles overlapping in two layers. a lower row of elements is extended to a continuous bench-row and serves as seating possibility.

along with the **dynamic transition** between the elements' structural functions, there is a gradual transition in their shapes : the parts differ from wide horizontal plates that offer space to sit, over vertically long-stretched elements that resemble strongly bent columns, to very spikey supporting parts, which reinforce the columns and benches. the spikes and strongly articulated arcs create an explosive appearance to the outside, but embrace the audacious visitor on the inside.



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SITE - DATA

court house of the lords of kunštát  
courtesy of the brno house of arts  
602 00 brno  
czech



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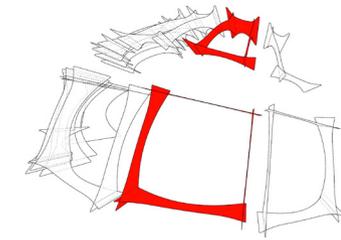
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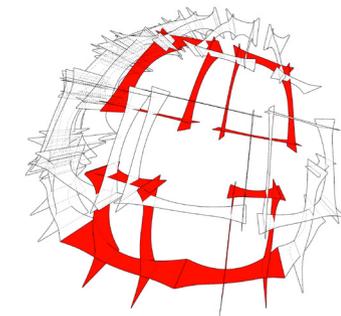
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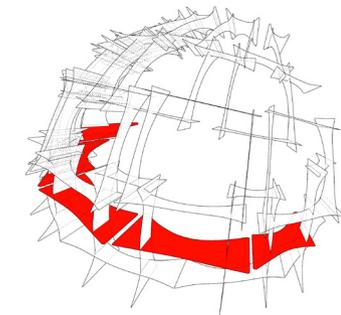
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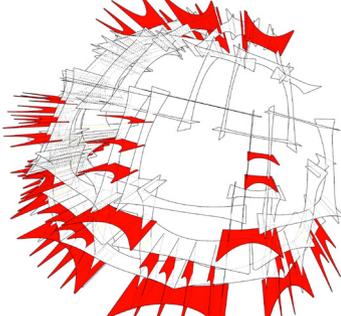
1



2



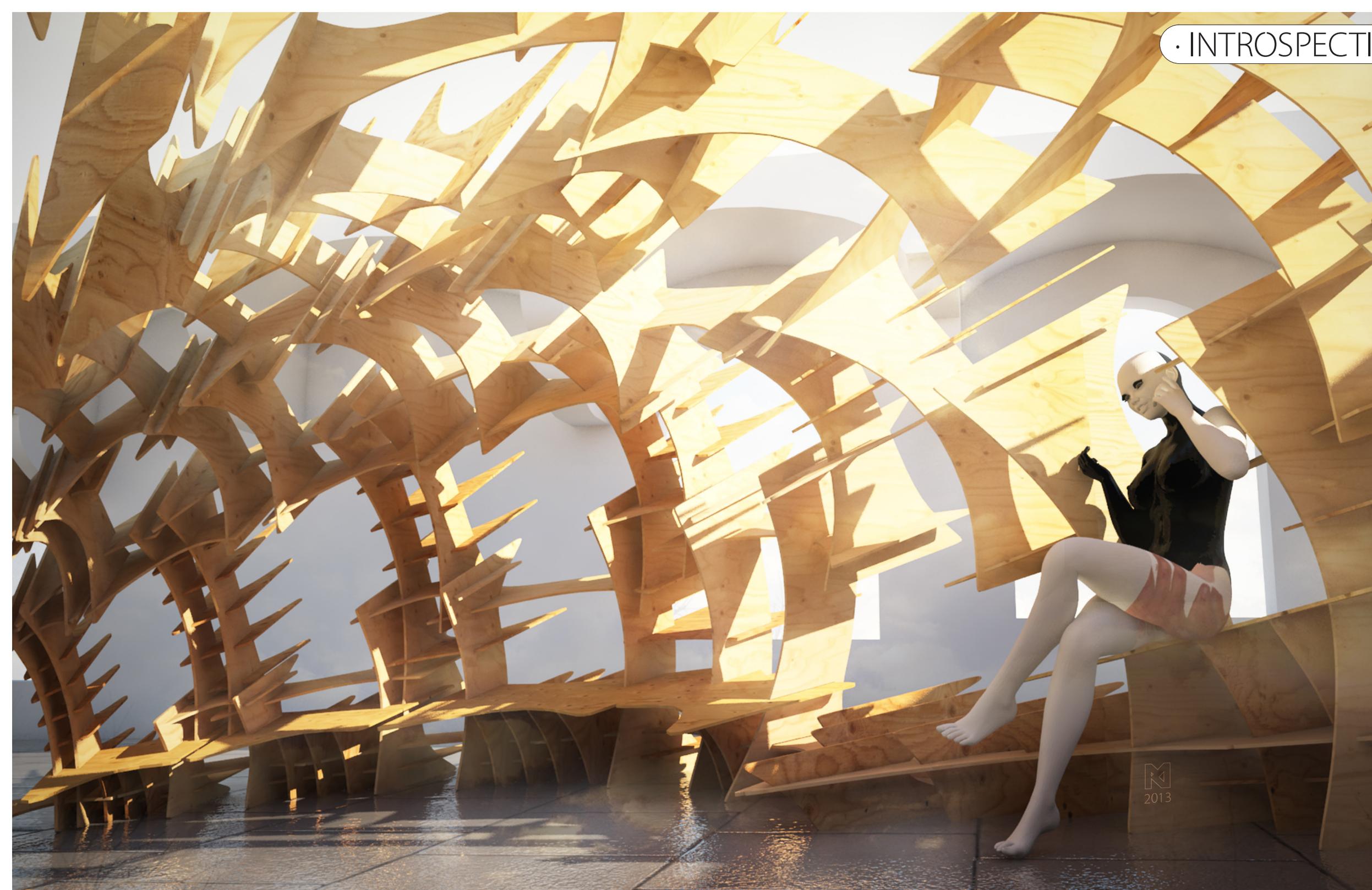
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4

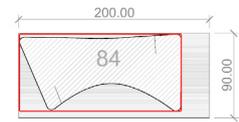
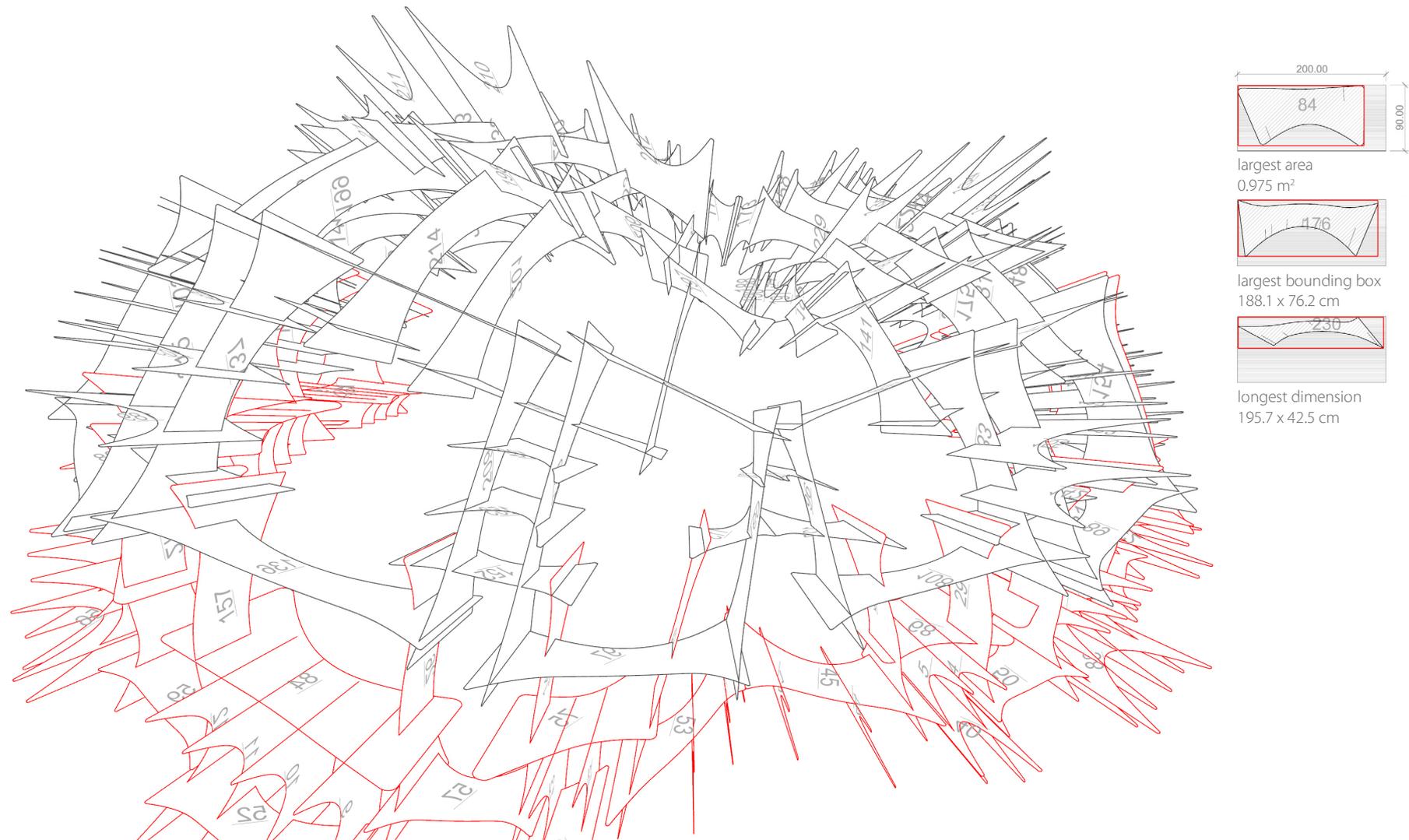
STRUCTURAL SYSTEM  
shown on one dome :

- 1: first layer of rectangular grid mapped onto spherical domes
- 2: two layers of rectangular grids mapped onto spherical domes overlapping and interlocking each other lower horizontal row extends to form a continuous bench row
- 3: additional second horizontal row stiffening out large vertical column row
- 4: spikey elements as reinforcement of columns and benches

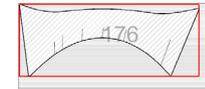


M  
2013

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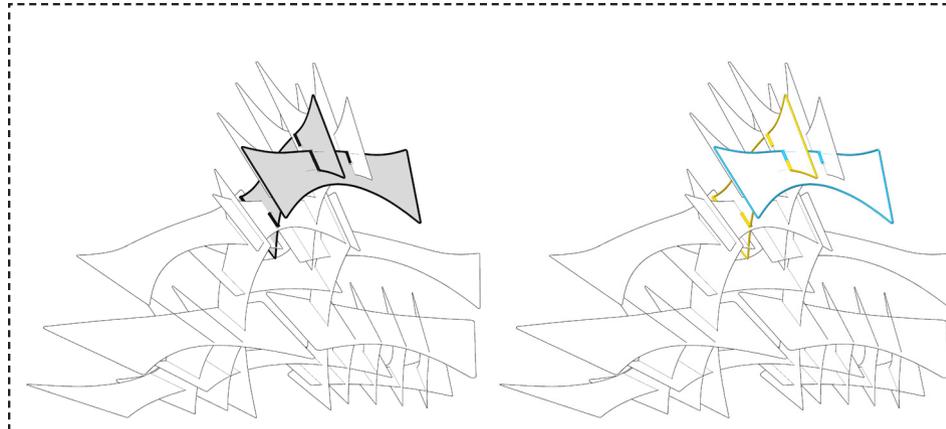
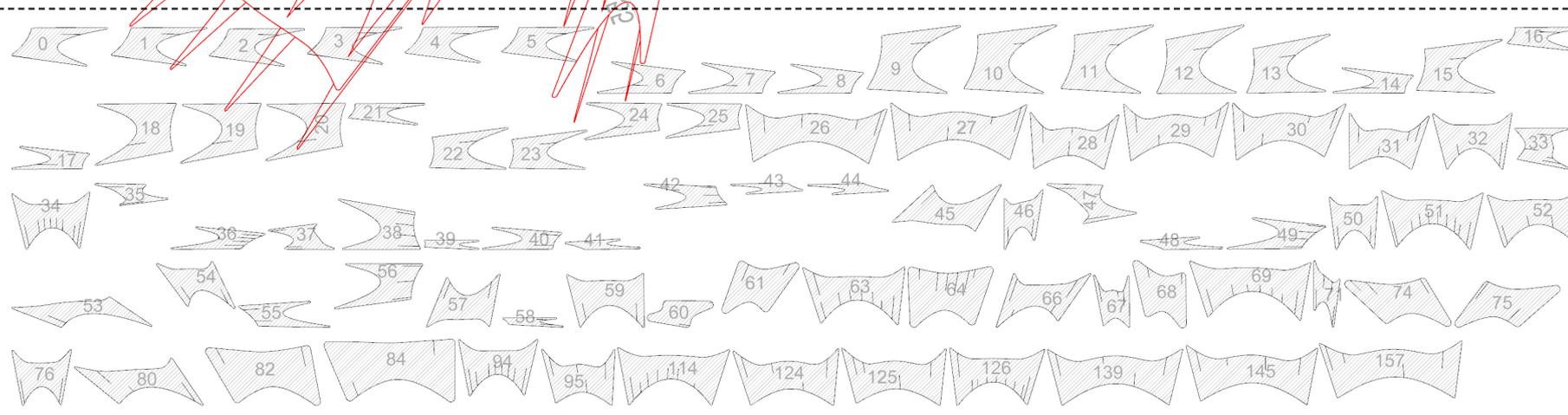
largest area  
0.975 m<sup>2</sup>



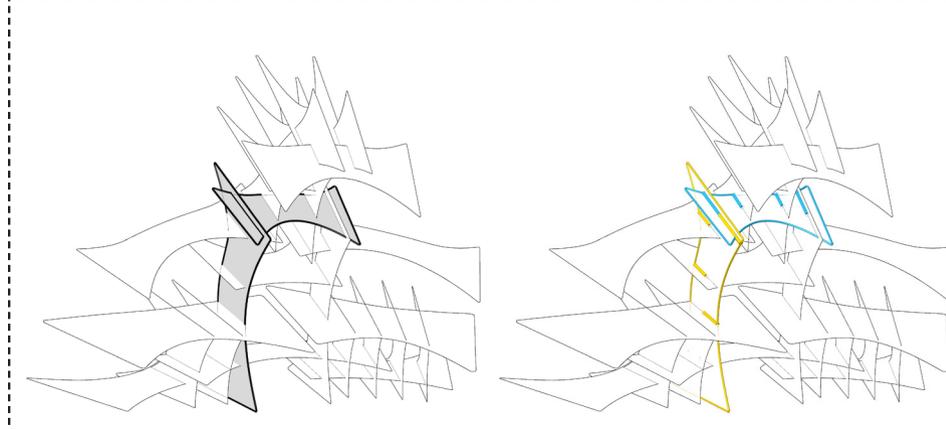
largest bounding box  
188.1 x 76.2 cm



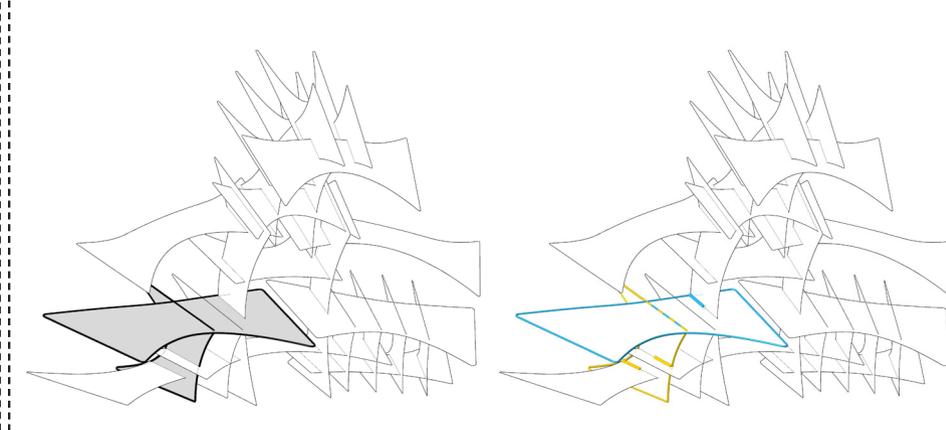
longest dimension  
195.7 x 42.5 cm



2



3



4

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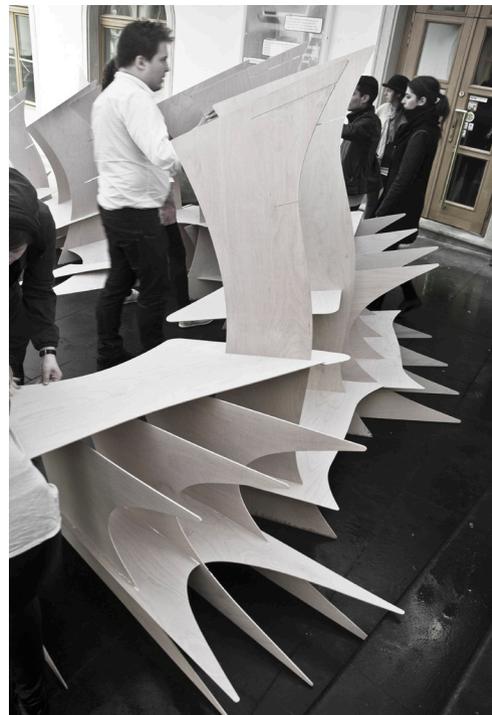
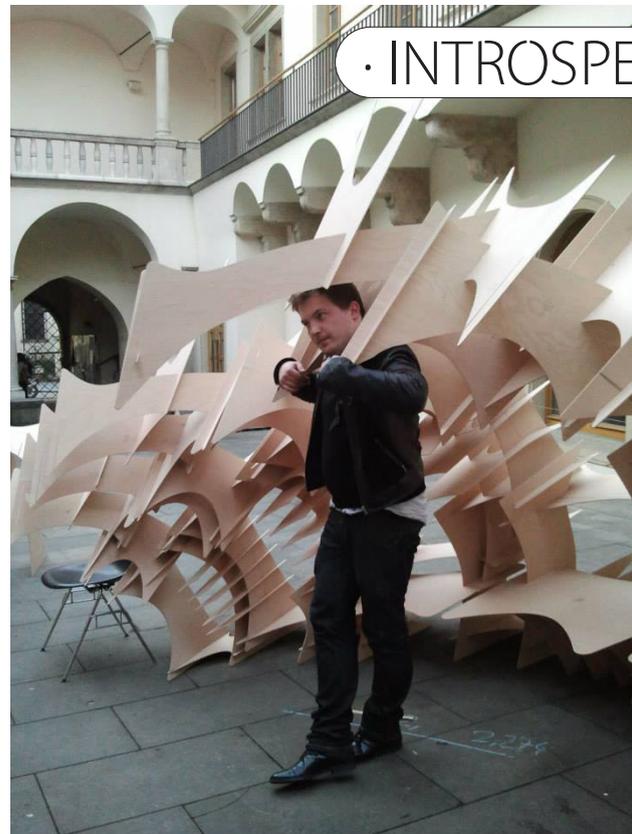
**M**  
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ON DIGITAL FABRICATION

FABRICATION FILES  
shown for bottom row :  
- labeling  
- unrolling  
- nesting

1: all automated processes except for nesting

TYPES OF SLIT CONNECTIONS  
shown on one part of puzzle :

2: partially overlapping  
3: fully intersecting  
4: special T-joints



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CONSTRUCTION  
on site :  
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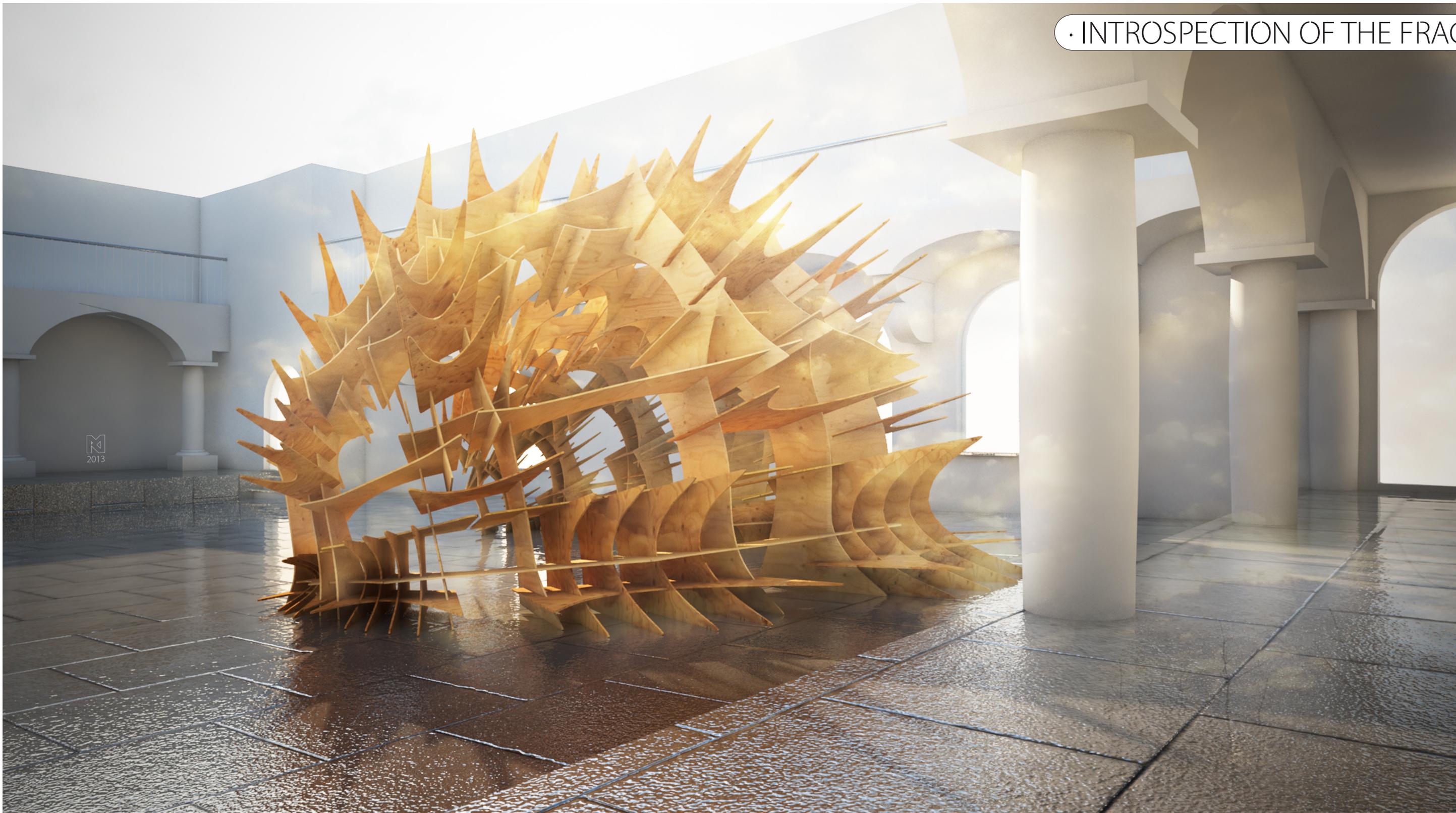


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BRIGHT RENDERVIEW  
on site



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RAINY RENDERVIEW

on site

