

ABOUT

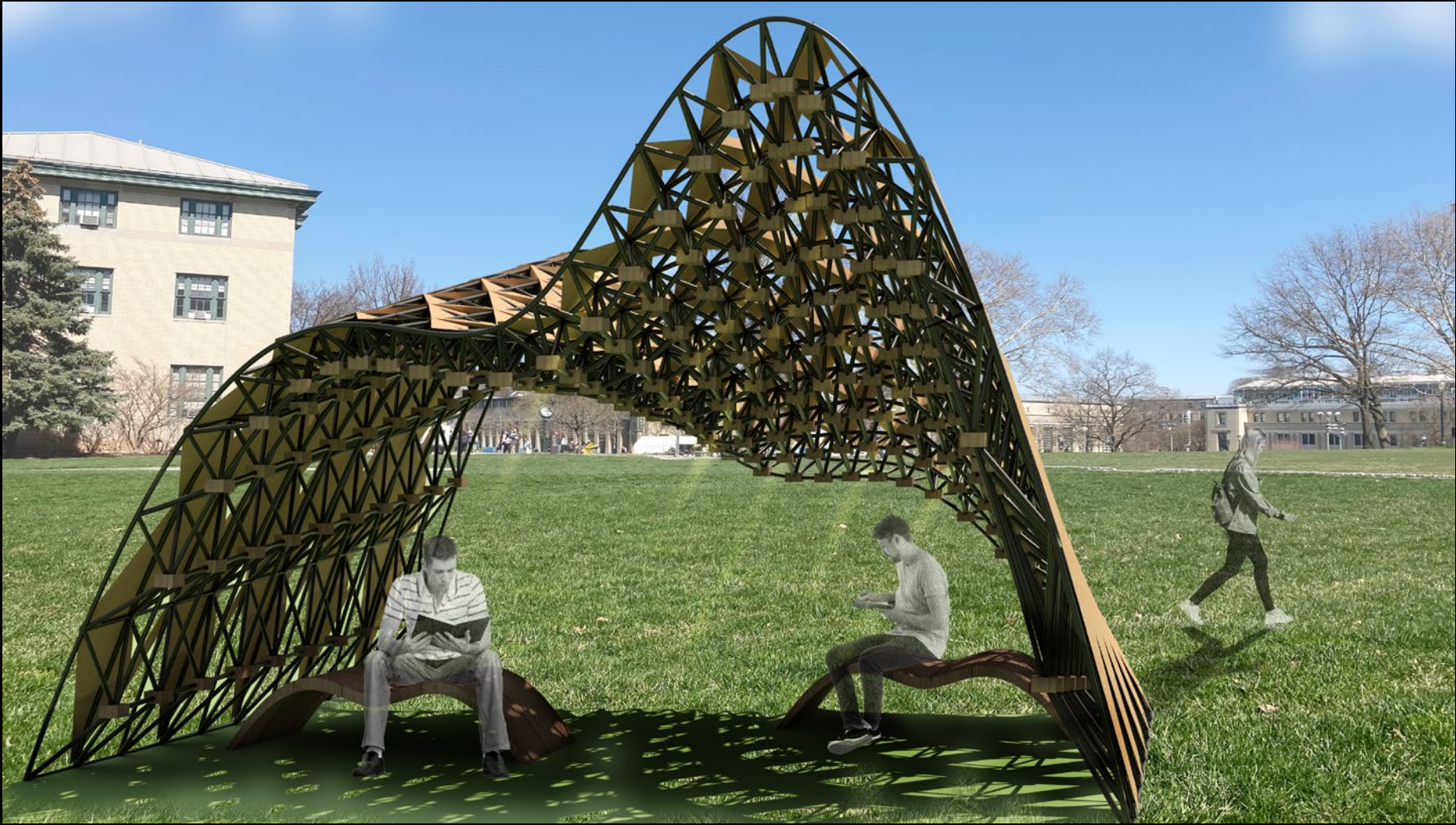
In this project, we were looking for a systematic way to design and construct a pavilion that is responsive to the sunlight changes. The idea was inspired by the first-semester architecture assembly for all studios on the CFA lawn, in which we noticed that the tent we sent up was not very helpful in blocking the sun, and the inside was too humid. We explored by taking the base 2d plan and transforming it to create dynamic forms and then placing the diamond-shaped structure on top. We then made the responsive opening of the diamond facade based on the distance between the sunlight (the closer the distance between the sun and the individual center of the diamond, the smaller the opening is).

The final product is constructed by the assembly of truss systems with the responsive diamond facade, thus forming this free-standing structure.

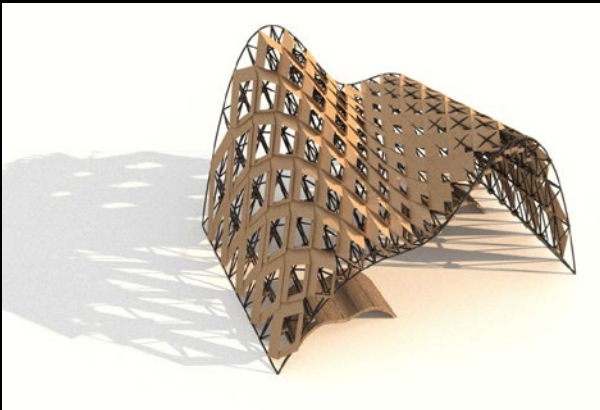


LOCATION OF THE STRUCTURE

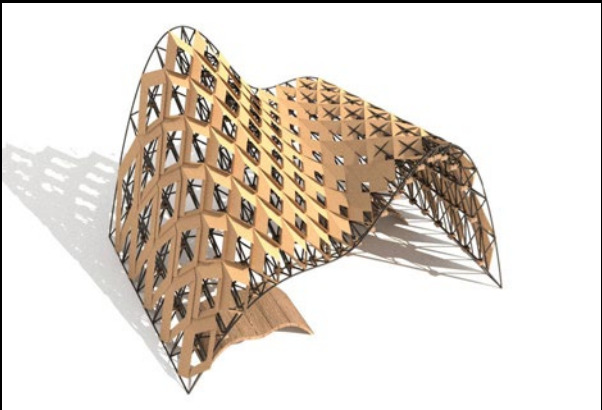
MAIN RENDER



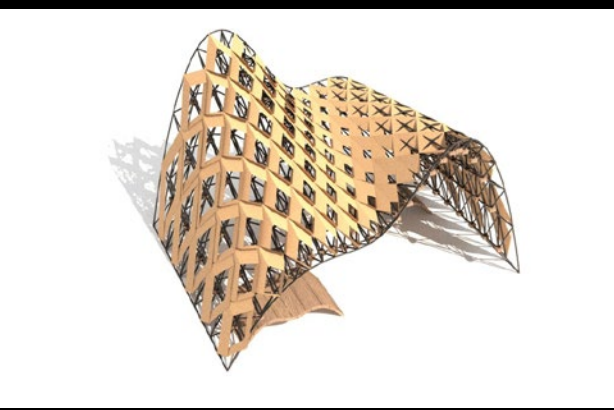
DAYLIGHT STUDY



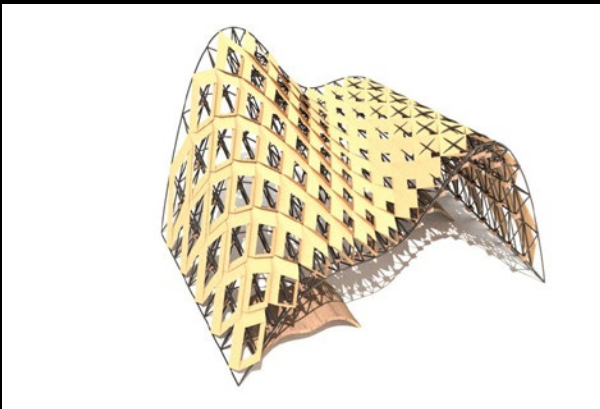
5AM APRIL 17TH



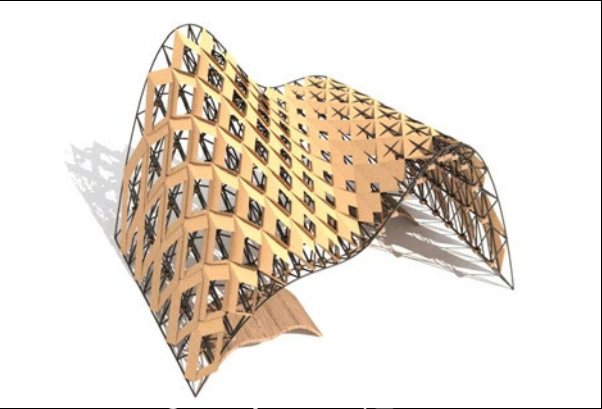
7AM APRIL 17TH



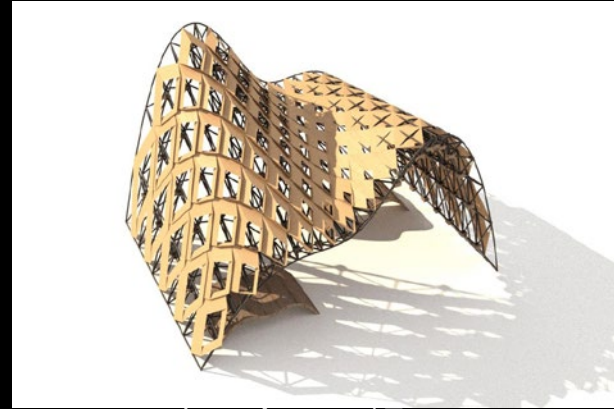
9AM APRIL 17TH



11AM APRIL 17TH

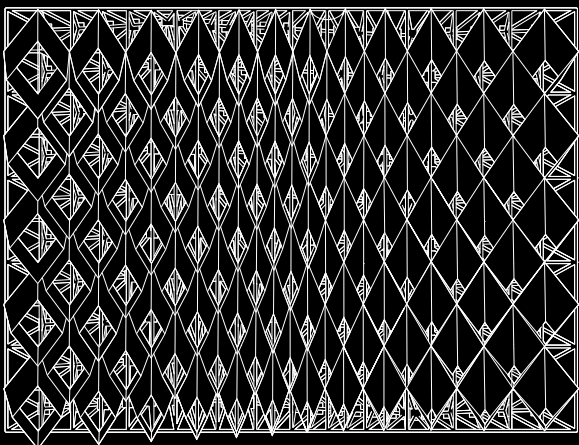


2PM APRIL 17TH

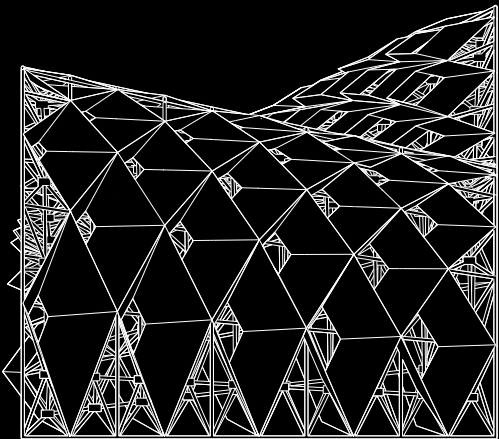


4PM APRIL 17TH

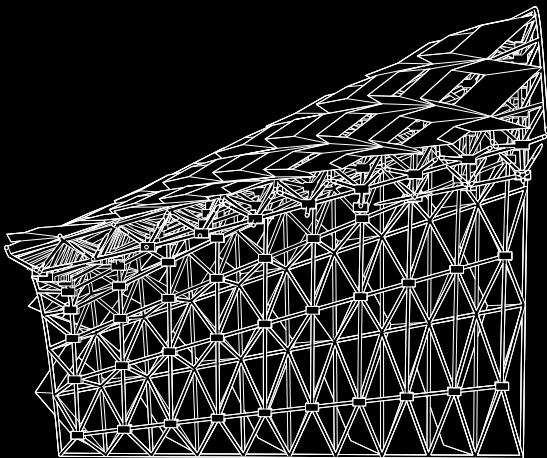
DETAILS & TECTONICS



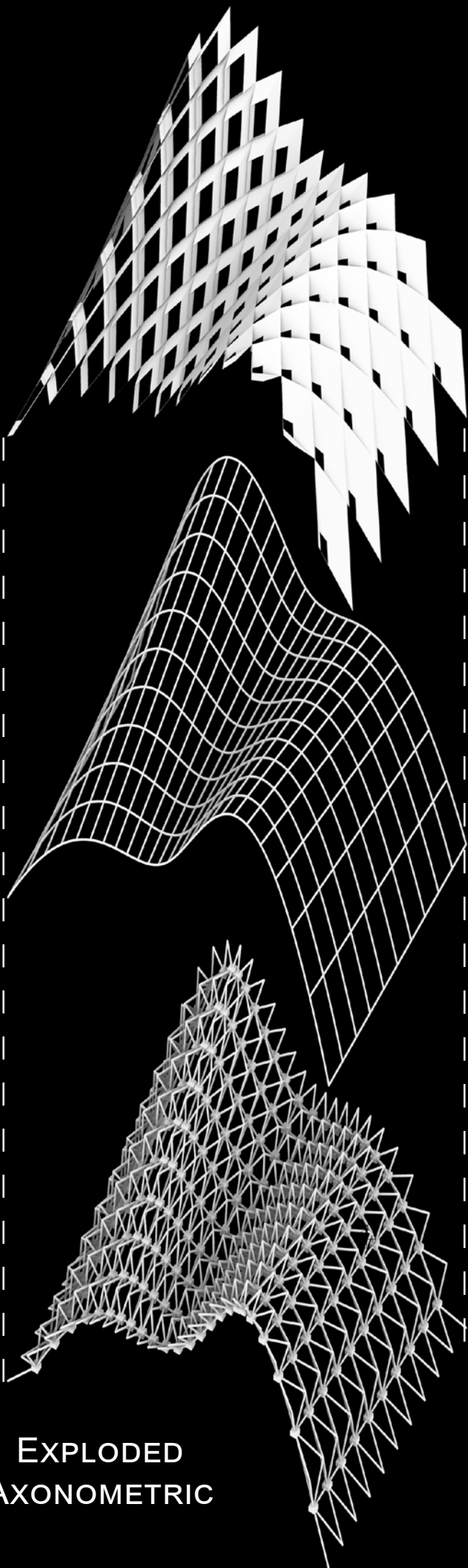
PLAN VIEW



ELEVATION



SECTION

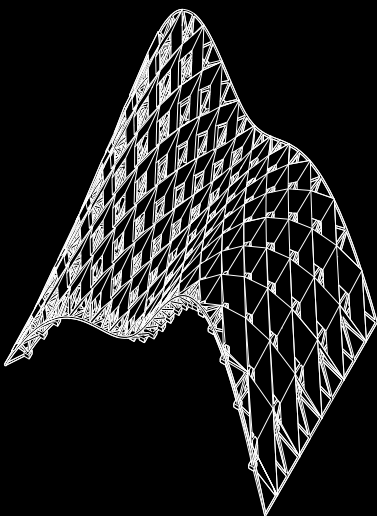


EXPLODED
AXONOMETRIC

TOP LAYER OF
SHADING PANEL

SPACE FRAMES

BOTTOM LAYER /
TRUSS



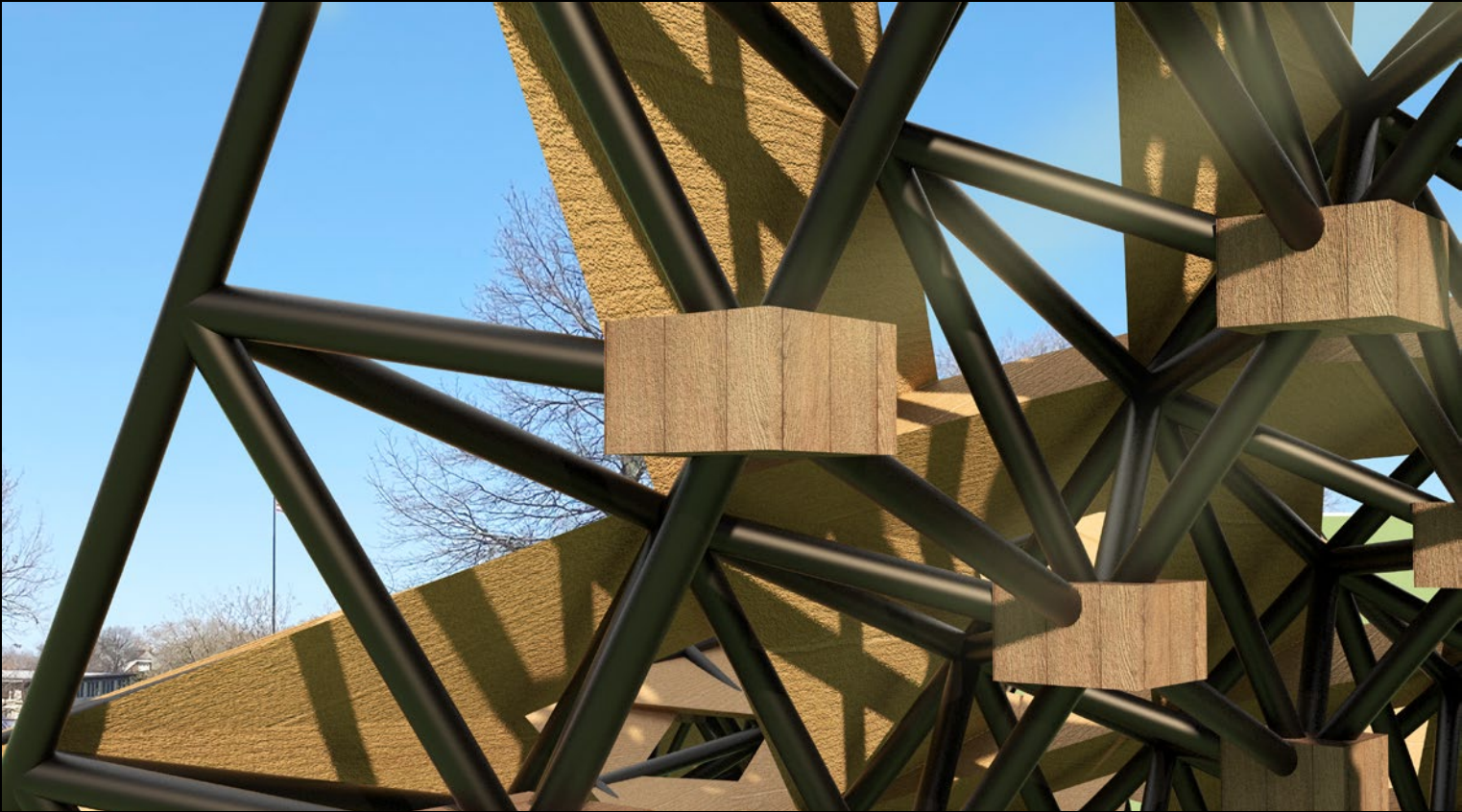
MATERIALS

1. THE TOP LAYER: WOODEN
PANEL
2. THE SPACE FRMES &
TRUSS:
PLASTIC

MATERIAL DECISION

The top panel was constructed using wooden materials. We decided that the support system/frames and truss of the structure are plastic, since they will absorb less heat from the sun than the steel and it weights lighter, so it is easy to carry and disassemble.

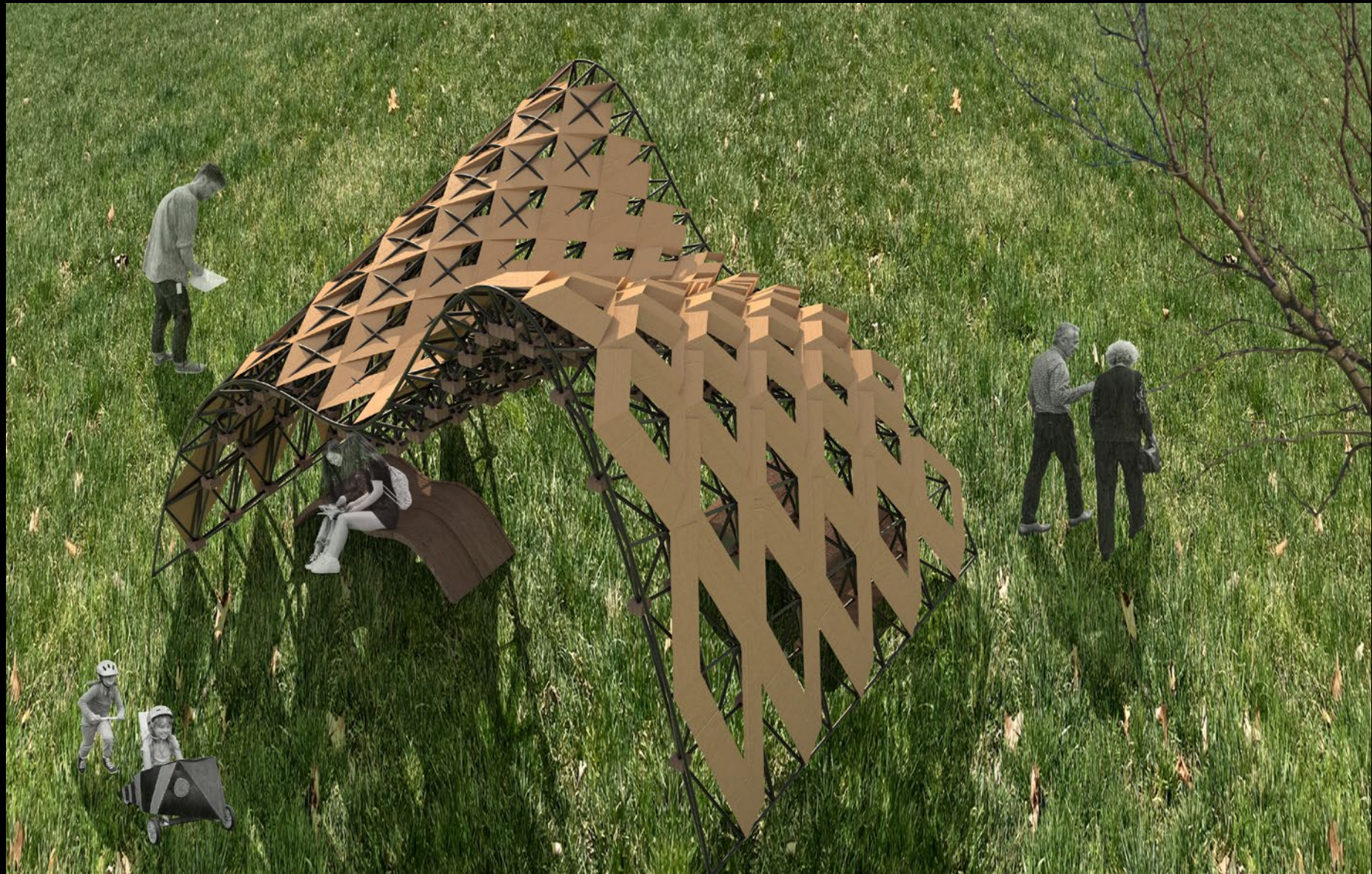
RENDERING AT ARCHITECTURAL SCALE



RESPONSIVE SIMULATION



RENDERING AT ARCHITECTURAL SCALE



MODEL

MODULE FABRICATION

