

# ONE TO ONE FACADE PROPOSAL

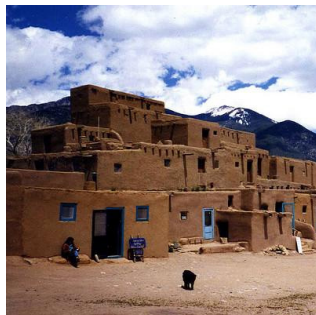
for dry desert climate

fang lee TS-02 Materials

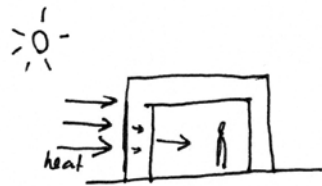
Dry desert climate is notable for its diurnal swing – the temperature in the day is often much higher than the temperature at night. The dramatic change in temperature creates a unique situation in which the material has to respond to both hot and cold. Through researching on vernacular examples of desert architecture, I realized that mud bricks are often used as an economic and ecological solution to this problem. Mud bricks offer a good solution to this climate as their thermal mass allows them to function both as insulator as well as a heat reservoir. When it is warm, the mud brick slows down the heat flow from the exterior to the interior. When the temperature drops, heat that was trapped in the walls are then released back into the building.

A different and more refined device that is used in desert climates is the Mashrabiya. A wooden screen with beautifully patterned cut-outs, the screen protects its inhabitants from the harsh desert sun while allowing cool air from the street to enter the building. The openings are usually smaller at the base and larger towards the top so as to allow draft to be faster above the head and slower at the lower parts.

Utilizing these design principles for the one-to-one façade, my idea is to create a mud brick that have small punctures which allow for the same effect at the Mashrabiya, as well as maintain the thermal mass of mud bricks.

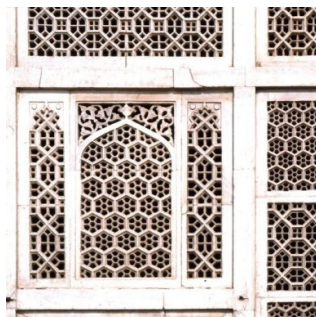
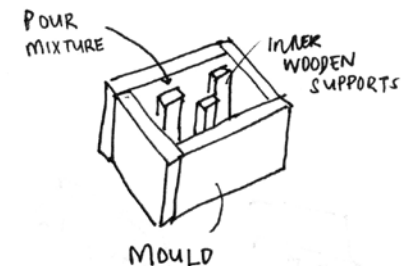


Mud Brick House



Proposal

MIX = CLAY  
+ SAND  
+ STRAW (OR SAWDUST)



Mashrabiya

