ARCH 633 Assignment 6

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Project Information:

Name: Pearl Academy of Fashion

Architects: Morphogenesis

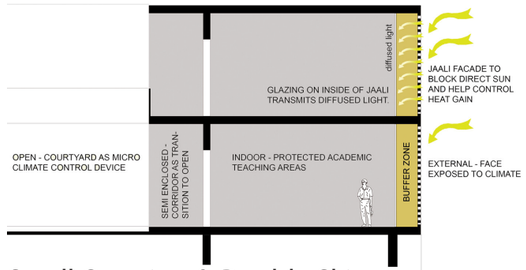
Location: Haipurs, Rajasthan, India

Year: 2008

Climate Overview:

Generally arid with extreme temperatures in both summer and winter. The avarge temperature of Rajasthan range from 19 degree Clesius to 32 degree Celsius. In the summer the temperature an reach 40 degree Celsius

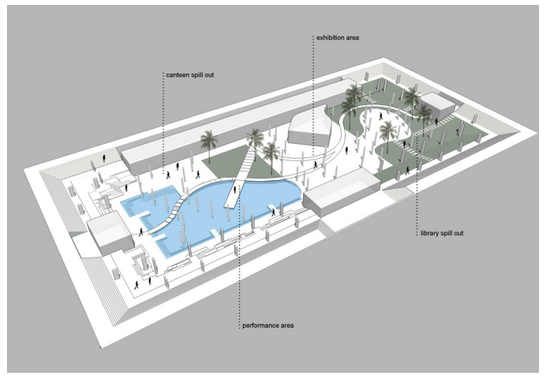
Passive Design Strategy



Small Opening & Double Skin

The small opening provides bu the external facade reduce heat gain

The double skin provies a buffer zone that turns heat transfer from conduction to convection



Pool

The pool help increase the humidity level and provide a microclimate to the building

Natural Ventilation

Varies opening and the openness of the ground floor help with the natural ventilation

Possible Improvement

Solar

The building is already doing a good job of reducing heat gain via solar by using the facade and double skin system. A possible improvement adjust the denseness off the facade according to solar position to further help with the effeciency of that facade system

Conduction

With the double facade system the architect is already thinking turning heat gained via conduction to convection. Maybe a thicker wall after the external facade can further reduce heat transferred through convection

Ventilation

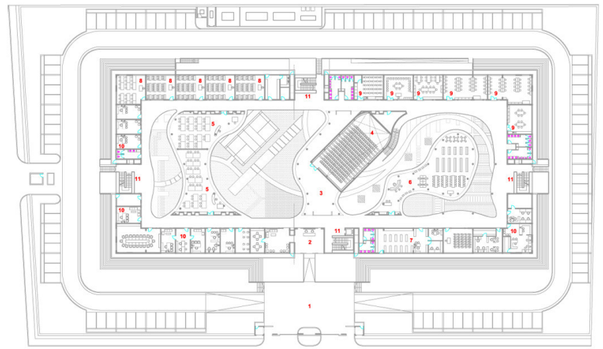
While the building provides excellent ventilation in the ground floor gathering area with the openness of the plan and vertical opening to allow hot air to escape, the ventilation for individual room is very lackluster. There are no opening in any of the room besides the entrance door. Some form of ventilation system could be added to help introduce the cooler air that is generated by the internal microclimate into the rooms and push the hot air out.

Infiltration

(N/A)

Evaporation

(N/A)



Internal Gains

Since this is an institutional building, there will be large amount internal gain trhough human gathering and equipments. As mentioned in “Ventilation” openings need to be introduced in classroom to help with the airflow, bringing the cooler air and pushout the hotter air.