

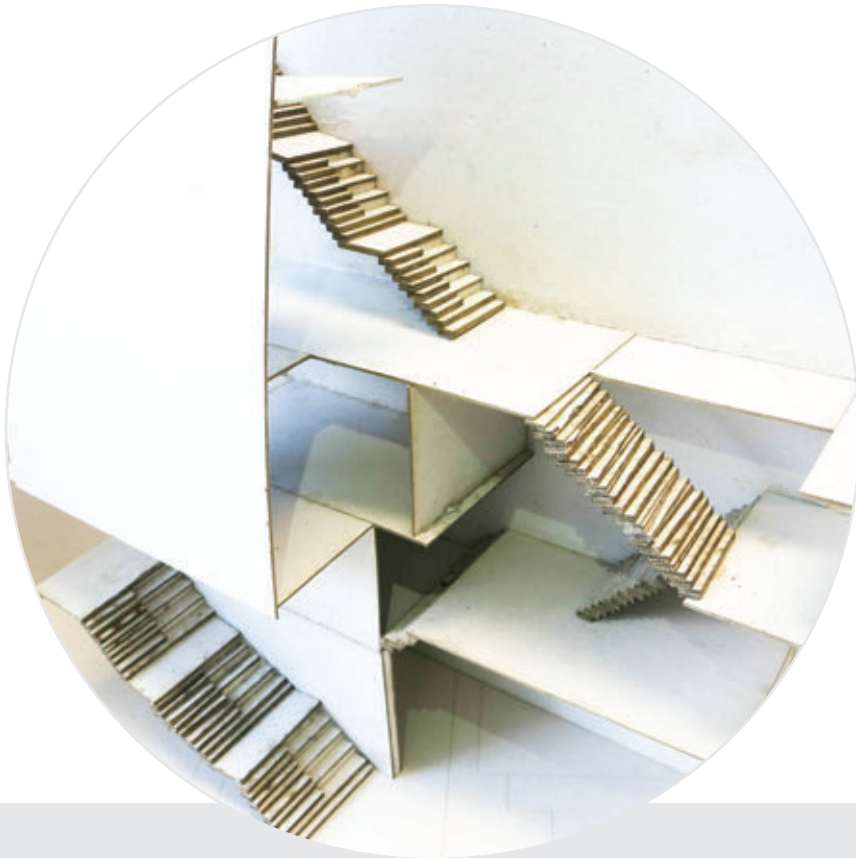
Architectural Design

100 days, Architectural and Sustainable Design, SUTD, singapore

09-12/2013, I studied Architecture and Sustainable Design at Singapore University of Technology and Design as an exchange student.

Design and architecture has much in common, as both share the similar design thinking method. One rule of architecture I learnt is: each design should have a reason. It also taught me to believe in myself and work with all of my heart, and then impossible is nothing.





Slot Building

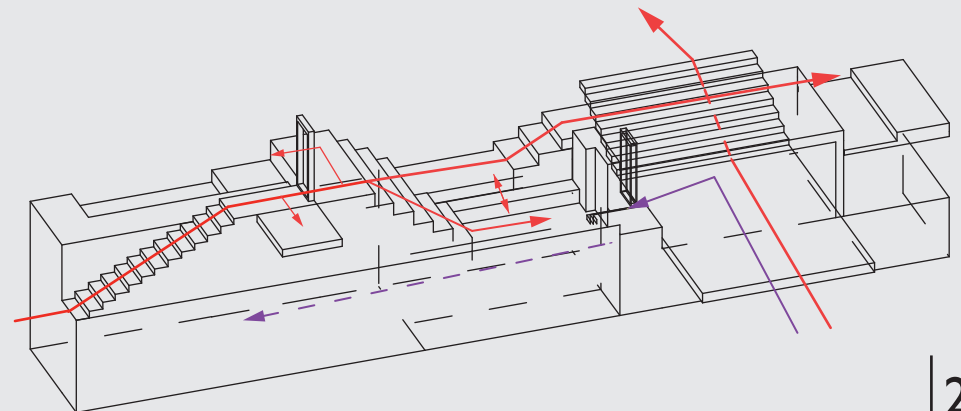
Individual work | Date: 09/2013 | Duration: 3 weeks

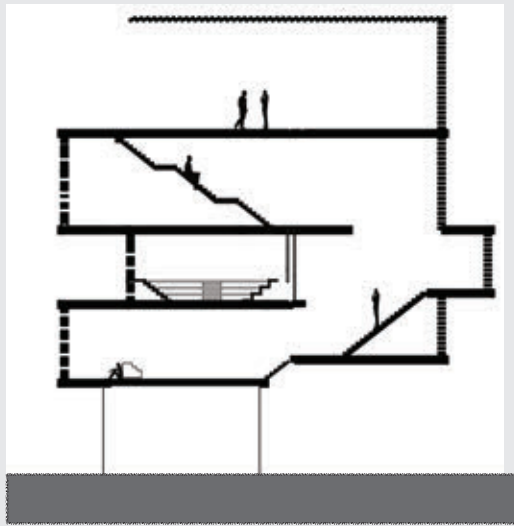
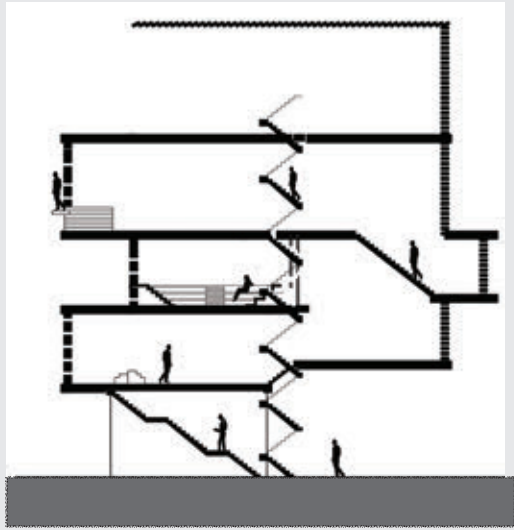
The first project asks for the design of a building to be located in a long and narrow space between two existing structures of the SUTD Campus that are currently joined by three pedestrian bridges on different levels. The main focus is the circulation.

I designed a two staircase system. One is for low-speed passing, student could find some books along the way, sit down and reading and any place; the other is for fast-speed passing.

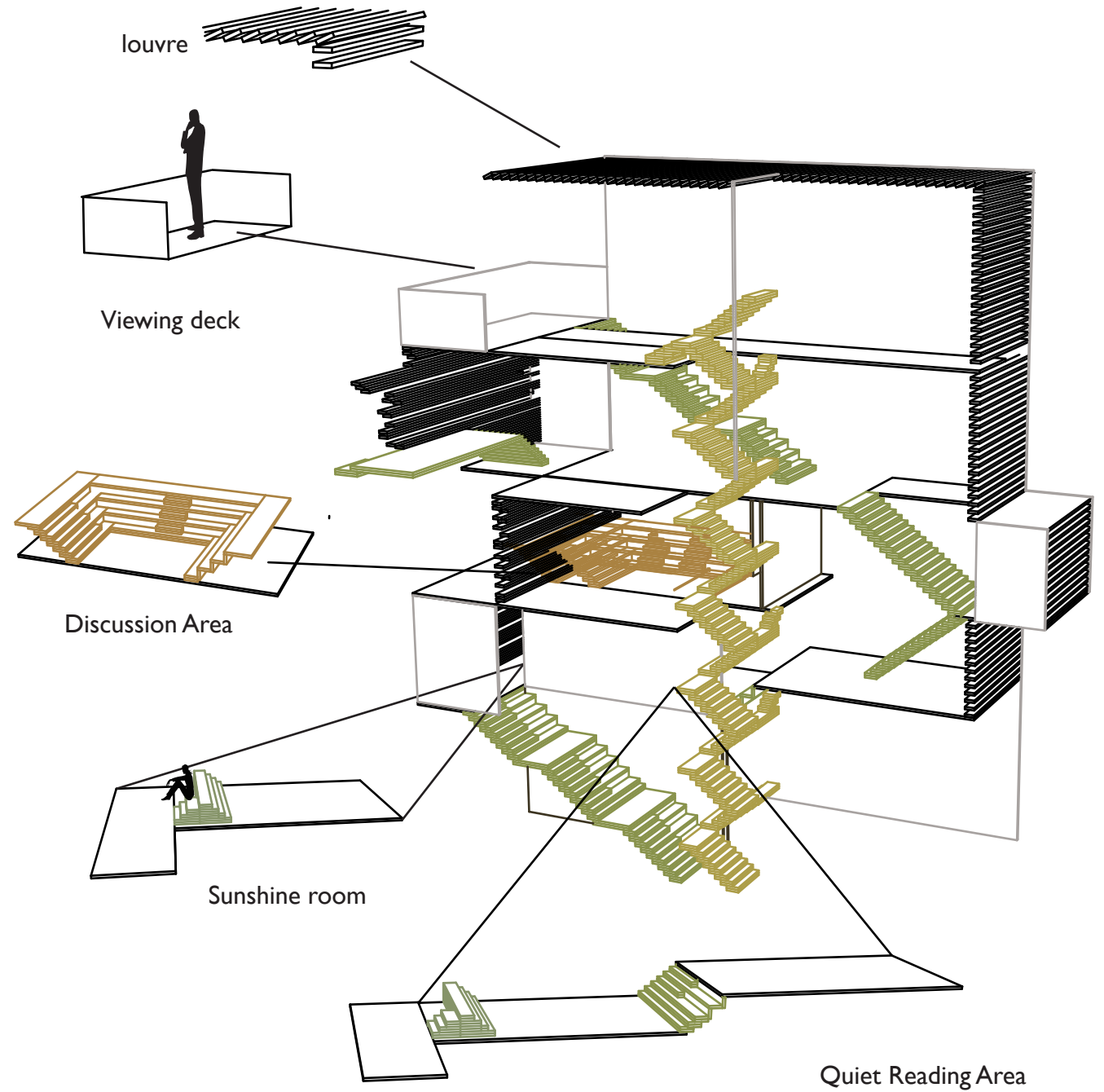
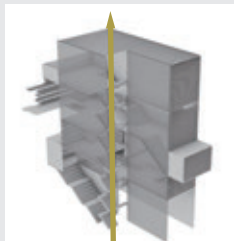
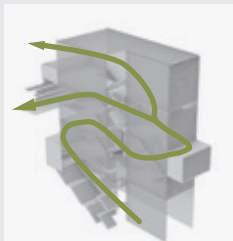
Precedent Study: Liyuan Library

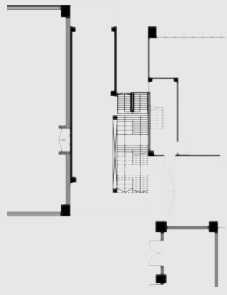
Liyuan Library uses the staircase to expand the usable space and each structure of the staircase is close related to the function. Any place could be the bookshelf and reading place. For the circulation, it mainly has two directions.



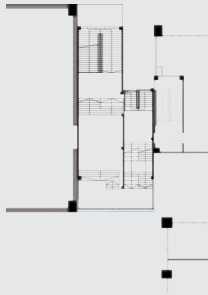


Circulation

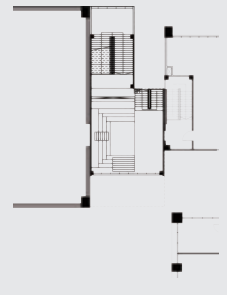




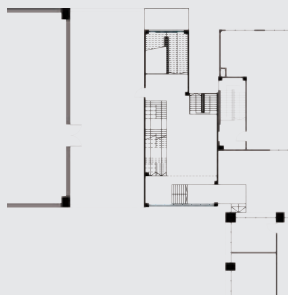
Level 1



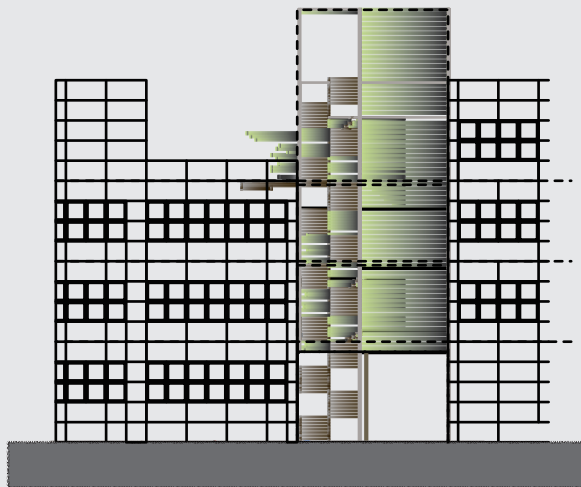
Level 2



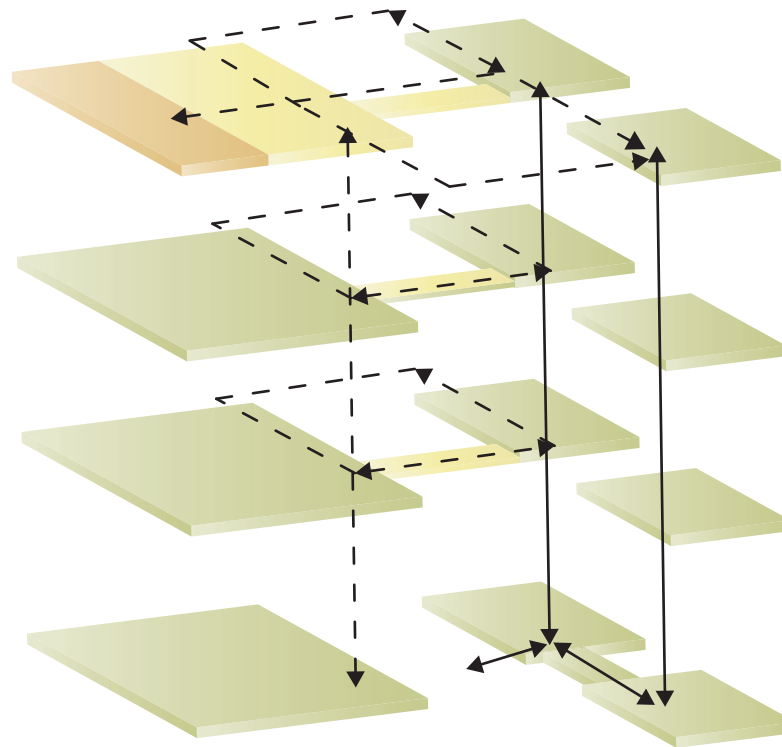
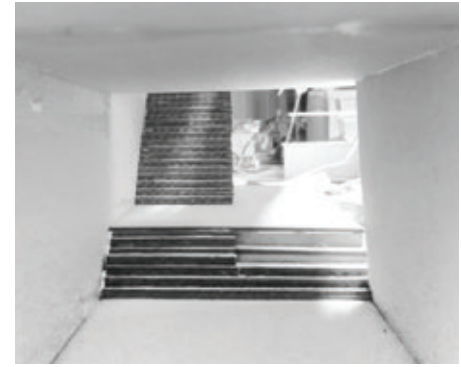
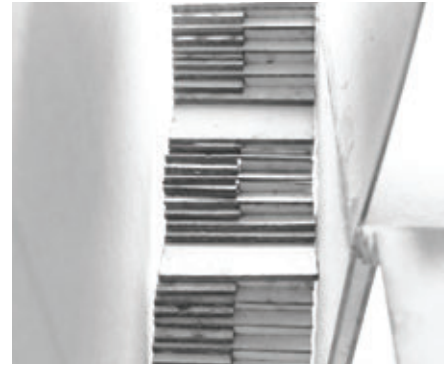
Level 3



Level 4



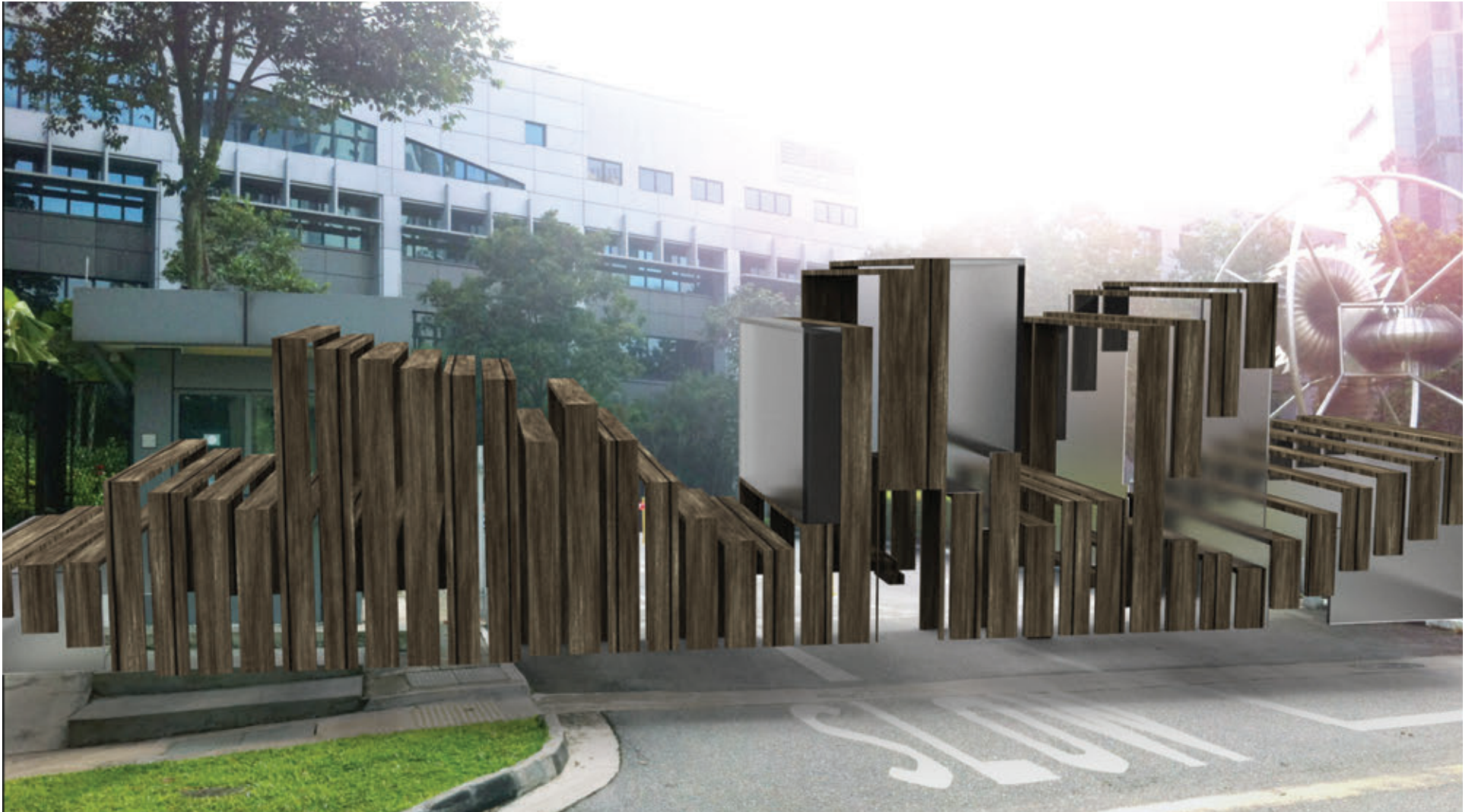
North Elevation



- ▶ Current Circulation
- -▶ Designed Circulation

Circulation

Based on the site analysis, the current circulation is very limited and inconvenience, especially for student. I want to break the limitation and encourage the interaction and communication.

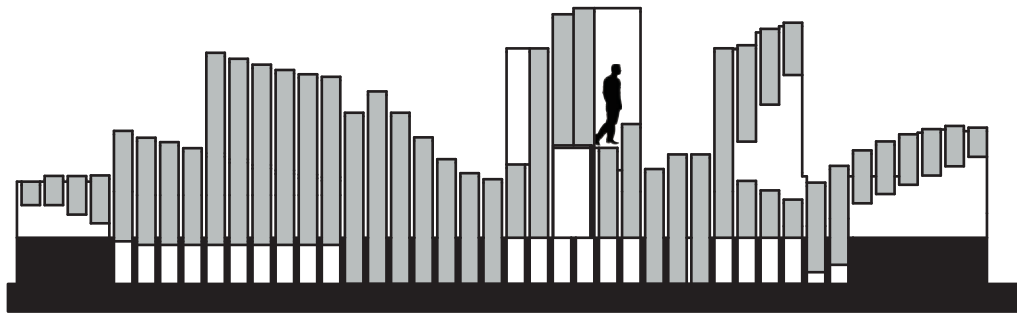


Gate House

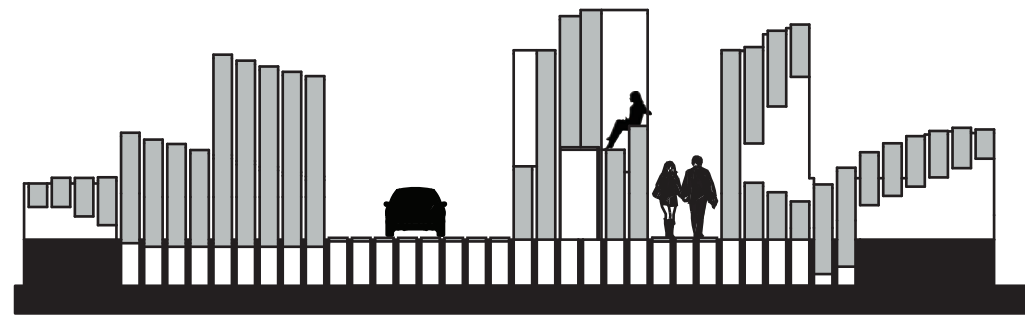
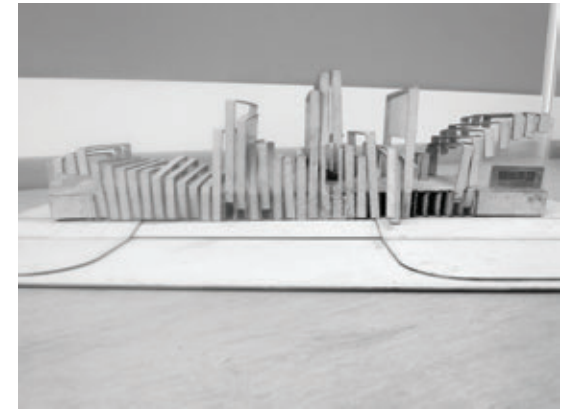
Individual work | Date: 10/2013 | Duration: 3 weeks

This project is about movement in time and space, actualized mechanically. The project asks for a new entrance structure for the SUTD Campus that enables continuous pedestrian and vehicular passage when it is open and that blocks access to the campus when it is closed.

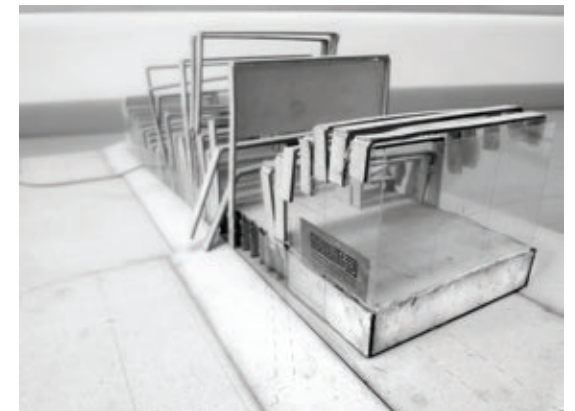
My idea comes from the paper folding. When it's folded up, it forms the space; when it's down, it forms the access for passing. And each unit could up and down respectively.



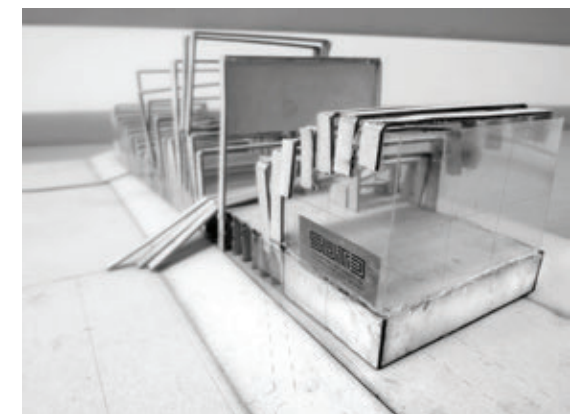
Fully Closed



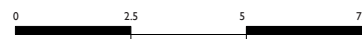
Pedestrian access
Single lane access

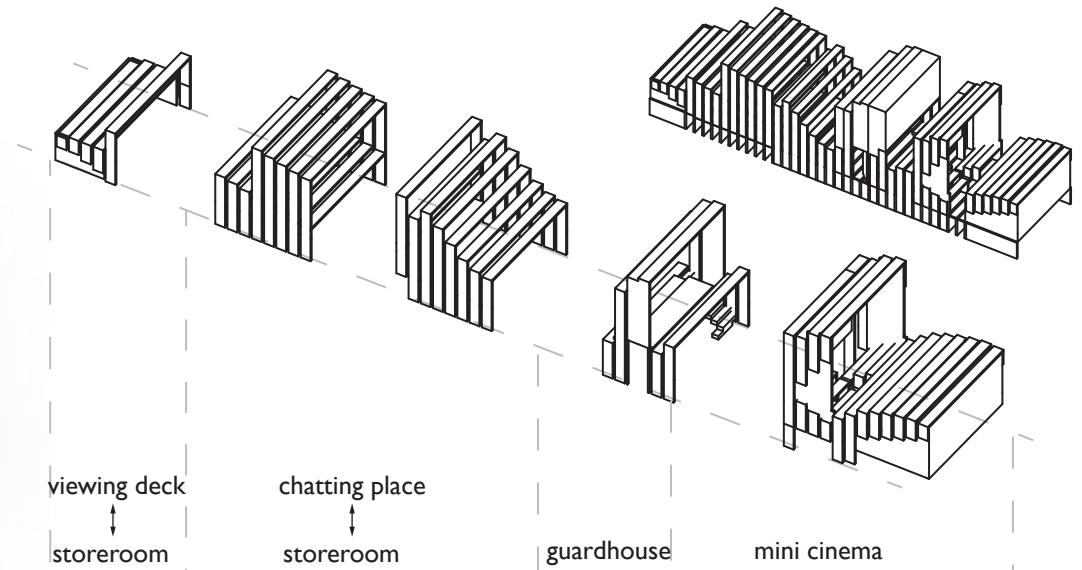
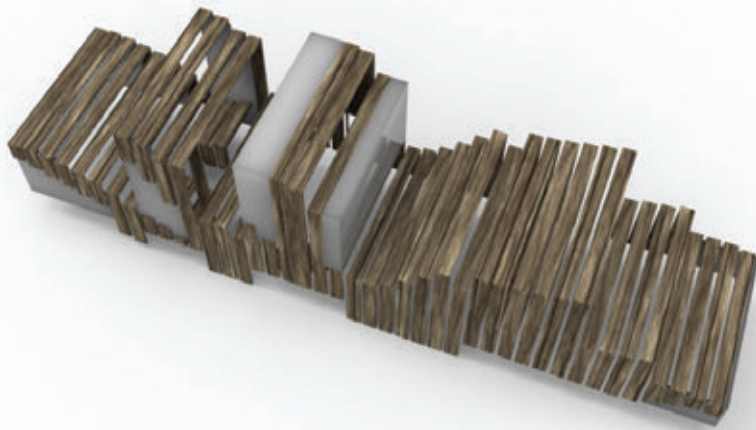


Pedestrian access
Double lane access

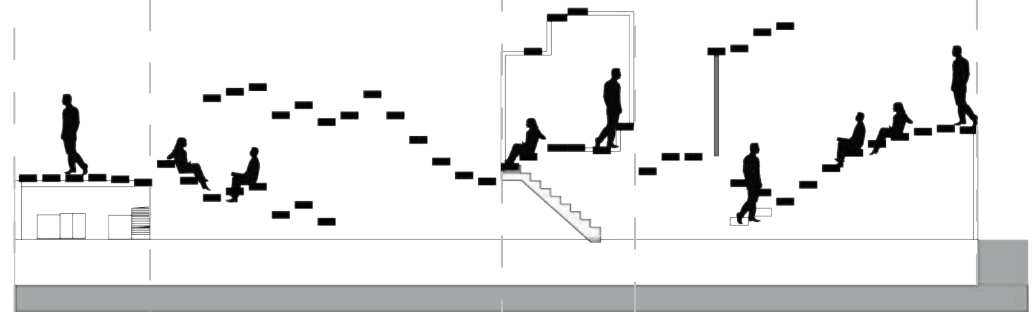
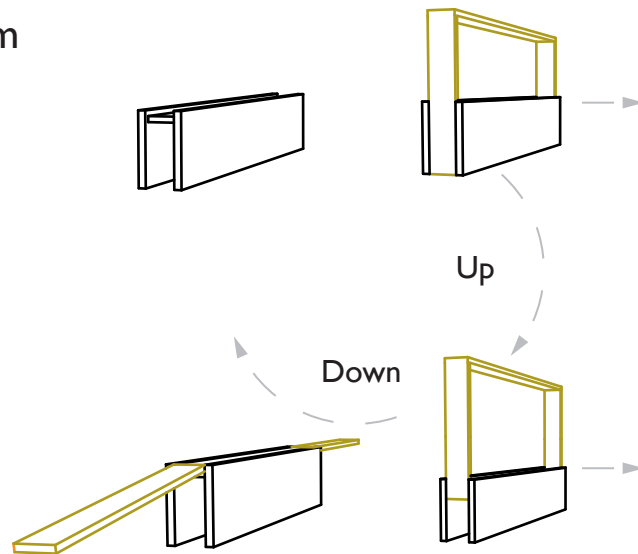


NORTH ELEVATION

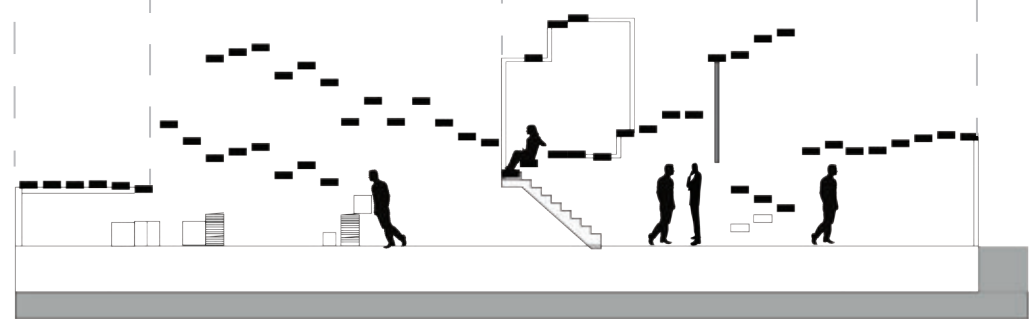




Mechanism



SECTION BB



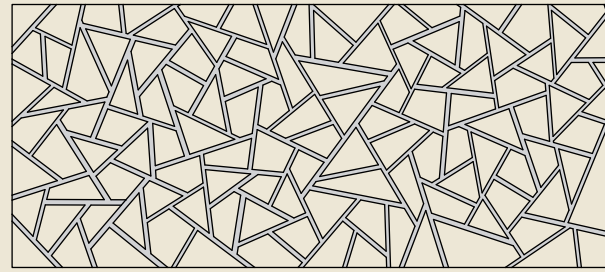
SECTION BB



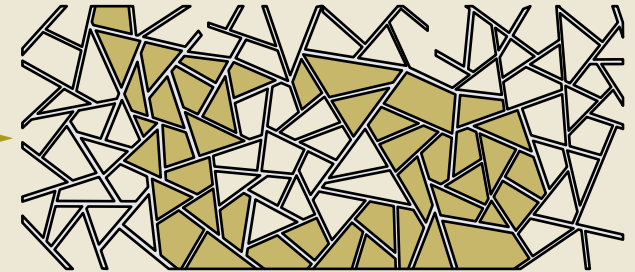


Plug-in Space

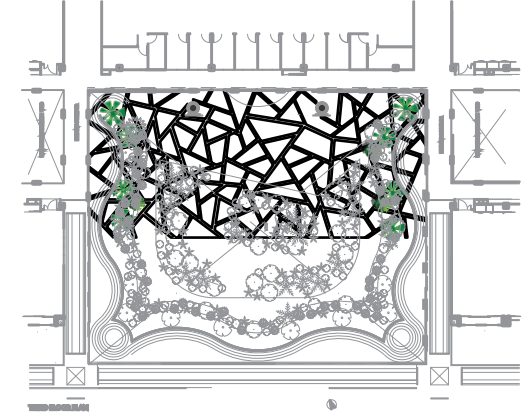
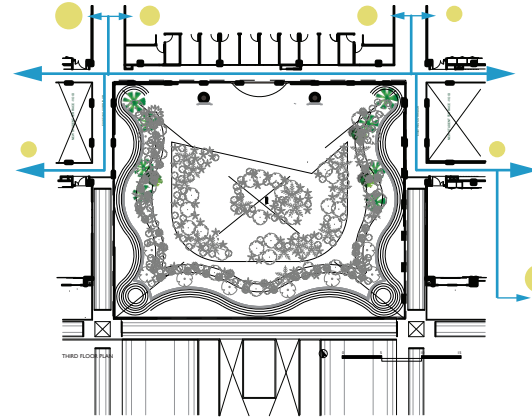
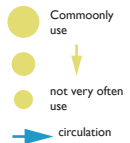
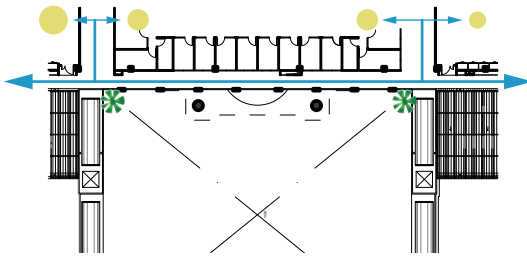
Individual work | Date: 11-12/2013 | Duration: 5 weeks



Extract the pattern element, totally 110 pieces

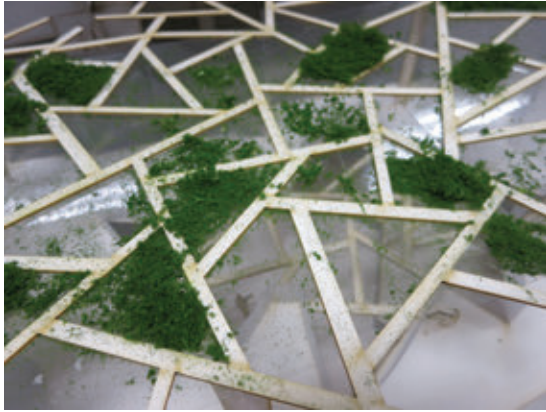


fill some pieces and extrude into space

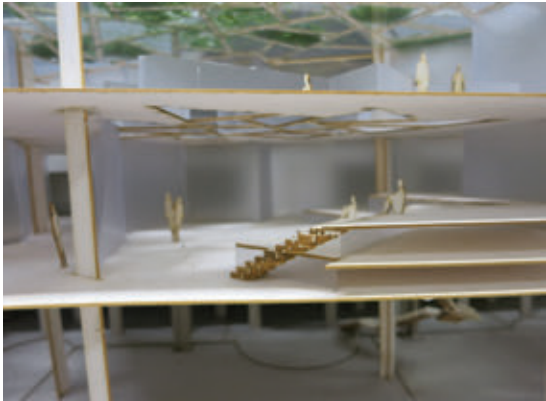


Our site is already very crowded, as it's surrounded with buildings and a large space of vegetation. I want my building not only leave space for the trees, but also react with these trees. How to react? I think of the window panes in Suzhou garden, which has a good communication between the building and the nature.

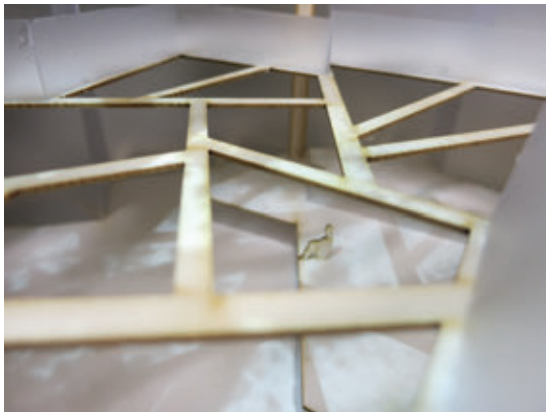
In the center of the window pane, there is a space for looking outside the view, while, the surrounding area is the pieces structure. It's a good combination of the integrity and pieces, void and solid. So I design a similar pattern, let it be the floor structure. And filled some pieces to form the space, and some void, let the trees go through these void.



Roof
with plants

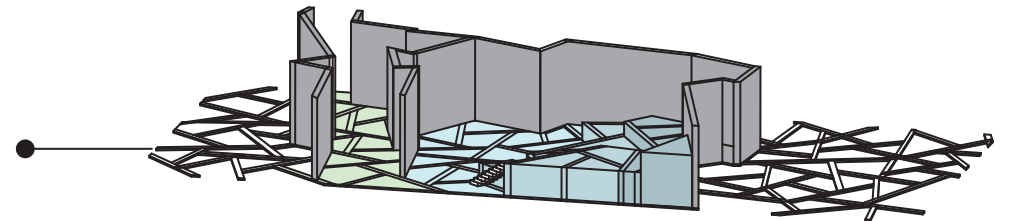
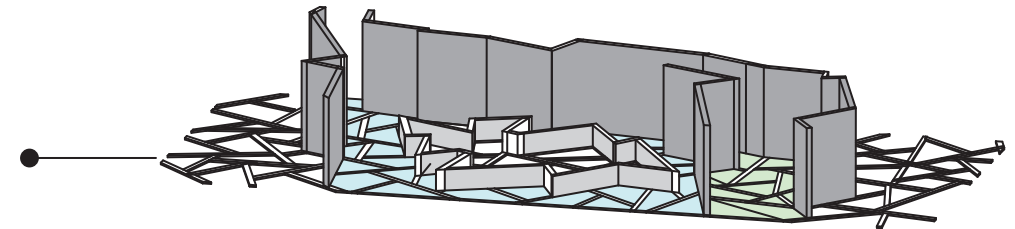


Level 4
view through pane



View through the pattern
Shadow of the pattern

lobby&semiar
performance



Level 3
Stairs up

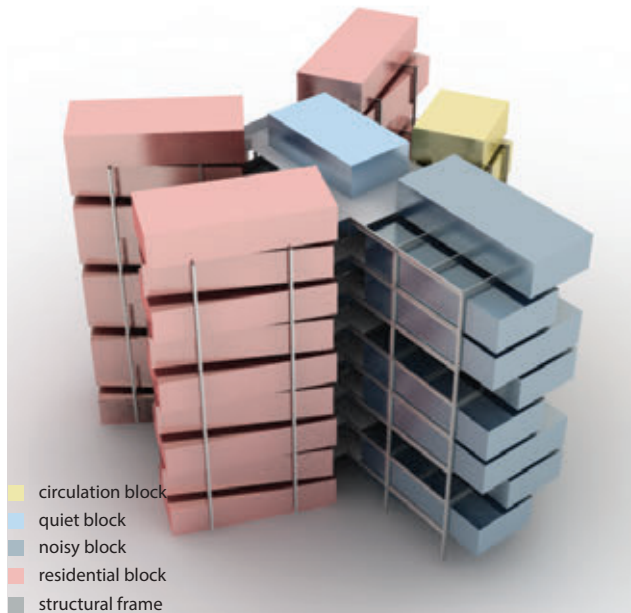


Level 1-2
same language



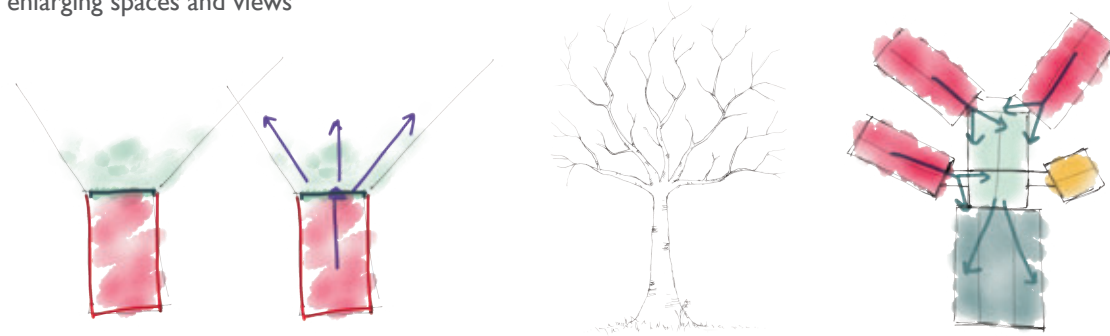
Container Dormitory

Team work with Bianca Sun Fen Gill, Koh Jing Lin, Lim Jia Xuan, Shafiq Affandi | Date: 10-12/2013 | Duration: 10 weeks

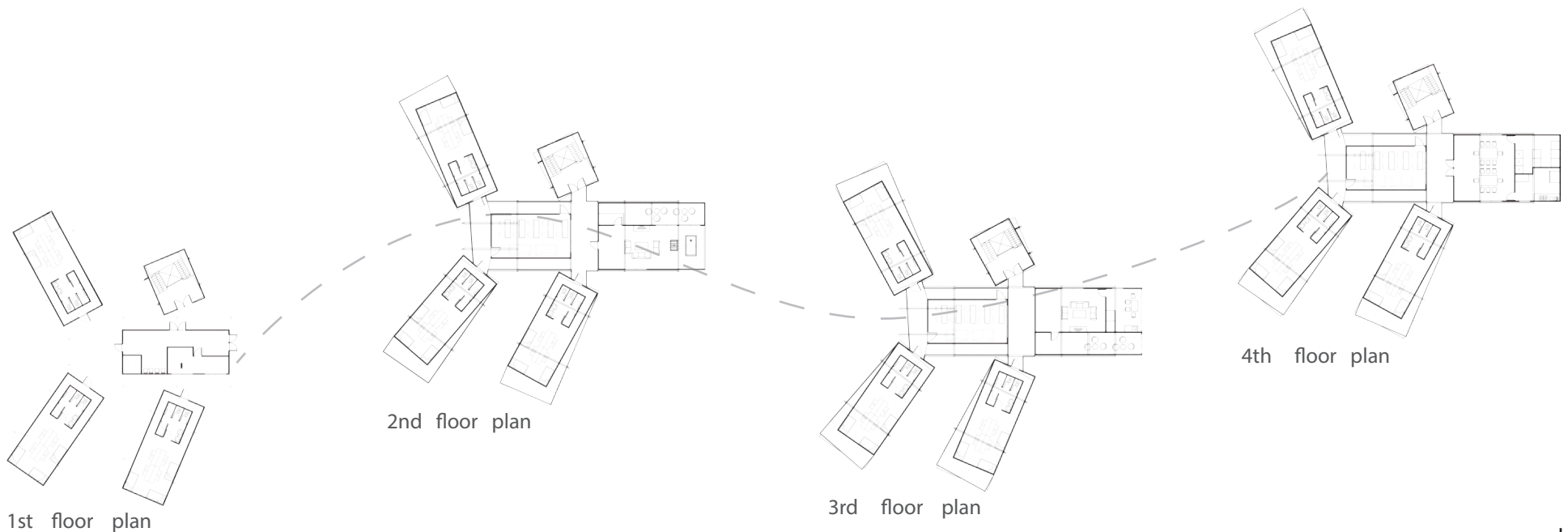


Concept Exploration

enlarging spaces and views

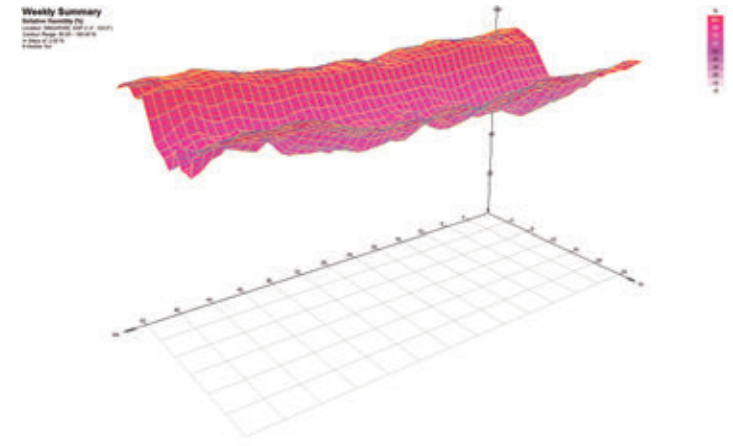
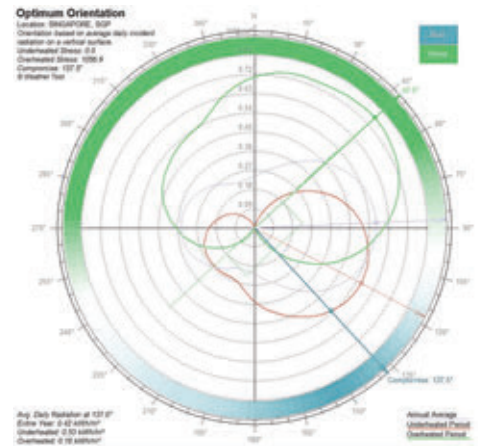


We observed that the students in the hostel tend to have limited living space and freedom to enjoy any activities they wish. Hence, we proposed to open up views for students transiting from one program space to another by having a peripheral vision of space. We were inspired by the structure of a tree and its internal circulation system which abstracts the notion of opening up channels from one point to another



Orientation of building

Initially, we orientated the building according to circulation requirements. However, the amount of daylight and range of shadows on the building would matter too as well as the solar radiation levels for a building to have good performance. As such, we used Ecotect to run the optimum orientation analysis under the weather tool.



sun - path analysis

