MAKE THE APARTMENT GREAT AGAIN!

Building Performance Simulation Final Project

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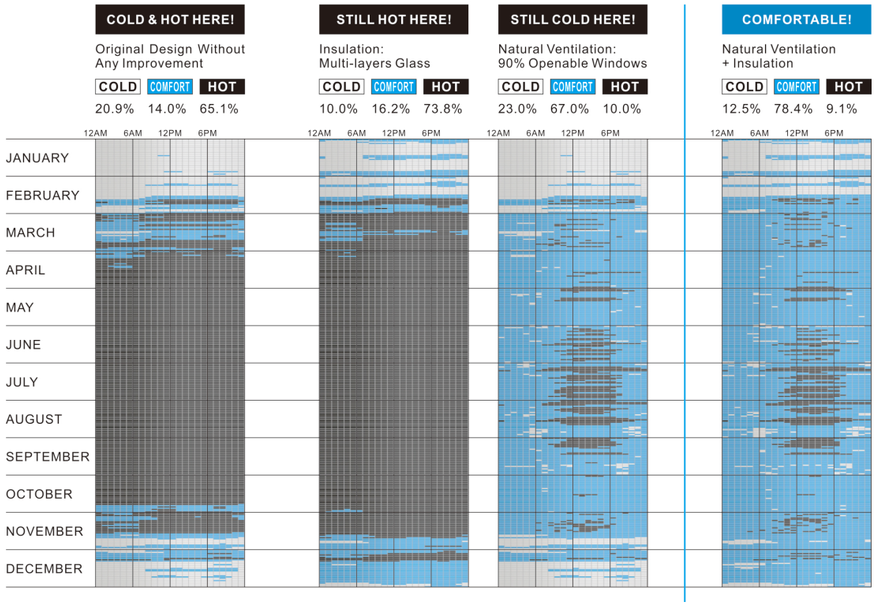
DESIGN RESULT

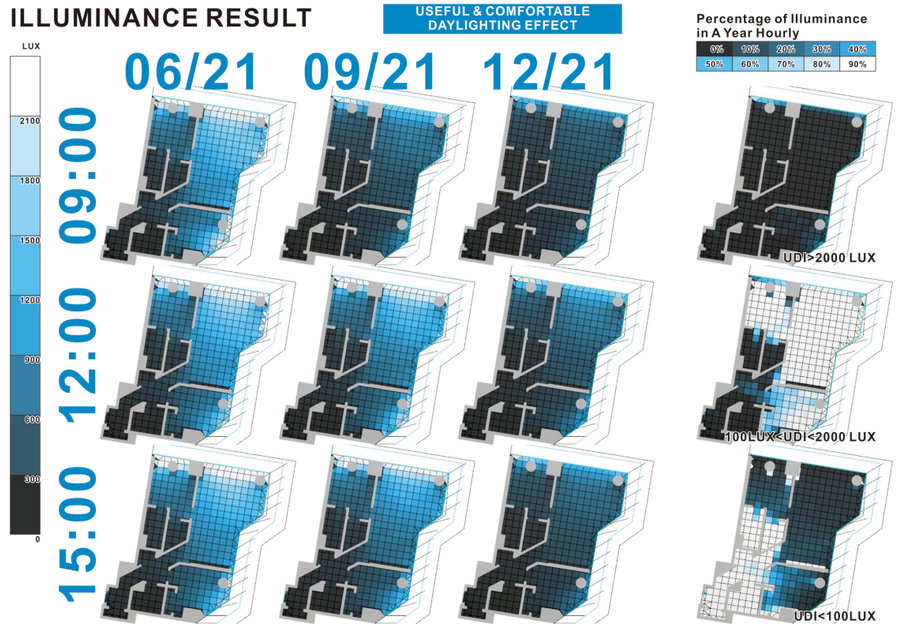
After improving the shading, the ability of opening the window, glazing insulation and double window skins, the percentage of indoor comfort drastically increases from 14 to almost 81.

In hotter day, when the shading devices prevent the radiation heat up the apartment, the openable window creates an ability of natural ventilation that makes the heat inside out. In colder day, the well-performance of insulation prevent the heat escape out from the apartment. In order to achieve that performance, Low-E glass with double layers is applied. Besides, by adding another window skins and air gap room, witch has 0.9 meter, outside the original window facade, the ability of retaining heat inside the apartment is upgraded.

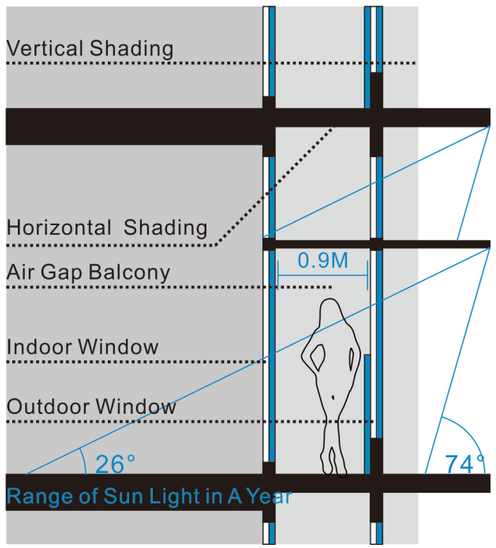
ADAPTIVE COMFORT ANALYSIS WITH DIFFERENT STRATEGIES



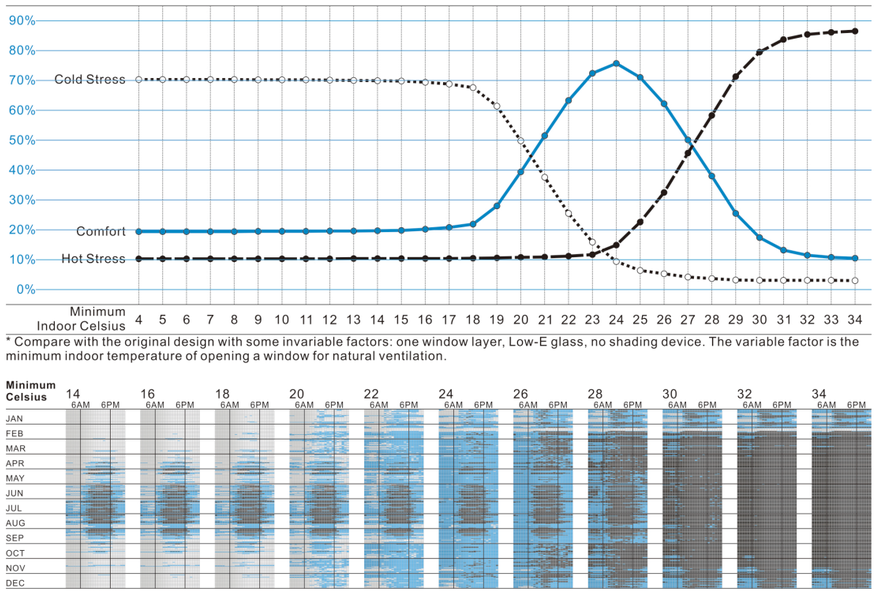
ILLUMINANCE RESULT



SECTION OF THE IMPROVEMENT (SCALE: 1/50)



ADAPTIVE COMFORT ANALYSIS WITH DIFFERENT SETTING



* Compare with the original design with some invariable factors: one window layer, Low-E glass, no shading device. The variable factor is the minimum indoor temperature of opening a window for natural ventilation.

MODIFIED GLARE RESULT