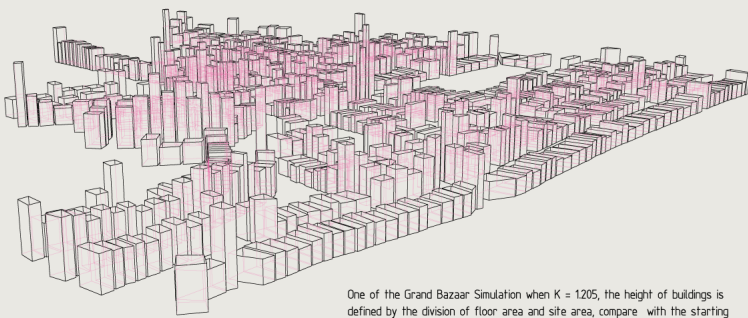


KUMA + OBUCHI + ICHIKAWA STUDIO

POWERIZED CITY

03140085 Justin_Hsu (徐佳凝)

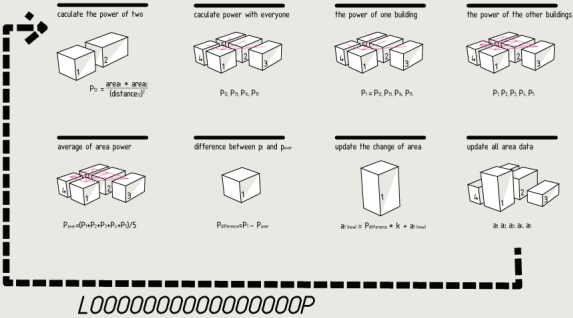
The city we are living in is always keeping a harmonious balance, including building's height, position, area and so on. And this balance is built upon the relationship among each buildings. The purpose of my work for this studio is to try to define these relationship.



One of the Grand Bazaar Simulation when $K = 1205$, the height of buildings is defined by the division of floor area and site area, compare with the starting situation, the whole area reached a more balanced situation.

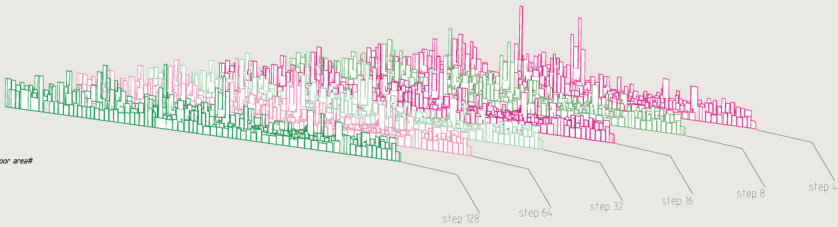
CALCULATION METHOD

Basically, if we take architecture as a cubic volume, it could be defined by its floor area and position. So, when I try to consider the relationships between buildings, I was thinking whether I can build a simple relationship by using these two factors. And then I came up with the idea that I could define the power of buildings. Since power is a kind of force to affect the architecture's attributes, I used gravity model to calculate the "power".

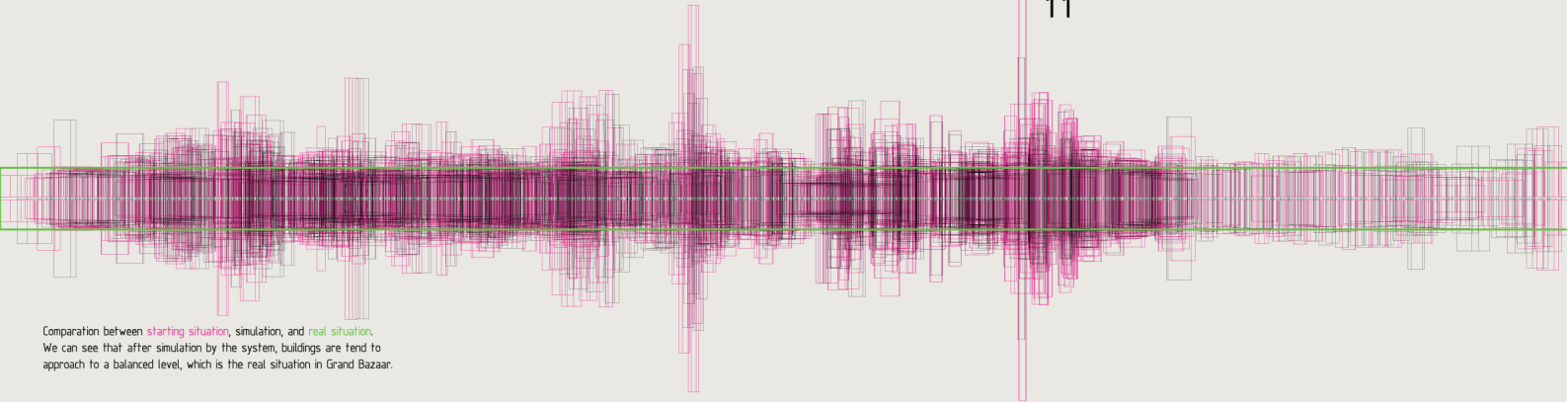


CALCULATION STEP

according to the calculation method, the simulation was step by step, after a while, the changing of floor area would decrease and at last being steady.



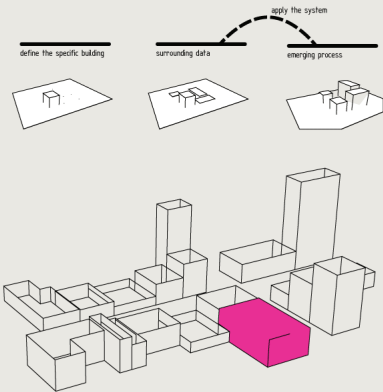
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Comparison between starting situation, simulation, and real situation. We can see that after simulation by the system, buildings are tend to approach to a balanced level, which is the real situation in Grand Bazaar.

APPLICATION

I tried to make a generative architecture algorithm. In this algorithm, when we have a specific building, as well as the positions and site areas of the others, the floor area could be generated automatically.

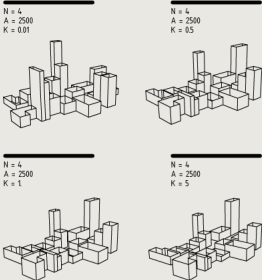


Sample emerging, which pink building's information and other building's position is given. The buildings generated by this system showed a very nature pattern just like it was in reality, which somehow proved this system is useable.

FURTHER THINKING

This prototype is just the very beginning of this system. For the further research, not only the factor of area, but many others like façade, colour, and so on should be considered. Thus, a more complicated and more comprehensive system could be built. And this system might be beneficial in the future architecture planning process.

A FURTHER THINKING ABOUT THE VALUE OF K



I made different prototype of emerging by using various value of K, to find the physical meaning of this factor. So we can change the value of K based on our demand such as the increase of population, area density and so on.

POSSIBLE FACTORS TO EFFECT POWER

- FACADE TYPE
- COLOUR ELEMENTS
- PROGRAM
- CULTURE MEANING