

AN INTRODUCTION TO OUR DESIGN

Consisting of two dominant design elements, our design aims to bring together new technology with new understanding of what it means to design mindfully. Planning a student housing project that makes use of future technological possibilities and evolves around these, whatever they may be, presented a real challenge for us. Trying to predict more or less what may be available in the future of digitally-driven architecture and more importantly how we can make use of them to make sure our design is sustainable and also open for change were some of the main concerns we had while starting this project.

Undeniably, the technology that is available for designers and architects today brought some issues with it. These issues often are about notions that had, and will continue to have, place in architectural thinking and design but were never addressed before the way they are now with interactive architecture. As the architects increasingly design processes in which users operate multiple time-based architectural configurations emerging from the same physical space¹, said notions including but not limited to privacy, sharing, reconfigurable space, etc. have gained a new importance in architectural world. With these notions being more than possible to apply to our designs the questions in our minds were whether if we should, or if we choose to do so, how we should implement them. Creating a space especially for students to use both privately and collectively is an exciting idea but after giving it a second thought we decided to separate these functions with respect to human psychology, as we believe it would require much more planning than anticipated, and maybe even a little blind trust considering how human behavior is and how unpredictability plays a big role in it.

As mentioned before, the obstacles in front of our design to hold the concept and comfort together when it is subject to change were considered profoundly. Which is why one of the ruling sub-concepts of the design is flexibility. Not to give place to any misunderstandings, the flexibility that is mentioned here is not in a limitless sense. What was implied was a certain kind of flexibility in the sense of a carefully restricted manner. Said restrictions are placed by the environment, various demands, technological advancements, ethical considerations and of course aesthetic concerns.

Considering this student housing project will not only introduce reconfigurable spaces but also a new way to form societal structure, we wanted to have a say in that as well so with each type of space we created we aimed to give this group of people a different function to make use of. We designed public spaces that would function in both cultural and social framework as well as agricultural. The reason we grouped these different function spaces into one category (public space) was to determine a link in between all of them that would eventually help us form a kind of society that we envisioned for the future inhabitants of this student housing project.

One of the key aspects of the concept in this context was to find ways to ensure the sustainability of not only the physical built environment but also the society we aimed to create. To do this, we had to come up with solutions that would enable the students to live in but also to work in and to feed off of the design. First thought that came to mind was to somehow integrate agricultural activity and necessary facilities in the design itself. With the program we were given we saw early on that we had more than enough space to build the student housing complex so we decided to follow the lead the trees on the site gave us and made a trail of our own with consideration of the main axes and walking paths to be

created. Rest of the site was determined to be left green, giving way to future adaptations the design might have to go through. So the decision to integrate agriculture into the design of the building was deliberately made. We thought in the end we could create job opportunities for students in different parts of the system be it in the crop growing part or in the cafés that will use the locally produced (in the most restricted sense) goods, or even in an open air market that would take place once every month. Many different ways to integrate agriculture into the design was researched and as a result couple of alternatives seemed the best fit. Considering the reconfigurable nature of the design these alternatives had to have some shared aspects like being lightweight, easily transportable, fast, efficient, aesthetically pleasing etc.

First idea was to place these agricultural elements, as we shall refer to them, into public spaces and create close proximity job opportunities for the students but later on several flaws of that idea lead us to place this function in the “interactive skin” component of the design where it was possible to make use of sunlight more freely and manage the fluctuation in the amount of crop needed easier. To be able to make this happen, the skin had to be flexible but also movable and reactive at the same time.

Considering that we already made our limitations in terms of built environment restriction clear, this skin acting as a sort of a roof would have to stick to the borders that were pre-determined. One way to do this would be to choose an extremely elastic material that could compensate the movements the adaptations might require but since the technology at hand does not allow us to use such a material in this big of a scale, we turned to the idea of dividing the surface into different patterns by the means of triangulation or different patterns like hexagons or irregular geometric shapes that could allow flexibility in the movement itself. The intake of the sunlight and wind for heating and ventilation would be possible through different use of different materials or even a system that could enable us to robotically interchange the different compartments of the skin to optimize the structure’s integrity and environmental data usage.

However simplifying this skin system enough for our understanding was not an easy task especially considering it needed to find different ways to connect to “the cocoons”, the other dominant element of the project. Even though developing a system that adapts to different kind of joinery angles that suit both the skin and the poles the cocoons were planned to be on seemed possible, the movable skin was too complicated to realize. The cocoons on the other hand had their own difficulties to present and these we tried to overcome by investigating different shapes and forms our cocoons could potentially take in which we could assure the comfort and flexible living spaces. The elements these cocoons are made of were all designed to be mobile to allow transition of private space into a public one. The idea was to place these cocoons on strategical points determined by a variety of environmental conditions so they could make use of the best viewpoint angles, sunlight and wind that they possibly can at the moment of building. Hence the irregular grid created by the poles these cocoons rest on.

In conclusion, with the right distribution of time and effort into these concerns, we believe, will help us reach the right balance the design will be strongly relying on. Thus combining what we have learned through our research until now and what we will continue to learn for the rest of the studio will help us reach the goal we set for ourselves in the very beginning.