Work Pod for an Architecture School

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Work environments are witnessing a revolution in terms of how they define space and production, and the ways in which they engage their users. Technological innovation and social change are some of the drivers behind such radical transformations, and continue to shape today's work culture. Tech companies for example pioneered a blend of work, rest and play within their office environments. However, while all the attractive features they offer at their offices are designed to incentivize employees and optimize their performance, the nature of the work environment itself it rapidly changing.

Architecture firms have also changed dramatically since the introduction of digital drafting and modeling, and are continuing to evolve with the introduction of 3D Printing and BIM. The same is also true for students within an architecture program, needing just enough space for a laptop and some tracing paper to produce certain types of work. While solutions to address the future of work in a rapidly digitized world require multiple design strategies at multiple scales, this studio narrows its focus to designing and fabricating small scale individual work pods for the college while keeping the intellectual framing above as context. It's also in response to a need in our college to address the issue of an increasing number of students seeking a different work environment other than studio. Literature on today's growing reliance on digital tools and changing modalities of work within architecture school [1, 2] was also given to students to provide further context.

As a Design-Build studio within an architecture undergraduate curriculum, the studio ran as an atelier with the aim of tackling the challenges of delivering teaching material and concurrently produce a fully functional prototype with the students

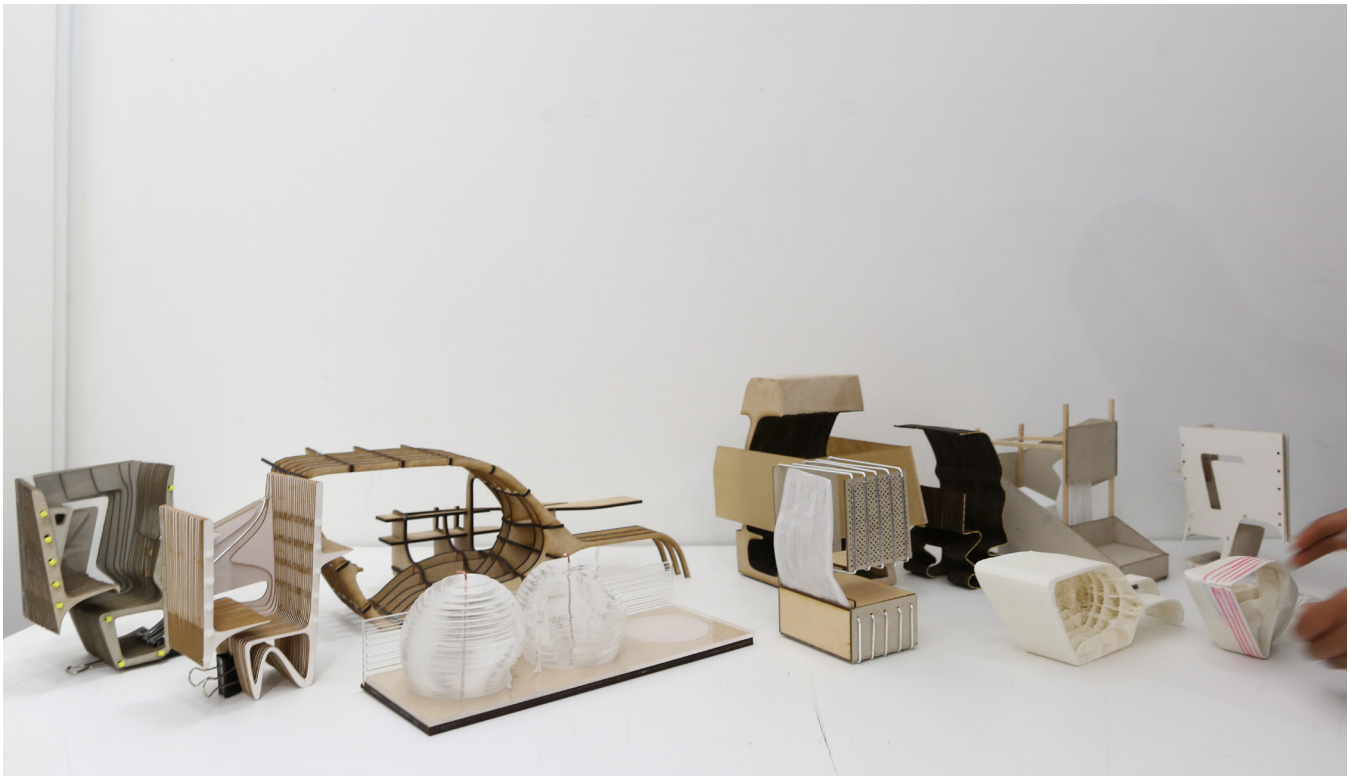

Figure 1. Initial Design Studies. Moza Al Mehairi.

Figure 2. Final Work Pod Built by the Students. Ammar Kalo.

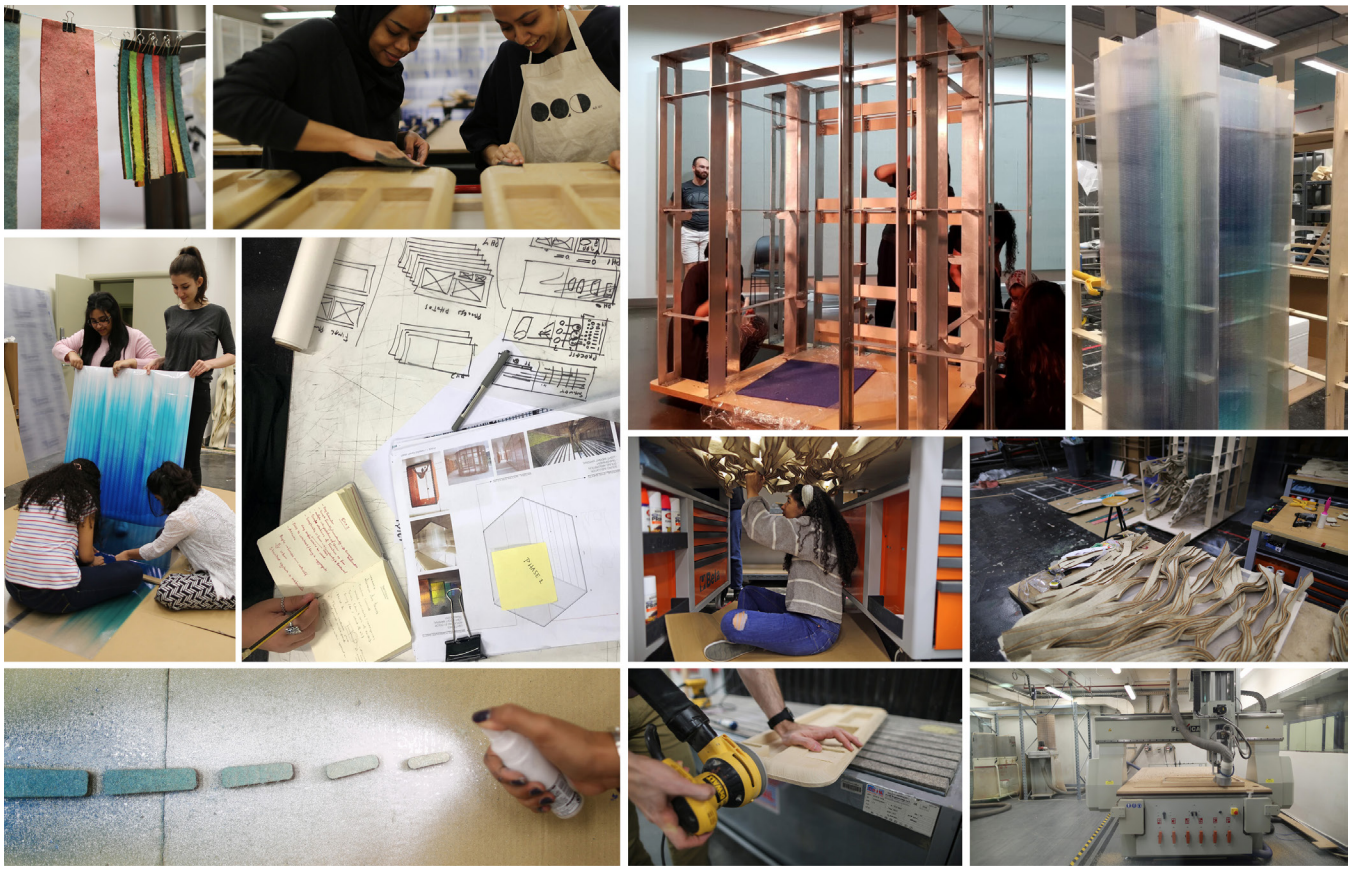

Figure 3. Fabrication Process. Moza Al Mehairi

by the end of one academic semester. This opportunity affords students to delve deeper into interior and furniture design aspects and flesh out the smallest of details.

In terms of designing the work pod, students were asked first to each individually produce a few design options (Figure 1), which were then iterated on through successive phases of larger student groups until a final design emerged as a synthesized concept (Figure 2). In addition to all the design work, each student had a number of dedicated tasks which they carried throughout the semester and ranging from documentation, material specifications, digital modeling and drawing, physical prototyping, procurement and coordinating with suppliers, accounting, to fabrication (Figure 3).

Through observational studies and surveys, students worked on several 1:1 scale cardboard and plywood mockups that were built to resolve all the component dimensions including the booth, furniture, and down to the thicknesses of materials. Students mapped options for pods placement around the college in areas that are relatively quiet and have ample space to move them around (Figure 5). They also worked on a comprehensive survey that questioned others students within the college about what factors they consider when choosing a location to work and what the most important aspects of a work pod must be. Full scale mock-ups were also used as part of the survey which gave students hands-on and immediate user feedback to rapidly iterate on the design accordingly. Based on the survey results from over 50 potential users, it was clear that the most vital issues that the pod needed to address are visual, acoustic and privacy related. The main goal of the survey was to understand why students leave studio to work elsewhere around the college, often in darker less open areas, and to glean insights into what a suitable substitute to those spaces would be. Distilling the results into actual proposals, students focused on providing solutions that utilized translucent materials for privacy while maintaining relative openness to the surroundings. In addition, solutions for acoustic dampening were taking into consideration with the use of felt and soft materials in the interior.

Conceptually, the final pod is designed as a series semi-enclosed work areas containing a standing desk, bench, and a work desk all of which are sandwiched between two parallel thickened walls (Figure 4). The thickened walls contains a lot of functions like hiding the retractable cable reel, housing all electrical wiring, and featuring an acoustic wall and a pin-up wall on each side. The work pod itself is comprised of three separate components: 1. the aluminum structure; 2. a polycarbonate skin; 3. furniture elements (Figure 6).

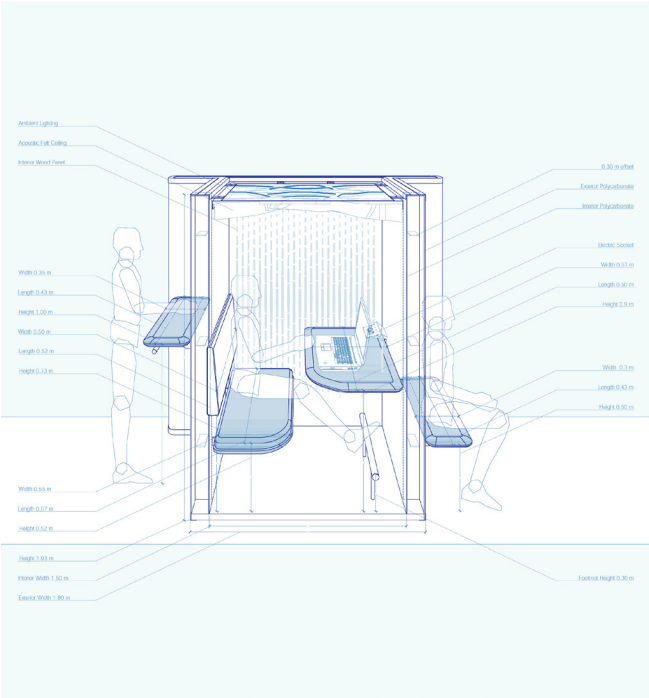

Figure 4. Pod Section Showing Different Functions.

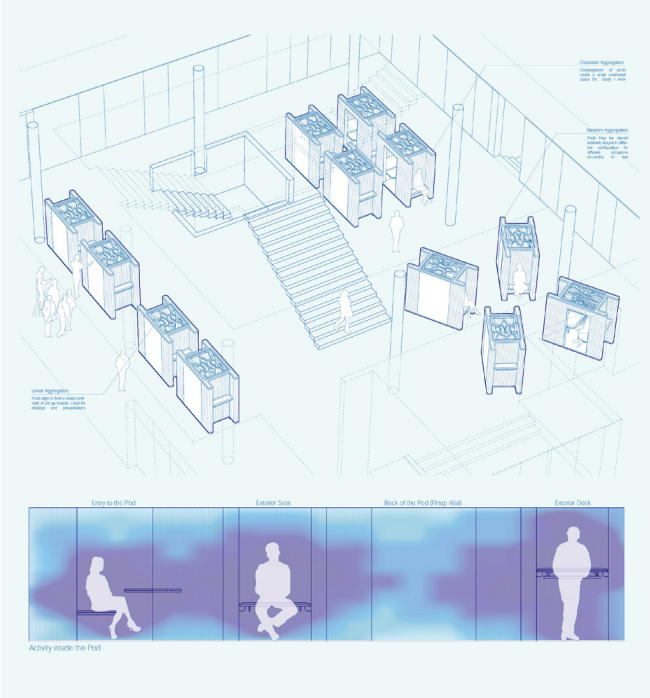

Figure 5. Pod Aggregations and Elevation 'Heat Map' Study.

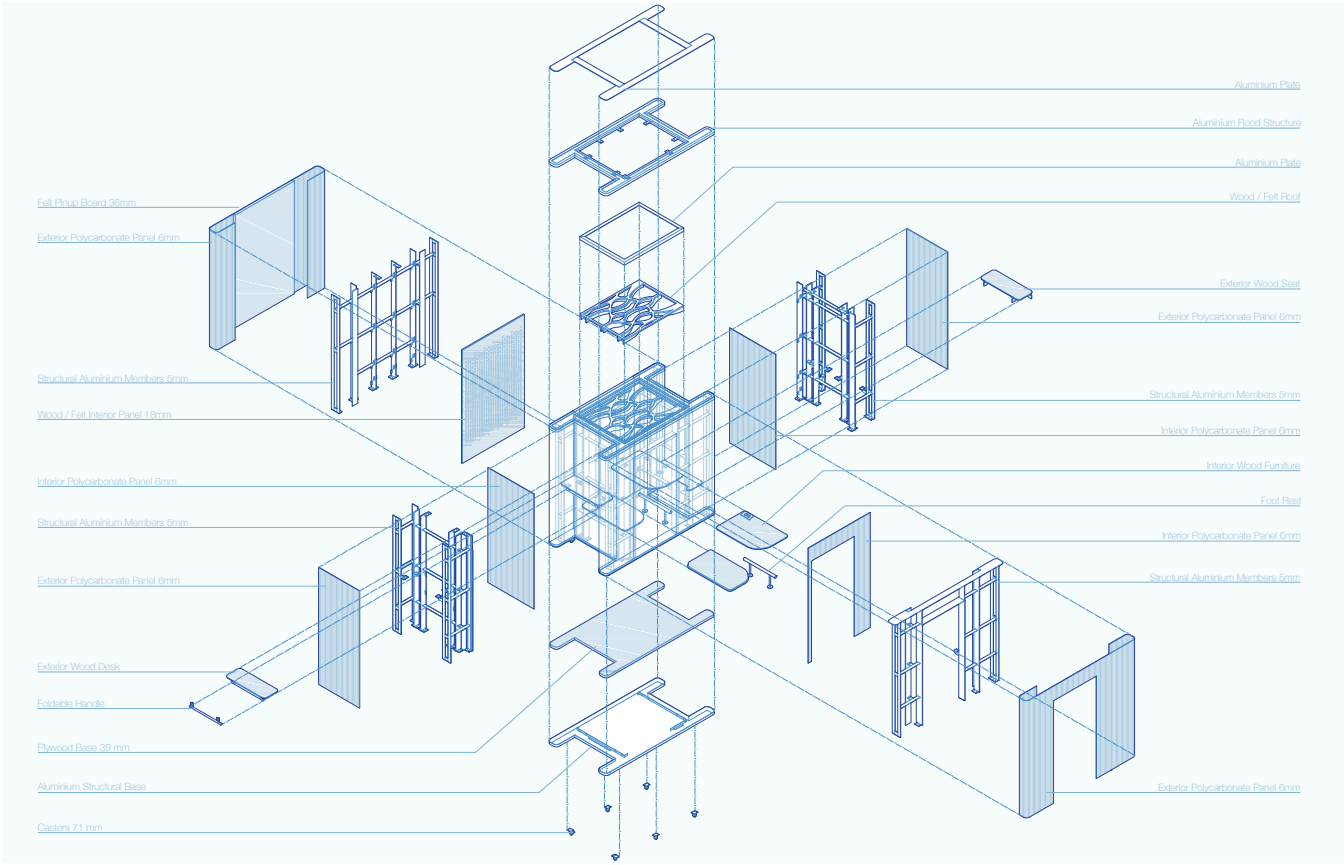

Figure 6. Exploded Axonometric.

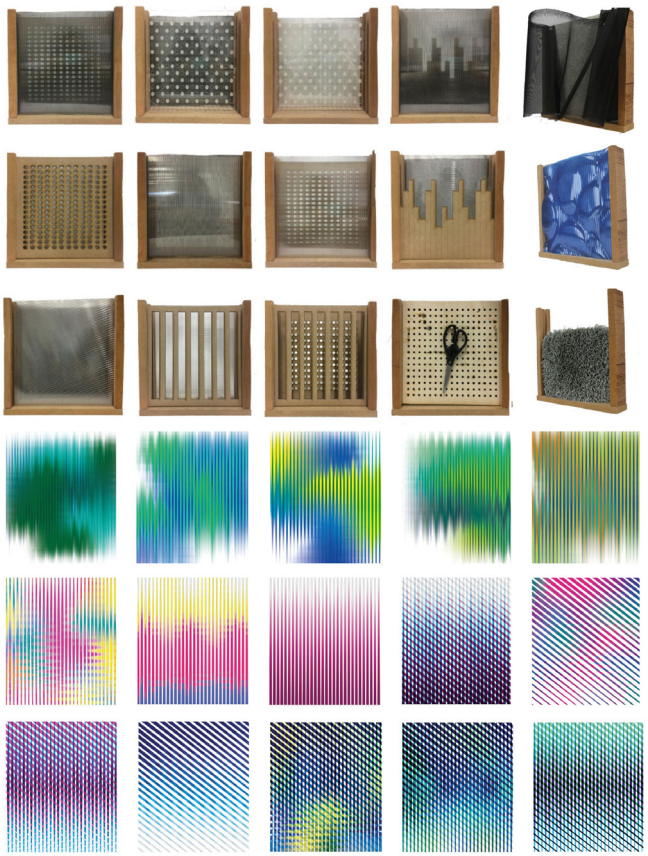

Figure 7. Screen Pattern Studies.

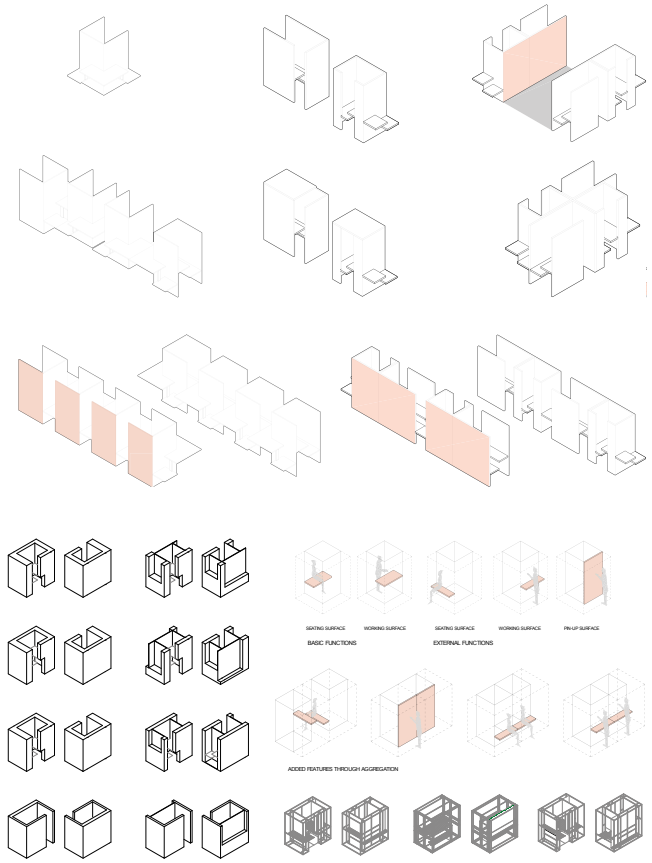

Figure 8. Furniture Combination Studies.

Colored vinyl graphics on the polycarbonate panels wrap around the structure and change in intensity responding to where users might be, and feathering out toward the edges to help the pod blend in with its surroundings (Figure 5). The overall effect is providing more privacy for the work areas while still allowing for various lighting conditions, in addition to the ambient and task lighting provided inside. Several combinations of materials, patterns, and opacities (Figure 7) were prototyped as well to determine the most suitable option for creating a private that isn't completely isolating.

Also, an important part of the design process was figuring out how the units could multiply in and interact with one another. However, while the students spent a significant amount of time studying various combinations of furniture types and layouts (Figure 8), the final design was ultimately simplified to produce the unit on time (Figures 9, 10).

With the prototype built and in use for months, students applied lessons from the fabrication process to build an updated pod with more refined details and construction strategy. In addition, a post occupancy survey is currently being conducted to measure how successful the workstation is in satisfying the requirements set at the beginning of studio and what the next iterations should include or consider.

ENDNOTES

1. Levent Kara, "A Critical Look at the Digital Technologies in Architectural Education: When, Where, and How?," *Social and Behavioral Sciences* 176 (2015): 526–30.
2. Shelby Doyle and Nick Senske, "Between Design and Digital: Bridging the Gaps in Architectural Education," in *Research Based Education 2016*, (London: Bartlett School of Architecture, UCL, 2016), 192–209.

Figure 9. Detail Shots of the Work Pods. Ammar Kalo.

Figure 10. Overall View of Pods Fabricated. Ammar Kalo.