College students need a more efficient and satisfying way to manage time when using shared laundry rooms. We identified that students have stress using the current laundry system, especially when it comes to discovering no machine is available after walking long distances with garments. The proposed concept is called LaundroPod. It is a retrofittable system that shows the availability of shared laundry machines in each student’s room. With this product, students avoid the frustration of having to check the availability in person.

We started exploring the problem space (laundry) by reading through reports from previous studies as well as considering social, economic, technological and other related factors.  While analyzing social, economical, and technological factors, wWe noticed the rapid growth of the laundry market and the trend of implementing smart and connected devices in the industry. While universities are creating their brand image of being “innovative” and “cutting-edge”, most of them are still using outdated laundry systems in the student residence. For students, more than half of them expressed frustration with time management. Therefore, we decided to tackle the problem by trying to answer the question--“How might we help college students reduce time and effort doing laundry, especially when they use the shared laundry room, in a more efficient and satisfying way?”

According to research, college students spend approximately two hours every week doing laundry during the academic year. While clean laundry is a necessity, the time spent on laundry related tasks and the stress caused thereby add little value to their formative years. Through talking to users on-site and mapping out a job-to-be-done canvas, we found the majorityfound majority of complaints are around the laundry preparation stage, which contains garment sorting, carrying, checking availability, and making payments, to be the most stress-engendering part. After considering criteria including time constraint, technical feasibility, and potential regulatory concernsthe impact potential, we decided to narrow down the opportunity space to help the students find out the availability of laundry machines (washer and dryer) in an effortless way.

We envisioned what that the potential solutions must inform students of laundry availability without having to check it in person. It must be reasonably priced and should be an upgrade to the current laundry system instead of a revolutionary change. The solution should take minimal time to set up and to use, and at the same time a non-intrusive solution. , should, and could be based on the target user, market, technology, and other relevant factors. Compared to current laundry systems that are hard to use, unintuitive, and frustrating, our solution must bring comfort to the users by requiring minimum time and effort to use. It should be reasonably priced and should not cause any other stress to students. Following this direction, the team came up with over ten concepts.

Among all the concepts we developed, LaundroPod was selected to be carried out based on product requirements and preliminary user feedback. It is a system that can retrofit to any laundry machines, allowing laundry providers to upgrade outdated ones without investing in new ones. For the laundry room end, there are sensors that sit under each machine and a component that communicates with each user-end device. These are maintained by the laundry provider. The user-end device, which has the size of a business card, shows availability with lights when being pressed. The device comes with a sticker and a detachable clip, enabling it to stick to any surfaces or clip onto soft laundry baskets.

Through thoughtfully designed functionalities, we kept the interaction simple and minimized the effort required on the user’s part to find out the availability of the machines. With the device active only when users press the button, it avoids being intrusive and annoying.

We believe the LaundroPod will modernize the shared laundry space and be welcomed by universities. It will significantly enhance the experience using shared laundry systems without posing financial difficulties to laundry providers. Going forward, we envision that it can be introduced to apartments, workplaces, and laundromats, too.