Trillium I! (Say it like “Wilijililbur!” from Charlotte’s Web.) The Trillium (not the “Express”, the Trillium space itself) has funding to install a fairly large number of touchscreen displays (large, wall-mountable displays or Microsoft Surface-like tables, but not both). You’re the HCI person on the design team hired to carry out this project, and people are looking to you to help choose, generate, and justify design ideas. You might choose to focus on part of the Trillium: including the food, cashier, seating, and disposal areas. You don’t have to.

1) Who are the stakeholders you’d want to talk to, and why?
2) What kinds of things would you want to learn, and why?
3) What method or methods would you choose, and why?

Talking about alternatives you considered, but chose not to, and why, would be a good thing to do.

Stakeholders:
- Group of students/staff who use Trillium regularly to eat
- Group of students/staff who regularly eat at another cafeteria
- Cashiers and Cornell Dining staff
- Janitors and waste management
- Software developers for the Surface/Touch-screens

Why I want to talk to them:
- For the people who eat at Trillium regularly, why do they eat their regularly, is it because of the food, is it because of the location, is it because their friends do, is it the social atmosphere? What ultimately is setting Trillium apart for them, and what exactly can be improved by adding touch screen devices or Microsoft Surfaces. They are the ones who are most likely going to be interacting with the new devices, so what sort of touch screen applications do they like, and what other experience do they have with them?
- For the people who don’t eat at Trillium regularly, why exactly don’t they eat at Trillium? Similar questions to the ones asked above, but more focused on whether an experience could be created by the use of new technology that will make them want to eat at Trillium over somewhere else.
- Find out the typical day and how students flow in and out depending on time. Find out whether it would be difficult to interface the new technology with some of the dining registers and systems in place, would there be a learning curve and how much?
- Could the technology be interfaced with some of the waste management systems put in place, maybe some sort of eco-friendly monitoring system? How much extra work would it require on their part to make this happen? What systems are currently in place and how would the arrangement or placement of these new devices aid them in keeping them clean and safe.
- For the software developers, how difficult would it be to implement particular systems? What sort of maintenance would there be for varying systems? How long would it take to get a particular piece of software up and running and ready for deployment within Trillium? How much money would all of this cost?

Things I Want to Learn:
- Whether there is a preference amongst current and potential Trillium customers between a wall-mounted touch screen versus a Surface. Would one be more attractive to the users versus another? In terms of Trillium staff, which device would be easier to keep protected and clean? This helps determine whether users would be opposed to standing and using a
wall-mounted device, or whether a Surface at their table would be too distracting. You also have to worry about the physical maintenance of the device, and if it's hung on a wall it's not as prone to traffic, whereas a Surface will be leaned on, spilled on, and will have stuff dropped on it. By gathering interviews we can get a feel for the wear and tear of current dining room items and pieces of furniture.

- Talking to Cornell Staff, what sort of learning curve is there to be expected with the device, and what sort of funding is there available to ensure that the staff is able to use the device, as well as possibly interface the food/cash register with it? How much funding is there available to create brochures and other pieces of information to inform users how to use the device, because this will surely dictate how complex an interface is implemented. I would also find out from them how often students stay at Trillium to eat and whether an in-depth interface would make students stay too long and cause congestion.

- Talking to Cornell Staff as well as software developers, how much funding will be allocated to the development of an interface, as well as the maintenance of such an interface. Particular interfaces could have lots of associated long-term costs. A Surface or touch screen is presumably a long-term purchase, so what sort of software will keep students engaged over long periods of time and allow them to have a new experience each time. Adaptable software is likely going to take longer to develop, cost more money, and may have a greater upkeep.

- What sort of touch screen devices and applications have students/staff used before and what either drew them to the device or turned them off from it? Are students more prone to using a touch screen device when it is interactive with other users or when it is solely them manipulating the screen? By asking users about their experience with touch screens and multi-touch interactive devices we can begin to gauge how interactive the application running on the touch screen should be, and from there we can begin to develop ideas as to how to utilize the screens. If Trillium diners seem to have bad experience with interactive touch screens, obviously we're going to want to opt for the wall-mounted screens with the application being primarily informational. Ultimately the question seeks to find out what sort of application would actively bring in customers who wouldn't normally dine at Trillium. From that I could gauge how many new customers Trillium would have, and from there decipher if the increased revenue would offset the cost of a more interactive and expensive application.

- Based on responses from Cornell dining staff as well as students, where are high traffic areas, and where would putting a touch screen cause traffic or congestion either in line, or where people throw out trash. Although it is nice to have all these new touch screens, if they are just put on random walls, you could end up having congestion where people can't get into line for food, or can't get to the door which would likely be a fire hazard. With a number of wall mounted screens you also run into the issue of limiting some of the seating because someone would need to be standing there. If the mounted screen were to be over a table, well then the seating arrangements would need to be altered to make sure that students could maneuver and have enough room to manipulate elements on the screen. With a Surface you have to start dealing with decreased maneuverability because of bulky systems all over the place, otherwise you could replace the tables with the actual Surface, and then you run into the issue that these high-priced devices are placed at a very high risk of damage from student use. If I can ask the staff how crowded the building usually gets, where people
usually gather, where any sort of congestion already exists, I can plan accordingly to minimize the negative effects of adding high-priced touch screens to Trillium.

**Method:**

- One-on-one surveys with students would probably be the most effective way of gaining information from students on their thoughts about Trillium and the potential addition of touch screens. The interview could also go into their feelings on touch applications, interactivity, and social applications. I would likely avoid questionnaires because they would likely be very biased, considering those that answer would either give joke-answers or would have very strong opinions about the potential design, and might lead me astray in terms of what the general population wants. Individual surveys allow me to adapt to each interviewee, probe them for deeper explanations and prior experiences with Trillium.

- For the dining staff and janitors/waste management staff I would likely use a variation of an interview, and go with contextual inquiry. This would allow me to see what they have to deal with in terms of the general flow of students, congestion in particular areas and times, and then ask them about the average day they experience and their thoughts on where touch screens would be a bad idea. For those cleaning up, I could take a look at the amount of trash generated, the wear and tear on the pieces of furniture, and then follow that up by asking the actual people about previous experiences in Trillium, the rate at which tables and chairs have to be replaced, and how often things are spilled and damaged in the building.

- I would go back to one-on-one surveys to gain information about how much funding would be allocated for the project, the plans for software development and maintenance, and funding allocated to educating users how to actually use the new devices. There really is only a very limited pool of people who would know this information, so a one-on-one interview will certainly suffice.