University of Calgary
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T03 – Hessam Djavaherpour

Assignment 3
Touchless Technology for Fast Food Restaurants

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Introduction:

I have chosen the topic to design a touchless system for customers to order food at fast-food restaurants so that they can protect themselves from Covid-19 spread. Fast food has been a part of many people's lives as they are inexpensive and convenient. Users can order food over the counter, on their phone apps, or through touch-screen kiosks that are touched by a lot of people. The Covid-19 pandemic has made people reconsider how they can order food safely, without touching devices and interacting with people to reduce the risk of catching Covid-19. Given the current circumstances, a touchless technology to order food can help to reduce interaction of communicating with another person and objects, improve service in a fast-food restaurant and make it more comfortable for users to order food more safely.

User Research Study:

Method Card 1: Activity analysis – Learn

The first method card I chose was the Activity Analysis Card to analyze the activities and procedures of the interaction process. I have listed different tasks users need to do, actions they can take, objects users can use to design interactions involved in ordering food.

What I did: identifying tasks, actions, objects, and users on different stages: how to start an order, how to interact with the system, how to select and customize their orders, and how to pay. The main performers are users who wants to buy fast food. They will interact with cashier, kiosk or the app on their phones. At the kiosk, they can start an order by clicking start, then they can choose if they want dine-in or pack to take out. Then they will be able to see all menus with different toppings and options. After customizing their orders, they can add them to cart and choose methods of payment. After paying, they just need to wait for their orders. Through this process, they will mainly interact with screen and credit/debit machines. Similarly, users will only interact with their phones when they order from the apps or communicating with cashiers.

What I learn from this method: understanding stakeholders involved in the procedures and developing different ideas on how to implement a touchless system. It helps me break down the process and think about touchless technology options for each stage. Additionally, the card gives me details of the interactions, which makes it easier to identify potential problems they system might have.

Method Card 2: Surveys & Questionnaires – Ask

The second method card I decided to use was Surveys and Questionnaires. I have reached out to different users to ask a series of questions about ordering food at restaurants during Covid-19 time so that I can understand the characteristics and perceptions of users.

What I did: I have asked six different people (including roommates, friends, parents) with these following questions:

- How did you order food at restaurants before? Have you used kiosks for ordering? If you did, what do you think about them?

- How do you currently order food at fast-food restaurants? Did it change since Covid-19 started?

- How do you currently feel when ordering food at restaurants? (Are you feeling comfortable?)

- What would make you feel safer in restaurants?

- What do you think about touchless ordering technology implemented in restaurants? Would you use those if they implement inside restaurants?

What I learn from this method: I was able to get customer insights about ordering food in restaurants. Everyone was more concerned about going to restaurants during COVID-19 time. My parents did not want to go to restaurants as they do not feel safe interacting with strangers, touching the ordering screen, and other objects. On the other hand, my roommates feel comfortable while ordering food with social distancing rules, wearing masks, and using hand sanitizers. Everyone I interviewed has used touch screen kiosks before. Their common opinions are that they like an interactive screen that allows them to go through all menus and different payment options. My parents prefer talking to staff members over the counter to order food as they prefer social interaction. Regarding their opinions about touch-less technology, before Covid-19, they would rather non-touchless technology as they think they can be more active and easier to use. However, with the current situation, they would use touchless technology when ordering in restaurants. Ultimately, from this card, I was able to understand future customer segments and different perspectives of touchless products.

Method Card 3: Scenario Testing – Try

The last card I chose is Scenario Testing because I wanted to get different opinions about a touchless system. I showed users a series of scenarios on how to use touchless technology to order food and shared their reactions.

What I did: I gave three scenarios:

- Voice-control system: this is similar to a touch-screen kiosk, but the user will use their voice to navigate the screen, interact with the system through basic command sentences to place their orders.

- Virtual assistant: The screen will display a virtual cashier that users can communicate. This virtual cashier can take orders and assist users on how to pay.

- Gesture control system: this is a kiosk that allows users to use their gestures to interact.

What I learn from this method: Older generation prefers to be able to talk to a virtual assistant as they want to have 2-way voice interaction. The younger generation prefers the first option - using voice to navigate through different screens and place their orders as they are used to using Google Assistant, Siri, and other voice control operations. Their concerns are about security and privacy while taking orders. Another worry is the elderly might have a difficult time with new technology as it might be hard for them to hear, read, or use gestures. They also mention that touchless system would be great devices during Covid-19 time, however, they said it might not be as important after the pandemic as people are so used to using touchscreen methods and it might be faster for them to use it too. Overall, this method card provided the advantages and disadvantages of a touchless system from users' points of view.

Why I chose these 3 Cards:

I chose these 3 Cards because I found social distancing and reducing interaction is critical during this time. I also develop user research in a sequence: learning about the interaction process, interview users to identify customer segments and potential designs, then finally get their experiences by providing situations. Through these three cards, I understand the market size, customer segment, product's functionalities, with the user's interface and accessibility. These cards compliment each other because they formed a research process, which helps identify different aspects of the problem and get more inputs to create a complete system. All three cards allow me to understand users' perspectives through entire process which is useful when proceeding analysis towards designing a solution. The biggest concern seems like it might be harder for users to use and people\s habits of touch-screen devices.
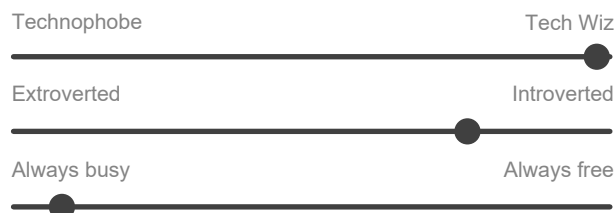
Marco Martins

Age:	21
Gender:	Male
Occupation:	Full-time Student working part-time jobs
Marital status:	Single
Location:	Vancouver, BC
Computer(s)	Android Phone & Windows Computer
Internet uasge	6-8 hours
Other traits:	Independent, likes eating-out

Technophobe ———————————●— Tech Wiz

Extroverted ————————●——— Introverted

Always busy ●——————————— Always free

Context: Marco lives with 2 roommates
Marco has work and school every-day and does not have time to cook, go grocery or prepare lunches. He usually has meals in his break time or get off from work. Marco is also not good at cooking. He eats fast food at least 3 times a week. He usually uses the touchscreen kiosk to order food before Covid-19.

Obstacles: When Covid-19 started
- Not comfortable to stay inside restaurants or touch any public devices, including credit/debit machines.
- Frequently wear masks and sanitize hands.
- Does not have time to cook, longer wait time in restaurants

**How will he/she interact with your product/service?**
Marco are used to voice-control technology as he has been using PS4, Google Nest, Google Assistant daily for basic tasks.
He will use voice control to interact with the screen. There will be a microphone he can talk and the screen will navigate to the page he wants.

Questions he/she will ask:
- How do I use this device?
- Will it be implemented at all locations?
- Will there be any extra fees?
- Will it be faster than a normal transaction?
- How easy is it to user?

Influences:
Family · Friends · Social Media · Ads · His own tastes · Work · Location · Co-workers

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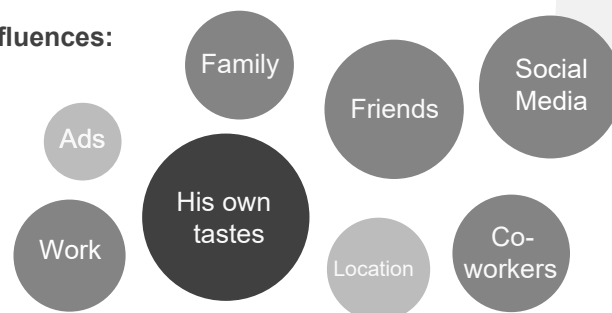
Marco's Goals and Motivations:
- Stay healthy during CoVID-19 time to protect himself and people he live with
- Keep up with school and work to get good grades and earn more money
- Be more productive and better time management to live healthier
- Have a simple and quick meal to spend more time to do assignments.
- Prices remain the same
- Easy & conveninet to use the system to order food

Keywords:
Convenient, safe, simple, fast, customizable, time, touchscreen, touchless, minimize interaction secured

Marco's Story:
Hi, I'm Marco. I'm an university student and working 2 part-time jobs. When I'm busy, I don't want to waste time waiting for orders. I go to fast food restaurants as they are very quick and convenient for me. I'm also not that good at cooking. Even though I prefer to eat at home, I don't have time to cook and buy grocery, I need to eat out.

Since the COVID-19 started, I have not been going out much because I was worried about the risk of getting infected. I always wear masks and try not to touch public devices.

There are touch screen kiosk in fast-food restaurants which is quite easy to use. It might be safe if we sanitized our hand right after that. However, during this time, I would prefer if I can even reduce that interaction. If there is a touchless system to order food, I would use it.

Template of a persona that shows the six main elements you should include. Name, age, gender, tag line, experience and skills are placed on the left-hand side. The middle column focuses on the context to indicate how they would interact with a product or service. Finally, on the right-hand side some goals and concerns are shared, as well as a short scenario to indicate the persona's attitude.