

A4: Design Requirements and Short Form Creative Brief

By TeamHortons

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Design Requirement

Problem: First of all, it is difficult to find basic information about UofT food trucks such as address, business hours, menus, food pictures, prices, and food nutrition details on the Internet. When people go to food trucks to order, sometimes they have to face long queues and bad weather. There are also some food trucks that do not accept credit cards or only accept certain payment methods.

Design principles: Make UofT food trucks' information more accessible and useful to help people make better dining decisions. Make ordering and payment easier for both diners and food truck owners.

Environmental requirements: Our system will be more of an ordering platform and does not have a strict environmental requirements. Our users can use our system as long as they have the appropriate devices and can access the Internet.

Functional requirements: Our system will provide information about UofT food trucks' location, opening hours, estimated waiting time, payment methods, menus. As well as pictures, prices, ingredients and nutritional information for each dish of each food truck. We also want to provide screening for those aspects. We need to make sure that our system is easy to learn, easy to use, and coherent between devices. It also needs to be mobile, personal, and unobtrusive. Our system also offers online ordering and online payment features. Our system also record customers' additional requirements and display it. After the user ordered, we will also provide with instant number of orders before him. Our users will be able to give feedback to each food truck using a feedback and rating system

Technical requirements: Our system will be built on a mobile app or online website, accessible on phones and browsers. We may need to develop a product front end using a third-party web development framework and the respective mobile app development tools for each platform. We also need to rent a server, develop a backend API, and build a database. At the same time, we also need to use UI design software for UI design. We can also hire a software development company to help us with this.

Usability requirements: People who eat at food trucks and food truck vendors should all be available to our system. We will try to make the system as accessible as possible. Our system may not require registration or login to use it. But for people who do want to register, their information for each ordering will be recorded and saved. For people who do not want to download the app, website version are available. For food truck vendors, there will be a different access to the system, and they will be able to view the ordering status and waiting lane.

Measures of success: We will measure if our system is useful by measuring the number of people who are actively using it, the number of people who download the app, and the number of those who register in the system. For there are usually few people on campus on weekends, we may measure it on a weekly basis to see the trend. If there are increases on those activities, it shows that our system performs well; or if decreases, the performance is bad. It is a great measurement for our system performance, because by measuring the numbers of people of activity, it is measuring people's preference of this system over not using it or other system in competition.

Experience Map

STAGES	Entice	Enter	Engage	Exit	Extend
People	On-Campus students, staff, visitors and food truck vendors: new students, health-conscious customers, food truck customers who are in a rush, customers buying from food trucks during cold days, poor students				
Contexts	Around Food Truck, at home, in the classroom, in the library, with friends	At the food truck, at home, in the classroom, in the library	At the food truck, at home, in the classroom, in the library	Around Food Truck	
Thinking	<p>Current state:</p> <p>Customers:</p> <p>"What kinds of food trucks are there?"</p> <p>When do these food trucks open?"</p> <p>"Is there any healthy food?"</p> <p>"Where can I get food as soon as possible?"</p> <p>"I don't know the menu of food trucks."</p> <p>"I want some cheap food."</p> <p>Vendors: "Busy work today."</p> <p>Future state:</p> <p>Customers: "Let's check out the food trucks and their menus."</p> <p>"It's so cold outside, I will order online."</p> <p>"I want to try something new" "I want to try the best thing on the menu."</p> <p>"I didn't know there's this food truck at that place."</p> <p>Vendors: "Busy day but I've got this new thing to help me."</p>	<p>Current state:</p> <p>Customers:</p> <p>"What tastes the best?"</p> <p>"What will the food look like?"</p> <p>"What are the ingredients and calories of the food?"</p> <p>"The queue is so long, how long will I have to wait?"</p> <p>"The price seems reasonable."</p> <p>"I don't have cash, is there any food trucks that accept card?"</p> <p>Vendors: "What will they order?"</p> <p>Future state:</p> <p>Customers: "It's so easy to order what I want."</p> <p>"The food looks delicious on the picture."</p> <p>"It says poutine has 810kcal. I'll get something that healthier."</p> <p>"The estimated waiting time is only 3 minutes now; I'll buy at food trucks."</p> <p>Vendors: "Everyone orders fast."</p> <p>"I can see the orders online and prepare them ahead of time to avoid rush hours."</p>	<p>Current state:</p> <p>Customers:</p> <p>"I hope this is delicious."</p> <p>"The waiting time is so long; I wish it could be quicker."</p> <p>"It's too cold to wait outside, if only I could pick up my food when it's ready"</p> <p>"Hope it's quick."</p> <p>"I only bring card today, how do I reach the \$5 minimal card payment amount?"</p> <p>Vendors: "What are his special instructions?"</p> <p>Future state:</p> <p>Customers: "I don't need to wait outside, I will pick-up the food when it's ready."</p> <p>Vendors: "It's so convenient that all the instructions and add-ons are clearly recorded."</p> <p>"There are less complaints about long line-ups."</p>	<p>Current state:</p> <p>Customers: "It tastes good!!!"</p> <p>"This doesn't look healthy."</p> <p>"I forgot to bring the cash, the payment method is too limited."</p> <p>"It tastes bad, I should have tried other food trucks."</p> <p>"That was quick/slow!"</p> <p>Vendors: "Next order."</p> <p>Future state:</p> <p>Customers:</p> <p>"Getting food is a lot easier this time."</p> <p>"I didn't have to wait for too long to get my food."</p> <p>"I didn't have enough cash; glad I can still pay with card."</p> <p>"This is really healthy."</p> <p>Vendors:</p> <p>"I didn't have to handle payment this time."</p>	<p>Current state:</p> <p>Customers: "I wish I can get all the food trucks' information."</p> <p>"I will never buy this again."</p> <p>"I should bring some cash next time."</p> <p>"I want to recommend this food."</p> <p>Vendors: "I wish there could be something that makes my work easier."</p> <p>Future state:</p> <p>Customers:</p> <p>"I can reflect my thoughts on the system, I want to recommend this system."</p> <p>"I want to use this again."</p> <p>Vendors: "I get people's feedback and improve my food."</p>
Feelings	Curious, excited, hungry, tired, lazy,	Curious, confused, nervous, hungry, excited	Impatient, angry, tired, hungry, happy	Disappointed, frustrated, satisfied, tired	
Actions	<p>Current state:</p> <p>Customers: Check out nearby food trucks. Ask their friend for recommendations.</p> <p>Vendors:</p> <p>Prepare for the next order.</p> <p>Future state:</p> <p>Customers: Download and launch the app or enter the website. Scroll through the food trucks. Check the food trucks' information. Check the reviews of the food trucks.</p> <p>Vendors:</p> <p>Download and launch the app or enter the website. Update their menu.</p>	<p>Current state:</p> <p>Customers: Skim through the menu trying to find useful information, asking about information about food trucks.</p> <p>Vendors:</p> <p>Preparing for the next order.</p> <p>Future state:</p> <p>Customers:</p> <p>Skim through the menu with clear nutrition info labelled.</p> <p>Vendors:</p> <p>Prepare for the online and offline order.</p>	<p>Current state:</p> <p>Customers: Order and wait for the food at food trucks. Check the time frequently.</p> <p>Vendors: Prepare food with instructions.</p> <p>Future state:</p> <p>Customers: Order and pay the food online and wait for the pick-up notification.</p> <p>Vendors: Prepare food with clear instructions. Prepare for the pre-order ahead of time.</p>	<p>Current state:</p> <p>Customers: Try to gather enough cash. Pay for the food and go.</p> <p>Vendors: Serve food and collect money.</p> <p>Future state:</p> <p>Customers: Get the notification from the platform and pick up. from food truck. Quit the app.</p> <p>Vendors: Notify the customers that their order is ready through the platform. Serve food and collect money.</p>	<p>Current state:</p> <p>Customers: Recommend food to friends. Withdraw cash. Eat somewhere else.</p> <p>Future state:</p> <p>Customers: Give feedback for the order.</p> <p>Vendors: Check the feedback of their food trucks.</p>
Touchpoints	Food trucks, website/app, map	Food trucks, review, website/app	Food trucks, website/app	Food trucks, website/app	In person, social-media, website/app

Short Form Creative Brief

Project Objective

We want to develop a UofT food truck ordering platform. In order to make the food trucks' information more accessible and useful to help people make better dining decisions. Also make ordering and payment easier for both diners and food truck owners.

Key Persona:

Heather the Health-Conscious Grad Student:

24 years old female grad student doing her masters in biology. She lives close by to campus with a 15 minute walk to get to school. Her days are extremely busy TAing for a 3rd year life science course in addition to her lab work and classwork. She wants to eat quick meals but is also worried about her figure and wants to manage her diet. She tries to go to the AC at least a few times per week.

Fred the Frosh:

18 years old male 1st year undergrad computer science student separated from family for the first time. Just start university and have no idea where anything is. Is currently living on campus and have a meal plan with the school cafeteria. Also a bit intimidated by the new environment but is willing to try new things. Schoolwork isn't too heavy yet so they have more time than upper year students. Hangs out with friends on weekends playing soccer. No experience eating at food trucks yet.

Key Scenarios:

Heather is a biology graduate student, who needs to TA many courses and care about the diet. One day, she has something shows up unexpectedly between two tutorials she needs to attend, so she needs to eat her lunch on her way to the tutorial. She wants to dine at one of the food trucks that she can grab her lunch quickly, **but all the food trucks she passed by do not have any nutrition details about their food on the menu, so she could not eat at those food trucks.**

After eating at the school cafeteria for the past 2 months, Fred is growing sick of eating there. He remembered there were a lot of food trucks outside of his classroom and decides to try one of them. He decides **he wants to try the truck with shawarmas but wasn't sure it accepted cards as he didn't have any cash on him**, so he goes out to check. When he goes out, he realizes the truck wasn't there. It turns out **the truck had parked itself on the other side of the campus today** instead.

It's the middle of winter. Fred doesn't want to leave BA and go all the way back to the residence cafeteria for lunch, so he decides to buy a poutine from The Blue Truck. Unfortunately, **others had the same idea so he spent 15 minutes waiting in the cold** when it would've taken him only 5 minutes to get back to the residence cafeteria.

Key Principle:

Ease of use over detailed information. Both customers and vendors should be able to do what they want with minimal interaction with our system, even if it means we can't display everything that we want to.

Plans for individual low-Fi Prototypes & Usability testing

Key tasks:

- Check the food truck information such as name, payment system, location and opening time.
- Skim through menu, price, nutritional information and pictures of food.
- Order and pay online.
- Write feedback/reviews for each order or food trucks.
- Check average waiting time for certain time slots.

A5 Task Assignments:

Everyone will design their version of the entire system. Hence we can combine the best part of each design and refine the final system.

Appendix1: Assignment Attribution

Tianshu Zhu (Tim):

I worked with Feymann on the "Design Requirements" section of A4, and I also wrote a scenario in "Short Form Creative Brief". I wrote the "Plans for Individual Low-Fi Prototypes & Usability Testing" section with Yuwei and Jason. Then the team. Then all of our team members discussed the results together. Feynman and I improved our part based on the feedback from the team members.

Man Fei (Feymann):

Tim and I focused on the design requirements. First, we wrote the design requirements, and then discussed among our group to get advice. According to their suggestions, we improved the design requirements. Later, I helped writing the experience map with Helen and Victoria. At last, we integrated the whole file together.

Haosun Zhou (Jason):

Discuss with the group to determine and write our project objective and key principles. Created completed list of personas and scenarios with Yuwei.

Qi Zhu(Helen):

Victoria and I worked on the experience map together. We worked on both current state and revised state of the experience map. We further discussed with our group members for advice and refined the experience map based on their feedback. And further help with refining other sections as well.

Jingxian Zhu (Victoria):

Worked on the experience map with Helen. Discussed assignment details with other members and assisted them with their tasks.

Yuwei Zhang:

Worked on short form creative brief, creating a number of personas and scenarios, and wrote plans for prototyping. Acted as editor for other sections.

Appendix2: complete collection of personas and scenarios

Persona:

Heather the Health-Conscious Grad Student

24 years old female grad student doing her masters in biology. She lives close by to campus with a 15 minute walk to get to school. Her days are extremely busy TAing for a 3rd year life science course in addition to her lab work and classwork. She wants to eat quick meals but is also worried about her figure and wants to manage her diet. She tries to go to the AC at least a few times per week.

Buzz the Busy Third Year

21 years old male 2nd year undergraduate ECE student who has a lot of school work in addition to participating in a robotics design club. He only has a few minutes between lectures to grab his food. He prefers food trucks because he's close to them but he only knows the ones near BA and SS. He thinks that food trucks are convenient and is a fast way to grab food with affordable price and acceptable food. He likes to play video games in the small amount of free time that he gets.

Paula the Poor Student

22 years old female 3rd year undergraduate economics students who lives with her parents and depends on OSAP to pay for her tuition. She takes one hour to commute to school using TTC. She usually brings her food but sometimes don't have time to prepare it. She enjoys singing and is part of the Hart House choir.

Fred the Frosh:

18 years old male 1st year undergrad computer science student separated from family for the first time. Just start university and have no idea where anything is. Is currently living on campus and have a meal plan with the school cafeteria. Also a bit intimidated by the new environment but is willing to try new things. Schoolwork isn't too heavy yet so they have more time than upper year students. Hangs out with friends on weekends playing soccer. No experience eating at food trucks yet.

Vena the Veteran Food Truck Vendor:

45 years old female food truck vendor with 20 years of experience selling hotdogs and fries, both on-campus and off-campus. Just start using card payments because her boss wanted to and is not too happy with the system since it takes too much time and she is not a very technical person. Just wants to get the day over with but her coworker is new and prone to mistakes, giving her a hard time. Currently married with a 10 year old daughter to take care of.

Owen the New Food Truck Owner:

37 years old male who just bought his food truck and is looking for ways to attract more customers. Is worried about staying in the black while paying off the loan he took to open the food truck. He is willing to invest in new technology if he thinks it will bring him more profits.

Richard the Rich International Student:

23 years old the 4th year male Rotman undergrad international student from China. Lives at an apartment 5 minutes away from campus. Don't really care about how much something costs as long as they can get it easily. Currently looking for a job before graduating and has most of their credits already and thus have a lighter course load. Goes out with girlfriend on weekends.

Peter the Professor:

60 year old male professor with a PhD in Japanese Literature. Takes a 20 minute drive to school. Spends most of the time researching at Robarts, with morning lectures Mondays, Tuesdays and Fridays at SS and LM. His wife usually cooks for him so he generally brings leftover dinner from home. He doesn't like using technology very much. His doctor has advised him to eat less salty food to deal with his high blood pressure.

Louis the Local:

30 year old male local resident who lives a minute away from campus. Like to take his dog for a walk with his wife at Queen's Park. Works at a bank as a financial analyst. Buys at food trucks from time to time while commuting to work or out for a walk. Uses his phone to organize everything.

Connie the Food Truck Connoisseur:

23 years old 4th year female psychology student who has eaten at all the food trucks and knows where all of them are on what day. Not too worry about finances and eats at food truck on a regular basis. Knows many of the food truck operators well and often gives recommendation on food trucks to her friends based on what their preferences.

Scenarios:

Heather is a biology graduate student, who needs to TA many courses and care about the diet. One day, she has something shows up unexpectedly between two tutorials she needs to attend, so she needs to eat her lunch on her way to the tutorial. She wants to dine at one of the food trucks that she can grab her lunch quickly, **but all the food trucks she passed by do not have any nutrition details about their food on the menu, so she could not eat at those food trucks.**

Buzz is a second year ECE student, who has a lot of work stack together. One day, he tries to finish his final project, which is worth most of his term marks. There is not much time left for Buzz, and he is starving at this point, so he decided to pick some food up at a food truck next to him. **However, it is almost the exam season, everyone is waiting in front of food trucks for their food, so he could not eat at food truck due to the long waiting time.**

It's the middle of the school year. Paula was too busy to pack her lunch because she has 3 midterms coming up and an assignment due. She decides to buy something to eat for the first time in a month. **Because she doesn't eat out often, she doesn't know where the cheapest place to eat is.** When she goes out to see the prices, the lines are long and when it finally came to be her turn, **she didn't realize there was a surcharge for paying by card** until she had ordered. Reluctantly she paid the surcharge, leaving with a bitter taste in her mouth.

After eating at the school cafeteria for the past 2 months, Fred is growing sick of eating there. He remembered there were a lot of food trucks outside of his classroom and decides to try one of them. He decides **he wants to try the truck with shawarmas but wasn't sure it accepted cards as he didn't have any cash on him**, so he goes out to check. When he goes out, he realizes the truck wasn't there. It turns out **the truck had parked itself on the other side of the campus today** instead.

Vena is a veteranian food truck vendor, recently a new person with few relative experience started working with her. One day, there is a super long line in front of their food truck, the new worker is taking orders and Vena is cooking the food. Suddenly there is a mess happening; Vena found that some students' orders are mixed together by the new worker. **Vena used to memorize all the order, and she can do this due to her experience, but the worker does not have this ability.**

Richard is a rich international student, who usually does not eat at a food truck; instead, he orders delivery from restaurants. One day, Richard is walking on campus, and he decides to try the food truck for the first time on a whim. **He realized that the food truck he wants to eat only accept cash payment; unfortunately, he does not have any cash with him.**

Peter the professor's wife was on a business trip, so he had to cook for himself. He burned the dinner he was trying to make the night before so he decided to just buy something on campus. **Despite food trucks being right outside the building he's in, because he's worried about his salt intake, he decides to buy food from somewhere he knows won't be too salty.**

Louis is a local resident near UofT. He lives five minutes away from the campus with his wife and his lovely dog. One day, he walks his dog on a daily route across the queen's park, when he is walking on St George St, the food pictures on food trucks attract him to try them. **But he could not pay for the food, because he does not carry wallet with him, and the food truck does not accept card tap payment.**

It is already around 9pm. The next conference is coming soon, and Peter is working with his students in the lab to prepare for a research paper. Maybe because of his age, Peter feels very tired. He plans to buy a small cup of coffee, and there is a newly opened food truck selling coffee downstairs. When he got downstairs, **he found that the food truck had already left.** Peter had to go to the nearby Chinatown to buy a Tim Hortons.

It's the middle of winter. Connie knows that the hotdog truck is the fastest to get food from even though they're not her favorite. When she got to the truck, the line up was longer than expected because everybody else also had the same idea. **She ended up waiting for 15 minutes in the freezing cold when normally it would've only been 5 minutes.**