

Fast-Food Kiosk

No waiting in the line anymore



CS5340 Assignment 5

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Preliminary Usability Test Plan

A. The scope and purpose of the tests

1. Scope:

Software: the order, payment, promotion, and settings feature of the kiosk

Hardware: the kiosk machine itself

2. Purpose:

To test if the kiosk satisfies the requirements of the users.

To collect some information from the users to improve the product.

B. The performance objectives to be tested

1. Whether the users can complete ordering, making payment, adding promotions and set settings tasks independently and successfully. (Effort constraint)
2. Whether the time the users spend to order food on the kiosks is less than that they spend with the cashier. (Time constraint)

C. What kind and how many participants

Recruit 5 people know how to use touch screen:

1. Children: We will target on people with kids. We will observe when the test users ask their kids to pick food they want, whether the kid can find something they are interested in.
2. Vegetarians: We will go to the vegetarian restaurants and ask customers to do the test. We will test if they can easily find the food they want, and they are able to modify their order to exclude the ingredients they don't want.
3. People who don't speak English: We will test with users who don't speak English. We will see if they can finish the order only based on the structure of the UI and the indications of the icons.
4. Seniors: We will invite seniors to use our machine and see if it is obvious to them that they can modifies the picture and font size in the UI, and the brightness of the screen.
5. None of the users above.

D. What scenarios to test

1. Ordering feature:

- 1) Ask participants to order a burger, fries and coke.
- 2) Ask participants to order a kid's meal.
- 3) Ask participants to order only vegetarian food.

2. Machine setting feature:

Ask participants to change the settings of the kiosks.

- 1) Change the brightness of the screen.
- 2) Change the font size of the words.
- 3) Change the height of the machines.

3. Promotion feature:

Ask participants to read the promotion pages and order the items they require.

E. Specific tests and documentation

1. Specific tests:

- 1) The senior participant uses the setting feature to make the font size larger.
- 2) The Vegetarian participant customizes his/her own meal to exclude any non-veggie ingredients.
- 3) The kid participant orders the kids-combo in the order feature.

2. Consent form (Adult)

3. Consent form (Minor)

4. Data collection table

5. Test scripts

F. Equipment and physical conditions

Besides the kiosks, we do not need any additional machines or equipment for our test. There are no specific location requirements for the test.

G. Staff roles during test

1. Moderator

The moderator interacts with participants during moderated tests, keeping them within the scope of the study, while making the experience realistic by allowing them to drive.

2. Trainer

The trainer provides a brief walk-through of our kiosk ordering system before testing.

3. Data logger

The data logger records necessary information of participants and their actions and comments.

4. Designers and Developers

The designers and developers determine the scope and purpose of the test and design the entire test.

5. Observer

Silent observers.

H. Test data collected and data protections

1. The amount of time users spent on finishing one order
2. The number of times each user asking where to find a specific functionality.
3. The number of times a user encounters an error
4. The demographic information of the users. (Age range of the users)
5. Previous experience of users with similar system
6. Any suggestions from test users.

I. Qualitative and quantitative test metrics

1. Qualitative test metrics:

Customer survey:

- 1) Which feature needs improvements?
- 2) What on the page is causing doubts, hesitations, or uncertainties?
- 3) Will the participant use the kiosk frequently?
- 4) Does the participant think the system is well integrated?
- 5) Does the participant think there was too much inconsistency?
- 6) Does the participant find it is easy to learn to use the system?

2. Quantitative test metrics:

- 1) Score of a satisfaction survey.

- 2) How many users succeed in completing the task?
- 3) Time of completing the task.
- 4) How many users chose to add the promoted items to their order?
- 5) How many users encountered the “error” message?
- 6) How many times one user asked moderator for help?

J. How the test metrics will be analyzed

1. Qualitative Analysis:

1) Icons clear or not:

Calculate the percentage of the users who find the icons are not clear. If the percentage is greater than 40%, modification of the icons should be made.

2) Which feature needs improvements?

Calculate the number of unsatisfied users of each feature. If the percentage is greater than 60%, the specific feature should be modified.

3) What on the page is causing doubts, hesitations, or uncertainties?

Calculate the number of unsatisfied users of specific page. If the percentage is greater than 60%, the specific page should be modified.

4) If 60% of the users respond that the system does not meet their expectations, a major modification of the system will be made.

2. Quantitative Analysis:

1) Score of satisfaction survey: the average score should be above 8/10

2) The number of users succeed in completing the task: should be greater than 100%.

3) Time of completing the task: the time a customer spent on finishing one order with the kiosk should be less than the time they spent ordering with a staff.

4) Number of users chose to add the promoted items: Above 50%

5) Error rate: should be lower than 20%

6) Frequency of asking help from moderator: lower than 20%

Pilot Usability Test Study

All our members in our team and one of our friends have participated in the test. We each pretended to be one type of users, including kids, senior user, vegetarian, users who doesn't speak English, and a college student. We acted in turn as the moderator, trainer, observer and data logger.

A. What went well with the session:

1. The survey is easy and convenient for the participants to take
2. The roles in the test are sufficient
3. The test includes different kinds of participants.

B. What did not go well or what was unexpected with the session,

1. Some of the participants required a place to input their own comments to the system
2. The trainer received many questions from the participants during the introductory session.

C. What revisions did you make to your usability test plan based on your pilot session

1. On the survey, we added a section that let participants to leave any comments not included in the questions.
2. Based on the questions most frequently asked, we instructed the trainer to address the points for future training.

Consent Form (Adult)

I agree to participate in the study conducted by the [Agency/Organization].

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort during the session with the study administrator.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

Date: _____

Please print your name: _____

Please sign your name: _____

Thank you!

We appreciate your participation.

Consent Form (Minor)

I agree to allow my child to participate in the usability study conducted by _____.

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort my child or I might have with the study administrator.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

Date: _____

Child's name: _____

Please print your name: _____

Please sign your name: _____

Thank you!

We appreciate your participation.

Data Collection Survey

Data Collection Form			
Basic information:			
Aage range	0 to 18	18 to 45	Above 45
Vegetarian?	Yes	No	
English Speaker?	Yes	No	
person with special needs?	Yes	No	
Quantitative Result:			
Score of satisfaction (from 0 to 10)			
Succeed in completing task?	Yes	No	
Added promoted items?	Yes	No	
Time of completing task			
Received error message?	Yes	No	
Asked moderator for help?	Yes	No	
Qualitative Result:			
Which feature needs improvement?			
What on the page is causing doubts, hesitations, or uncertainties?			
Will the participant use the kiosk frequently	Yes	Maby	No
Does the participant think the system is well integrated	Yes	Maby	No
Does the participant think there was too much inconsistency	Yes	Maby	No
Does the participant find it is easy to learn to use the system	Yes	Maby	No
Customer's Comments:			

Test Script

Hello, my name's Steve, and I'm going to walk you through today's session. As I mentioned over email, my team is currently working on a fast food ordering kiosk which aims to save customer's time waiting in queue and to increase restaurants' profit. Imagine in the future, you no longer have to wait in a queue for 30 minutes for food that you can finish in 10 minutes. Your suggestions and comments are important to us and will benefit the future users of our kiosk.

I'd like to begin by thanking you for making time to go through the test with us. Your feedback is valuable and will help us determine if our kiosk functions as intended. Just to confirm, our test will last about 30 minutes. If you need a break or to stop at any time, please let me know. During this session, I'll start by recording some basic information about you. We will not take any information that can identify you, and we will make sure that we keep good custody of the records, so you do not have to worry about personal information leak. I'll also give you some tasks to complete. While you are completing the tasks, our staff will record some information about the test process. Finally, we will ask you to give a rating of our product and leave any suggestions you have.

Please be aware that there are no wrong answers. In fact, this is probably the one place today where you don't have to worry about making mistakes! As you go about using the kiosk, I'll ask you to think aloud as much as possible: to describe what you're looking at and what you're trying to do. This will be a big help. Also, please don't worry that you're going to hurt our feelings. We're doing this to improve our product, so we need to hear your honest reactions. If you have any questions as we go along, just ask. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them to help. But if you still have any questions when we're done I'll try to answer them then. Finally, please sign our consent form.

Great. Do you have any questions for me at this time?

Reference:

1. <https://www.hotjar.com/blog/qualitative-vs-quantitative-user-research/>
2. <https://www.usability.gov/how-to-and-tools/resources/templates/consent-form-adult.html>
3. <https://www.usability.gov/how-to-and-tools/resources/templates/consent-form-minor.html>