Assignment-2
An Improved Fast Food Ordering Kiosk

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Elevator Pitch:
Fast food restaurants are increasingly installing kiosks for the convenience for customers to place their food orders, but now the kiosks show some problems during use and many customers are not willing to use it for both personal and machine reasons. By analyzing some factors including users and tasks, the project is trying to improve the ways kiosks interact with customers, address some of the issues experienced by customers, and make it show better performance.

User analysis:
1. Target audience
The target audience of the kiosks are customers who are going to place their food orders in this restaurant.

2. Where to be used
The kiosks are mainly used in a relatively empty place inside the restaurant, and sometimes it can be placed outside the restaurant or along the drive-thru way.

3. Contexts and environments
The kiosks are used for the convenience of placing order, so customers would choose this way when the counter is busy at that time, or when they think it more efficient compared to interacting with stuff at the counter. Besides, those choosing the way of drive-thru could use the kiosks outside the restaurant as well as ordering online.

4. Frequency
The frequency that the kiosks be used depends on some factors. If the kiosks show enough convenience, most of the customers might use it every time they place their orders. Besides, when the restaurant business is good and there are many people in it, newcomers would prefer ordering in this way.

Task analysis:
The Kiosk system is assumed to be a touch screen station inside the fast food restaurant.
1. Start order
The Kiosk system will have an animated rotation of advertising items when no customer is using the Kiosk. To start an order, the user touches anywhere on the screen, and the system will stop playing advertisement and show the main menu page. The main menu page separates the food and drinks into different categories on the left side bar. The right-side section will have the default

category's items with image, price and a plus icon. The restaurant would be able to adjust the default page to reflect current hot deals and new recipe items.

2. Ordering process

Once the user starts the ordering process, the user has two choices to add items to the order. First step: the user first touches the name of the category on the left side bar, the system will show the category's items on the right side of the screen.

First method: Once the touch the plus icon, the system will add the touched item to the order.

Second method: If the user touches the item image, the system will redirect the user to an independent page of the selected item. Despite of the additional information provided by the page; the user could touch the plus icon in this page. The system will add this item to the order accordingly.

3. Changing order

The user could touch the shopping cart icon to access it. Once touched button, the system will redirect to the order page showing all selected items in the current order. When user touches the plus or minus sign on the order quantity of a specific item, the system will reflect the change of the quantity of that item. Once the user touches the trash can icon on the side of one item, the system will delete that item from the order. There is no confirm button to cause confusion, any press of button will reflect on price and quantity change at the moment.

4. Submit Order and making payment

Once the user finishes its ordering, the user could touch the submit order button at the bottom of the screen. Once touched, the system will redirect to an order submission page with detailed item listing with price and total price. The user then touch submit button, and the system will redirect user to the payment selection page to select payment type among: cell phone payment (apple, android pay, etc.), credit/debit card, and cash payment. In the meantime, the order won't show on kitchen system until paid. At this time, the user could still touch cancel order on the screen if he change his mind. The system will have a pop out message to let user confirm again to cancel the order. To select among the payment type, the user could touch the icon.

· Cell phone payment: After user touch cell phone payment, the system will activate the scanning device installed on Kiosk and redirect to a new page of payment instructions. Once the user successfully made the payment, the Kiosk will print the receipt.

· Credit/debit card: After user touch card payment, the system will prompt the user to insert card. Once the payment has been processed, the Kiosk will print the receipt.

· Cash payment: After user touch cash payment, the system will print a special ticket and redirect to a new page to ask user to pay cash at the counter.

Conceptual model:
Restaurant:
Attributes: age, cuisine, address

Actions on object: the restaurant can update its information in the kiosk.

Actions on attributes:
· The restaurant's age goes up by one every year.

` The restaurant can show its cuisine in the kiosk or change it.
· The restaurant may move and change the address.

Person (Customer):
Attributes: age, food preference, address.

Actions on object: store the person information in the kiosk; delete the person information from the kiosk.

Actions on attributes:
· A person's age goes up by one every year.
· A person may change his/her favorite food.
· A person may move or change his address.

Menu:
Attributes: the number of items, specials, food recommendation

Actions on object: modify the menu; add item to the menu; delete the item from the menu;

Actions on attributes:
· The restaurant can change the number of items in the menu.
· The restaurant can provide different specials for different time.
· The restaurant can add food recommendation or delete them.

Food item:
Attributes: price, recipe, flavor, nutrition

Actions on object: order the food in the kiosk; delete the food from the kiosk.

Actions on attributes:
· The price of the food may change.
· The recipe of the food may be improved.
· The flavor of the food may change.
· The nutrition of the food can be calculated.

Order:
Attributes: the total price, the items.

Actions on object: place the order in the kiosk; add or delete items before you place the order.

Actions on object:
· when you add or delete items, the total price will change.

Relationships:
· The restaurant has the menu, which contains the information of the food.
Actions: The restaurant can modify its menu, to change the specific food item, like price or flavor.

· The customer can order the food in the kiosk.
Actions: The customer can add or delete food item in the kiosk. After that, he can place the order.

Functionality and usage scenarios

Categorized Main Page - On one side of the main page is the product category and the rest of the main page is the specific product included in the category. The entry for the specific product contains the image, the name and the price of the product and a "+" sign for quick addition to the shopping cart.

1. 38-year-old Wayne wants to order nothing but a cheeseburger at the restaurant. He goes straight to the hamburger category and hit the "+" sign on the cheeseburger entry.

2. 21-year-old Yui is a foreign tourist who only understands basic English. She can still order food using kiosk by identifying images.

3. 23-year-old Leonardo goes through each category and gets himself a nutritious and delicious meal.

Single Item Page - Except for adding the item directly from the main page, users can click the item image and go to the independent page of the item. This page contains the information including the price of the item, the ingredients of the item, the amount of calories of the item and customization options available for the item. This page also includes a "+" sign for adding the item to the shopping cart.

1. Haley is a 20-year-old who is undergoing a strict diet. She carefully checks the calories of the food in the single item page so the food she is ordering whose calories will not exceed her requirement.

2. Howard is a 30-year-old who is severely allergic to nuts. He checks the ingredients in the single item page of the item he is ordering to ensure everything he orders is safe to eat.

3. Rafael is a 45-year-old who usually orders onion rings along with the cheese burger. He gets into the cheeseburger's item page to customize a combo of cheeseburger and onion rings without needing to order cheeseburger and onion rings separately.

Shopping Cart - The shopping cart function is similar to the cart or basket used in supermarket shopping. It can temporarily put selected items into the shopping cart, delete or change the purchase quantity, and carry out multiple items.

1. Jack is a 35-year-old who wants to check his order and the price of his order before checking out. Jack goes to the shopping cart page to check that information.

2. Billy is a 20-year-old who regrets ordering French fries. He goes to the shopping cart page to cancel his order on French fries.

3. Rafael is a 45-year-old who ordered a customized combo of cheeseburger and onion rings. He wants to figure out the prize of the customized combo. He goes to the shopping cart page to check.

Payment Methods - The payment methods available on the kiosk includes mobile payment (Apple Pay, PayPal, etc.), credit card and cash (in extremely rare cases). The kiosk is installed with a scanning device for mobile payment and a POS machine for credit card payment.

1. 24-year-old Justin goes to the restaurant bringing nothing but his cellphone. He checks out by putting his phone near the scanning device using Apple Pay.

2. 33-year-old Lisa checks out by swiping her credit card on the pos machine installed on the kiosk.

3. 56-year-old Raj does not have any mobile payment app on his cellphone. He did not realize he did not bring his credit card with him until almost the end of his ordering on the kiosk. He can use the cash payment function where the kiosk will provide a receipt for him to pay cash at the counter.

Calling Staff - When users having trouble or difficulties using the kiosk or kiosk malfunctioning, users can use the calling staff function to call a restaurant server for help.

1. 18-year-old Ryan cannot find a new item from the restaurant on the kiosk. He uses the calling staff function to ask for reason.

2. 25-year-old Lily checked out using her credit card but the processing lasted for more than 3 minutes. She used calling-staff function for help.

3. 52-year-old Barbra does not want to get into the long lines at the counter. She tries to use the kiosk but has no clue at all. She uses the calling staff function to ask for guidance.