Human Computer Interaction (CS421)

GIKI Food Ordering System

Project Milestone #2

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Name
RAJU

Job Title
Owner/Cashier

Age
50-60 Years

Highest Level of Education
Matriculation

Industry
Food/Restaurant

Organization Size
Self-employed

Preferred Method of Communication

- Phone call
- Text messaging
- One on one interaction

Tools They Need to Do Their Job

- Mobile Phone
- Traditional methods such as pens and paper

Job Responsibilities

- Receive cash from delivery man
- Receive order from customers via phone or messages
- Forward the order to kitchen manager
- Maintaining a cash register

Their Job Is Measured By

- Self evaluation
- User ratings

Psychographics

- Likes to handle all attributes of his business himself.
- Enjoys helping students.
- Respectful towards customers and business rivals.
- Loves to roam around the restaurant and keep a check on the employees.

Biggest Challenges

- During peak hours the order can be misplaced, or the wrong order can be sent to the customer.
- Difficult to maintain the cash register
- Refunding amount due to less knowledge of inventory
- Sending new menu daily to the customers

Scenario

Recently, I have came to know about the food delivery system and success they have achieved. So I want a similar system to avoid all the challenges that I face managing restaurant's orders. Furthermore, I also want to maximise the profits by taking the advantage of such system.

Name
Mahad Iqbal

Job Title
Student

Age
18-25 Years

Highest Level of Education
BSC/MSC

Industry
Education Sector

Organization Size
Student

Preferred Method of Communication

- Phone call
- One on one interaction
- Social Media

Tools They Need to Do Their Job

- Laptop/Personal Computer
- Mobile Phone
- Internet
- Paper and pens

Job Responsibilities

- Attend lectures
- Work on homework assignments and projects

Their Job Is Measured By

- Result
- Ethics
- Academic achievements
- Societies and team involvements

Psychographics

- Gets frustrated easily.
- Looks to save time.
- Constantly under pressure.
- Very picky about products.

Biggest Challenges

- During studying hours time is wasted while ordering or going to cafe for food.
- I am not given more priority or equal priority to others thus we have to wait in long queues in cafe for food.
- Dont get food on time and sometimes I am charged more as I dont know the prices of all the food items.

Scenario

The routine in GIK institute is pretty hectic and I am given less time for lunch breaks. My lunch break is usually spent in queues or waiting for the food that was ordered 1 hour earlier. I want a system where I can keep a track of how much amount I need to pay, and to be able to track my order from kitchen to the door of my hostel.

Name
Riaz Ahmad

Job Title
Kitchen Manager

Age
30-50 Years

Highest Level of Education
Matriculation

Industry
Food/Restaurant

Organization Size
Employed

Preferred Method of Communication

- Phone call
- One on one interaction

Tools They Need to Do Their Job

- Mobile Phone
- Paper and pens

Job Responsibilities

- Recives the order from the cashier
- Maintains and update daily menu
- Manages inventory

Their Job Is Measured By

- Self evaluation
- Customer feedback

Psychographics

- Very strict with workers.
- Gets frustrated easily.
- Short tempered.
- Loves to keep a check on workers.

Biggest Challenges

- Maintain the current orders that came written on a peice of paper
- Often receives orders of items that are not in stock
- Has to update the menu manually on a white board

Scenario

Students in GIK institute are increasing on yearly basis and my job is getting harder as I have to keep track of all the orders and manage the kitchen simultaneously. An automated system would help me greatly in keeping the dispatched food items upto the standards.

Name
Rizwan Chinos

Job Title
Delivery Man

Age
20-40 Years

Highest Level of Education
Matriculation

Industry
Food/Restaurant

Organization Size
Employed

Preferred Method of Communication

- Phone call
- Text message
- One on one interaction

Tools They Need to Do Their Job

- Mobile Phone
- Paper

Job Responsibilities

- Receives order from the kitchen
- Delivers the food to the Customer
- Deliver cash from customer to cashier

Their Job Is Measured By

- Supervisor's evaluation
- Customer feedback

Psychographics

- Wants to deliver as much food in one go as much possible.
- Gets frustrated easily.
- Short tempered.
- Does not like to wait for long times outside the hostel.
- Always in a hurry.

Biggest Challenges

- I have to wait for atleast 5 mins before customer comes and receives the food.
- I usually deliver multiple orders to the same hostel so it is difficult to keep track of which item belongs to which customer.
- Sometimes it can be difficult for me to keep track of the total cash I need to give to the cashier.

Scenario

I am constantly delivering orders throughout the day and feel the lack in management of the delivery. Since I am the one who comes in direct contact with customer I experience first hand their dissatisfaction. I expect an easy to use ordering system that can help me keep track of my deliveries.

Name
Sahibzada Munir

Job Title
Instructor/Researcher

Age
25-60 Years

Highest Level of Education
PHD/MSC

Industry
Education Sector

Organization Size
Employed

Preferred Method of Communication

- Phone call
- One on one interaction

Tools They Need to Do Their Job

- Laptop/Personal Computer
- Mobile Phone
- Internet
- Paper and pens

Job Responsibilities

- Do research work
- Take classes/labs of BSC students
- Facilitate students other than classes in their work

Their Job Is Measured By

- Students evaluation
- Admin evaluation
- Faculty members evaluation

Psychographics

- loves to teach, and do research work
- Enjoys helping students.
- Respectful towards students, and faculty members.
- Donot want to get disturbed during work hours.
- Looks to save time where he can.

Biggest Challenges

- During work hours the time is wasted while ordering or going to cafe for food
- Even though we are given more priority than normal students but the area gets too much congested during peak hours and some times that area smells foul.

Scenario

My job requires me to be busy during the work hours, and it is very difficult to do all the things at the same time. If I am hungry while doing some research work i dont want to waste the time, and disturb the momentum. It takes approximately 5 mins to order something from tuc area and if I go to cafe atleast 20 minutes are wasted. So I want a solution that can eleminate these times and i can order without wasting time.

Name
Shagufta Hussain

Job Title
House Wife

Age
25-50 Years

Highest Level of Education
BA

Industry
Human Resource

Organization Size
Un-employed

Preferred Method of Communication

- Phone call
- Text message

Tools They Need to Do Their Job

- Mobile Phone
- Laptop/Personal computers

Job Responsibilities

- Fulfill house chores

Biggest Challenges

- I haver to call the restaurant to query about food items on menu.
- It is difficult to communicate to the restaurant large orders for guests.
- Often times the restaurant does not follow additional order instructions.

Psychographics

- Cares about family members.
- Looks for cost effectiveness in things
- Loves shopping

Scenario

Bieng a housewife, sometimes it can be difficult to cook food in uncertain condtions such as, gas outage, or when I am expecting guests. Since me and my family live in GIK institute we can only order from campus restaurants. Currently, the ordering system of these restaurants is very in-convienient and needs to be replaced by a more friendly mechanism.

Scenario:

Shagufta Hussain, whose husband is a professor at Ghulam Ishaq Khan Institute, just realized that she will be unable to cook food for her family today because of gas shortage. She decides that she will order food for the family from the campus restaurant. She goes to her laptop and browses to GIKI food ordering system. She knows what category of food each of her family member likes and utilizes the sort by category functionality on the food ordering system to view the relevant items for each family member. Within each category, she browses through the food listings and adds items to cart. One of the items she adds is a Zinger burger, she knows that her son does not like tomatoes in his burger and so adds a special-order note saying not to add any tomatoes in the zinger burger. She then continues to checkout, reviews her order one last time, and submits her order. As she is a returning user of the ordering system, she does not have to re-enter previously saved details such as her address and contact number.

Raju the campus restaurant cashier is sitting on his desk with the cashier interface of the food ordering system open. He receives a notification of a new order and goes to the list of "orders pending approval" to find the details of the new order. He reviews all the details and decides that the order is deliverable. He approves the order which leads to the order status being changed to "confirmed". He is thankful for having integrated this system with his restaurant as he remembers how difficult gas shortages days were and the overwhelming amount of phone calls he had to deal with.

Riaz, the kitchen manager of the restaurant, receives the order now on his interface of the ordering system. He reviews the contents of the order and the details of each item and sees in a highlighted manner the additional order note saying, "no tomatoes in the Zinger burger". He communicates all these details to his current cooks in the kitchen and changes the status of the order to "cooking". Meanwhile Riaz is also told by a cook that they are out of zinger patties after this order. Riaz acts upon this and brings up the update menu interface and goes to the Zinger burger in the list of items and selects the option "stocked out for the day".

Rizwan, a delivery person at the campus restaurant, just returned from a delivery run and is preparing for the next one. He can see on his interface, of the food ordering system, all the orders that are currently marked as being cooked. He goes to the kitchen counter and starts collecting orders that will be on his route while also marking them as "on way" simultaneously. He picks all his intended orders and sets out for their delivery.

While waiting for the order, Shagufta goes back to her laptop to check order status and finds it updated to "on way", she takes a sigh of relief and decides to take out the amount due for the delivery.

Raju, sitting at his desk as always, also feels like checking up on status of uncompleted orders. He uses an option on his interface to get a list of these orders and can see that Shagufta's order is "on way" and is being delivered by Rizwan.

Rizwan finally reaches Shagufta's address and brings up the GIKI food ordering system interface on his mobile's browser. He can see all orders he picked up in a list. In the listing, the address and customer’s contact details are clearly visible. He matches the current address he is at and selects the relevant order from the listing and is shown the order details. He calls the contact number listed with the order and informs Shagufta that he is outside her address. Shagufta comes and receives her order and pays Rizwan. Rizwan before setting out to return to the restaurant, marks Shagufta's order

as delivered. On reaching the restaurant, Rizwan hands over payments for the orders he delivered to Raju who then accesses all these orders on his interface of food ordering system and marks them as completed.

1. Design 1:

We designed interfaces for our domain specific tasks and ignored and assumed that digital tasks such as login and signup are already carried out by all users.

Story boarding:

1. User:

At first when the user launches the web app they are greeted with the menu, as shown in figure 1.1.

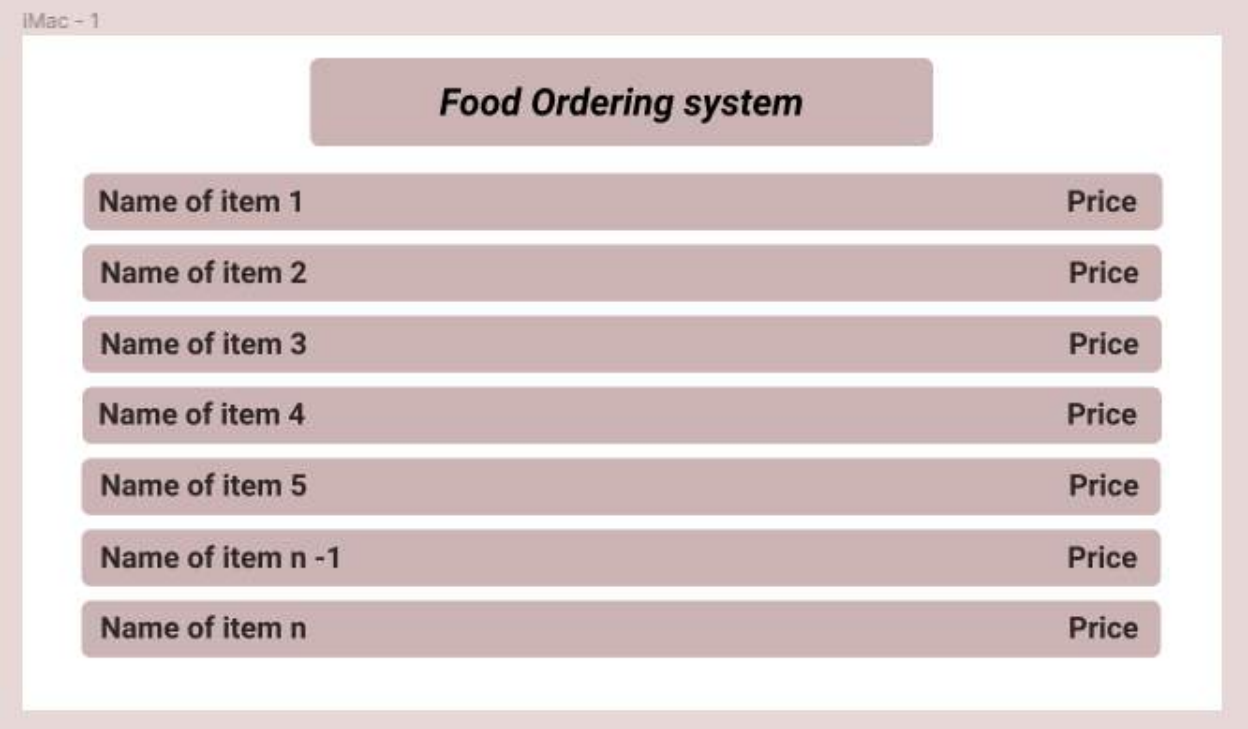

Figure 1.1.1 - Menu screen

When the user clicks on desired item from the list the add to cart interface appears that requires the user to add the additional comments/special instructions or allow the user to change the quantity. Lastly, the user can add the items to the cart. This can be seen in figure 1.1.2.

Figure 1.1.2 - shows the menu after user clicks on the item

After adding items to the cart, user can view the items in cart and review the address and phone number and finally submit the order for themselves as shown in the figure 1.1.3.

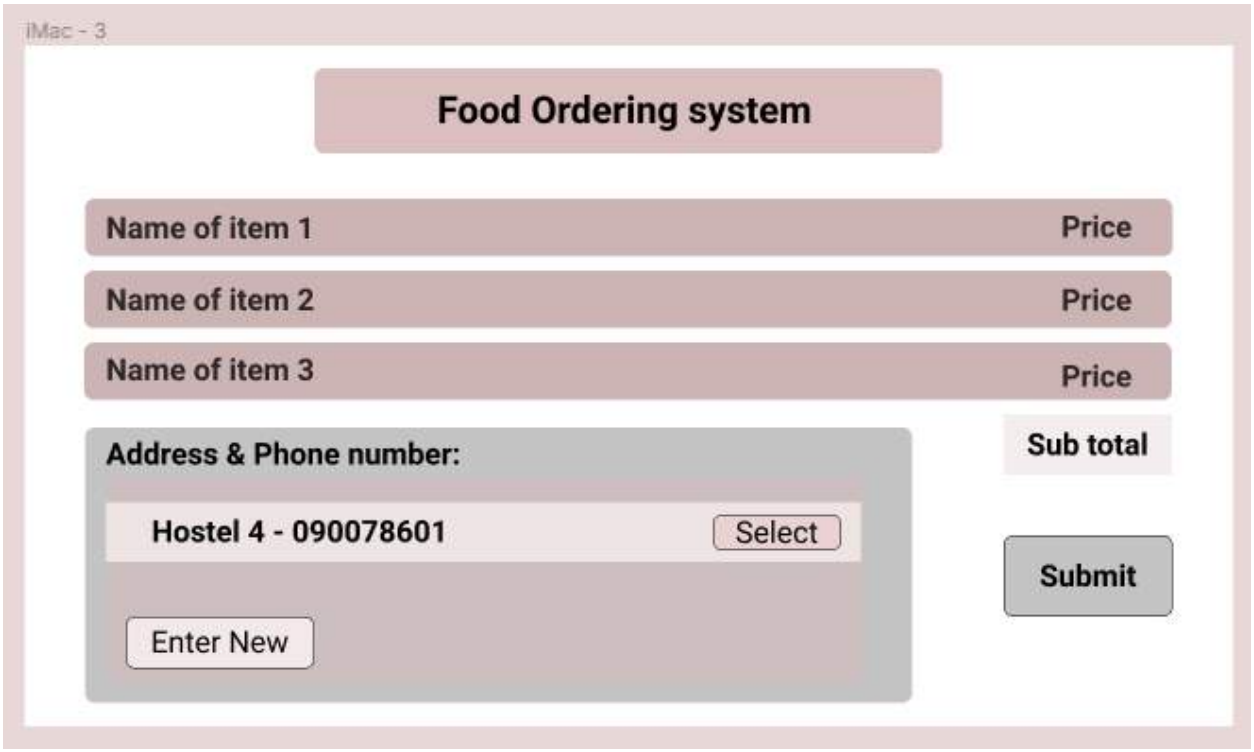

Figure 1.1.3 – Image showing the cart

2. Cashier:

When the cashier opens the web app, he is greeted with the list of items that needs to be approved or declined so it can be forwarded to the kitchen manager. Furthermore, there is also an option for the cashier to mark the order as completed after receiving the money from the delivery man as shown in figure 1.2.1.

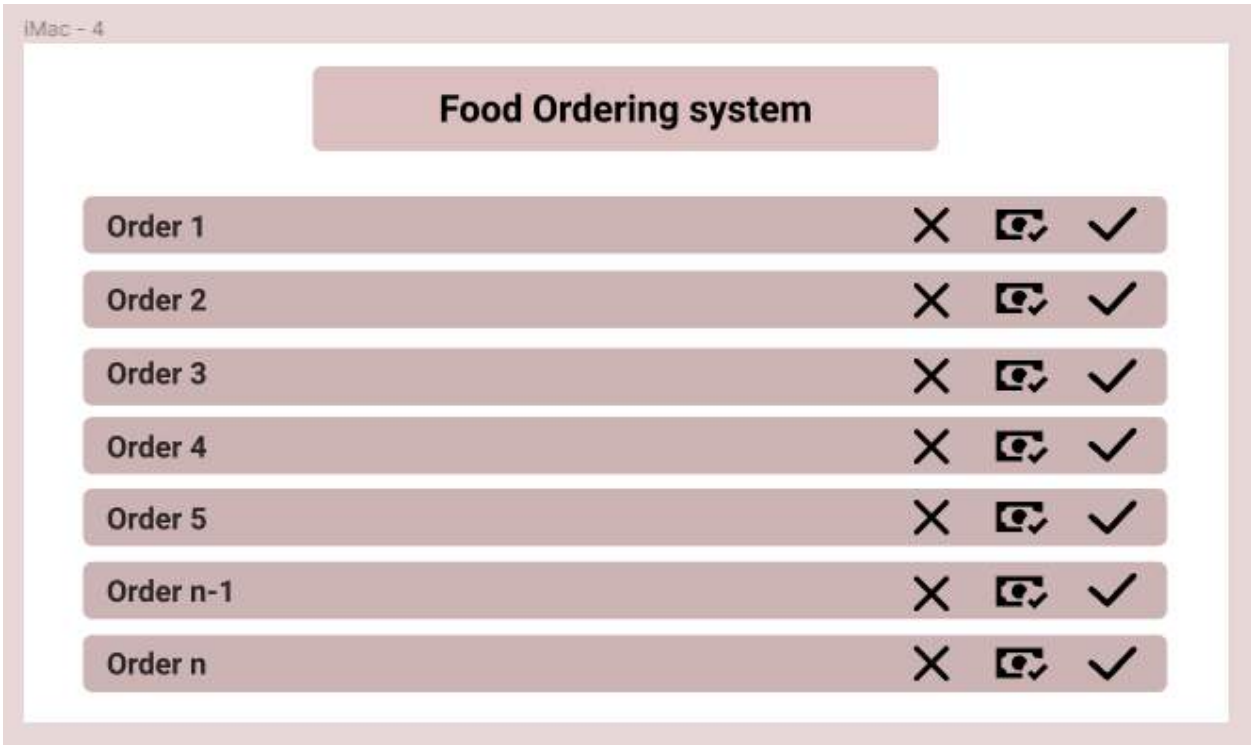

Figure 1.2.1 - image showing the screen for cashier

Further the cashier can also click on the order to view its details, for example items in the order, address on which the order is to be delivered, and phone number associated with the order. This is shown in figure 1.2.2.

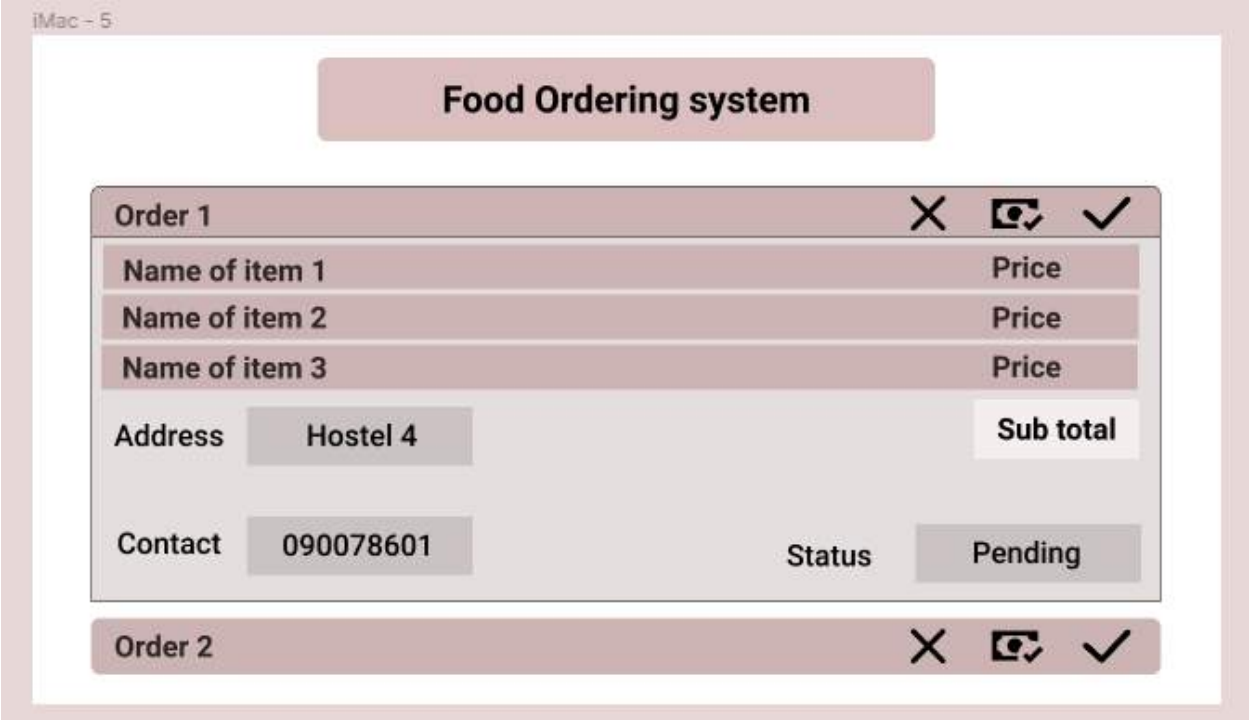

Figure 1.2.2 – image showing the details of the order after clicking on it

3. Delivery man:

When the delivery man opens the web app, he is shown the list of the orders that have been prepared or are being prepared by the kitchen manager. He can press the basket icon to add this order to be delivered by him. This is shown in figure 1.3.1.

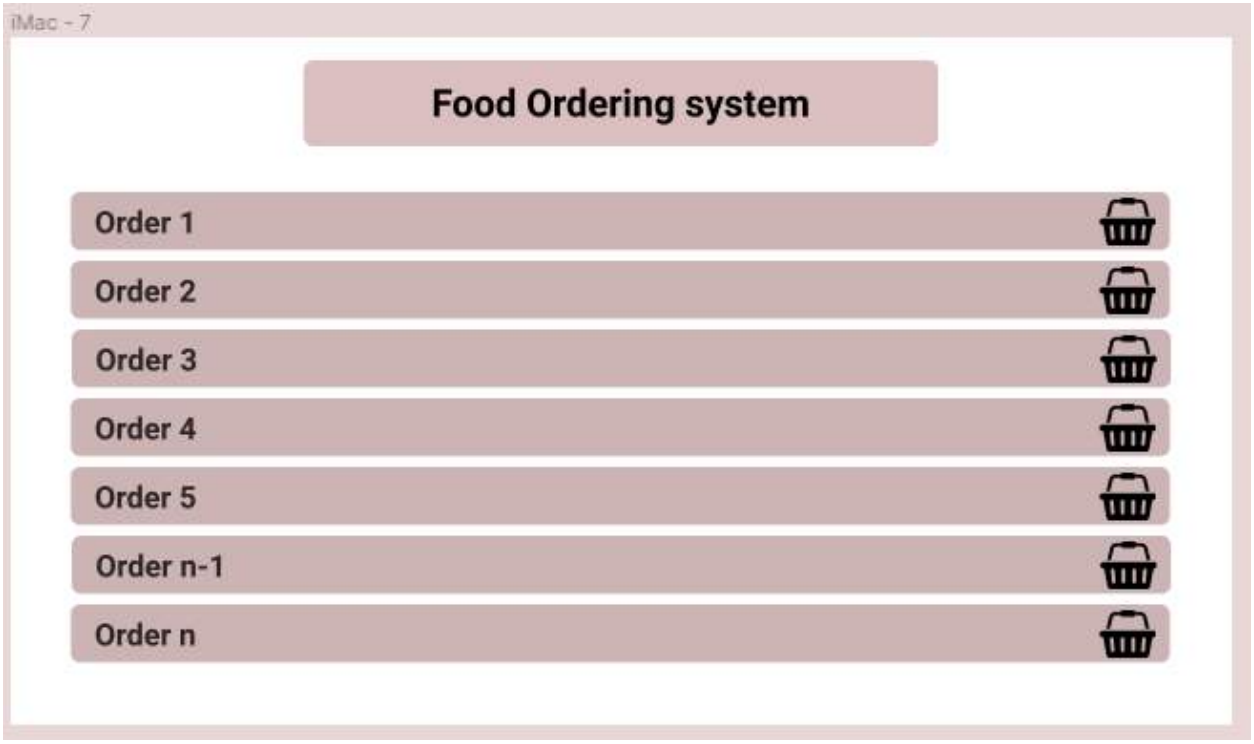

Figure 1.3.1 - image shows the screen presented to the delivery man

The delivery man can also check the order details by pressing on the order tile to view details either to call the user, or to check the address for his own feasibility. This is shown in figure 1.3.2.

Figure 1.3.2 – image shows the details of the order after being clicked by the delivery man

After the delivery man press the basket icon the icon changes to the handshake icon which is to press after the item is delivered to the user, so the status of the order is changed accordingly. Furthermore, the delivery man can still accept the deliveries while he is enroute so still the basket icon is visible on some orders. This is shown in figure 1.3.3.

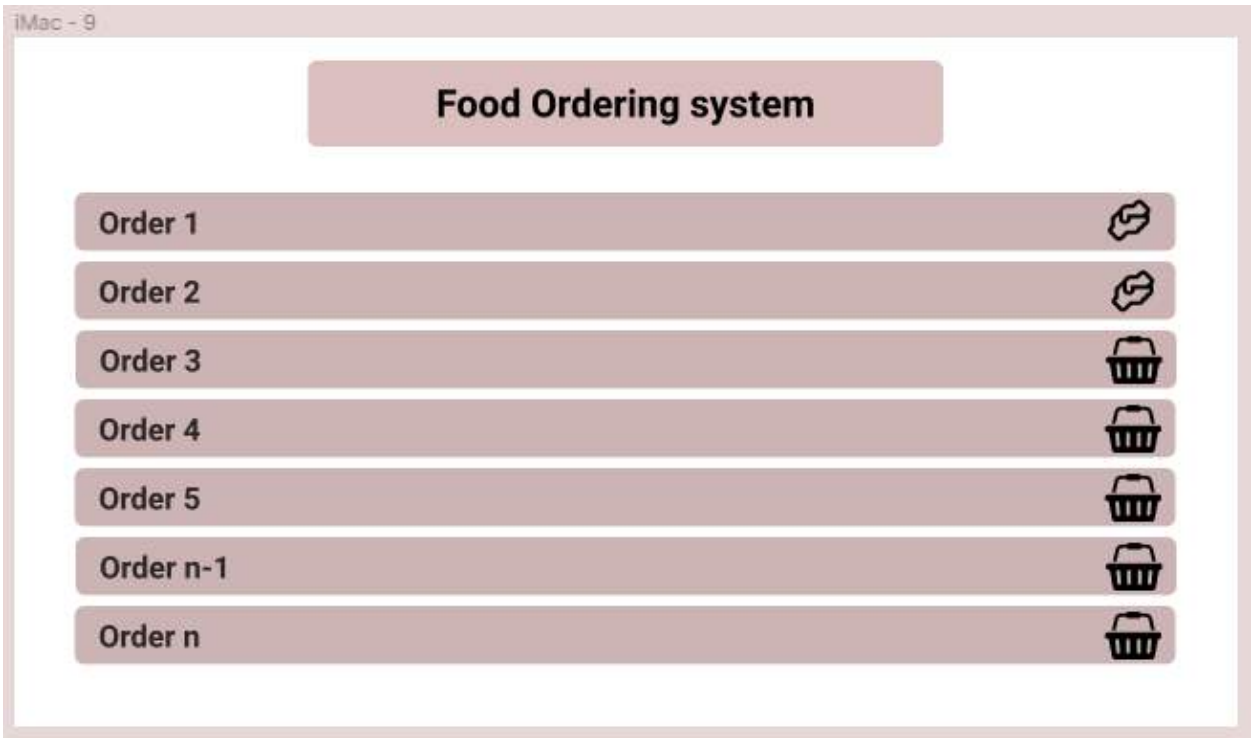

Figure 1.3.3 – image shows the conversion of icons

The delivery man can still view the order details to check which order belongs to which user and how much is his grand total that must be paid. Once the order is delivered the handshake icon is pressed and the order is moved to the cashier for closing the order once the delivery man pays the amount back. This is shown in figure 1.3.4.

Figure 1.3.4 – image showing the details to delivery man

2. Analysis:

We now evaluate our wireframes on the following points:

- Learnability
- Visibility
- Efficiency
- Error Prevention

The user that is ordering the food will have a list of food items and their prices. Users can click on any item in the list. It will bring the user to the page that will show the detail of that food item. Here the user can add items to the cart. All process to this point is self-intuitive but from this page, the user cannot access the cart. Users need to go back to the home page to access the cart page. This will cause a problem for the users using the interface for the first time. The buttons for increasing and decreasing quantity are confusing for a layman. The button for “Add to cart” does not have a distinct color scheme to make it more visible. On the cart screen, the user can see the distinct items they ordered and their quantities. The user can select the previously saved address and phone number which will increase the efficiency.

The cashiers can see the list of orders on their screen. Here they can approve, cancel, and confirm the payment of the order. All these buttons are placed together close which can cause an error while the user is in hurry. When the user clicks any order from the list, they can see the details of the order. The cashier is not aware of the quantity of the individual food items. It can cause difficulty in backtracking the logs of orders. Also, the orders are not sorted according to their status, and this can lead to increased confusion and less efficiency of the cashiers as he performs his tasks

Furthermore, the User Interface for the deliveryman and the cashier is very congested as it does not group the orders accordingly causing it difficulties to find the order accordingly and then processing it accordingly. Further, the feature that allows the delivery man to accept the orders while doing the deliveries can cause increased delivery time as he will have to go back and then collect the order. This will only leave other delivery men to compete and some to stay idle causing inefficiency in whole process.

2. Design 2:

Story boarding:

1. User:

As the user opens the app, he can see the list of items that he can order. The items are displayed with an image so it can be easier for the customer to order. This is shown in figure 2.1.1.

Figure 2.1.1 – image showing the menu for user interface

Once a user selects an item, he is then shown the screen that have multiple options for such as the user can add the special instructions to the specific item, he can change the quantity either by using the arrows or typing in the box. Further, he can also read the description provided by the restaurant to decide faster. Lastly there is an option to add the item to the cart. This is shown in figure 2.1.2.

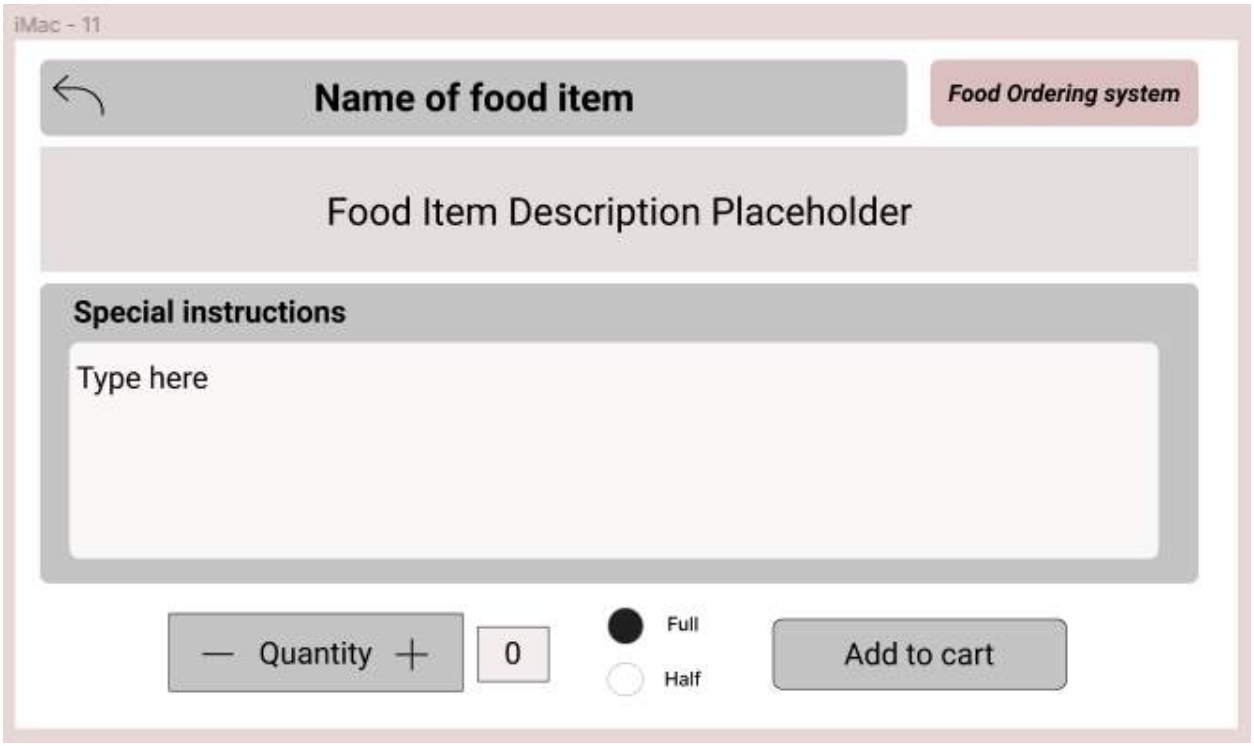

Figure 2.1.2 – image showing the extended option for an item

After the user had added all the items into the cart, he can view the cart for finalizing the order. He would still have the option to edit the items in the cart for example the quantity. If the user presses the item, he would be taken back to the screen shown in the figure 2.1.2. Furthermore, the user is shown the order summary which includes a feature that counts the previous outstanding balance and adds it to the grand total. This is shown in figure 2.1.3.

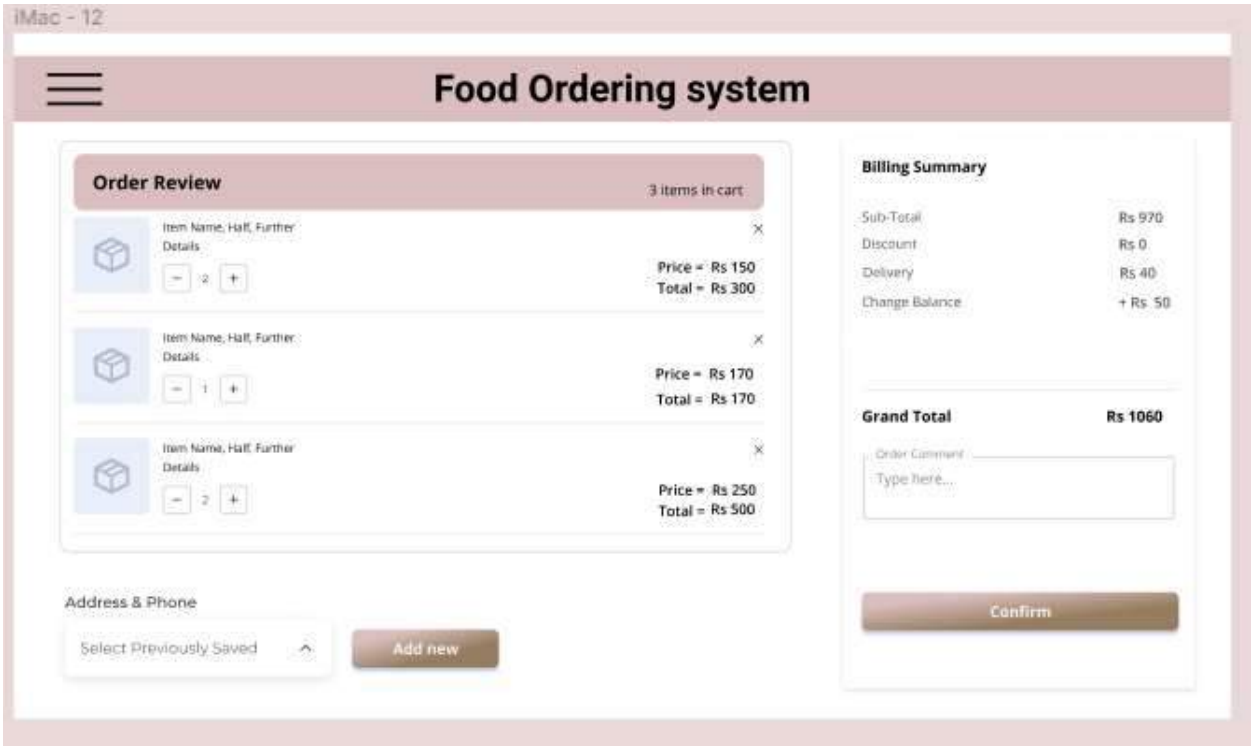

Figure 2.1.3 – image shows the cart of the user

2. Cashier:

When the cashier logins the first page he is shown the tiles with the options such as pending orders, preparing and other options. This is shown in figure 2.2.1.

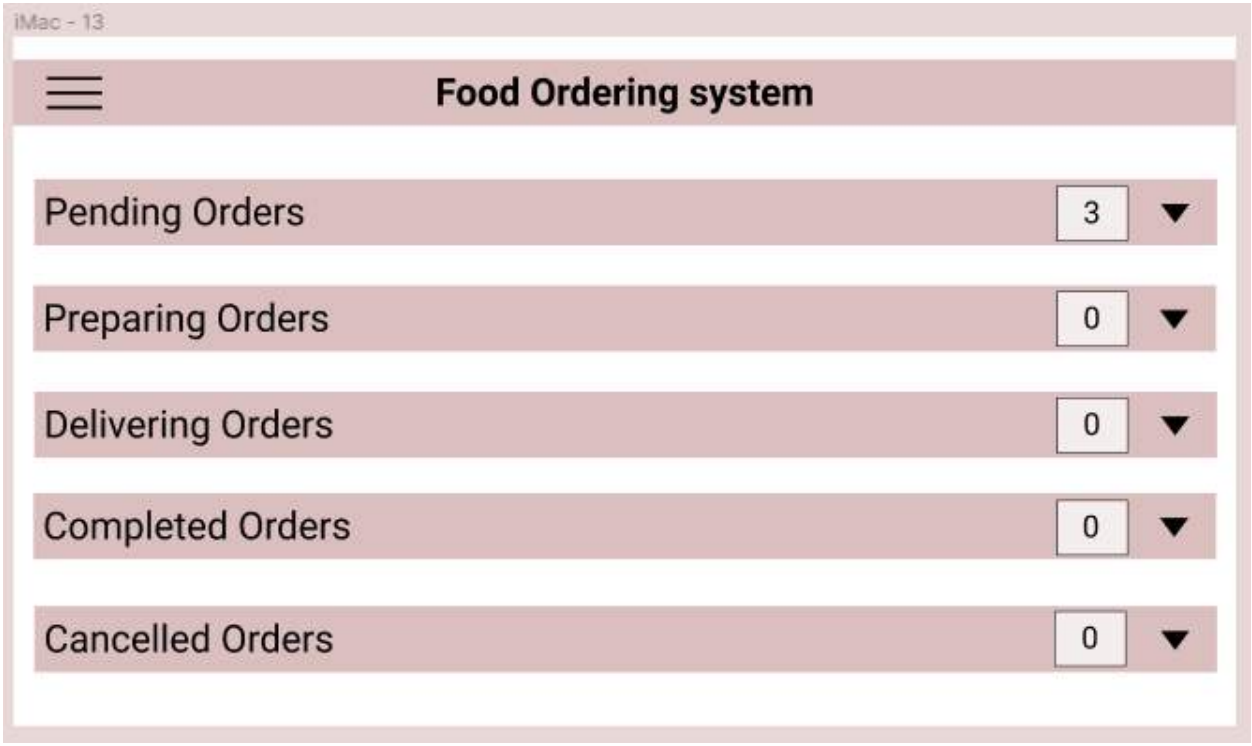

Figure 2.2.1 – image shows the main screen of the cashier

Now the cashier can select a list and then see the orders in it to perform the desired actions or view the orders. The desired actions include approving the order, declining the order, and receiving the payment against that order. This is shown in figure 2.2.2.

Figure 2.2.2 – image showing inside view of the list and desired actions against the order

3. Delivery Man:

When the delivery man logins he is shown the screen containing the lists of pending, prepared, and completed orders. He can choose from any one of the lists. At the end of the list, it also shows the count of orders in the list. This is shown in the figure 2.3.1.

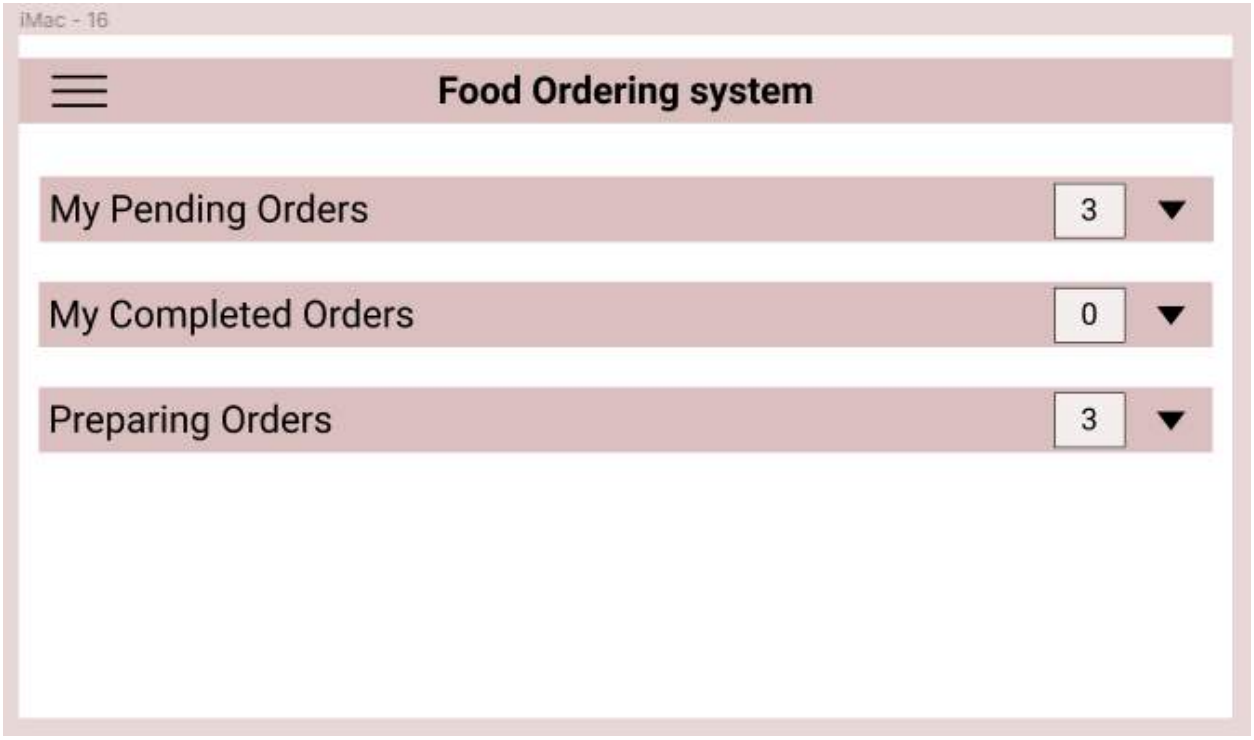

Figure 2.3.1 – image showing the first display of the delivery man

When the user clicks on the list the internal items are shown and it also shows the icons for the actions. This is shown in the figure 2.3.2.

Figure 2.3.2 – image shows the internal items and actions that can be performed

When the deliveryman clicks on the basket icon the order is shifted to “, and the icon is changed from basket to the handshake. This is shown in the figure 2.3.3.

Figure 2.3.3 – image shows the order lists in pending orders

The delivery man can view and change the previous balance with the specific customer by clicking on the view button. This is shown in the figure 2.3.4.

Figure 2.3.4 – image shows the menu after the view button is clicked

Analysis:

We now evaluate our wireframes on the following points:

- Learnability
- Visibility
- Efficiency
- Error Prevention

The user that is ordering the food can see the food items along with their pictures. When the user views the page, the menu list provides visual aids which reduces the need for reading material. When the user selects a specific food item, they are directed to another page which provides the item details and prompts the user to add selected items to cart. In that page the "half" and "full" buttons are of type radio, and this clearly communicates that only one of the two can be selected. The button to adjust the quantity of order has also been made more intuitive as compared to the previous iteration. The color of the "add to cart" button, though, should be made more eye catching so that it becomes more appealing to the user. After the user selects "add to cart" they are taken to the checkout page. In this page the "add new" and "confirm" buttons have been made more appealing. The address button has also been upgraded to a drop-down variation. In this iteration, the user is also allowed to adjust the quantity of picked items late in the ordering process by changing it from the checkout page. This increases efficiency in case if the user has a change of mind about any item. All the billing information is also displayed in a more modular and comprehensive manner. The user will always be able to counter check their grand total without any confusion. In this iteration, the user is also allowed to attach an order note. This increases the usability of the system and helps the user in getting item independent instructions to the restaurant.

In the second iteration, cashier's general interface includes a sorted list of items. For each status, a sub list is presented that can be expanded to view further contents. The header representing this sub list clearly communicated the status that it represents and the number of orders that are currently having that status. This organized interface helps the cashier avoid confusion and increase efficiency. The order view for the cashier is also refined to display all information comprehensively. Similar items are not grouped instead of being stacked in the list and a quantity signifier is added. Item details can also be seen by clicking on them. The order note is also shown to the cashier. Overall, the efficiency with which orders are processed and delivered is increased.

The interface for delivery person follows the same principal as that of the interface designed for the cashier. It presents to the delivery person all the information that he needs to know to plan his delivery route in an efficient and comprehensive manner. There is a separate page for when the delivery person is in the process of providing orders to customers in which orders are listed according to address. This makes it easy for the delivery person to find the order for a relevant address when he is outside it. The interface also provides a "view" button which gives a quick

menu for addition or subtraction of unpaid change balance. The “confirm” and “cancel” buttons in this menu are highlighted and far apart, eliminating the chance of miss click.