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INST 362

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## Project 2: Contextual Inquiry and Contextual Analysis

*Our project is with King's Pizza and Subs, a small restaurant business in Baltimore. King's Pizza seems to have a need of a digital menu board of some sort.*

### **System Concept Statement**

Despite there being a permanent regular menu board displaying the different menu options a customer can order, this type of menu fails to allow customization and updates to the menu, as well as display the latest deals and what the food looks like. Our role is to create and design a digital menu that shows regular menu options, deals and specials, as well as pictures of the menu items. We plan to implement this in an application, allowing users to interact with the menu via a touch screen interface. This would ideally allow users to add, modify, and/or edit menu items as they wish based on real-time restaurant inventory, while also making the menu easily modified with different items or specials.

This menu system would also allow the restaurant employees to update menu items and prices as needed. The digital menu would fetch the new updated data from the cloud (ex. A Google Sheets document) and display it. We are focusing on creating a system that is both user-friendly for customers that are ordering and for employees updating items on the digital menu.

### **Scope of the Project**

We narrowed our scope by using stakeholder input, and exploring other types of digital menus used in various applications and within different types of food establishments.

Additionally, we researched the growing trend of digital menu boards as it pertained to the restaurant industry in order to see how it had affected restaurants that decided to implement them. Our contextual inquiry looked at how digital menus and online ordering functions across different food businesses, not only King's Pizza. This allowed us to broaden our perspective and get ideas from other food businesses that could potentially apply to King's Pizza's User

experience. We also include information about how the business operates as a whole (ex. Where the groceries are bought from), however, this will be narrowed down in future projects.

## **Interview Preparation**

We explored how users approach ordering food using different menus and how stakeholders interact with online orders they receive. Some of our members even tested out available online ordering options to have a better understanding of how Users interact with the system and what aspects we found to be useful and which we found to be cumbersome so we could be more vigilant about specific pressure points during our observations.

We were also able to interview representatives from King's Pizza (Amir Bhatti: Restaurant Owner & Manager, Junaid Bhatti: Part-time Restaurant Employee). This interview was from more of a lens of the employee side of things. A site visit was conducted before the interviews so relevant questions could be drafted based on observation of the business.

## **Initial Interview Questions (Representative Users)**

*How do you decide what to order when making a food purchase at a restaurant?*

*If you peruse the menu before ordering, what do you look for?*

*If you typically have a predetermined order, why might you look at the menu?*

*What do you think about customizing your food orders?*

*Do you ever avoid customizing and why?*

*Can you remember a digital menu you've used that you liked?*

*Why?*

*Can you remember a digital menu you've used that you disliked?*

*Why?*

## **Initial Interview Questions (Business Stakeholders)**

*Tell us about a typical day at King's Pizza.*

*What are common ways that a customer places an order?*

*What systems are used to take and track customer orders?*

*What are some big challenges in the food business?*

*What type of information would you like to see in a digital menu board?*

*What areas would the kiosk go? How many would be ideal?*

*What difficulties do you experience in using a physical menu as opposed to a digital menu?*

*How is out of stock food and unavailable menu items notified to the customer?*

*As a customer, would you use a digital menu board kiosk?*

*What information would you like to see in the kiosk?*

*What online ordering services is King's Pizza using?*

*What are common issues with online ordering services?*

*Where are groceries shopped for?*

*How do employees communicate about shortage of food items in stock?*

*How many delivery drivers usually work?*

*How many employees are on staff at a time?*

## **Interviewees**

We each limited our interviews to no more than 6 individuals each and interviewed anyone we knew with experience receiving any type of order from a digital menu(client representative), or experience ordering online(user representative). Since our topic can be considered inclusive and it would be too early to identify target demographics, we had no reason to exclude any demographic and we sought insights relatable to any individual or group described in our flow-diagram. We actively tried to pursue anyone with experience taking and executing orders from the system digital menu systems in order to better understand how digital orders can influence the workplace.

Ali interviewed 2 stakeholders in the business, store manager and owner and a part-time employee. We decided this since Ali has easy contact with them, as he visits Baltimore frequently. We knew it was important to get the manager/owner's perspective, as well as an employee's to diversify our data.

### **Josh:**

Interviewed and observed wife, a cybersecurity contractor, because she was accessible and I have witnessed her order food using a digital menu multiple times. <20 minutes of observation>

Interviewed friend, because he was accessible and willing to describe his thought processes and opinions of ordering food in great detail.

Interviewed and observed sister, an ER nurse. During a recent visit to her home she decided to order out using a digital menu on GrubHub and was easily accessible in that moment. **<20 minutes of observation>**

Interviewed, a Starbucks manager, because she has experience taking orders made using digital menus in a company that has heavily adopted the use of touchscreen/digital menus in recent years.

### **Dennis:**

Interviewed 2 Starbucks Associates, who receive online orders at work and has to make them to get his insights into what the stakeholder sees from these order.

Observed a School System Administrator, since she has reported distaste for using digital menus to get an idea of where her pain points are with digital menus

Observed digital menus at Wawa, McDonalds, and Chili's in order to see where users had issues with using digital menu and how they overcame them

Interviewed a student, since he regularly uses digital menus to order food when parents are out or while at practice

### **Luke:**

Interviewed an Ikea Bistro Worker, who receives orders from customers using a traditional menu format, finding common faults in their practice.

Interviewed a student and Google Contributor for restaurant reviews, who orders food through Grubhub for her sister, who only eats certain food. **<20 minutes of observation>**

### **Ali:**

Interviewed two stakeholders in King's Pizza

Observed the King's Pizza work environment.

## Initial Contact Meeting

The first meetings with our clients went well, as ordering from menus is something that many of them had strong feelings and opinions about. As we progressed through our initial interview questions, it typically sparked other questions or subjects that the contacts wished to discuss, depending on the person. Though initially wary of this, we began to allow them more freedom with the subject of the conversation as we found this information to be invaluable.

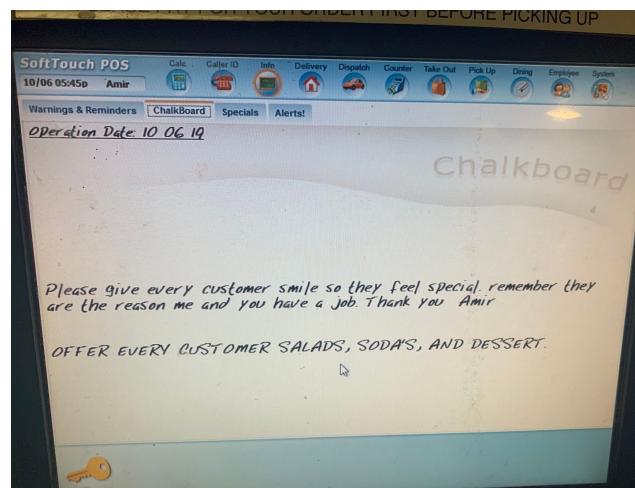
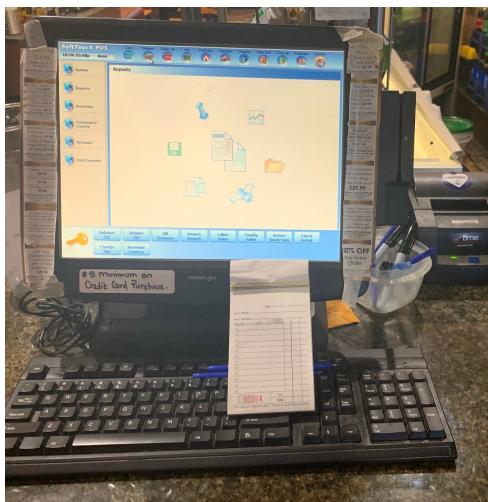
The initial meeting with the King's Pizza business also went well. There was a lot to learn about how the small business operates, and which services and third-parties make the daily of the operation of the business possible.

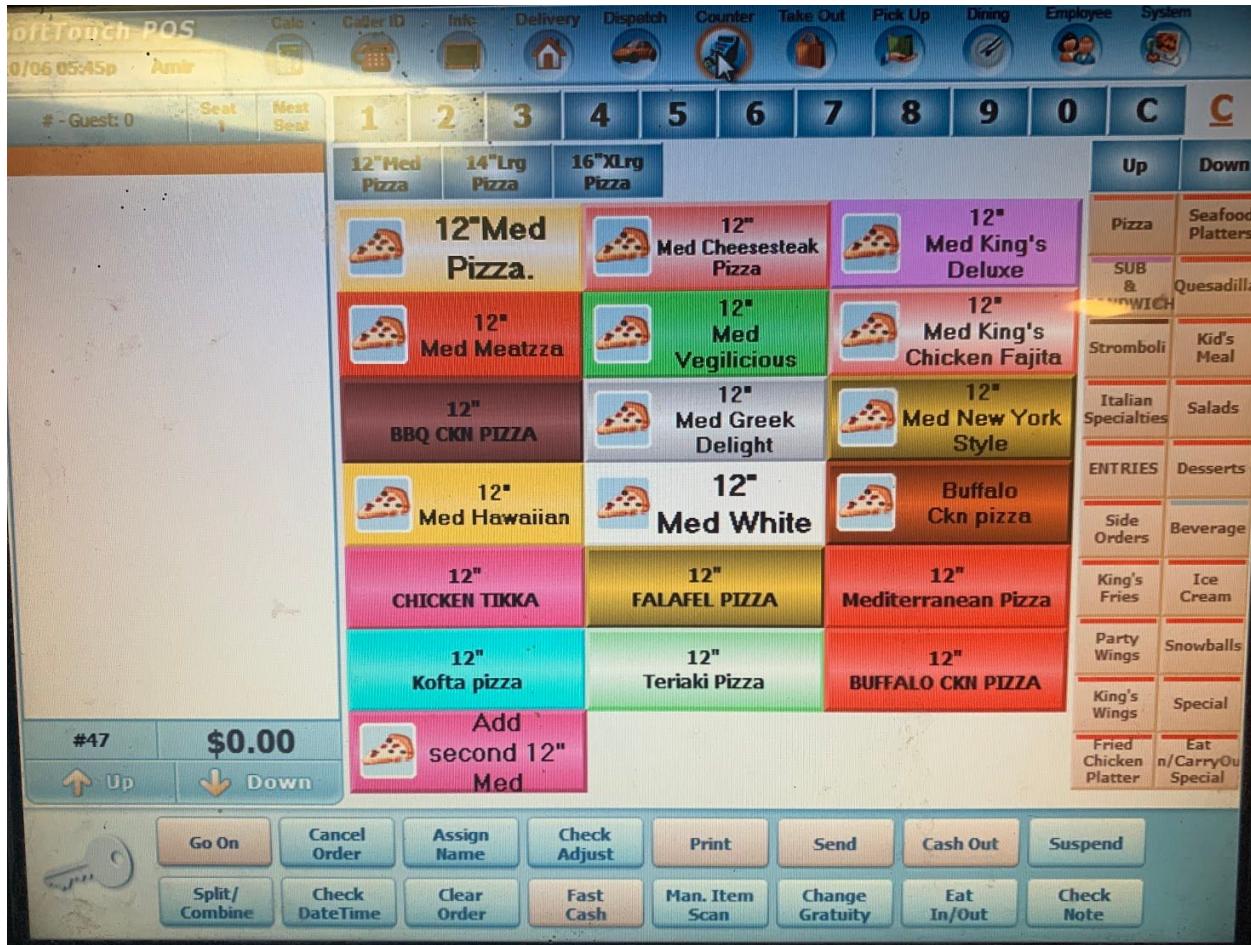
## Data Collection Methods

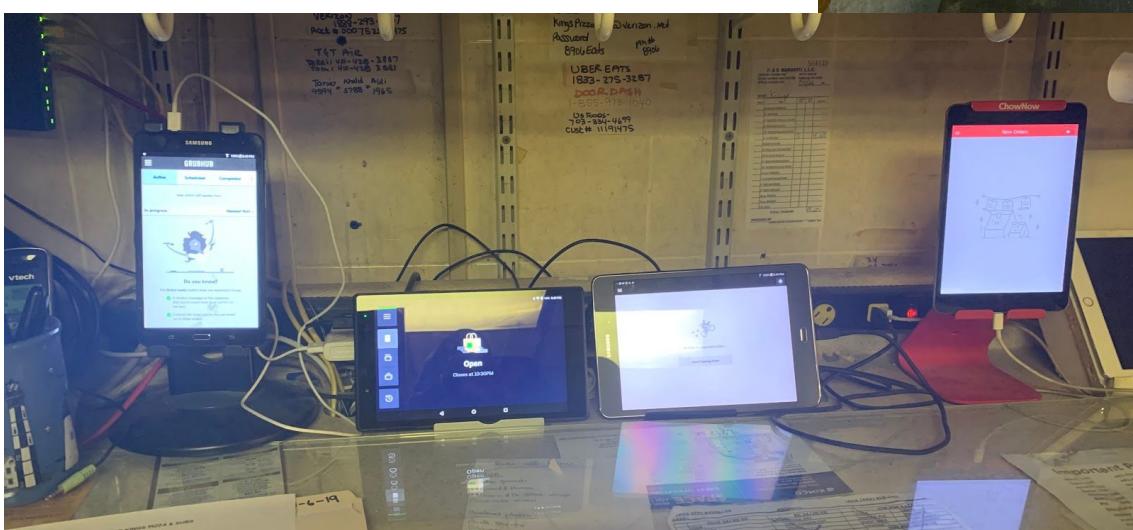
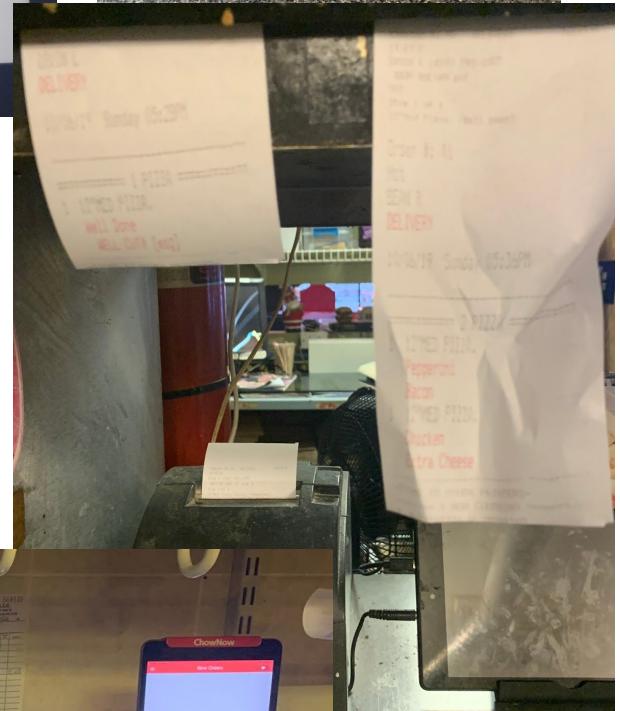
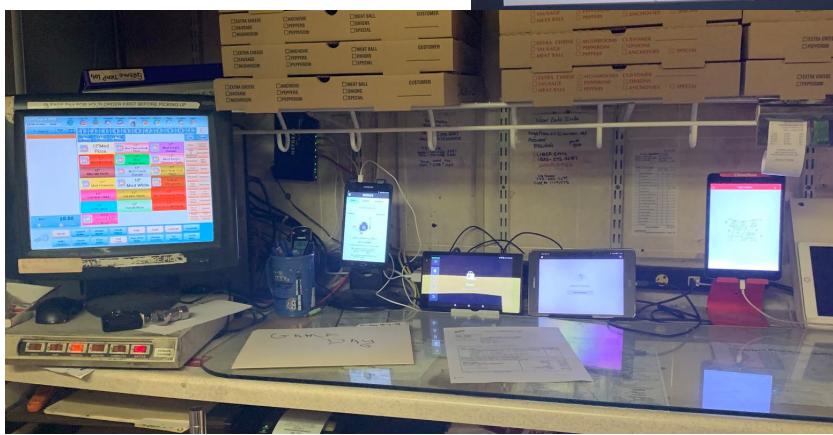
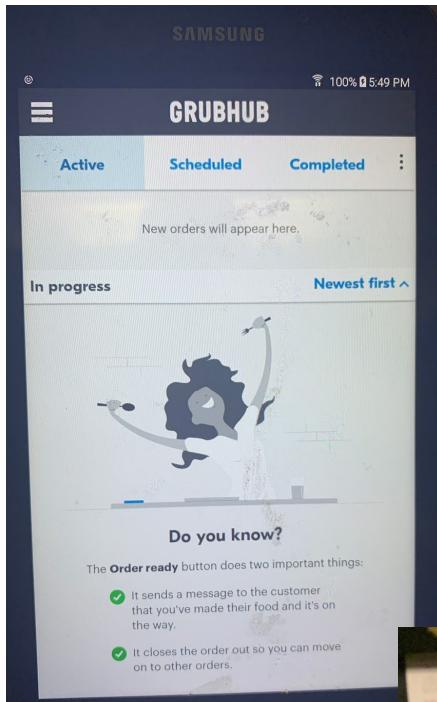
Data was collected by observing users making online orders through various services along with collecting menu information to be used in a redesigned digital menu. We also interacted with some online menus as well in order to find what we felt to be strengths, weaknesses, and commonalities across menus.

Some of the data we collected included physical pictures of the menu boards, and systems used for the business (SoftTouch POS ordering system software). We also scraped menu item listings from the GrubHub site. We also collected interview data, and some observational data about the business.

## Work Artifacts (Hover for details)







## Interview/Observation Data:

### **Stakeholders - 2 Interviews:**

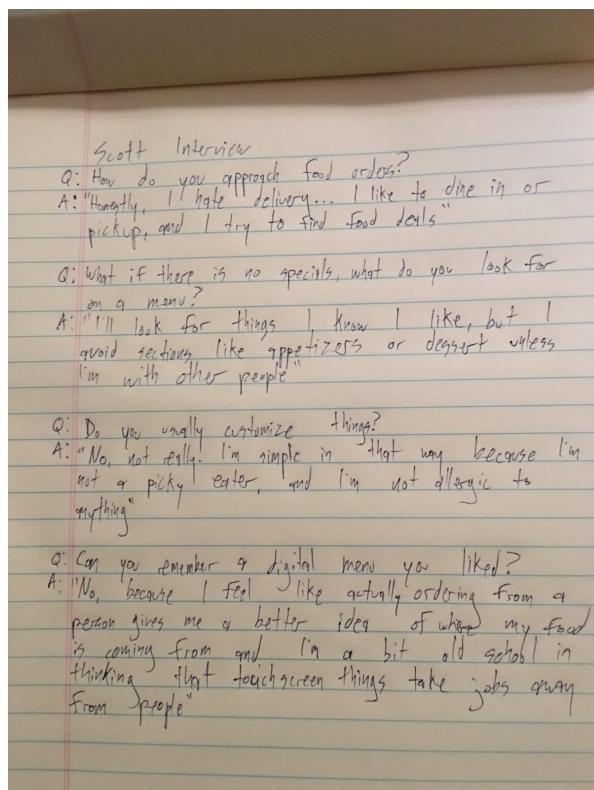
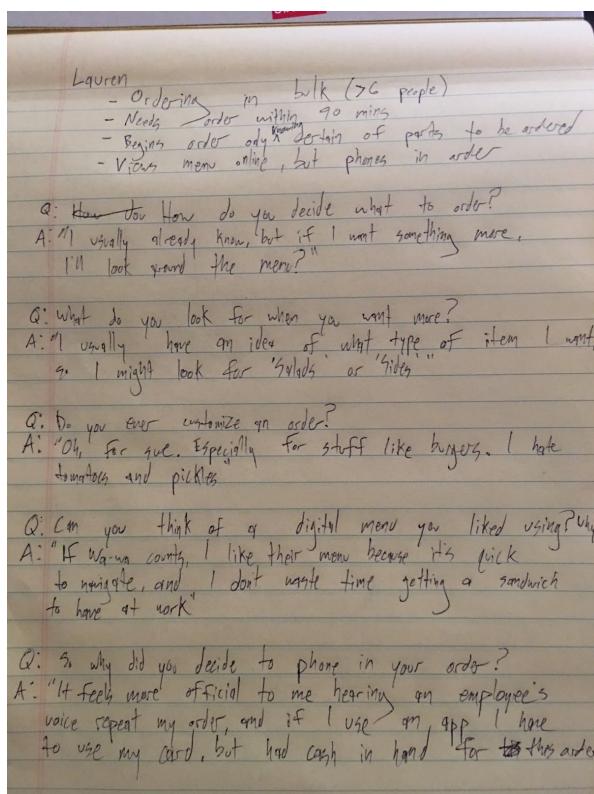
Interview with store manager and owner:

[https://docs.google.com/document/d/163mX2huHQ1ukKMDopT\\_6jyhgREnEKPtQdA1oa64bLR8/edit?usp=sharing](https://docs.google.com/document/d/163mX2huHQ1ukKMDopT_6jyhgREnEKPtQdA1oa64bLR8/edit?usp=sharing)

Interview with part time store employee:

[https://docs.google.com/document/d/1NGQUNu2oYyJp8DauInb8o1O7P\\_p6bTicodiF0Ar7Pe0edit?usp=sharing](https://docs.google.com/document/d/1NGQUNu2oYyJp8DauInb8o1O7P_p6bTicodiF0Ar7Pe0edit?usp=sharing)

### **Representative Users - 2 Interview Artifacts and 4 Observation Artifacts:**



Order Method: Desktop & EatStreet

Desired order: 2 Large Pizzas  
 - 1 w/ pepperoni + bacon  
 - 1 w/ green pepper + onion  
 ✓ Cheese Fries  
 ✓ Kid's meal of some type  
 Wings

Notes:

- "was not aware of pizza special my order would have fit into"
- "Could not easily edit order, had to remove items completely"
- "I liked the method of specifications for kids orders"
- "The wing section was straightforward and easy to understand"
- "Was not made aware of pizza special, would have been charged \$10 extra"
- "Not a fan of \$4.50 EatStreet fee"

Order Method - Phone & Grubhub

Desired order - ✓ Chicken shrimp wrap  
 ✓ Zal/  
 ✓ Chicken tenders  
 ✓ Donut

Notes:

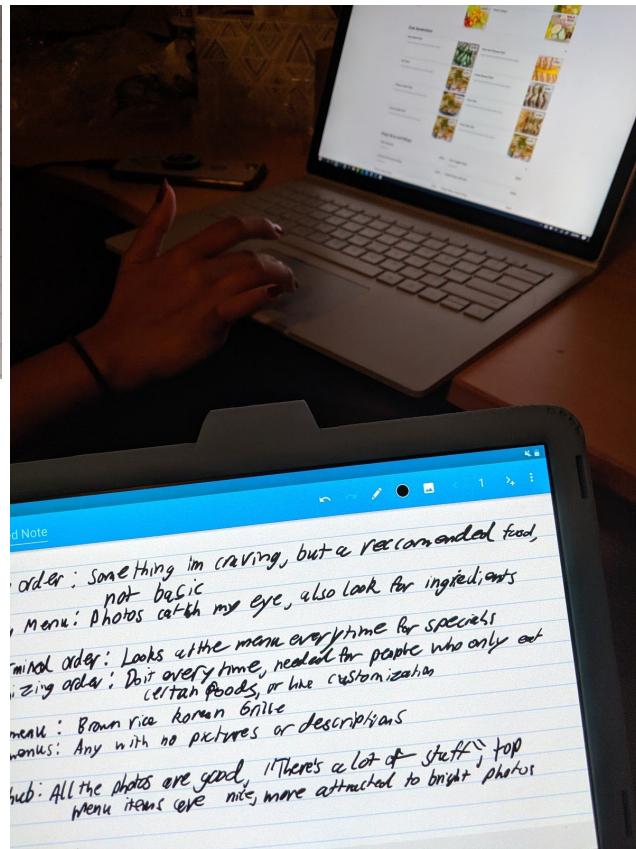
- "Large menu makes it hard to find specific things on mobile device"
- "I wish I could substitute another side for fries but I can't"
- "I wish I could more easily edit toppings on the shrimp"
- "Not sure why, but I thought I'd find shrimp near subs and sandwiches but it was far down the menu"
- "Was interested in triple chocolate cake, but no picture, so I chose nothing"
- "I liked that there were no extra surcharges"

Order Method - Mobile Phone & Slice App

Desired Order - ZingPizza on special  
 ✓ Salad  
 2 Liter of Soda  
 wings

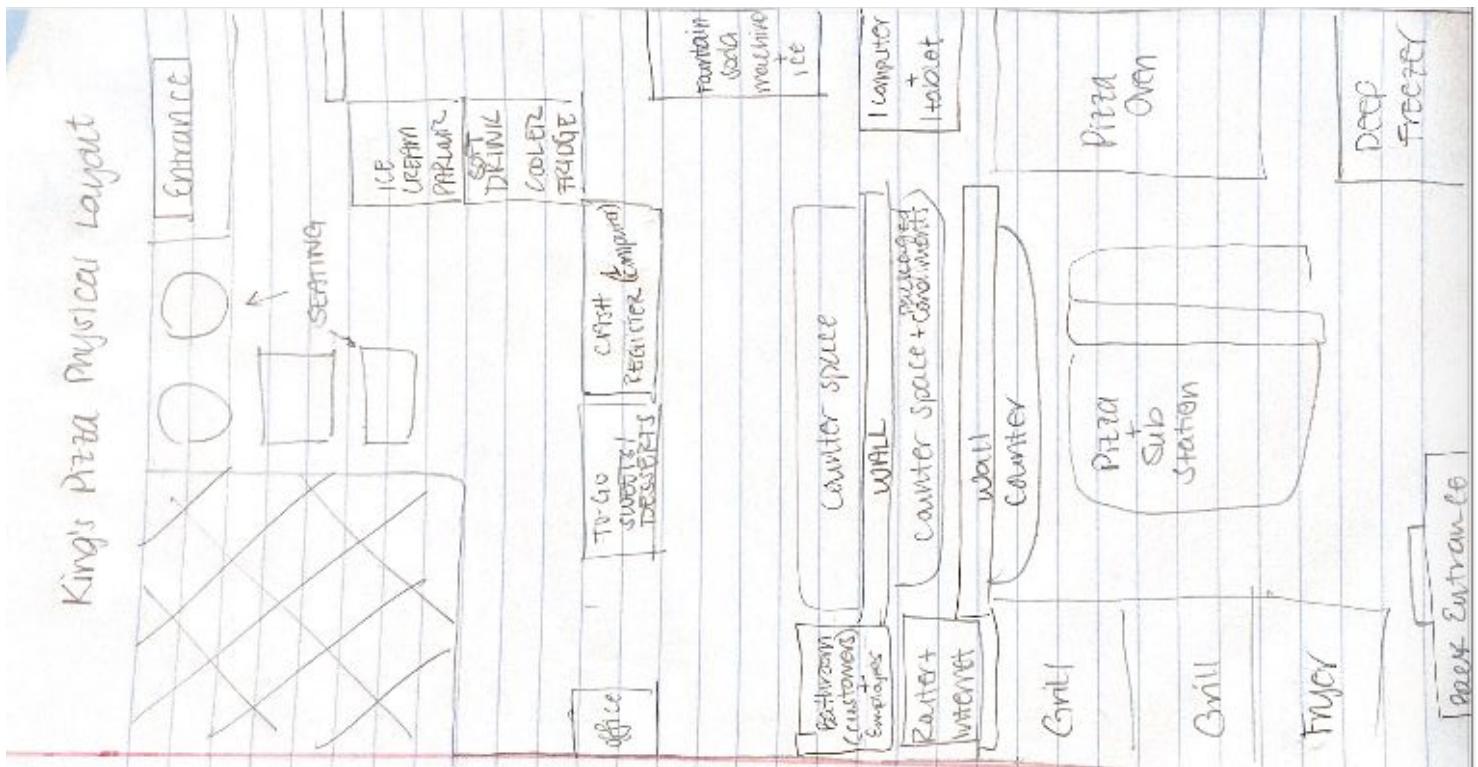
Notes:

- "Specials easily identified in header"
- "Could not easily edit salad toppings"
- "No 2 liter sodas"
- "Search box is helpful"
- "Our Story section is a nice touch, but brief"

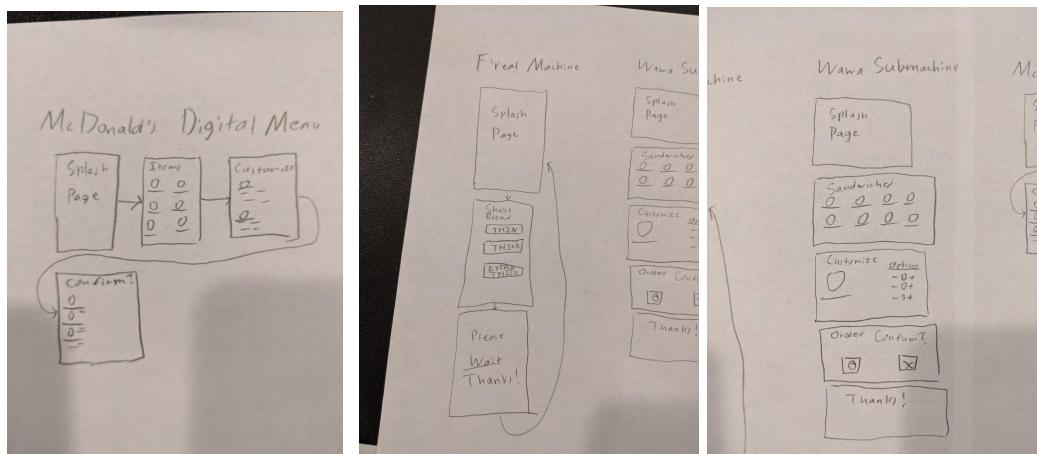


## Field Sketches

- #### - King's Pizza Physical Store Layout Sketch:



- McDonald's Digital Menu, F'real Machine, & Wawa Submachine User Interfaces



## Data Samples

### Employee Task Data:

- *Different ways of receiving an order:*
  - Incoming phone call leads to filling out an order on the SoftTouch POS Touch Screen Computer.
  - In-person orders are also entered into the SoftTouch POS system.
  - GrubHub and online orders are received and confirmed through an iPad located in between the register and the kitchen.
- Bagging items: involves getting cooked item from the cook (ex. Cheesesteak from oven), packaging the item (in paper bag usually), and adding extras (ex. Soda, ketchup, etc.). At the end, a ticket is stapled to the order bag.
  - Some common issues: having too many orders at once (mix-ups happen), and having not all parts of an order ready on time (fries are done quicker than a pizza)
- All employees work to keep the workspace clean whenever anything seems dirty
- If manager comes in with groceries, some employees are asked to help bring the boxes in
- First employees working morning shift are charged with turning on the lights, unlocking the business, and turning on the computers
- Last employees closing the store turn off lights, lock store, shut down computers
- Sometimes the business is slow, where employees sometimes wait for customers, restock items, or clean surfaces

## WAAD Creation

After observing and interviewing menu users at various points of the information exchange, a WAAD was created with succinct notes gleaned from user responses. Since each of us went out and conducted interviews individually, we compiled all of the major points that each of us felt were important into individual lists that succinctly stated the most important points. We then looked for repetition among our lists as well as stand out points that seemed to be of most pressing importance. We then proceeded to sort our gathered point into sections based on what portion of the information exchange they fell under as well as what source we got the information from in order to better graphically see the relations. Using all of the

information we found and sorted, we were then able to tie all of our information together graphically using a WAAD supplemented with simple notes from our user interviews in order to paint a clear image.

## WAAD (photos)

<https://padlet.com/lgibson110/w57wmst73k0j>

Order Modifications	Order Editing	Menu Layout	Service Related
Substitutions are difficult to make for sides (G)	My order should have been a special, but I was unaware (E)	The expansive menu helps me find what I want to eat (G)	When ordering on EatStreet, a \$4.50 fee was included (E)
Shawarma toppings are difficult to update (G)	When editing my order, I had to remove items completely in order to change them (E)	The item I wanted was not in the expected menu category (G)	There were no extra surcharges for my order (G)
I had to use the notes section for topping removal (S)		The lack of pictures for on-generic items made it difficult to determine what it was (G)	
Specifications for kid's meals was easy and straightforward (E)		Ordering wings was concise in the options available (E)	
I could not figure out the options for customizing a pizza		Searching for menu items was useful for finding what I wanted (S)	
		The specials were easy to find in the top header (S)	

**Clarification**

For purposes of this WAAD, Order Modifications are made while placing an item order, while Order Editing is done after items have been added.

The (\*) indicates the method of placing the order:

G - GrubHub  
E - Eatstreet  
S - Slice  
None - in person, or other

<i>Notes of this color represent GrubHub orders</i>	<i>Notes of this color represent EatStreet orders</i>	<i>Notes of this color represent Slice app orders</i>
<p><b>Order Mods</b></p> <p>Substitutions not easily made for sides</p> <p>Shawarma toppings not easily updated</p> <p>Kids meal specifications are easy</p> <p>Notes used for topping removal</p>	<p><b>Order Editing</b></p> <p>Service does not recognize orders that meet special params</p> <p>Order editing limited to item removal</p>	<p><b>Menu Layout</b></p> <p>Menu is expansive</p> <p>Item not in expected menu category</p> <p>Pictures should be considered for non-generic items</p> <p>Wing section is clear and concise</p> <p>Specials unclear</p> <p>Specials easily found</p> <p>Search box helps navigation</p>

<https://padlet.com/lgibson110/w57wmst73k0j>

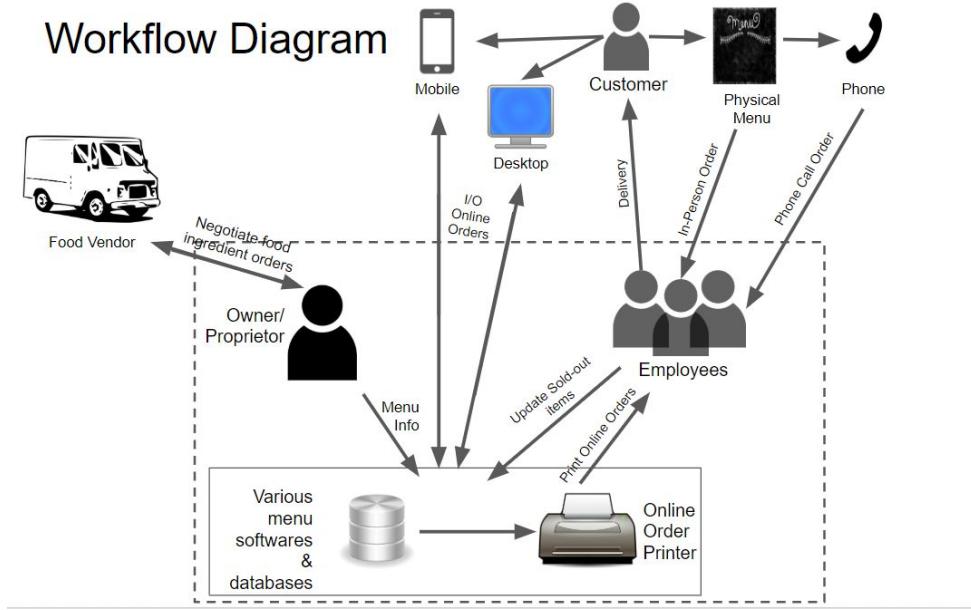
<https://docs.google.com/presentation/d/1s4VRJAbkF4x7gWHTKOv3S9uS9MGbjfB-kezA2vpCaY0/edit?usp=sharing>

## Work Roles

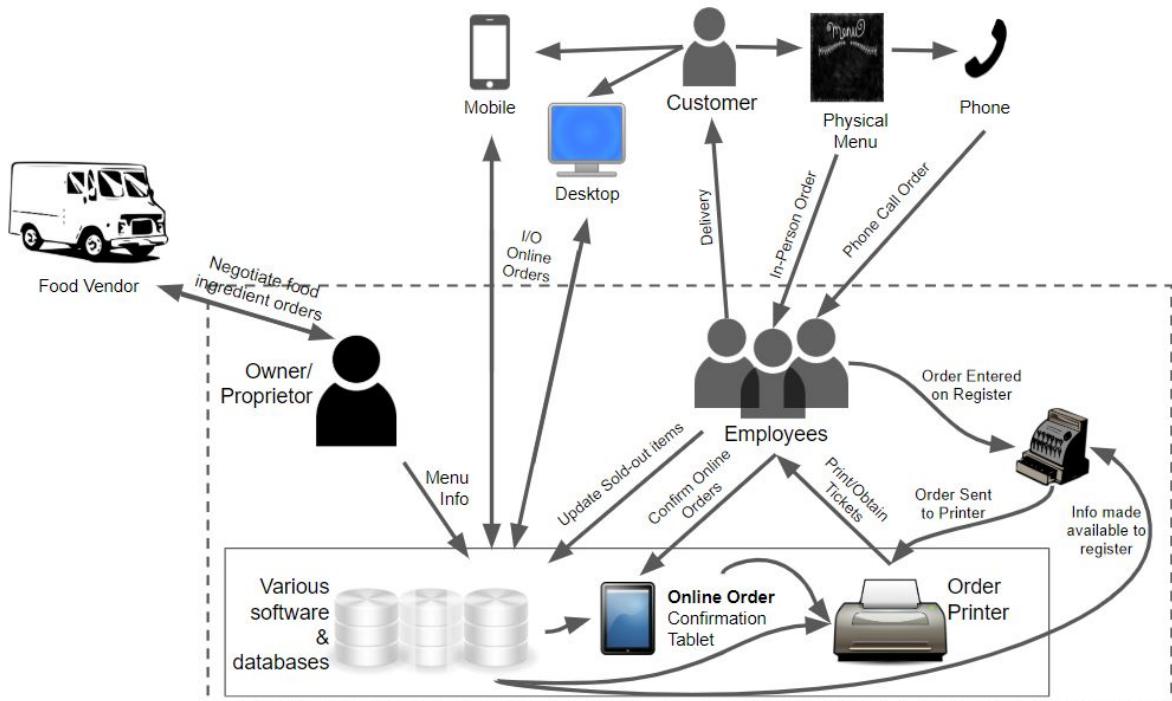
- Owner/Manager - Creates menu, sets prices, the main decision maker, the largest stakeholder, does groceries, does employee payroll
- Cashiers - Prepare products, interprets orders, deliver products, prints daily gross income for business, serves ice cream bar & soft drinks from fridge
- Delivery Driver - takes delivery orders over the phone, prepares delivery orders, drives to delivery location, notes if deliveries have been completed in SoftTouch POS system
- Cook - prepares food, notifies if food is in stock, packages food items
- Customers - Consume products, utilize menu and ordering systems
- Food vendor - Set/negotiate ingredient prices, deliver ingredient

# Workflow Diagrams

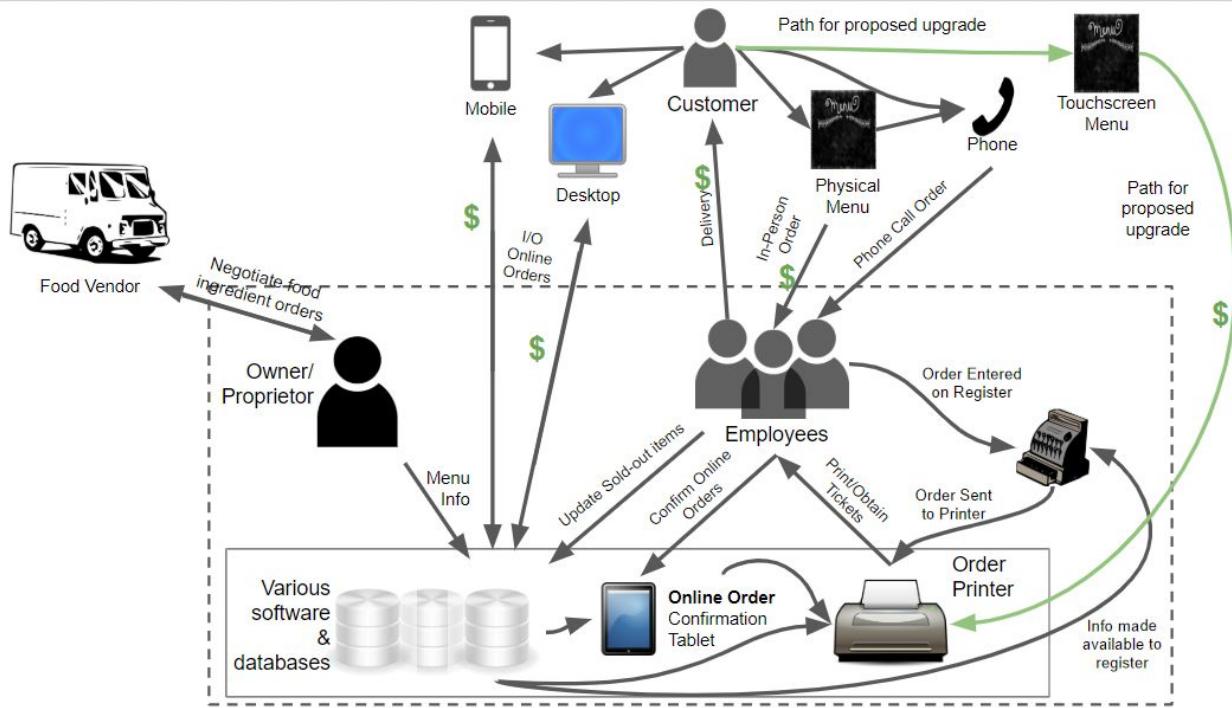
Original WorkFlow:



Updated WorkFlow Diagram:



**Early Sketch of WorkFlow Diagram including Proposed Change and Areas of with Potential for Monetary Transactions :**



# Blog Update