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INST 362
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Project Assignment 3 – Part 1: Requirements, Personas & Design Alternatives

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.

Primary Persona:

Out of the three personas (Mo Lawrence, the owner of the restaurant, San Cisco, a part time employee, and Mr. Clean, a customer), we chose San Cisco. We chose

them because of how encompassing their role is of all the user needs. San Cisco is a part time employee who updates menu data, but also can be a customer that eats and orders at the restaurant with this menu. He stays busy and has little time to waste.

Design Process:

Requirements Summary:

1. Menu Layout - Specials and Popular items - Popular items and specials shall be highlighted for the user. [Note 1]
2. Food Details - Ingredients - Information about ingredients provided to the user in the item listing description (information about ingredients also included in menu item encoding in POS system, with each ingredient listed) [Note 2]

3. Food Details - Photos - Online ordering customers should be able to see pictures for non-generic items on GrubHub and online ordering services that support pictures (non-generic item if it doesn't have >300 results when searched in the USDA foods database: https://fdc.nal.usda.gov/fdc-app.html#/) [Note 2, 4]
4. Food Details - Descriptions - Short descriptions should accompany different food items, especially for non-generic items. [Note 2,4]
5. Order Editing - Customization - Orders allow for customization and special requirements for preparation without notes (for chef) (can remove or add ingredients and add instructions for preparation if need be) [Note 3, 8, 9]
6. Order Simplification - Payment Methods - Make ordering process simple and less distracting: allow ease of use with payment methods, accepting digital wallet payments, cash, and credit card [Note 5]
7. Order Simplification - Confirmation - Print a legible order confirmation and receipts when customers order to avoid mistakes in orders [Note 4]
8. Online Ordering Menu - Centralization of Online Menus - Online ordering customers will see a consistent online menu among online ordering sites (ex. GrubHub, ChowNow, etc.) (create centralized Google Sheet detailing current menu items and updated based on what is in stock) [Note 10]
9. Online Ordering Menu - Menu Consolidation - Online ordering customers will see a succinct menu on GrubHub (System shall not include repeated pictures for successive menu items (ex. Regular stromboli and meat stromboli item listings on GrubHubwill will have one menu item picture of a Stromboli instead of 2 duplicates)) [Note 11]
10. Menu Layout - Categorizing Foods - Foods should be categorized, allowing users to choose different categories to look at. (Pizza should be a different section than subs, and a view should allow a user to see all available sections at once) [Note 12]

Associated Work Activity Notes:

1. Recommended Food items and Specials helps to grab interest
2. Aids such as photos and ingredients are important to decide what to eat
3. Order customization aids those who are pickier about food or have dietary needs
4. Customers can say the wrong item, or be under a misunderstanding when ordering
5. Customers can be distracted when ordering, causing errors
6. It is helpful to have menu items intended for large groups easily distinguished
7. Speaking directly with an employee can increase confidence in order accuracy
8. Deliberate ordering of item specifications in digital orders improves accuracy
9. Not allowing written specifications simplifies taking online orders
10. A consistent online menu among online ordering sites (ex. GrubHub, ChowNow, etc.) prevents confusion on availability of menu items
11. Succinct Online Menu items makes online ordering an easier process
12. Categorizing Food and organizing it makes the menu easier to read, especially since it is an expansive menu

Design Space:

Josh: In drawing up wireframe mock-ups of a customer placing a pizza order(and eventually being offered a special), I found that the number of constraints can make design feel complicated, and came away feeling that one size fits all is not the case for design. I like to draw things up on a computer because I believe it gives me better flexibility in changing a wireframe. While it does teeter on the edge of prototyping, I think it is conducive to work in this manner because it creates a canvas that can be altered and modified later without having to redraw everything. Also, once things are to a point that a design group wants to have a prototype, they can use wireframes of this type as a template, and possibly even just convert wireframes into a prototype.

Ali: There was a lot of different ideas on how to display a menu and narrowing down the options was tough. Also, I had some struggles in terms of sketching my designs (the static and dynamic menu boards). It was hard to find a service that instantaneously

updates the Google Slides menu board based on a Google Sheets data spreadsheet. The closest technique I found was embedding Google Sheets data into Google Slides. This doesn't instantaneously update data as it is changed, however, there is an "Update" button that can be pressed to update data on the Google Slides. There was also a trade-off in terms of how detailed and accurate I wanted to be about menu items and adding to the actual design and layout of the menu. It is important to have general menu information down, but minor details can be tweaked and corrected at the end. These are sketches, not final drafts anyways. Also, I think the challenge moving forward is finding the proper physical medium (ex. TV, tablet) to implement these design solutions. Communicating our designs onto these physical mediums can be a challenge. Also, after sketching the Google Slides/Sheets digital menu board files, I realized that a potential improvement is making a user interface which interacts on the employee end. This implementation would be a specially designed system that allows them to easily update and interact with menu item data (from Google Sheets).

Luke: There were a lot of trade-offs in our requirements. It was difficult to display all of the information a customer wanted (pictures, descriptions, ingredients, prices, customizations) while still keeping the format readable. It was also difficult to fulfill many of the requirements centered around the format of data or online ordering, since those require much more than a simple design mockup.

Dennis: One of the things that quickly became the most difficult aspect of the design to balance was giving the user freedom to order what they want and to keep an overall clean design that doesn't feel overwhelming to look at. The more options that are given, the more items that have to be rendered on screen and the more likely you are to make the user suffer from information anxiety. As I designed the comically minimalist version of King's Pizza solution, it was incredible to see just how clean a design can be when you don't give the users *ANY* choices that they are allowed to make. Just the same though this can be an incredibly alienating experience for a customer, especially as customization more and more becomes the norm. Coming up with ways to allow users

to fully enjoy the depth of what is available without overwhelming them was a much more difficult task than we anticipated

Design Methodology:

For our designs, we came together and addressed the contents of our work thus far and pinged things we felt were necessary for an improved menu system; but we did not limit ourselves to one possibility. We used collected data and user stories to create scenarios in which we felt we had potential solutions, and we did our best to consider the perspectives of both host(business owner) and client(customers) in our design.

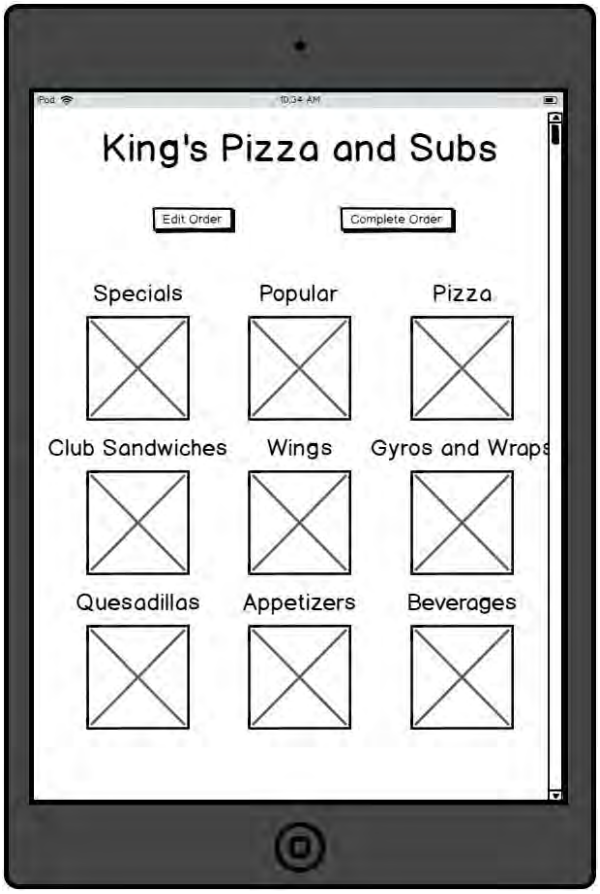
We decided to focus on a different aspect of the system for each design. For example, with the Interactive Tablet Menu, there is a focus on visual information in the form of pictures and descriptions. The Interactive Ordering Menu focuses on the details of customization provided to users. The menu boards display all the information needed on one screen and user color to differentiate different sections effectively. Everything else about the designs evolved out of these focuses.

Another point of consideration with the designs was the medium. We had to decide if each design was better suited for a static menu, an interactive electronic menu, a phone application, or anything else. This had a great influence on the level of interaction and format of information in the design.

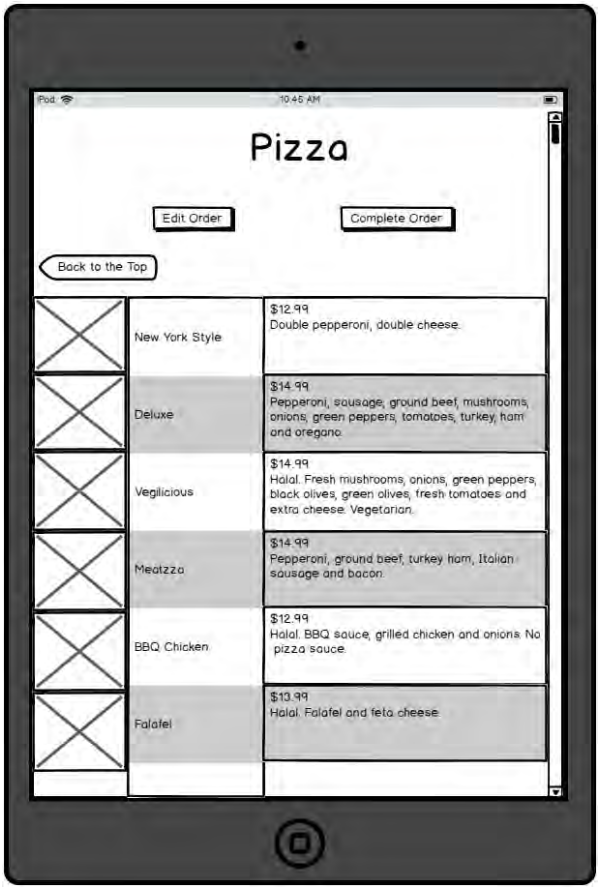
Design Sketches Linked Here

Designs:

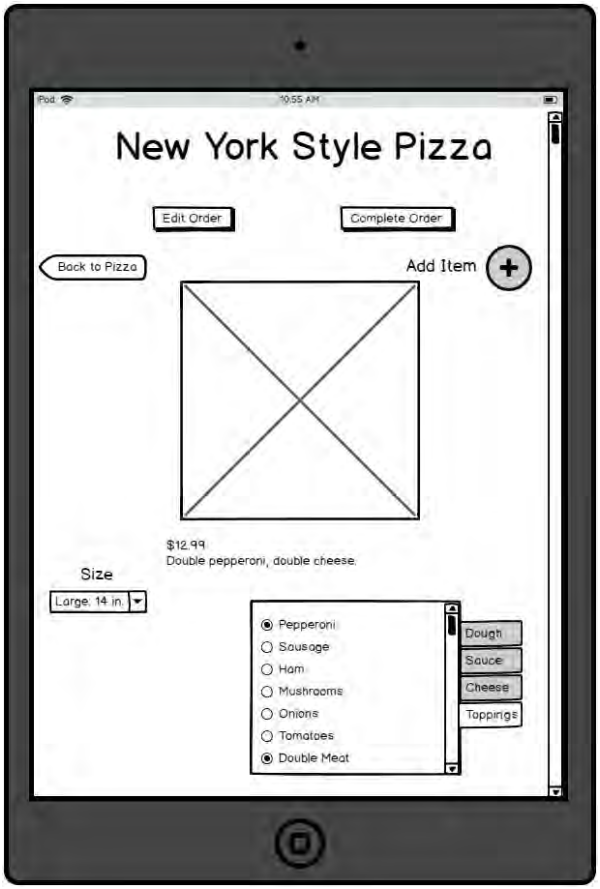
1. Interactive Tablet Menu - This mockup represents an interactive menu to be implemented into a tablet in the restaurant. Customers will order items through the application, asking for assistance from employees if needed. Image boxes will be replaced by appropriate images.



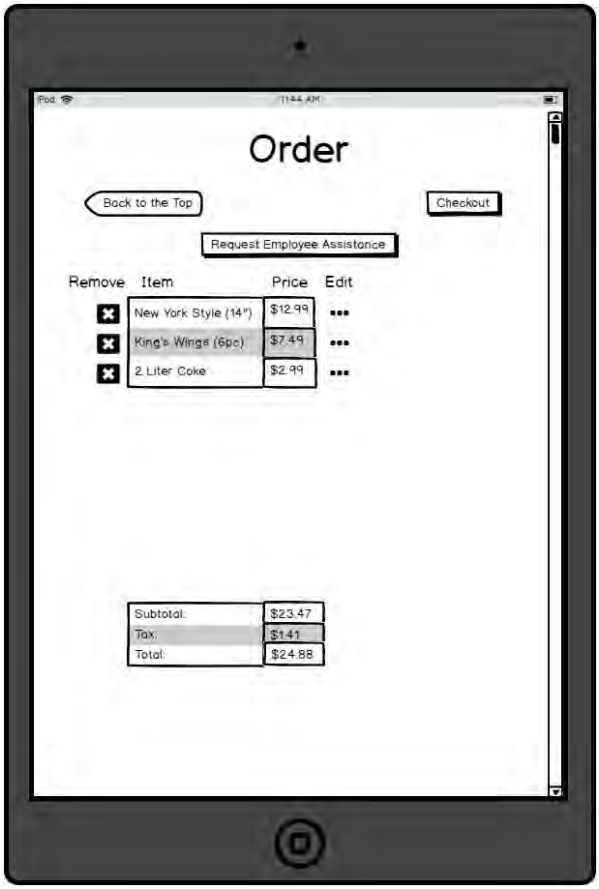
This screen shows the main menu, a scrollable list of sections of the menu that the user can select to open options in picture 2. Pictures representing each section will be added. From the top buttons, the user can edit or complete their order, leading to picture 4.



This screen shows the section menu, the options for all food items in a given category after the user selects it. Pictures, names, prices, and descriptions are given for every item, and tapping on the item allows the user to edit it or add it to their cart in picture 3.



This screen shows the item screen, detailing all of the options for a given item. It can be fully customized, and the 'add item' icon can be tapped in the top right to add the item to their cart, leading to picture 4.



This final screen allows the user to review and complete their order, as well as request employee assistance for any special needs. Individual items can be removed or edited, with a total price shown at the bottom.

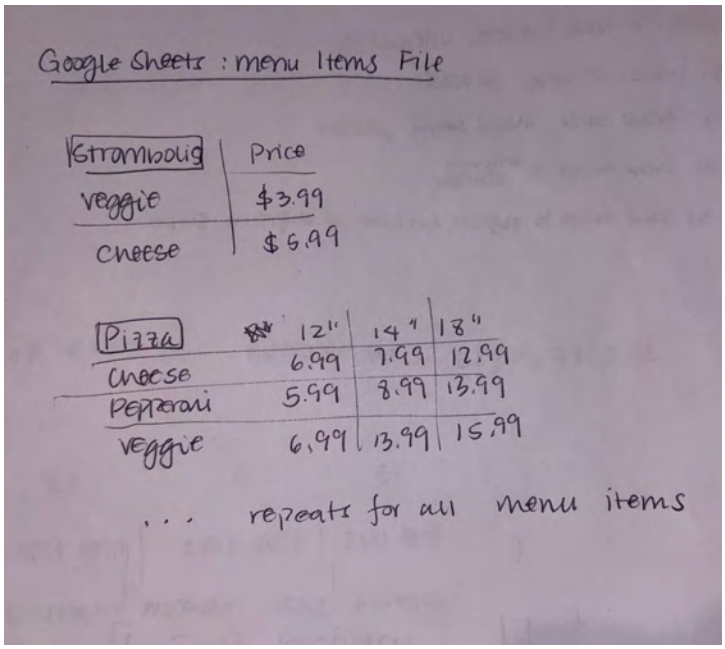
This design focuses on the visual component of the system, providing the user with the information needed in organized pictures and categories in order to fulfill requirements 1, 3, and 10. Enough information is provided to the user in the form of the item descriptions in order to fulfill requirement 4, as the ingredient information was unknown for requirement 2. Ample order customization is given to the user, fulfilling requirement 5.

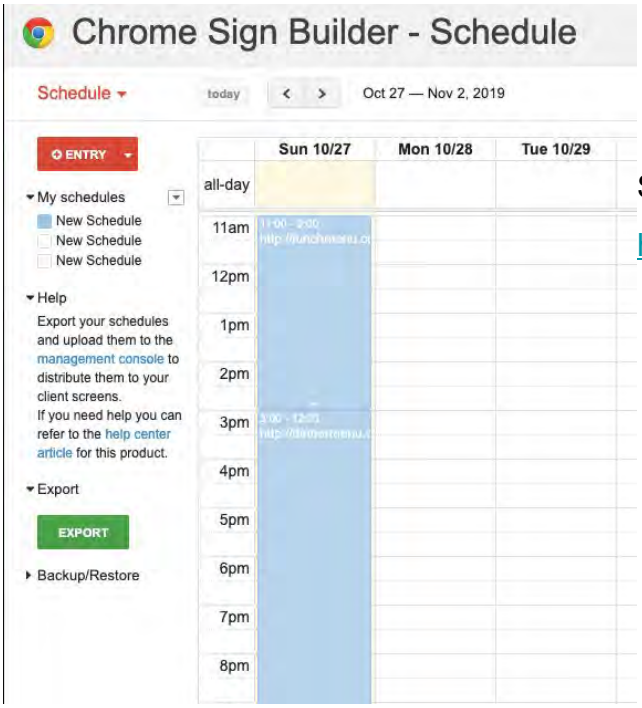
2. (and 3.) Digital Menu Board (displayed through Google Slides) that fetches menu item data from a spreadsheet or equivalent and updates menu items instantaneously AND Google Slides broadcast on a digital display (static and doesn't update unless Google Slides file is manually updated): https://docs.google.com/presentation/d/1f75lAV-SbAw-qPBRpDOF3VXSXo82HNFZXLwn3wdzLDk/edit?usp=sharing

Screen 1	Dinner Specials
Screen 2	Lunch Specials
Screen 3	Full Menu Display (Static/Dynamic)

This menu board created in slides is a file that can be displayed on a TV screen which exists in the restaurant. This design suffices two ideas: a static digital menu board and a dynamic digital menu board. We plan on embedding data from a Google Sheet into the existing digital menu file on Google Slides.
Source for Embedding a Spreadsheet from Google Sheets into Google Slides: https://www.youtube.com/watch?v=UZfV2idGSIc

The linked design is a static menu board, however, we plan to implement a service called Google Chrome Sign Builder. This service allows scheduled time for different slides to play (ex. Lunch specials during lunch hours). You can also link different google slides links on the schedule calendar). I made a sample schedule of a Sunday below. This would make the design dynamic to fit user needs (customer needs). This design fits our requirements since it allows the employees to update the menu items, allowing for customizability of menu items. The design also fits our requirements of categorizing food items and having picture displays to make the ordering process easier. The design is also customizable for different times of day.





Source:

https://www.youtube.com/watch?v=6NI4n_fuj5w

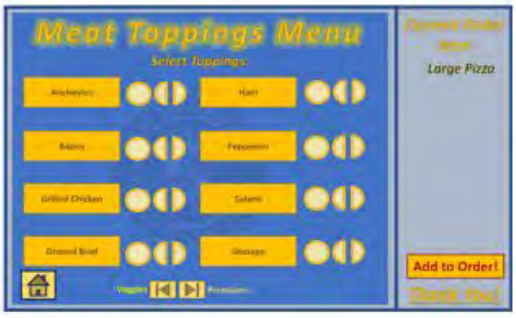
https://support.google.com/chrome/a/answer/6180529?hl=en

This final section includes a storyboard showcasing an Interactive menu that allows food service driver check-in(whacky idea) and alerts unknowing customers when they've entered an order item that qualifies as a special. These features are useful to our persona because they attempt to address issues that can inhibit things for both customers and employees. In the first part of this storyboard, a delivery service check in can be seen, which could help save time for employees and better satisfy customers. In the last screen grab, a pop-up alerting a customer that they've entered an item qualifying for a special can save time in possibly refunding the difference to a customer, and also adds value to the customizations they have made while hopefully making them feel valued as well.

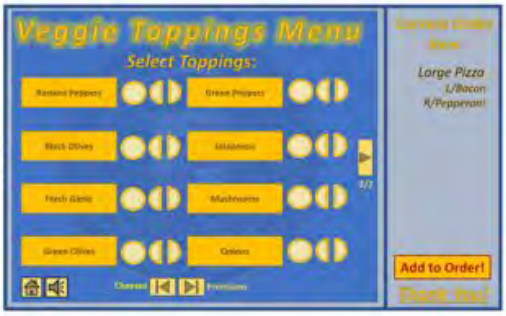
1)

2)

3)



4)



5)

6)

Screen 1	Contains driver check-in in right margin section
Screen 2	Contains first portion of pizza menu
Screen 3	Contains toppings, pizza breakdown, navigation tools, dynamic order item on right, audio.
Screen 4	Continuation of features described in screen 3
Screen 5	Continuation of features described in screen 3
Screen 6	Contains pop-up alert after order item meets parameters of a special currently offered.

4. ***Minimalist App and Removed Physical Menu Board***.

Our final solution that we came up with is a bit more radical. For this solution, we decided to remove *any* type of physical menu board and force all ordering to be conducted on an app or website companion for the store. This site would be accessed by scanning a QR code in the store where the menu board used to be. The code will take users directly to an online ordering website where they will be presented with a menu that has the most popular menu items as well as any specials.

An interesting fact that you may notice about this more radical menu is that it consists of far fewer options in order to help streamline the ordering process. Additionally, the options that are made available are kept incredibly simple in order to keep from overwhelming the customer and to not waste space on the menu. Moreover, since no pictures are being used, in the name of minimalism, limiting the menu to only the must have foods helps to keep the customer from being overwhelmed. A simple scrolled list will keep the user from having to swipe and navigate in and out of various screens. Once they have completed their order, all the user has to do is pay. The process has been made as simple as possible in order to help keep the order process as easy as it can be. This solution puts a major focus on requirement one for a method of advertising specials. Requirement five, a simple interface that is designed to be easy for potentially

distracted users to follow. Requirements 9, 10, and 11 which call for a simple and succinct menu that will be easy to make consistent across platforms and lastly requirement 12 for a categorized menu.