Project Deliverable H: **Prototype III**
GNG 1103 – Engineering Design

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Our Previous Prototypes

Prototype 1: In this prototype a baseline layout was developed. This version had no functionality whatsoever, and was only for aesthetic purposes. This prototype, however, allowed us to visualize what had to be completed in the coming weeks, and how we could divide the work amongst each other. To decide on a theme, each group member made a draft with pen and paper, and these were combined into a virtual draft.

Prototype 2: Prototype two was mainly focused on basic functionality (buttons). Each team member created a version of their designated section, and attempted to learn how to link individual pages with buttons. Once this was accomplished, each member's java and XML scripts were combined in one document. The next goal was to code further functionality into the interface (search bar, live map, sign-in, drone communication, ect…).

How Has Our Prototype Improved?

Prototype 3: Over the last two weeks we have advanced our prototype to a new level of functionality. Our goal for the third deliverable was to have an interface that was user interactable and can save user input. We have reached this goal and still plan on working towards even greater functionality leading up to design day.

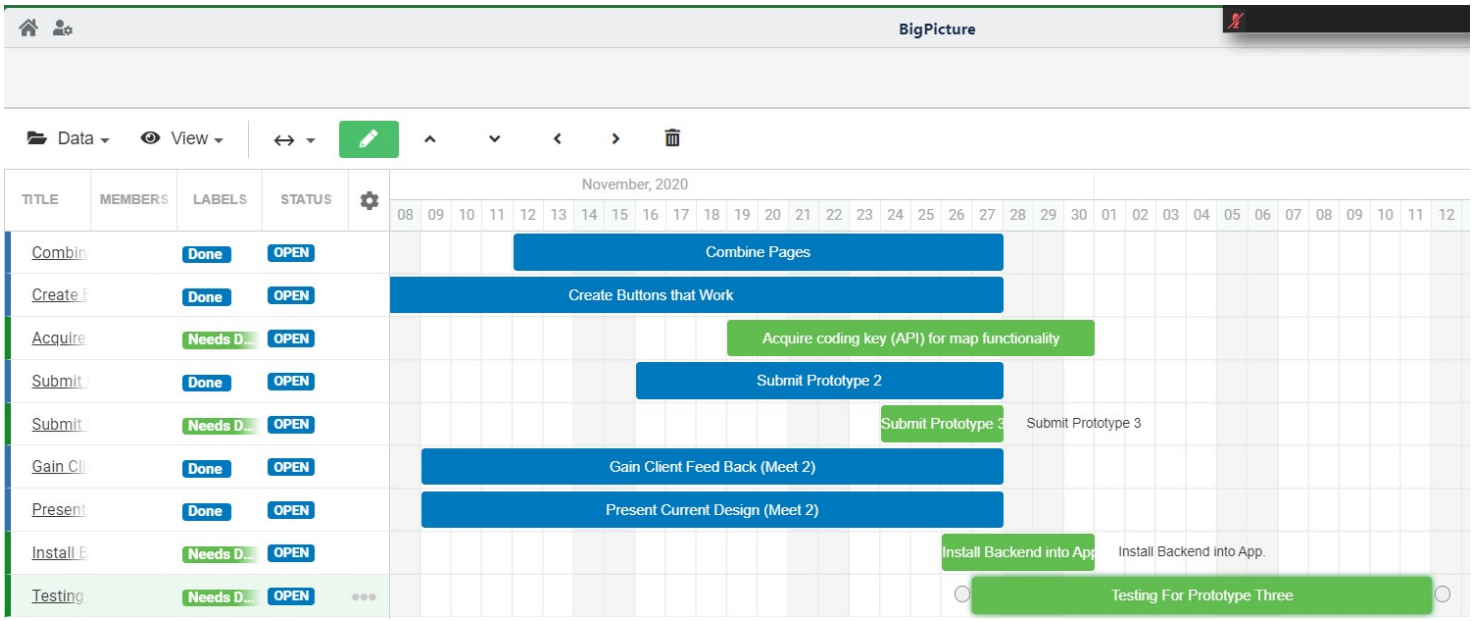
How Will We Test Our Latest Prototype?

Our plan for testing prototype three is to use a focus group (made up of mainly our individual families and friends) to test the functionality and reliability of our app. We want to see if our design can withstand rapid use without crashing and/or stuttering. From this we hope to gain an idea of what needs to be coded differently. We have found that simplistic code design is usually the most effective and reliable, and that most times crashes are a result of over complex code. A metric that would be reliable in this testing is crash percentage. The idea behind this would be to repeatedly do a task in the app, and find how many times the app malfunctions. Areas with higher malfunctions rates will then be looked at and changed if possible.

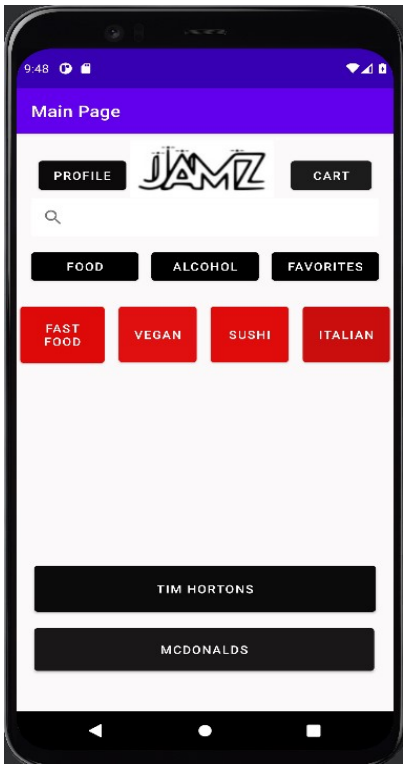
Test ID	***Test Objective (Why)***	***Description of Prototype used and of Basic Test Method (What)***	***Description of Results to be Recorded and how these results will be used (How)***	***Estimated Test duration and planned start date (When)***
1	Is the interface easy to navigate?	The **physical** app was given to the test subject, and they were asked to navigate through the app.	The user found that the initial pages were difficult to operate, however was less confusing when the color coded buttons were used.	Was started at the end of prototype 2. Results were taken into consideration when corrections were made.
2	Testing the individual buttons to make sure that they work since this is vital to the functionality of the app.	This is a focused test of the buttons that is performed by every member of the team individually on every button in the app.	Each team member will keep a list of the buttons that do not yet function and report to the team which buttons were causing issues	Dependencies: ever button needs to be coded properly. The test should take no more than a half hour and will start as early as possible (once all buttons are coded)
3	Testing how well the save choices option works.	The user was asked to enter what they wanted into the app and save it.	The selection save feature was easy for the user to operate, however the user could not find the search button at first.	This was done just before prototype three was submitted.
4	Testing reliability of app, (whether or not it crashed when something was done).	The same task of entering an item into the saved options was done repetitively.	The app would “stutter” or crash about 1 out of ten times the task was done.	This was carried out prior to prototype three.

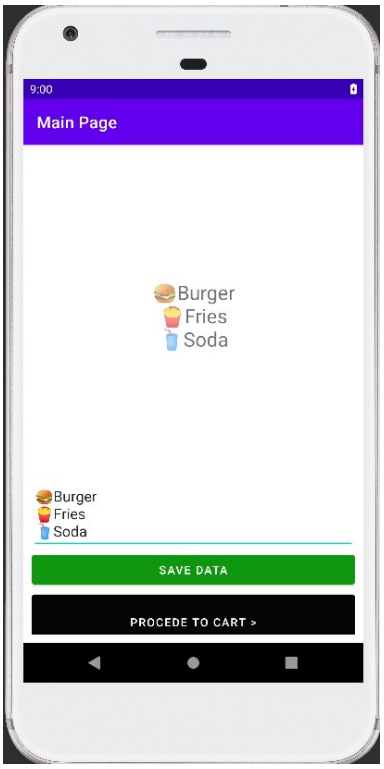
5	Testing the overall design	The app initially had 2 set designs and to determine which design was better we surveyed members of our family and would expect to expand and survey individuals in a more rural setting.	The overall surveyed population preferred white design mainly because the logo stood out and the app was “eye-catching”. We used colour white as it represents cleanliness (jamZ promotes contactless delivery during this pandemic)	This was done a little before prototype 1 and ended around the start of prototype 2.This is when the team finalized overall concept and design.

Trello board:



App changes:


9:48
Main Page
PROFILE
JAMZ
CART
FOOD
ALCOHOL
FAVORITES
FAST FOOD
VEGAN
SUSHI
ITALIAN
TIM HORTONS
MCDONALDS


9:00
Main Page
Burger
Fries
Soda
Burger
Fries
Soda
SAVE DATA
PROCEDE TO CART >


9:48
Main Page
BACK TO MAIN PAGE
TextView
PROCCEDE TO CHECKOUT>


9:48
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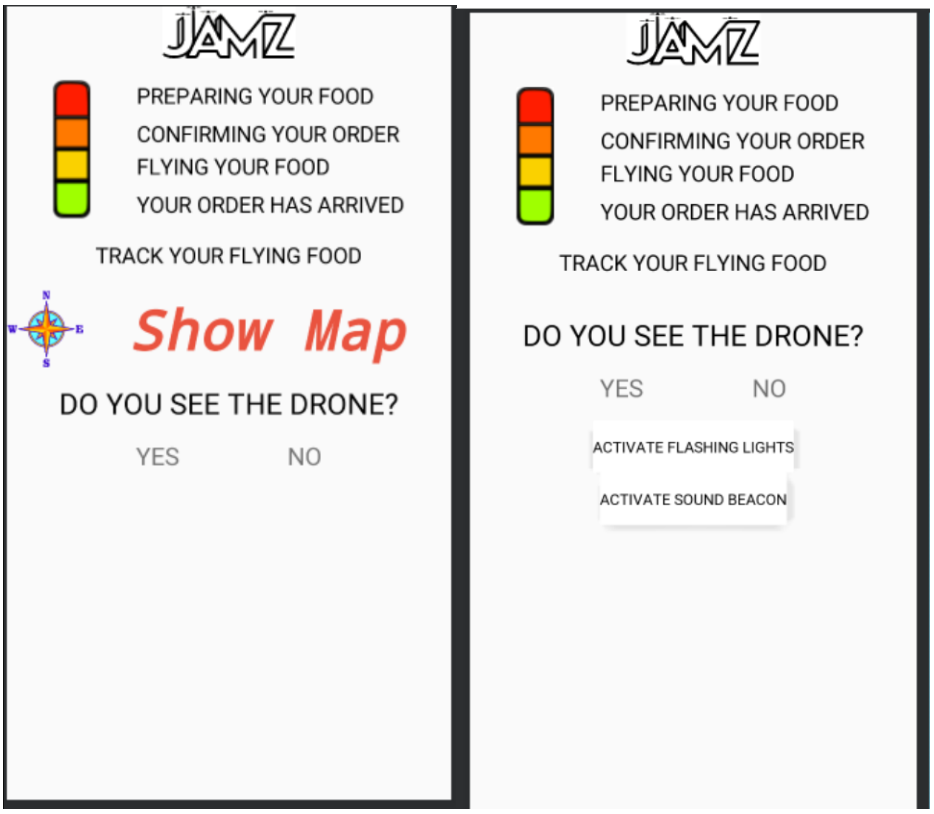
Credit Card #
Coupon #
Food$:____
Delivery$:_____
Total$:_____
<CANCEL ORDER
CONFIRM ORDER>



The “Track Your Order” page has lost the previous map icon and instead we have added the “Show Map” button with a compass. Now this button will lead customers to the map that shows the location of the drone. This map will be incorporated from google maps. This map will show the location of the drone, its predicted delivery time and the route it takes. This will allow customers to know exactly where their package is located throughout the entire delivery process. We had difficulty showing how the map would look in the final product, as android studio would just open up a blank Google Maps instance. Overall the page continues to follow the theme and the “Show Map” sign in pink draws attention to the customers.

Videos are also submitted to demonstrate the functionality of the app.