Group: A11
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Mobile Customer User Interface

Needs to Design Criteria

Category	Priority Ranking (1-5, 5 being the most important)	Need	Design Criteria
Layout of application	5	Application includes a drop down menu that displays available restaurants and their items, as well as having the restaurants being sorted by category	- Number of pages - Number of restaurants
		A function that allows users to place their items into a feature, like a cart, prior to ordering. Users will also be able to click an order button once they are done	- Weight limit for order (kg) - Average order revenue ($/checkout) - Delivery fee ($)
		Application is simple and easy to use while also possessing adequate functionality	- App response time (s) - Single Usability Metric (# completed tasks, # application errors etc.)
		UI focuses more on the displays than the functionality	- Use of search vs navigation (%, use of search bar per tasks completed) - Abandonment rate (order cancellation) - Task time (min) - Task success (%) - System Usability Scale (SUS) measures ease of use - # of increased users/orders (orders/day)
		Application is simple and easy to use while also possessing adequate functionality	
		Application that the users find understandable and logical	
		Application has a simple design, but incorporates innovative features	
		Application is similar to Skipthedishes and UberEats in terms of functionality and layout	
Compatibility	5	An application that is compatible with Android or iOS, or a website (web app)	- #of app downloads per platform (downloads/android or downloads/iOS) - Storage (mb) - Screen resolution - View port - Software/version

Tracking of Drone	5	A map that tracks the status of the drone during a delivery	- GPS (m) - Status updates (s) ot notifications
	4	The map feature of the application is similar to that of Ubereats, therefore it shows the live location of the drone, and the status of the drone	
User Authentication	5	A simple page that allows users to log in to the application	- # of signups - # of new signups per day - # of active users
	4	When users create their account, they are able to include additional information, such as dietary restrictions or handicaps	
Customer Feedback	4	A feature that allows customers to provide feedback for the business	- (CSAT) Customer satisfaction scale - % satisfaction (satisfied customers per order) - Text box (# characters, mb) - Star rating/smiley face (bad, better, best)
	3	A feature that allows users to rate the application using a star rating method	
		A feature that allows users to send personal feedback about the application (bugs, ease of access, etc.)	
Verification	5	A function, like a button, for the customer to confirm that they have received the order	- Confirmation message,text email etc.
		A function that displays a large code on the customer's phone screen for the drone to recognize	- Barcode (characters, kb)
Customer assistance	4	A function that can send a message informing the customer that there has been an issue with the drone	- Alert message (minutes)
	3	UI contains a FAQ section for users	- # of users visiting FAQ section
Additional Features	3	Application is able to translate both English and French	- English/French function - # of language users/ % French users vs % English users
	2	Application has a feature, like a button to press, that notifies a person who is visually impaired that their order has arrived	- # of users with handicaps/disabilities
		Application has the ability for users to report to the service that a drone has been stolen	- Time from report to operator (minutes)

Benchmarking

Technical

Although drone delivery is a relatively new concept and therefore does not have many competitive products on the market at the moment, there are still various products and applications regarding the food delivery aspect of the drone delivery service. One benchmark for food delivery is SkipTheDishes. The clients regard SkipTheDishes as their “golden standard” and use it as their personal benchmark for their designs. The clients are attracted to its simplicity in terms of functionality and layout. The user interface for SkipTheDishes is able to categorize various types of restaurants in an organized manner to aid in the ease of navigation for its users. Not only does the application suggest restaurants based on the type of food the customer is searching for, it also displays an estimated time of preparation and delivery, as well as offering promotions. Additionally, it gives various categories, not just organized by cuisine, but also categories such as “$10 lunch” or “Back to School”, leaving users with a variety of choices. Moreover, SkipTheDishes includes a feature called a “Skip Score” which is based on customer reviews of each restaurant. It gives users an easy way to select which restaurant they prefer. The application is also compatible with iOS, Android, and has a web page. Despite its attractive features, it also possesses several flaws. For one, customers have reported the application being randomly shut down with a lack of technical support from the company. It has also been reported that the application would freeze or an order would not process. Furthermore, another popular benchmark is Ubereats. Ubereats contains a map that tracks the status and the estimated time of arrival of the customer’s order. It is able to display when a driver is going to pick up the user’s order, when the order is being prepared, when the driver has arrived at the restaurant, when the driver is on their way, and more. The status updates happen relatively quickly and frequently. The user is also able to open up the map whenever they want with ease. The application also shows the driver who is picking up the user’s order and what car they are driving so that users may recognize their delivery when it has arrived. With drone delivery, there is not a human courier, but a drone. Nonetheless, it is still useful for users to be notified of the model of the drone and of its appearance. The app does not show restaurants out of the range of the user which reduces the hassle having to filter through the available restaurants manually. The application also contains a feature that collects all of the user’s items before proceeding to the checkout. At the checkout, it allows users to select how much they wish to tip and displays a full report of their order, highlighting the total, taxes, delivery fee and more. They have the option to review their order and easily make changes if needed. Ubereats also contain its fair share of flaws. Many have reported missing items or undelivered orders, even though the map shows a courier at their residence. Another aspect is that the courier is a different person than shown on the app, inflicting confusion to its users. This would not be an issue with drone delivery. The trend seems to be that there is a significant delay between cancellations, or any other updates users should be aware of, and the message of the delay/cancellation that should be sent to users. In addition, JAMZ Delivery plans on implementing a feature that displays a large barcode on the phone of the customer for the drone to recognize. The drone will scan the code, similar to how Snapchat and Spotify have codes that allow its users to scan and either add others, or to find a certain song.

User

SkipTheDishes and Uber Eats are popular food delivery services at the moment. Users recognize these apps for their ease of use and convenience. The live tracking of customers’ orders is a feature that many enjoy as it allows them to monitor their order as frequently as they want and gives a sense of control. Therefore it is crucial that the map in the JAMZ UI functions satisfactorily. Users also enjoy the variety of restaurants displayed on the application and the manner in which they are organized. It provides users with a simple and helpful way to decide where they want to order from. Users can also view and manage order history from previous orders made in the app. The clients of JAMZ believe that simplicity is an attractive and crucial feature for modern applications, which is why there is a greater focus on which features in applications, such as Uber Eats and SkipTheDishes, are the most simple, yet effective. It is also important that the feedback feature for the JAMZ UI is appropriate and efficient at delivering feedback to the developers as many users of Uber Eats and SkipTheDishes report problems with the application, but do not receive assistance. In order to prevent this trend in food delivery apps from happening with the JAMZ UI, a feature that is able to easily transmit feedback and criticism to the application itself is ideal.

Design Specifications

Design specifications	Relation (=, < or >)	Value	Units	Verification Method
Functional Requirements				
Compatible with Android, iOS or	=	yes	N/A	Analysis, test

web page				
Application can display restaurants and their menus in a categorized manner	=	yes	N/A	Test
A cart-like feature for users to store their items and a button to hit for ordering	=	yes	N/A	Test
Can display a map that tracks the progress of the drone and the delivery	=	yes	N/A	Test
Login page where users can create accounts and also add any additional information	=	yes	N/A	Test
Users can provide brief feedback for the business and the application	<	280	Characters	Test
Customers are able to verify that they have received their order	=	yes	N/A	Test
Application displays a large barcode on the user's screen for the drone to recognize	>	20-25 5.5 x 2.5	Characters inches^2	Test
Can quickly send alert messages to the user if there is an issue with the drone	<	5	minutes	Test
Users can go to FAQ section when experiencing a problem	=	yes	N/A	Test
Application can be used in English or in French	=	yes	N/A	Test
Visually impaired can press a button to be notified that their order has arrived	=	yes	N/A	Test
Users can report a stolen drone on the application	=	yes	N/A	Test
Non-Functional Requirements				
Application features are understandable and logical for the users	=	yes	N/A	Test
Application display is simple and easy to navigate	=	yes	N/A	Test
Screen resolution	>	640 x 1336	pixels	Analysis
View port	>	320 x 568	pixels	Analysis
Constraints				

Development costs	<	100	$	Analysis, estimate
Delivery weight	<	10	kg	Analysis
Delivery distance	<	10	km	Analysis
Delivery time	<	30	minutes	Analysis, estimate
App size (storage space)	<	500	mb	Analysis, test
Phone version compatibility (ex. iOS)	>	iOS 13.0	N/A	Analysis, test
image ratio dimensions	=	5:4 6:4	N/A	Analysis
image height	=	440-10 000	pixels	Analysis
image width	=	550-10 000	pixels	Analysis
Legal aspects	=	yes	N/A	Analysis

Reflection

Overall, aspects of the design criteria have differed from the personal judgements of the group through the use of the information provided from the initial client meeting. Aspects that the team believed were more significant or in other cases, held lower importance, were contrasted to the opinions of the clients. It is crucial for team members to be aware of personal bias when creating a list of client needs and design criteria as they should not be developing the product with respect to their preferences, but should be developing criteria with respect to the clients and their preferences. For example, one might believe that the function of the app should be the main focus, but during the meeting, the clients explicitly state numerous times that they prefer to concentrate on the aesthetics rather than the functionality. Moreover, it can be assumed that the clients would want to be presented with an application that incorporates many new and creative features, but in reality, the clients want something that is simple, but also possesses some additional innovative features. Furthermore, various changes have been made when developing the design criteria from the deliverable B. The first few changes were made regarding aspects of similarity. It seemed easier to group needs that seemed to differ in the Needs Identification, but in organizing and prioritizing the needs for the design criteria, it is easier to see similarities and how we can develop solutions for multiple needs. We also noticed after doing benchmarking on similar applications that one main problem that users had was the lack of assistance when experiencing difficulties. This will affect our design criteria because it puts a greater emphasis on the “customer assistance” features as the JAMZ application should provide a better experience for its users than competitive products.