OPERATION SELF DELIVERY ROBOTS

Design Sprint

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Initial Product Requirement Document

Background

Doordash aims on using delivery robots to automate Doordash's food delivery to improve trust and reliability of delivery time with clients.

Problem

- Based on Doordash's company reviews, there has been customer complaints particularly for clients on how they are unable to keep track of when exactly their ordered food would be delivered to them and how long it sometimes takes. As Doordash's goal is to " get whatever people need in their hand as efficiently as possible", it's important to work on providing efficient and effective delivery processes to clients thus increasing client retention, loyalty and promoting a good brand.

Key Insights

- Attached link below reflects on other competitors, what they do and how some have already started to incorporate the automation system of food delivery fast tracking their processes. https://www.g2.com/products/doordash-for-merchants/competitors/alternatives
- From https://www.upperinc.com/blog/food-delivery-statistics/ an estimation of 60% of the US population use food delivery service. Fromhttps://www.usesignhouse.com/blog statistics, an estimate total of 131 million users use uber eats which is brand very well known for automated food delivery systems. From www.upgradepoints.com,They have an average cost order of $35.42 a month.
- It is estimated that Uber Eats has a client database of 131million users .

Competition's Case Study

- TAM for Uber Eats = 40% of uber eats clients using automated food delivery is 52,400,000x $35.42x x12months =$22,272,096,000Billion estimate made of automated food delivery.
- This shows an estimated Total Addressable Market of using automated food delivery service the competitor makes in comparison to Doordash's revenue which has seen it's highest peak of revenue just around $6 billion dollars.

Initial Product Requirement Document (Cont.)

User Benefits

- **Convenience**: Automated food delivery robots offer a convenient way to get food delivered to the user's destination. Customers can place orders through a mobile app and have their meals delivered without the need for human interaction.
- **Speed**: Automated food delivery robots are typically faster than human delivery drivers, especially during peak delivery times. They have the ability to navigate through traffic and crowded areas efficiently by using the sidewalks, ensuring quicker deliveries.
- **Consistency and Time reliability**: Robots provide consistent service. They don't get tired, take breaks, or make mistakes due to fatigue, ensuring that orders are delivered accurately and on time to users.
- **24/7 Availability**: Automated delivery robots can operate around the clock, allowing customers to order food at any time, even during late-night or early-morning hours.
- **Accurate GPS Tracking**: Users can track the progress of their delivery in real-time using GPS technology, allowing them to know exactly when their food will arrive.

Product Success and Goals

1. Manual Delivery or request is being reduced by 20% in the first year.
2. Gain an average of 40% of clients on 3, 4 and 5 star on customer review and satisfaction on delivery.
3. Grow customer loyalty and retention with a measurement of threshold of 500 customers and over returning as repeat clients for automated self deliver service.

How Might We

Use these digital stickies to capture your ideas. Feel free to rearrange. Colorize. Etc

How might we keep the robots on the sidewalks.

How might we maintain the live track in on delivery with users.

How might we navigate the issue of rerouting of robots in some situations.

How might we manually operate in cases of error or glitches on the robot.

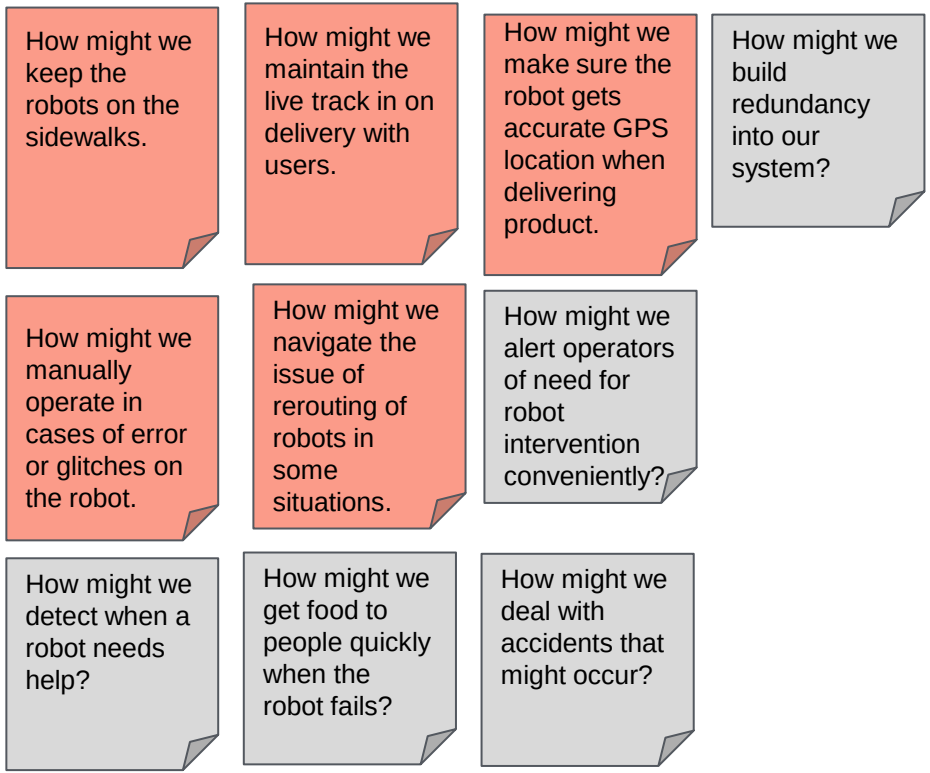
How might we make the robot look customer friendly during delivery.

How might we make a confirmation of a recepient of the delivery Product when the robot gets to its destination

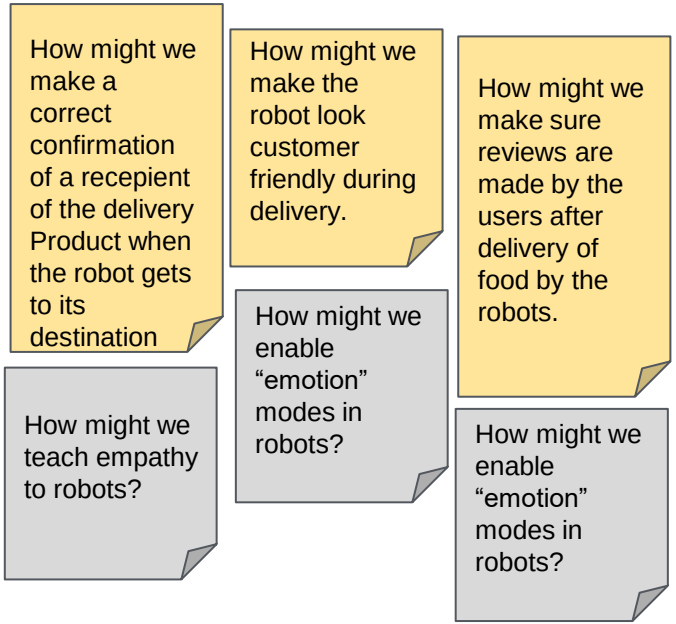
How might we make sure the robot gets accurate GPS location when delivering product.

How might we make sure reviews are made by the users after delivery of food by the robots.

Human/robot interactions robot and delivery operations.

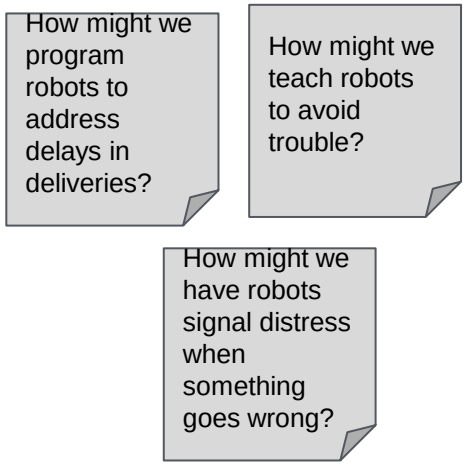


Efficient Robot and Delivery Operations

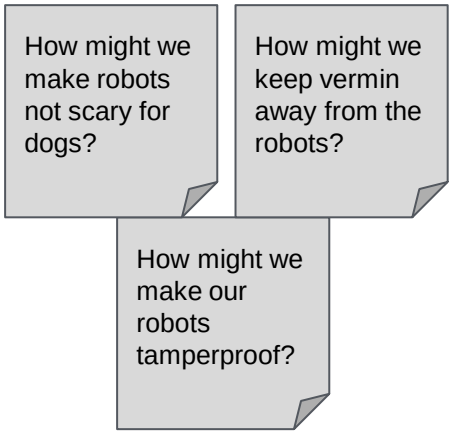


Human-like interactions, Delivery destination and User Reviews

Route Issues and Enviromental Factors



Issues on route



Environmental Factors

When things go wrong

How might we share robot progress with consumers?

How might we enable robots to detect missing items in the order during pickup?

How might we allow users to help us with tracking and feedback?

How might we program robots to address customer returns?

How might we alert consumers if their delivery is delayed?

How might we program robots to address order cancellations?

Delays, Missing Items, and Cancellations

How might we address a sudden power outage?

How might we keep robots odor free, even when carrying smelly food?

How might we determine when to recharge robot batteries?

How might we anticipate mechanical failures?

Maintenance and mechanical issues

How might we alert operators of need for robot intervention conveniently?

How might we handle edge case issues that may arise?

How might we deal with accidents that might occur?

How might we overcome technical glitches during a delivery?

How might we ensure food gets delivered without incident?

How might we get food to people quickly when the robot fails?

How might we detect when a robot needs help?

How might we build redundancy into our system?

Incident Prevention and Recovery

How might we control robots?

How might we track each robot?

How might we monitor robot progress?

Tracking and Remote Control

Sprint Focus

Focus	**Human Like Interractions, Delivery Destination and Product Reviews**
Slide #	# 5
I selected this theme because	The focus is on delivery destination and Product Reviews because this would provide us with much clearer insights on how the user feels about the automated self delivery robot and through those insights, enable us improve much better on the product.

FUTURE PRESS REVIEW

Doordash's Automated Food Self Delivery Robot- *For better,faster & efficient self delivery.*

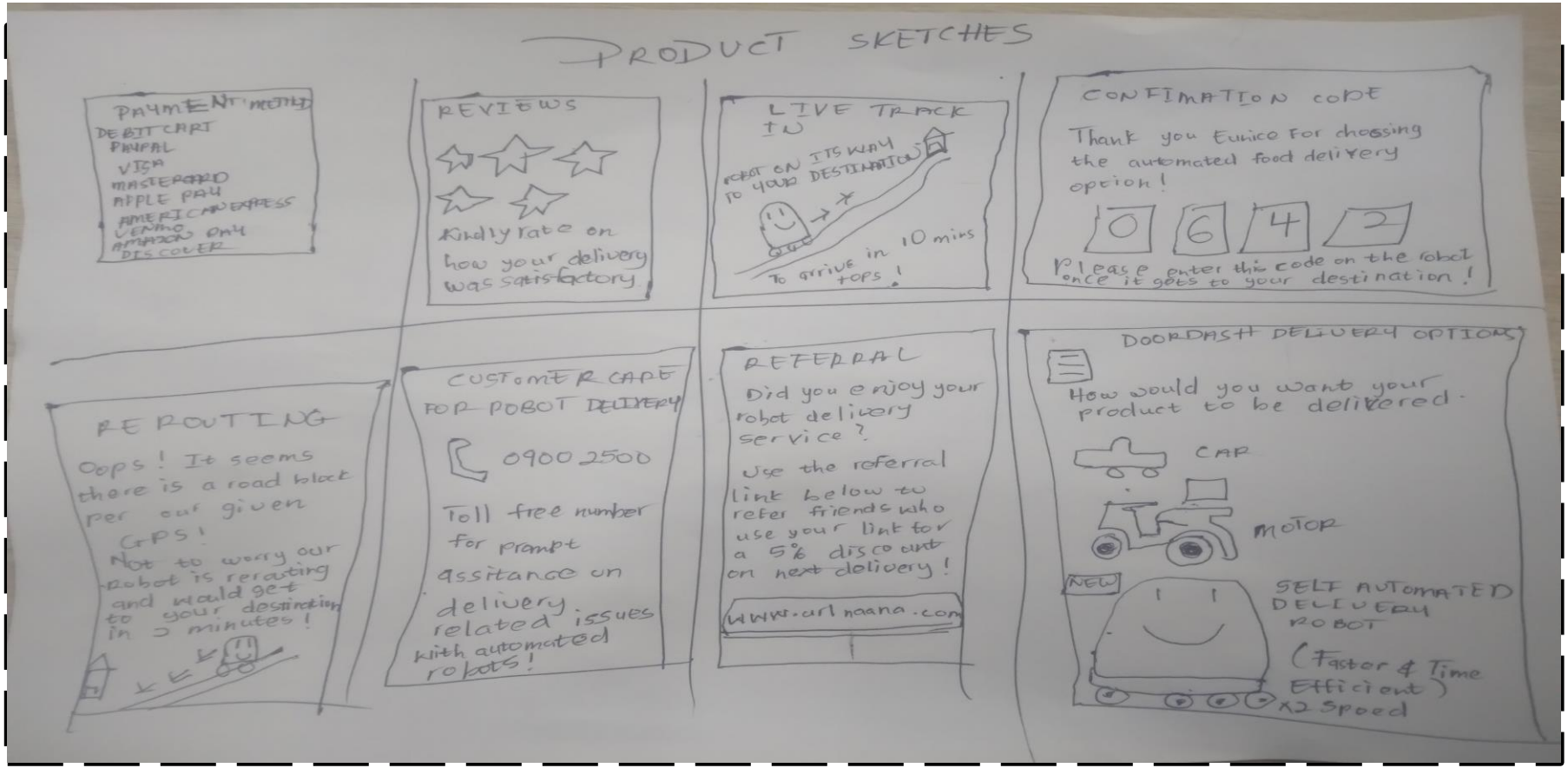
Doordash has ushered in an advancement in the world of food delivery, with their newly introduced automated self delivery robots. These robots have redefined convenience by delivering orders faster than ever before, with real-time tracking adding an exciting and reliable element to the experience. What truly sets them apart is their eco-friendly approach towards contributing to making the world a environmentally safer place, with their electricity powered robots, aligning perfectly with the values of environmentally-conscious customers.

The user-friendly app interface, which offers easy navigation along with reduced delivery fees, makes the entire process cost-effective and enjoyable. Doordash's self-automated delivery robots have revolutionized food delivery, providing a glimpse into a future that is both efficient and sustainable.

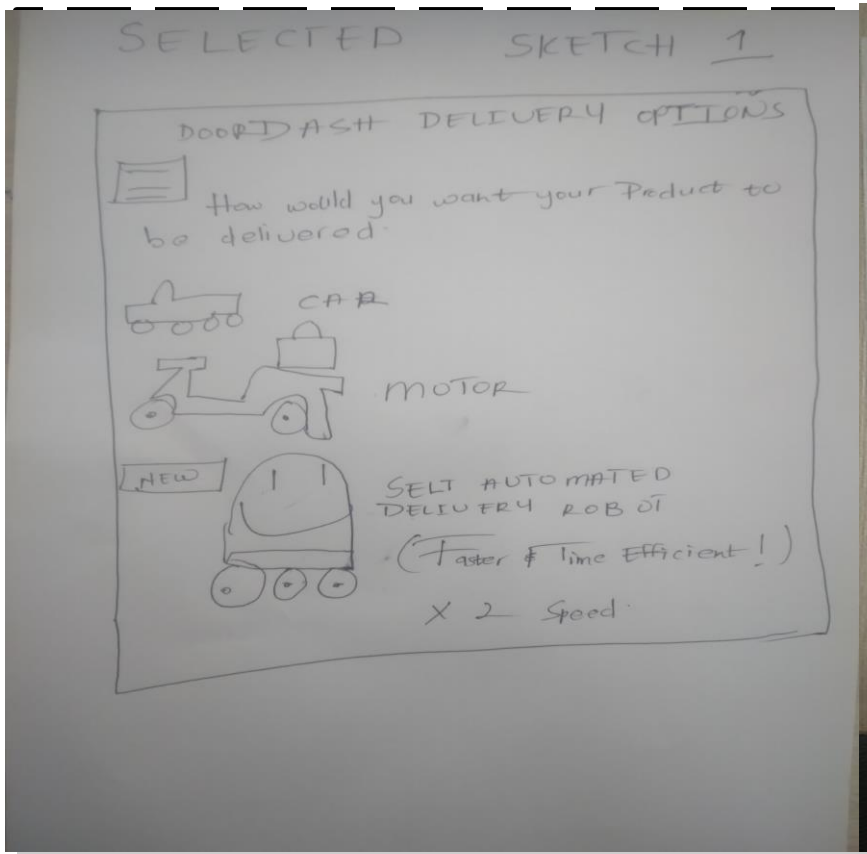
Doordash's innovative use of autonomous delivery robots is an absolute game-changer. With their commitment to efficiency, environmental responsibility, and reliability, they've created a seamless food delivery experience. These robots are consistently on time, environmentally-friendly, and equipped with top-notch safety features. The user-friendly app interface and reduced delivery fees enhance the overall convenience.

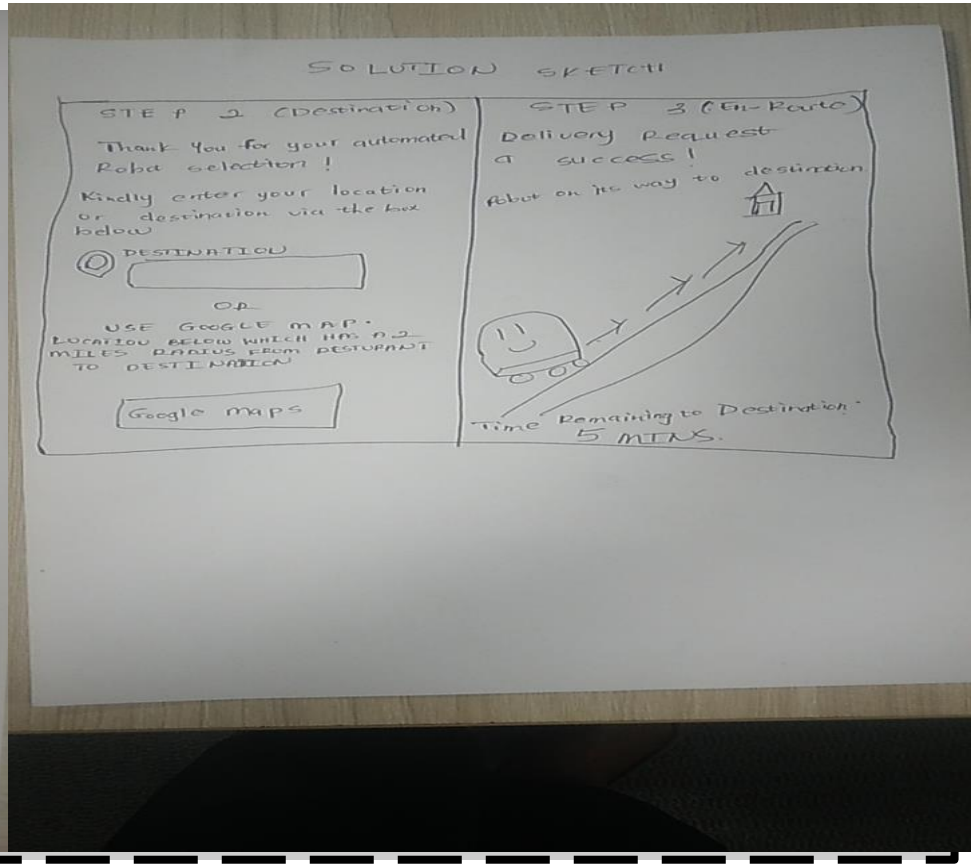
For better, faster and efficient delivery, think Doordash!

8 Sketches

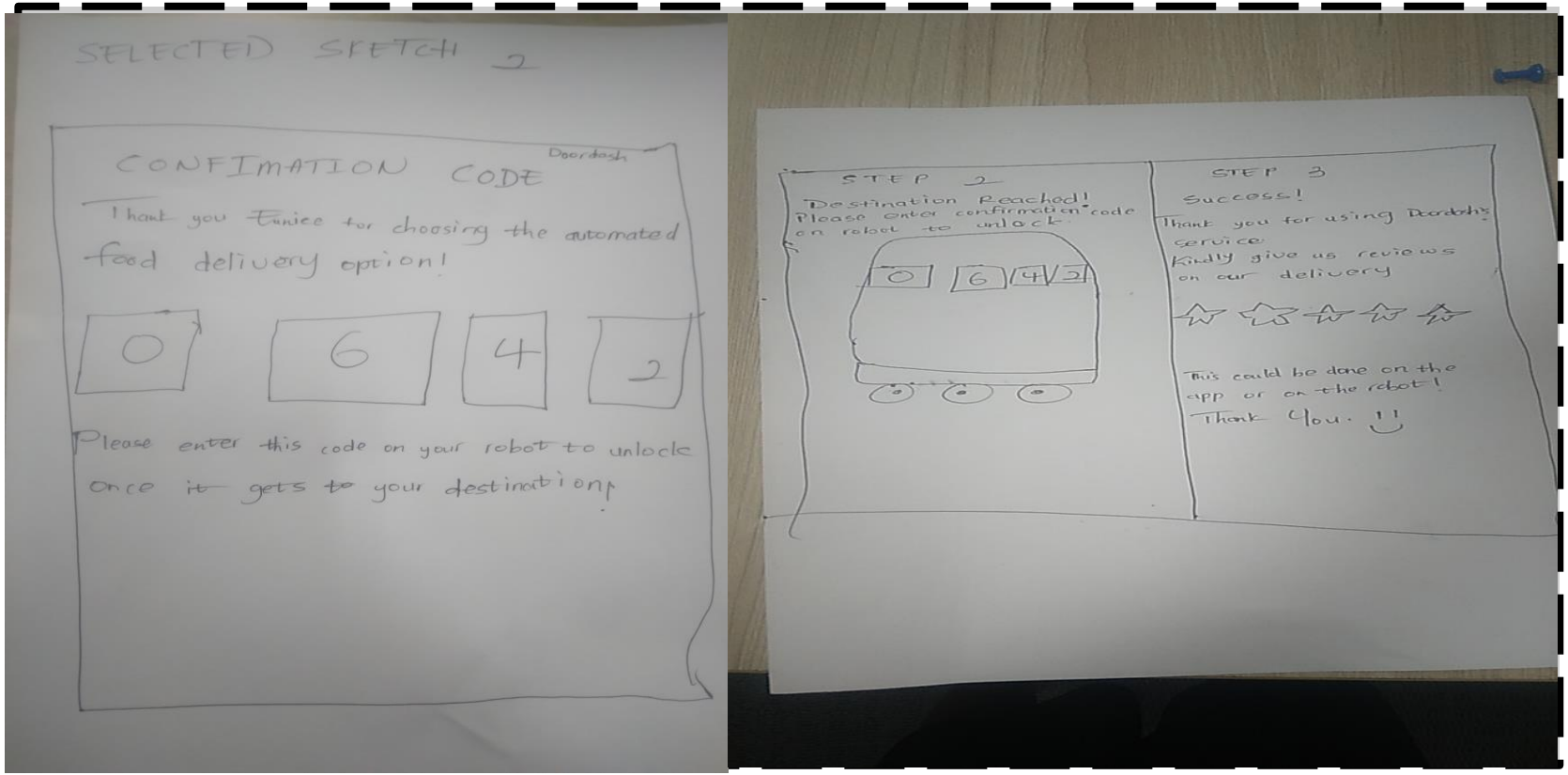

PRODUCT SKETCHES
PAYMENT METHOD
DEBIT CART
PAYPAL
VISA
MASTERCARD
APPLE PAY
AMERICAN EXPRESS
VENMO ONLY
AMAZON ONLY
DISCOVER
REVIEWS
Kindly rate on how your delivery was satisfactory
LIVE TRACK
ROBOT ON ITS WAY TO YOUR DESTINATION
To arrive in 10 mins tops!
CONFIMATION code
Thank you Eunice For choosing the automated food delivery option!
0642
Please enter this code on the robot once it gets to your destination!
REROUTING
Oops! It seems there is a road block per our given GPS!
Not to worry our robot is rerouting and would get to your destination in 3 minutes!
CUSTOMER CARE FOR ROBOT DELIVERY
0900 2500
Toll free number for prompt assitance on delivery related issues with automated robots!
REFERRAL
Did you enjoy your robot delivery service?
Use the referral link below to refer friends who use your link for a 5% discount on next delivery!
www.arlnaana.com
DOORDASH DELIVERY OPTIONS
How would you want your product to be delivered.
CAR
MOTOR
NEW
SELF AUTOMATED DELIVERY ROBOT
(Faster & Time Efficient)
X2 Speed

Solution Sketch 1





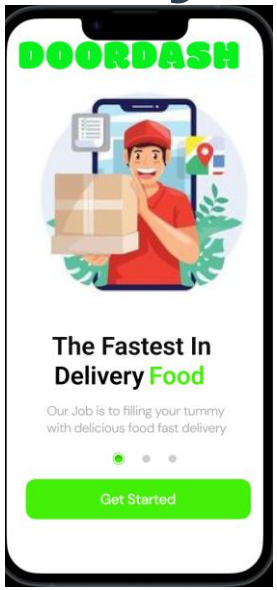
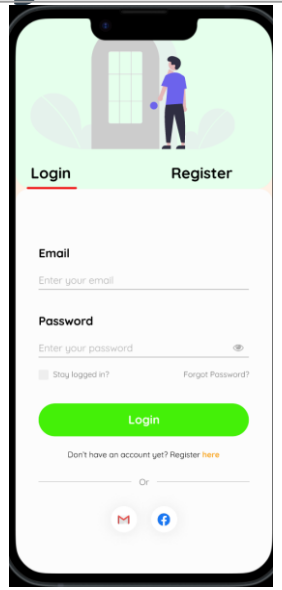
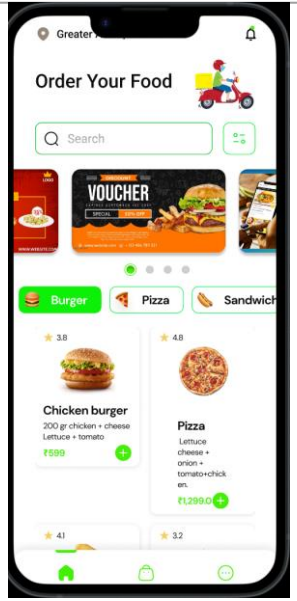
Solution Sketch 2



Decision

Decision	***SOLUTION SKETCH 1***
Rationale	Solution sketch one introduces the new automated delivery robots product to users as well as hints on the benefits of speed and efficiency of using the product.

Storyboard - Tracy’s Journey

	 	
Tracy a personal assistant with a super busy schedule with a limited eating break is hungry and has just **10minutes in her schedule to order and eat food. She is worried that her food delivery might not get to her with the small time frame she has for her break since she knows the destination to her office encounters traffic projection at noon.**	**Though hesistant on how long delivery might take, she opens her Doordash delivery app and logs in order to access usage of the app.**	**She proceeds to order her meal from the app after logging in. Upon confirmation of the food she would be ordering, her screen is navigated to the payment options screen where she chooses the payment**

Storyboard Tracy's Journey Cont.

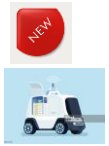
DOORDASH APP

DOORDASH DELIVERY OPTIONS

How would you want your food to be delivered?

Car

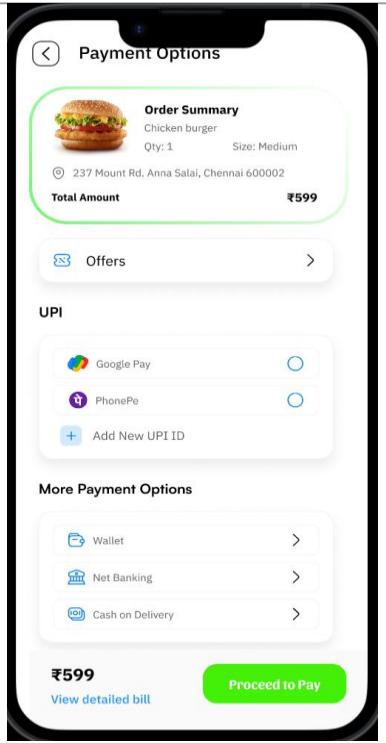
Motor Delivery



Automated food delivery robot

X2 faster & time efficient!

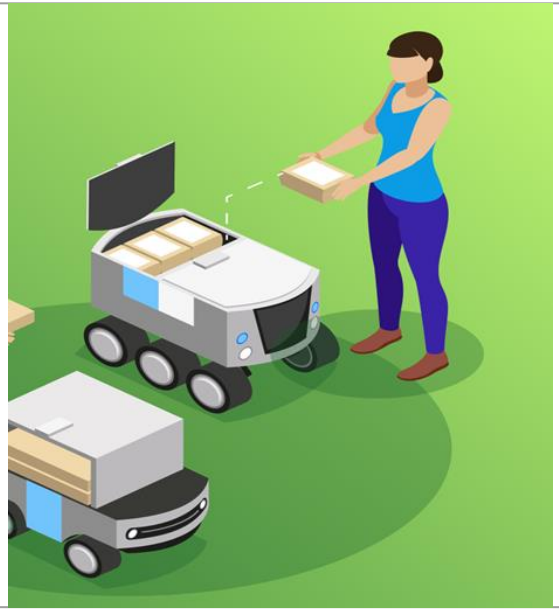
After confirming the food she would be ordering, she is navigated to the delivery mode option. She realises that there has been a newly introduced automated food delivery option which is highlighted as much speedier and time efficient and decides to give it a shot.



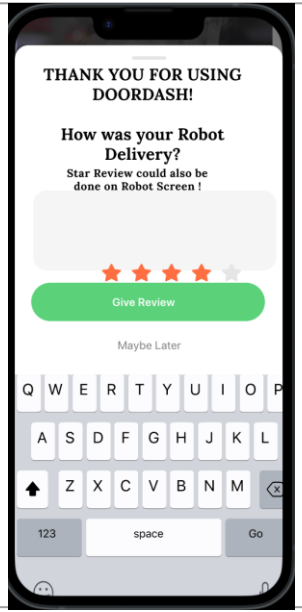
She is navigated to the payment options page which provides her total cost of her food and delivery fee on choosing the automated food delivery service.

After her payment, she is being updated on the next screen wich provides a live track on the location of the delivery robot, how many minutes it would take to get to her location as well as the GPS Route the robot is navigating through. A confirmation code is also shared on the live track to be entered on the screen of the robot upon arrival to unlock food stored in the robot.

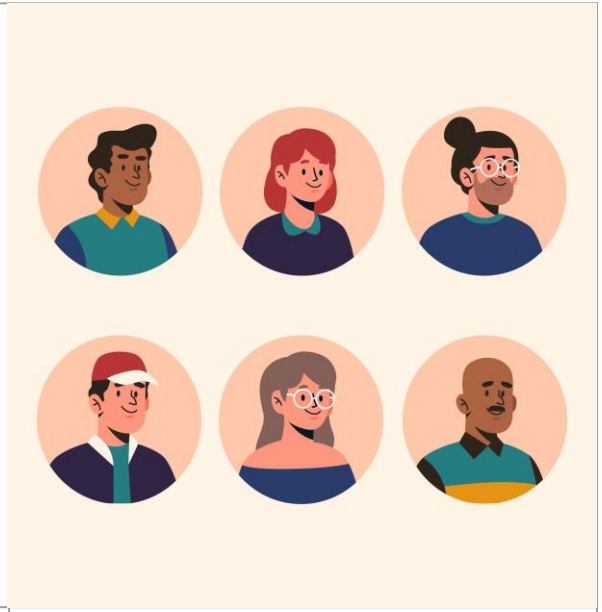
Storyboard Tracy's Journey (Final Destination)



Food is sucessfully delivered to Tracy's premises on time and in a safe state! She enters her confirmation code and the robot is unlocked in order for Tracy to reach in for her food. Review stars on customer satisfaction are projected on the screen of the robot as an optional method for easier client review.



A review screen also appears on Tracy's screen to giver her review in case she did not make her review on the robot screen. There is also space on the screen to enter what the client liked or disliked about the delivery process and service.



Tracy is impressed with the service and reffers her friends and family on using Doordash for faster and effcient food delivery!

Prototype

Description

- High level overview of the prototype
- What does it do?

Operation Self Delivery Robot Prototype is designed with 8 Phases namely: 1.Home Page 2. Log In Page 3. Registration Page Phase 4. Menu Page 5. Delivery Mode Page 6.Payment Options. 7. Live Track Page 8. Review Page

It is designed to provide a graphical representation of the process involved in their food delivery and the introduction of the self delivery robot on the delivery mode part of the screen to users. It also highlights how fast and effective the delivery robot is as a means to entice users to give it a try. The live track in phase shows the live track of the robot to the user based on time remaining as well as distance used by the robot on it's delivery to the conformed user's destination. After delivery as well the review phase is designed to give us insights on user's experiences of the product.

Assumptions

- Any assumptions within the prototype

The prototype is assumed to give a seamless yet simple mode of communicating Doordash's new robot delivery mode, which is designed to be faster and time efficient to users.

Tasks

- What are the tasks that a user can complete in the prototype?

- ***The Registration and Log in Page is created for old users to log on and for new users to also register with their email addresses and phone numbers.***
- ***The menu page is created for users to choose their order.***
- ***The Delivery screen highlights the mode of delivery doordash users and the introduction of the new mode of delivery which is the automated self delivery robot.***
- ***A click on the delivery robot option after confirmation on it's use takes the user to the payment option which provides a wide range of payment options to choose from for payment on food and delivery to be made on.***
- ***After confirmation, a live track in page to enable the user know how many minutes delivery is going to take and a GPS system of route being used by robot to its destination.***
- ***Upon robot destination reach, a review screen appears which is created to give us further insights on the use of the robot as well highlight the fact that review could also be done on the robot screen.***

Prototype Link

https://www.figma.com/proto/4HPGrNRtr6oNaLsYN3JCli/DOORDASH-SELF-DELIVERY-ROBOT-PROOTYPE?type=design&node-id=2-2&t=cirEy6v4L6JIhk8s-1&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A2&mode=design

PM: [NAANA APPIAH-KUBI]
STATUS: DRAFT

OPERATION SELF DELIVERY ROBOTS Research Plan

Objectives

How long the user has been using Doodash.
What is the user's view of trying a self automated delvery robot for the first time as a means of delivery.
Is the user able to seamlessly acces the Delvery option and delivery mode of the protoype.
What are the reviews on using the prototype.
Would the user recommend the product to other people.
Are there any extra views about the product and protype which would give the user a satisfactory experience.

Methodology

Physially, audio recorded.
Zoom Call Recorded

Participants

User 1: An already existing Doordash user
User 2: A New user.

OPERATION SELF DELIVERY ROBOTS: Interview Sessions

Introduction

The participant should expect being asked on their view of using a delivery app, and if is their first time or not. User would also be questioned on the ideology of using an Automatic Delivery Robot for theor delivreis. The study would run practically,ie. The user would be provided the link to run through the prototype and provide honest review on their use of the prototype. Particpant's name and reviews would be held under confidentialty basis and would only be used for the testing of this product.

Background Questions

Demographics of user name age

Geographic Segmentation

Is the person a new user to doordash or not

What does ther user think of automated delivery robot and would they like to try.

Tasks

[Disclaimers: Prototype-- not everything may work. You're not being tested. Want your feedback on what we've built. Please think out loud]

Task 1

- Open the given Link and choose the delivery option in the options.
- Choose the self automated delivery robot option.
- Go through the various screen phases of the prototype
- Follow up questions: Assuming this is a delivery app you order from, what is your view on the UX flow. i.e is the display option suitable enough

Task 2

- Follow up question: Was your movement on the prototype seamless enough.

Wrap Up

Overall feedback. Would you use it? How would you make it better? Thank you

User Testing: Participant 1 Key Findings

https://drive.google.com/file/d/1cztt4kM6xbjcvauU4XSN5_iLJkvuQYCX/view?usp=drive_link

What worked well	**The seamless flow of the prototype.**
Where participants got stuck	**There was no reported cases of there being a delay in the navigation process of the prototype.**
Other observations	• **User liked the design.** • **User was however resistant in the idea of having a delivery robot as a mode of delivery in her country, Ghana based on the reasons of how longer it would take based on the density of populace on the pavements as well as the issue of people stopping the robot to touch it because if its introduction to an environment that has rarely no encounter to such machinery.** • **User also advised the option of doordash not only operating in food delivery but in medicine and grocery deliveries as well in comparison to a competitor app she uses.**

Participant 1: Interview Notes

- User liked the design.
- She had no problem on the navigation of the prototype.
- User however raised the risk issues involved in implementing a delivery robot service in Ghana due to the densed population and how slow it might take for other people to delve into the introduction of a robot delivery into the market.
- User however would not mind on giving the product a try but would consider to use it as a luxury and not in times of urgent delivery.

User Testing: Participant 2 Key Findings

https://drive.google.com/file/d/1bvbTJXW1uQCt4SGTicw4oNMyNs7keDwa/view?usp=drive_link

What worked well	• **Seamless prototype usage.** • **Design of prototype was easily communicable to the user on the app being a food delivery app.**
Where participants got stuck	**Participant did not encounter any problem navigating through the prototype.**
Other observations	• **Design was simple but easily communicable.** • • **Participant raised the issue on color coordination with regard to the 3rd Prototype screen.** • **Participant raised the suggestion on express delivery being done by the company on other items.** • **Risk issue on theft cases of robots was raised.** • **Participant raised the importance of environmental friendliness and cost effectiveness of implementing robot delivery service as a mode of delivery.**

Participant 2: Interview Notes

- Participant acknowledged the environmental friendliness of the robot delivery system and how it would cut down the cost of fuel.
- He however raised concerns on the sustainability and risk issues concerned with the use of the robot system in some parts of the country in association with the non technological savviness of most people in that sector.
- Although participant is skeptical, he would like to give it a shot in using the automated delivery robot to test it’s effectiveness.
- Participant also mentioned Doordash’s robot delivery mode being highly advantageous in areas in Ghana that have proper demarcation and address system.
- Participant raised a suggestion on the color pattern of the Review page of the prototype screen.

Updated PRD

Background

Doordash aims on using delivery robots to automate Doordash's food delivery to improve trust and reliability of delivery time with clients.

Problem

- Based on Doordash's company reviews, there has been customer complaints particularly for clients on how they are unable to keep track of when exactly their ordered food would be delivered to them and how long it sometimes takes. As Doordash's goal is to " get whatever people need in their hand as efficiently as possible", it's important to work on providing efficient and effective delivery processes to clients thus increasing client retention, loyalty and promoting a good brand.

Product Success, Success Metrics and Goals

1. Manual Delivery or request is being reduced by 20% in the first year.
2. Gain an average of 40% of clients on 3, 4 and 5 star on customer review and satisfaction on delivery of self delivery robot
3. Grow customer loyalty and retention with a measurement of threshold of 500 customers and over returning as repeat clients for automated self deliver service.

Updated PRD (page 2)

Key Features & Scope

PRIORITIZATION	FEATURE	DESCRIPTION
P0	Registration and Log In Page	To be available for existing and new users to be able to log in to use the app.
P0	Food Database	A food database closest to the location of the User should be provided as well as the categories of the food in order for the order to be able to choose from that.
P0	Payment Options Page	To provide range of payment options for a user to choose from
P0	Delivery Mode Page	To provide a range of delivery service for a user to choose from as well as introduce Doordash's new delivery robot service to users through the delivery mode page.
P0	Review Page	To provide further insights on how effective the usage of Doordash's delivery service is and issues that users might have encountered.
P1	Cart Page	To have database of users most frequent foods ordered for easy access to their food as well as give users the chance to save foods that they would like to try out later in the cart.

Updated PRD (page 3)

Key Features & Scope

PRIORITIZATION	FEATURE	DESCRIPTION
P1	Express Option	To provide users with an express option where food deliveries needed at the shortest possible time is available at an extra cost.
P2	Dark Theme	Incorporate a dark theme effect to the display settings to give a different display options to users.
PO	Live Track Page	This page is to provide users with a live GPS Tracking of their delivery and how many minutes delivery is going to take to get to the destination of the user.

Updated PRD (page 4)

Core UX Flow

https://www.figma.com/proto/4HPGrNRtr6oNaLsYN3JCli/DOORDASH-SELF-DELIVERY-ROBOT-PROOTYPE?type=design&node-id=2-2&t=cirEy6v4L6JIhk8s-1&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A2&mode=design