Doordash Product

An automated food delivery initiative.

Product Owner: Akash Metawala

Background

Why Are We Here?

- There are multiple smaller orders all the time. How do we make those efficient, cost effective, and reduce internal operating costs?
- The demand since the pandemic only seems to have increased.
- Current food orders far outpace the human capacity to fill them

DasherBot - Your automated food delivery agent

Sources:
https://www.cnbc.com/2020/03/04/amazon-prime-now-suffers-delays-amid-coronavirus-outbreak.html

Business Case

Initial Focus

Where are we starting?

- **PAINS**
  - Competitive pricing and pressure.
  - High operational cost
  - With rise in demand, the delivery times are also going higher.
- **Current revenue stream:**
  - Commission fees upto 20% from restaurants.
  - Delivery fees based on distance and order time.

Sources: https://www.businessofapps.com/data/deliveroo-statistics/

https://help.doordash.com/merchants/s/article/What-are-DoorDash-s-service-fees?language=en_US

Opportunity

What's the problem?

- This could be a great billion dollar market. Here are some stats:
    - TAM U.S. Food Delivery = $350 Billion
    - 2020 worldwide food delivery users = 1.09B
    - 2020 ARPU for restaurant to consumer delivery = $86.40

- US user penetration = 30.6% → US food delivery users = 334.76M (0.33B)
- Estimated TAM for R2C in US = 0.33B x $86.40 = 28.9B

Sources: https://www.morganstanley.com/ideas/food-delivery-app-profits

https://www.statista.com/outlook/374/100/online-food-delivery/worldwide#market-users

Opportunity

What's the problem?

- Robotics projects are getting more funding now.
- Projection in the growth in service robotics market from 37 billion USD in 2020 to 102.5 billion USD in 2025

Sources:
https://www.marketsandmarkets.com/Market-Reports/service-robotics-market-681.html?gclid=CjwKCAjwgbLzBRBsEiwAXVIygM_O_40daQWhsAlUgI4iL2CXaEbvWuhNwAtILFkc6X-NdD-x5WFgvRoC2-oQAvD_BwE

Proposal

What's Our Solution?

- Replace human-dashers with Dasherbot. This can be done, to start with, for distance < 2 miles.
- Dasherbot can be tracked more accurately and can return back to restaurant and recharge for next order.
- Human-dashers can focus on long distance orders.
- Reduce delivery and service fees for small distance delivery.

Return On Investment

What can we do?

- **Costs:**
  - Development and maintenance of hardware and Software for the inhouse robots
  - Development and maintenance of the tracking app
  - Development cost of new map data for sidewalk details.
  - Identifying and onboarding any customized robots bought from partner vendors.
- **ROI:**
  - (An average fee payable to human dashers of 7-10 per order for delivery + fuel expenses – operating costs of robots per delivery) x number of small deliveries per year

Measurement

How will we know if we're successful?

- **Business and Product KPIs**
  - Number of orders per week and orders within the 2 mile radius
  - Average time for first order
  - ARPU and Churn rate
- **Quality and Development KPIs**
  - Average delivery time and % deliveries completed
  - Ideal time for delivering and non-delivering robots
  - Number of outages per month for the robots.

Competitors

UberEats

- Market share is ~27%
- Plans to launch delivery via drones
- Lets you adjust delivery location
- Track order in realtime + can schedule orders
- Newer features like - dietary preferences, Delivery time and price range options.

Market share of Uber Eats in the United States from 2016 to 2022

	Market share
2022*	27%
2021*	27%
2020*	27%
2019*	27%
2018	24%
2017	13%
2016	3%

Source: https://techcrunch.com/2019/10/28/heres-what-the-uber-eats-delivery-drone-looks-like/

https://www.statista.com/statistics/1080844/market-share-uber-eats-us/

Postmates

- Bay area based app that focus on deliveries other than just food.
- Partnered with starship tech to perform robo deliveries in D.C area.
- Provide unlimited deliveries for premium users.

Sources: https://craft.co/doordash/competitors

https://techcrunch.com/2017/01/18/postmates-and-doordash-are-testing-delivery-by-robot-with-starship-technologies/

Our Advantages

Why are we better?

1. We hold a high market share of ~15% and are a leader in total sales ~27.6%
2. Better app compared to its competitors
3. Known for its transparent pricing model
4. While in competition with Postmates, they do not have a working solution yet and we could still be the first ones to do it.

Sources: https://www.statista.com/statistics/1080826/market-share-doordash-us/

https://secondmeasure.com/datapoints/food-delivery-services-grubhub-uber-eats-doordash-postmates/

Roadmap and Vision

Roadmap Pillars

Where do we go from here?

- Vision:
  Make robo deliveries with Dasherbot in the 2 mile radius area with any interventions.

	Phase 1	Phase 2	Phase 3
Development towards Robots	Acquire all require hardware and perform robot assembly.	Hardware and software integration with the App.	E2E testing with security and road testing.
App and Software development	Any new mapping functionalities required for sidewalk	Perform route calculations and/or integration with apps.	End to End testing if maps and routing and calling route options work

Development of Robots

- The robot is going to have multiple camera. As such we'd need to perform sensor fusion.
- Once the robot is ready, we'd have to ensure there is constant connectivity with the app
- Prototype:
  - Mechanical designs and integrated solutions
- Test:
  - Road ruggedness
  - Payload capacities
  - Theft scenario simulations

App and Software Development

- Sidewalks would need to be mapped. Or market research needs to be done on existing solutions that can be integrated.
- HMI for fleet operations for a human to be able to monitor and operate when required.
- New pricing model that fits into the business requirements.
- Navigation software
- Security software for key handling, theft, etc.

Reduce operating costs

- Once we have item ready and delivered
  - Automatically assign food delivery robots for all orders < 2 miles
  - Transport food to the customer's address using GPS location in due time
  - Start searching for new orders whenever there is some ideal time

Where do we go from here?

Widening the scope

- Diving into the future of delivery services.
- Increase scope of delivery and improve payload capacities.
- Invest in hardware and software technologies to keep the robots updated.
- Get permissions to take Dasherbot to other major cities.

Sources: https://www.mckinsey.com/featured-insights/the-next-normal/parcel-delivery