DoorDash Product Pitch

Food Delivery using Self-driving Robots

Product Owner: Narendra Darla

Background

Why Are We Here?

- Build an autonomous robots to deliver the food for short distances.
- Reduce Operating Costs.
- Reduce time to deliver food within 2 miles radius.
- Contribute to the Environment.

Autonomous Driving Dasher

Business Case

Initial Focus

Where are we starting?

- DoorDash is an food order and food delivery platform since 2012 serving 45000 merchants, 20,000,000 customers .
- Revenue source:
  - Delivery fee 5-8% from Customers.
  - Advertising by Merchants.
  - Commission fee from Merchants.
- Offering high Quality Service to customers, timely delivery, order tracking, ease of ordering food etc.

Initial Focus

Pain Areas

- Increased Operating costs.
- Increased time to deliver food to customers.
- Increased Competition.

Opportunity

- Increase in the automation and usage of the service robots in customer segments like health care facilities, banks, airports, retail, home etc.
- Projection in the growth of service robots market from $37B in 2020 to $102.5B by 2025
- Achieving Business goal along with technology upgradation.

Proposal

What's Our Solution?

- Replace Human dashers with Robot dashers for food delivery with in short radius.
- Human dashers focus on large , long distance deliveries.
- Reduce service and delivery fee for small deliveries.

Return On Investment

What can we do?

Costs:

- Identifying and ordering customized robotic vehicles from partner companies
- Develop and maintain hardware and software for robots.
- Develop and maintenance of the tracking app.
- Develop sidewalk map.

ROI:

[Average fee per delivery to dasher ($7 -$10) + fuel - Operating cost of Robots per delivery] X total deliveries

Measurement

How will we know if we're successful?

- Increased positive reviews and ratings from customers and restaurants by 10%.
- Increase in booking orders for smaller deliveries by 20%.
- Increase in ROI by 20%
- Positive impact in other delivery methods due to change in the focus on bigger deliveries.

Competitors

UberEats

- Online food ordering platform launched by Uber.
- $9.99 monthly subscription , 15% service fee or $2-$ for orders less than $10
- Supports cashless payment.
- UberEats planning to launch drone delivery in the radius of 15 miles - 12 miles return.
- 2.51 billion USD (2019)

Postmates

- American quick commerce and food delivery company delivering food, groceries, convenience.
- Revenue $1B in 2018.

Grubhub

- Chicago based food supply chain with 19.9 million active users and 115,00 restaurants across 3200 cities.
- So far no plans to go on service robots delivery.
- Relatively cheaper delivery fee, service charges. But not known for speedy delivery, and user friendly app like doordash to track order and real time updates.
- US$1.31 billion (2019)

Our Advantages

Why are we better?

- DoorDash is the largest food delivery network in the U.S surpassing UberEats, Grubhub.
- Transparent pricing model.
- Better app compared to competitors.
- Holds 12% market share , expected 15% by 2022 and leader in total sales ar 27.6%.

Our Advantages

Why are we better?

- Ontime deliveries.
- Partnership with starship, who has approval to test robots.
  - Quick to deliver to the market.
  - Another Potential mode of advertising restaurants.
  - Safer compared to Drone delivery by UberEats.

Roadmap and Vision

Roadmap Pillars

Where do we go from here?

	Q1	Q2	Q3	Q4
App Development	1.Develop Sidewalk road map. 2.Given Restaurant, Identify possible sidewalks	1.Optimized route calculation	1.Code generation. 2.SMS delivery.	E2E testing in the field.
Deployment of Robots	1.Camera and Sensor Integration Testing.	1.Integrate with Mobile App. 2.Navigation.	1.Security	E2E testing in the field.

Software Development

- New Map integration with sidewalks(for app and robots).
- Software interface /fleet management for human operator to oversee the robots.
- New Pricing model calculation
- Sensor and camera feed data fusion software development.
- Navigation software development.
- Security Software for robots - key handling , sending SMS , Alarms, theft detection.

Hardware development

Prototype Development

- Mechanical
- Embedded software solution

Stress Test

- On the wheels using more weight
- Running on more damaged surface
- Simulation of theft scenarios

Where do we go from here?

Widening the scope

- Integration of sensors - RADAR and LIDAR for better and accurate collision and object detection algorithm.
- Expand testing of robots in all major cities.
- To increase the capacity and speed of delivery by 10-20%
- More intelligent interactions between human and robots.