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# Background

Over the years , there use of robots to aid manufacturing started, the assembly line and further automation advancement has led to the development of service robots to cater for various needs ranging from Domestic – Industrial, Simple task to Complex/specialized ones , Home – Medical surgeries.

Service robots powered with AI, OpenCV, and computer vision aided by advancement in deep learning. Service robots have been able to perform logistics, transportation, delivery and haulage, perform human-level intelligent decisions.

This has created an opportunity to improve automation in their process.

# Problem

Small deliveries has always been an economic and operational tussle for Food delivery.

Customers would rather go get the items themselves when they consider the delivery fee they would be charged for the item.

Human Dashers would rather not take the dash order because there is a chance they would not get a fair enough tip for their effort.

Some restaurants would rather decline this small orders when they consider the commission value.

These problems exist for our competitors in the same market and with rapid advancement in autonomous movement and robotics, an opportunity lies where we could solve this issue using Robots as dashers for small deliveries (Robo-Dasher).

This would in-turn translate in lower operating cost in delivering small order, higher amount of small orders would be places, further market share capitalization.

# Goals

* Develop mechanical build of Robots capable of delivery with Partner Company.
* Develop app to:

Allow robot deliver autonomously using sidewalks as travel path

Allow human control of robot in certain case

Allow robot interface with Customers

Allow Humans make Robo-dasher a choice delivery method

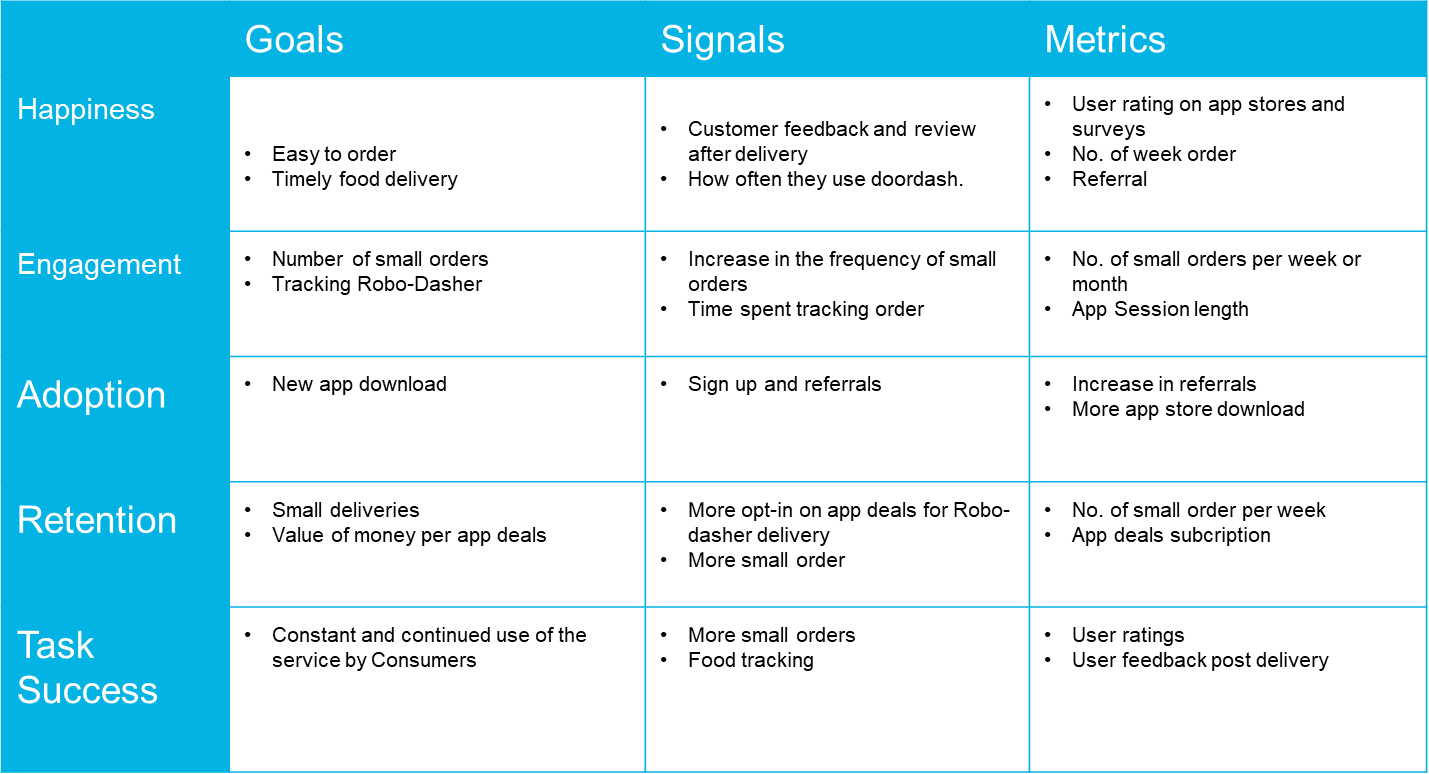
* Increase the number of small orders

# Key features and Scope

|  |  |  |
| --- | --- | --- |
| Priority | Feature | Description |
| P0 | Sign-in with employee ID | The users are in the operations team of Door dash. The expectation is that they hold a valid company email ID or employee ID, which they can use to login to this app |
| P0 | List of all tasks in the main menu | There must be a main menu that shows the list of all tasks that the operations team can do using this app.  Organized list would help them go directly to the required pages. |
| P0 | Check status of delivery | Operator must be able to enter just the customer’s registered email ID or phone number to retrieve the status of the active order of a customer. |
| P0 | Track status of the dasher delivering the active order | The operator must be able to track the exact position of the robot dasher who is delivering a particular order. He should also read the estimated time of arrival at the destination. |
| P1 | Track live status of the robot (that is delivering an order) on a map | The operator must be able to view the current position of the robot dasher in a map and could see the live update as and when the robot is moving. |
| P2 | Direct link to ‘IT Support’ in login page | There must be a direct link from login page to connect to ‘IT Service’ department, in case of any issues with logging in.  This feature is not very critical to be in the software and the user can directly call the IT support. However, this can be considered as a P2 priority feature that can be implemented later. |
| P1 | Control Route guidance of the robot delivering an order | From the tracking status of a robot dasher, the operator would be able to control the robot  To change its route guidance |
| P2 | Add a new job in the queue of the robot delivering an order | From the tracking status of a robot dasher, the operator would be able to control the robot   * To add a new job into its queue |
| P2 | Read logs from robot delivering an order | From the tracking status of a robot dasher, the operator would be able to control the robot   * To read its error logs |
| P3 | Enter user feedback for a particular order | * From the tracking status of a robot dasher, the operator would be able to enter user’s / customer’s feedback for that particular order |
| P1 | Track status of any dasher | From main menu, operator should be able to track the status (job status/location) of any robot dasher by inputting the unique ID of the dasher |
| P2 | Assign job to robots | From main menu, operator should be able to assign a job to any robot dasher. He can input Restaurant ID and can search for all robots nearby. On clicking any robot, he can assign a job to that robot. He can sort the list of robots using its ‘distance to Restaurant / job status / battery status’ |
| P1 | Control robots (Route guidance) | From main menu, operator should be able to control any robot dasher. He can input the robot ID and can  change its current route, if it’s active on a job |
| P2 | Direct link to ‘IT Support’ in login page | There must be a direct link from login page to connect to ‘IT Service’ department, in case of any issues with logging in.  This feature is not very critical to be in the software and the user can directly call the IT support. However, this can be considered as a P2 priority feature that can be implemented later. |
| P1 | Control robots (Manual guidance) | From main menu, operator should be able to control any robot dasher. He can input the robot ID and can   * Guide manually by pulling it over on the side street |
| P1 | Control robots (control power) | From main menu, operator should be able to control any robot dasher. He can input the robot ID and can   * Control power of the robot |

# Success Metrics

* Increase the amount of small orders.
* Improve ease to order and quicker delivery time
* Improve app rating to greater than 4

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# Core UX Flow

[Mocks](MOCKS.pdf)

[Storyboard](Storyboard.pdf)

[Prototype version 1](https://www.figma.com/proto/aPczb1pO39frce23PLXj9r/ROBO-DASHER?node-id=13%3A631&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A286)

[Prototype version 2](https://www.figma.com/proto/474Zqi9gBJu94ix00xPIFX/ROBO-DASHER---V2?node-id=13%3A631&scaling=scale-down&page-id=0%3A1&starting-point-node-id=2%3A286)