CSE489: Mobile Programming

Project Report

DeliveryJet: Optimal Delivery Service Platform

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1. Introduction

DeliveryJet is a digital delivery service App that optimizes the delivery of the orders and services to the customers. The App has the ability to optimize the delivery based on minimum distance of Company location, Customer address and Delivery person's address. DeliveryJet has an intelligent algorithm that schedules the delivery of the orders and service dynamically which is both efficient and convenient for both customers, companies, and the delivery persons.

There are two types of users in this application. These are companies and delivery persons. With this App, the companies can create orders and update their list of orders and services and can also give email to customer about order information like- order info, assigned delivery persons info while assigning the orders. Once company assign the orders, the app calculate the distance between each delivery person's address and customer address and company address. After that for whom the distance will be minimum the app will assign that order to the delivery person to schedule the delivery service optimally ensuring customers satisfaction and high throughput of delivery persons.

2. Motivations

DeliveryJet is developed, aiming to achieve the customers satisfaction through intelligent delivery services in an optimized way. The motivation to develop such a system is listed below.

- If a company want to place any order to any courier, they must send their person to courier office to post order and then the process will start. It is a hassled and time-consuming process. By using this app company just can set their order details and after assigning it will automatically inform the suitable delivery person to collect the order and deliver it to the customer address.
- Once a product is ordered, sometimes there could be an unexpected delay because of the travelling delay of delivery person as their own address, company address, and customer address is not synced. By using this app, the travelling distance will be less as here an order is assigned to that particular delivery person whose location is more suitable or close from both company and customer location.
- It has been observed that one of the main reasons customers unsatisfaction is delayed order service. By using this app, it will less as company do not need to go to the courier office as well as delivery person will be assigned to those orders which are close to their location.

- Last but not the least, DeliveryJet aims the secure delivery, for that company will assign a code to order and will inform about the code along with delivery person's information. That code will have to submit by delivery person to update delivered order status.

3. Features:

3.1.   User Registration:
The home page of the DeliveryJet App contains the provision of user registration. There are two types of users in our application. Among them, the following type of users must register to use the application.

1. Company
2. Delivery Persons

Scenario: New users must register to the system. Once the user installs or open the DeliveryJet App, the home page will appear. The home (landing) page provides forms to register different types of users.

3.2.   User Authentication
Users must sign-in to the App to use it.

Scenario: In the home page, there is an option to sign in. Since the data of the user is sensitive, it must be protected and therefore, the user needs to enter the username and the password and user type accordingly to log in to the app. There are two types

of users in the application as mentioned in Section 3.1. We discuss the authentication mechanism of each type of users below.
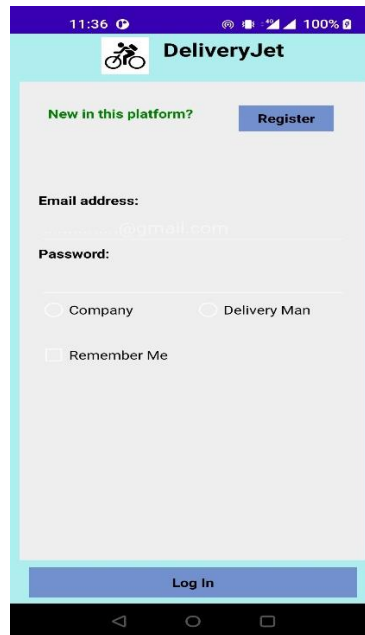
1. *Company user:*
   Input: Email address, Password, User type
   Output: Authentication, access to company specific pages and editing profile page, adding, and editing order and logout option.
2. *Delivery Person user:*
   Input: Email address, Password, User type
   Output: Authentication, access to delivery person specific pages and editing profile page, seeing order details, update order state and logout option.

3.3. Company Feed:

Companies can see the order list after logging in the App. Companies can see the basic information like Order Id, Due date, and status like- Assigned, Unassigned and Delivered of a particular order. Companies can also delete the orders by pressing long click on any order in the list.

3.4. Editing Company Profile

Companies can edit their profile information once they sign-in to the App.

Scenario: After logging in to the App, company users can edit their details. The company profile includes the following fields.

1. Company Logo
2. Full Name
3. Password
4. Address
5. Website
6. Contact No.

The company user can update the data mentioned above.

3.5.   Editing Delivery Person Profile

Delivery persons can edit their profile information once they sign-in to the application.

Scenario: After logging in to the application, delivery person users can edit their details. The delivery person profile data includes the following fields.

1. Image
2. Full Name
3. Official Document Type (Passport/NID/Driving License)
4. Official Document Number
5. Address
6. Contact No
7. Gender

The delivery person user can update the data mentioned above.

3.6. Creating Order information by Companies:

Companies can create and edit order information through their account.

Scenario: After logging in to the application, a company user can create/edit order information. The company user should choose the option of Create New Order from the navigation menu and then can create new order which have the following fields.

1. Order Id
2. Order Details
3. Order Weight
4. Order Due Date
5. Order Code
6. Customer Name
7. Customer Email Address
8. Customer Address
9. Customer Contact No

After creating the order, the relevant order information is displayed in the company user feed.

Later, the company user can also edit the order which are unassigned. Companies can see the order information of all assigned, unassigned and delivered orders.

3.7. Order Assigning:

After clicking button assign the order will be assigned to any one registered delivery person whose address is most close to company address plus customer address. Delivery person can see his assigned order lists in his feed.

Also, company can send email about order information via this app while assigning the order.

3.8.   Delivery Confirmation:

Delivery per can see order details by clicking at any order and can enter the order code known from customer after the delivery, thus the order delivery will be confirmed and removed from his/her service lists.

4. Benefits of the App:

DeliveryJet app is useful app for courier service system. Using this app any courier service system or company can be benefited in many ways.

DeliveryJet provides the high security as there is separate account for every user and user must have to log in before using any feature. No user can see or misuse other user's information without the login access. We have also used smooth UI that user can have a comfortable environment while using this app. The design of the app is easy to navigate thus user will not have any issues. Besides this app does not access any personal information of user, so the user will feel secure to use this app.

This app provides the digital courier service system thus company or delivery person do not need to go to the courier office physically to know about the order information or track.

Company can create, edit their order with some very easy steps of filling a user-friendly form and clicking some buttons. Company also can track the order status, see the history of orders, and delete unnecessary order information if they need. Company can also send order information to customer just clicking a button, they do not need the mail, this app will generate email for them. Delivery person will get their assigned order, they can see order details, company details as well as the customer details in their feed. They can confirm their order also by this app providing order code. Company can see also which order are in which state.

The major benefit of this app is the optimal order assignment. In manual system we need manpower to analysis which order should we assign to which delivery person. This app solves this issue in an automated process. In this app order will be assigned to the most suitable delivery person automatically. Thus, need of manpower will be less as well as the delay and hassle of delivery will be less.

5. Conclusion and Future plan:

DeliveryJet App is mainly created targeting the courier service organization to make their life easier. It is a digital courier system service by which courier company does not need a physical office cost and extra manpower cost. Moreover, company who will post orders to deliver to the customer does not need to send the order and fill order information physically. Delivery person can access the assigned order information without present in the main office. Customer will have the order within less time as the order assigning is an automated optimal process. By using DeliveryJet app all the users will be beneficial, and the security of users is highly maintained.

In the era of Android, Android phone is available in every hands. Downloading an app is the easiest way. DeliveryJet app is easy to have by only searching in any app store and downloading it but solves so many issues in an optimal way in lesser time. As it works based on algorithm or machine it is more trustable than newly appointed people.

In future, I will try to increase the features which will be more useful. I have a plan to create an admin type user who will observe the rest users and if any violence happens or any fake user misuse the app admin will delete the user account and ban that user from our app. I also have a plan to make the algorithm more suitable with using more customer address and delivery person's preferred area. Along with I have a plan to store the user information in private secured cloud storage, by that the updated or changed information by any user will be broadcast to the rest of the user. Thus, I will make my app more synced with all the users.