

# CS-413

## Trackizer:

### Courier Management and Tracking System

(Group 'A')

#### Student Details

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## Problem Statement

In the past 15-20 years, there has been a drastic upsurge in the digital lifestyle. People like to save their time using online portals instead of standing in long queues to get their things done. Here in our Courier Management System, we would like to give users some feasibility where they can request to send mail or goods using courier. As a human tendency to always keep an eye on things, he will also have a tracking id which will enable him to track his post at any point of time. Retailers will have limited database access like the capability to view all orders made under their company and also update the status of orders. Administrators will be able to access all databases and view them. They can also hire new retailers by approving their applications.

## Technical Details

### • Project Platform

- Trackizer has been developed as a web application
- It currently runs on localhost and will require an initial database and server setup for running on a different machine, we are planning to host it on an online platform soon with a global and much secure database.

### • Technologies

- Java Server Pages as the backbone of the project. This is because JSP is Java embedded inside HTML and is not only easier to code but also improves readability and debugging when creating a dynamic front-end. In a servlet you would have to invert the logic, ie, write java code and print HTML. Some CSS, SCSS and JavaScript has been added for the UI as well.
- Apache Tomcat server has been used to host these server pages on localhost. It is an application server designed to execute Java servlets and render web pages that use Java Server page coding. It is a Java Servlet container, or web container, that provides the extended functionality to interact with Java Servlets.
- MySQL has been used as the database because it provides comprehensive support for development needs and especially for web applications. MySQL also provides connectors and drivers (ODBC, JDBC, etc.) that allow all forms of applications to make use of MySQL as a preferred data management server.



## Functionalities/Features

- **Administrator**
  - Screen to login to the Admin Panel
  - View the entire database, view all the accounts and the billing of the retailers
  - Hire retailers by approving their applications
  - Schedule his/her Google Calendar events from the Admin Panel
- **Retailer**
  - Screen to login to the Retailer Panel
  - View all user orders made under his company 'only'
  - Update status of the orders under his company 'only' by their Order IDs
  - Other users can submit an application to become a retailer.
- **User**
  - Screen to login to the User Panel
  - View all orders made by the user
  - Can place an order
  - Can track the orders using Order ID

## Future Scope

- The project is currently working on deploying it publicly and securing the database on some remote hosting site to make it accessible to all.
- Various layers of security can be added for the three user categories (Admin, Retailer and User), like email verification, OTP generation and payment portals.
- Enable Google Map API to take orders for actual source and destination and also devise a tracking algorithm that automates the entire process and cuts out the middle-men or the Retailers.

- More functionalities in the Admin Panel, Retailer Panel and User Panel that helps with expenditure/earning overview and graphical analysis of the no. of sign ups, no. of payments, etc.

## Conclusion/Comments

This project has definitely been a valuable addition to our skill-set. It helped us get a small idea of how huge projects are built. Obviously the backend there would be much more complex, but now it gives us a better understanding of what could be going on in there. We learnt about how amazing Maven's Project Object Model (POM) is and how it wraps up all dependencies and jar files to ease the development process. Database connectivity and its real world application is a much demanded skill today and this project helped us hone that.

# Thank you!

