Parcel Management System

**(Swift Parcels)**

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# Parcel Management System (Swift Parcels)

## **Introduction**

The Parcel Management system is a web-based system designed to support the logistics industry in movement of parcels around the world. This project aims to reduce the paperwork within the industry and proper management of transporting parcels from one place to another. This system also aims to provide better tracking system for the parcel delivery. This project is designed to help employee at courier companies with better management of the request they receive and give proper updates to the clients when required.

This web-based system aims to have four views. This includes: -

* Admin View – This view will be used by the employees of the courier company. The main operations that will be performed in this view includes monitoring of tracking numbers created for each request. This tracking number will be the main identification number used throughout the transportation of the parcel. The admin also creates new collection centres and hub along with new employee records needed.
* User View – This view will be used by the common people for requesting courier delivery. This is used by customers to raise pickup request for the couriers from their residence. The user will need to register and login to the system so that we can request for the home pickup option. The user will be able to track the status of the request when the request is in transit mode.
* Parcel Collection Centre View - This view will be used by the courier centres where parcels will be collected. The centres will update the status of the parcel when it starts the transit to the destination. This will also record the status of the parcels that are received at the collection centers.
* Hub View - This view will be used by the intermediate hubs through which the parcels are transported. The hubs mainly act as intermediate halting stations for the parcel to connect to the next stations. This view mainly updates the status of the parcel when they received it and when it is transferred to the next station. This operation is critical for the tracking purpose.

## **Design and Data Flow**

**Wire Frames**

Landing Page.

Title

Description Text

Sign Up Button

Logo

Login

User Name

Password

Login Button

User Signup Page.

Title

Image

Logo

User Name

Password

Phone Number

Email Address

Sign Up Button

Admin Page -Create New Collection Centre.

Title

Menu Bar

Logo

Collection Center Name

Address

Phone Number

Email Address

Add Button

Admin Page -Create New Employee.

Title

Menu Bar

Logo

Name

Employee Type

Phone Number

Email Address

Add Button

Admin Page -Assign Employee to New Collection Centre.

Title

Menu Bar

Logo

Collection Center Name

Employee Name

Add Button

Parcel Hub Collection Page.

Title

Menu Bar

Logo

Hub Center Name

Hub Center Address

Receive Button

Parcel ID

Hub Parcel Dispatch Page.

Title

Menu Bar

Logo

Destination Center Name

Destination Center Address

Dispatch Button

Parcel ID

Collection Centre/Agent Parcel PickUp Page.

Title

Menu Bar

Logo

Parcel ID

Parcel Weight

Parcel Length

Parcel Height

Parcel Pick Up Address

Parcel Breadth

Pick Up Button

New Parcel Up Request Page

Title

Menu Bar

Logo

Name

Pick Up Address

Pick Up Button

Phone Number

Page with the details of all parcels for a user.

Title

Menu Bar

Logo

Name

Pick Up Address

Pick Up Button

Phone Number

Tracking Page.

Title

Menu Bar

Logo

Parcel Id

Parcel Details

Button

DATA FLOW DIAGRAM

A diagram of a parcel service

Description automatically generated

A diagram of a collection center

Description automatically generated

A diagram of a system

Description automatically generated

A diagram of a process

Description automatically generated

ER DIAGRAM

A screenshot of a computer

Description automatically generated A screenshot of a computer

Description automatically generated

## **Technology Description**

For our Parcel Management System project, we have chosen the following technologies:

1. MongoDB: We decided to use MongoDB for our database due to its handling of datasets. This flexible NoSQL document-based database offers high-performance capabilities. With MongoDB's ability to manage data types seamlessly, it's a great choice for tracking and storing delivery records. Additionally, the scalability of MongoDB will enable us to accommodate increasing amounts of data as our project expands.
2. React.js: We chose React.js as our technology for front-end development. React.js is a JavaScript library used to create user interfaces. We chose it because we can develop reusable components in React, which makes it easy to develop and maintain our project. React’s virtual DOM provides a smooth user experience by ensuring fast rendering and updating.

**Market Survey**

According to a survey of current job listings in the software development and technology business, the top 10 most popular technologies are as follows:

1. React
2. Angular
3. Node.js
4. Python
5. Java
6. JavaScript
7. Machine Learning
8. Flutter
9. Docker
10. Swift

## **Conclusion**

The parcel management system aims to build a proper software covering all the aspects of proper logistics management. We intend to complete this project in four sprints. We plan to complete the entire development and testing of the software by August 2024.

## **GitHub Link**

Project Repository - [SwiftParcel/SwiftParcel (github.com)](https://github.com/SwiftParcel/SwiftParcel)

Jiny Git Profile - <https://github.com/JinyPayyappillyKuriakose>

Ann Git Profile - <https://github.com/annanoop>

Athul Git Profile - <https://github.com/athul12star>