

AUTOMATIC COURIER MANAGEMENT SYSTEM

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Abstract - This project deals with courier management. This system deals with registering a parcel, tracking a parcel, and delivery of the parcel. This system is mainly used to handle a large volume (2000000) of parcel per day, find the optimum route for transferring the parcel, to increase the operational efficiencies, to increase the customer experience, and reduce the operational cost. Customers can register the parcel and track the parcel. This process makes the customer to track the parcel by using an id given to the customer during the registration process.

Key Words: (Registration, Payment, Parcel distribution, Tracking, Report)

1. INTRODUCTION

This project deals with courier management. This system deals with registering a parcel, tracking a parcel, and delivery of the parcel. This system is mainly used to handle a large volume (2000000) of parcel per day, find the optimum route for transferring the parcel, to increase the operational efficiencies, to increase the customer experience, and reduce the operational cost.

The major idea behind this project is to automate the courier management system. The existing system is computerized to particular extent, but it has to do a lot of manual work. In this project the optimal route finding is totally automated and the update about the parcel location is also given.

The customer can easily track the current location of the parcel using the unique id given to them during the registration process. They can raise queries regarding the parcel using the parcel id. In order to manage a huge amount a customer's data appropriate technology must be used.

2. SYSTEM ANALYSIS

Systems analysis deals with collecting the data from the customer, understand the process that is involved, finding the problems and recommending the optimal solution to the problem that is being found.

This involves studying the business processes, collecting functional data, understand the information flow, finding out risk and evolving solutions for overcoming the failure of the system so as to achieve the organizational goals.

2.1 EXISTING SYSTEM

The existing is automated only to a particular extent they does lots of manual work. The existing system involves several processes, they are

- Mention the details of the parcel, customer, and employee.
- The user has to reach the courier office if there is any query about courier delivery.
- There is no optimal route for transmitting the courier.
- The details of the outgoing parcel are maintained manually.
- The delivery details is also maintained manually.

2.2 PROPOSED SYSTEM

The proposed system eliminates manual work that is done. The following are the facilities that are added to an existing system in order to make more efficient

- Maintaining the details of the customer in the database.

- The charge for the courier is calculated automatically once the weight and destination is entered.
- The customer can track the current location of the parcel by using the unique id given to them during registration. The optimum route is found using google map.
- This reduces the operational cost of the service.
- Customer can get the information about their parcel.
- It helps the customer and increases the experience.

3. DESIGN OF COURIER MANAGEMENT SYSTEM

Designing is a process of defining the elements of a system. This project also has various elements that do different work for the system. Design is used to describe a project in an easy and understandable way. There are various design techniques that are used to define a system. The UML diagram is used to represent the activities that take place in the system. The fig 3.1 represents the UML diagram of the courier management system.

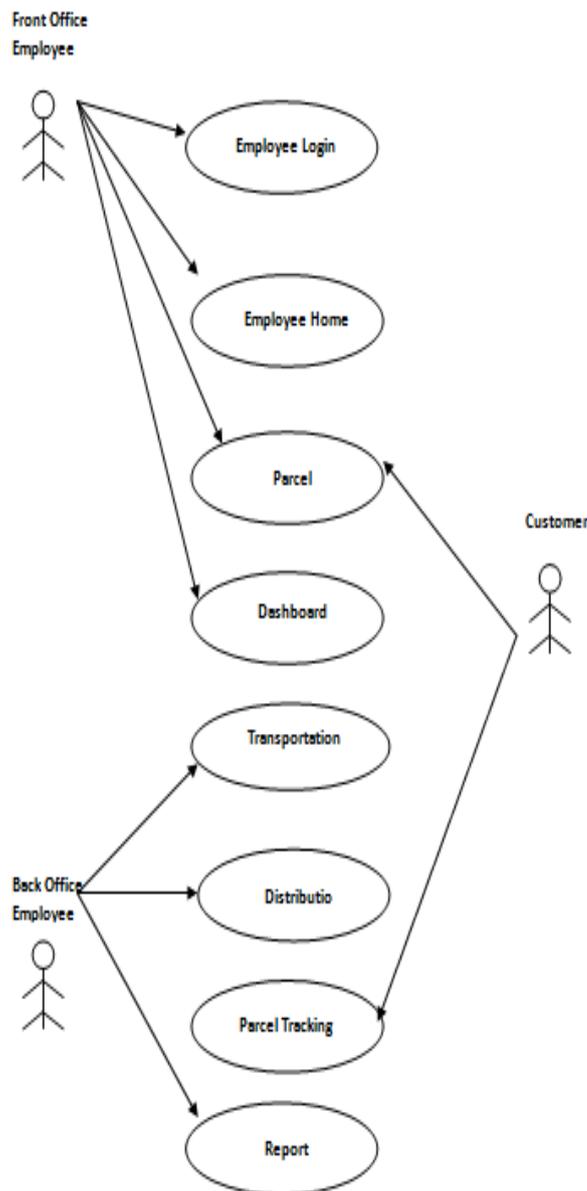


Fig 3.1: usecase diagram

The actors of the system are customer, front office employee, back office employee. The UML diagram depicts the activity that is carried out the system. The various activities that are carried out by the system are the customer can register the parcel and track the parcel using unique parcel id that is given to the customer while registering.

There are two types of employee they are front office employee and back office employee. The front office employee is used to register the parcel and have access to the dashboard application. The back office employee is used to maintain the details of the registered parcel, they manage the transportation information and the parcel delivery information.

The fig 3.2 illustrates the entity relationship model. This describes the entity and the properties of the object. This diagram also represents the relationship between the entities.

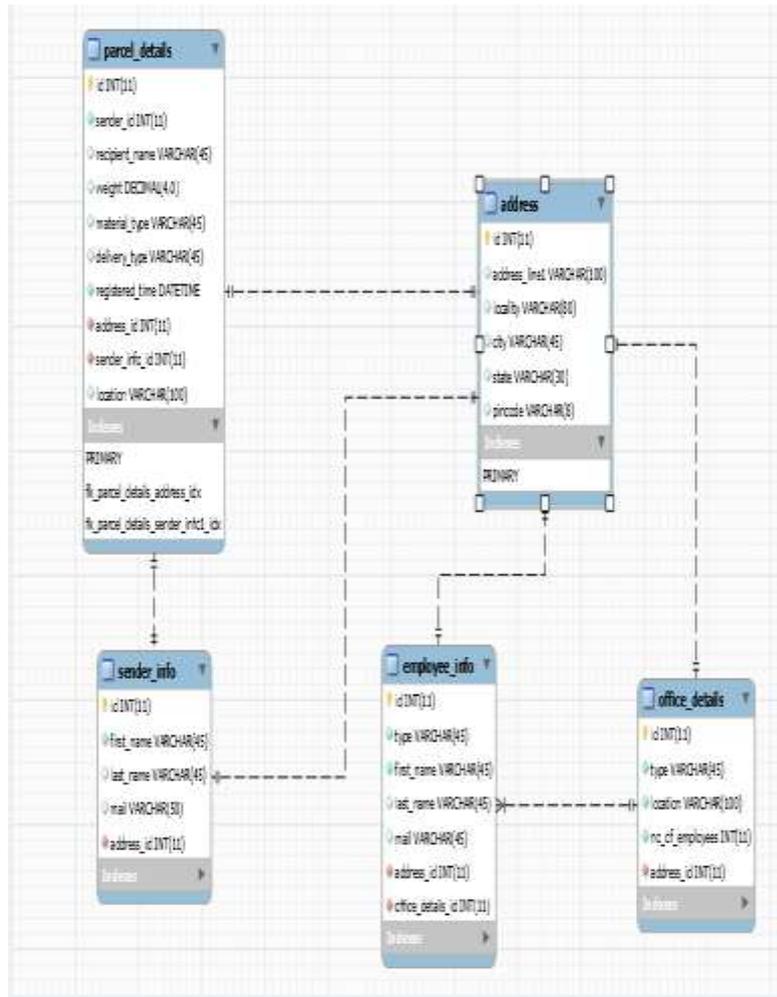


Fig 3.2: class diagram

The various entities of the system are depicted in the entity relationship diagram. It is mainly used for the database design and the relationship between the tables can be easily found. The designing phase makes the program understand the requirement more easily and the implementation becomes very easy.

4. IMPLEMENTATION

The implementation phase gives the detailed description about the functionalities of the system. This system implemented to overall all the drawbacks of the existing system. It is implemented using different technologies they are

- Angular 7
- Spring Boot
- Hibernate
- MySQL

Angular is used for front design, spring boot is used for back end design, hibernate is used for the database connectivity and MySQL is used for database (storage). By using the above technology an efficient system can be constructed. This website is a responsive website, that is, it can resize itself depending on the type of device that is being used. The system must be scalable to number user added to it.

5. CONCLUSIONS

This system is a user friendly and GUI based website. It satisfies all the requirements of the proposed system to a great-extend. This system is developed in a way that it is easy to use and easy to maintain. This system is mainly designed to reduce the cost, to increase the experience of the customer and to increase the operational efficiency.

The system that is developed helps the customer to find the location of the parcel. It helps them to know the parcel departure status. This added feature makes the user to conveniently use the system.

6. REFERENCE

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