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PICKRUN APPLICATION

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Abstract – *The Research Paper Focuses on recent Advancement on courier Delivery Services*, as *our project name is Pickrun App which provides fast and reliable delivery services. Throughout the project we are trying to build an application for android as well as IOS users through which the customer can use the fast and good delivery. The delivery*

service is totally based on the customer's requirement and their demand of delivery. The parcel will be delivered by the time and location given by the customer.

There are three modules: -

1. Admin

2. End- user or customer

3. Delivery Partner

In the End user module, user place order, the delivery they add are all the details for the delivery and place the order. After the user places the order the nearby delivery boy gets the notification regarding it and it verifies all the details and accepts the order and delivery within the time given by the user. Admin views all the details of every placed order and checks the status of each and every delivery.

***Key Words*: Operations, Opportunities, Business Challenges, Future trends in Delivery Services of Courier Sector, Analytics, Market Research**

1. INTRODUCTION

Due to traffic we suffer so much in the metropolitan cities that with the help of the right delivery app we can get so many things in a limited time and it saves us from running here to there for the products or items we left behind. It makes our life hassle free. This app based on delivery service application to ease customer to meet their order urgently when in need. Sometimes, some customers still have to come and pick up their order themselves. As more people use smartphones and become more dependent on it, the potential to introduce an application for local needs in facilitating the needs is promising. This provides an opportunity for the developed app to fill the gap left by the existing applications in the market in order to Deliver Customer Courier on urgent basis within short span of time.

For the clients' pleasure with the courier service system, it is essential that the packages arrive on time at their destination. Finding the quickest route with the least amount of traffic from the point of delivery to the customer's location is necessary to ensure the quickest delivery of packages to the client. The clients should also be informed of the delivery time concurrently or over a sufficient time frame.

Response time between these two parties will undoubtedly increase the effectiveness of the courier service and customer happiness. [2]

By integrating the usage of modern communication technologies like GPS, Android tools, and cloud services, the research's goal is to create a framework and Android application that can assist in creating the platform for a more intelligent parcel delivery system. It will aid courier service systems in managing the parcel delivery process intelligently and delivering the packages to consumers at a time that is convenient for them.

1.1 Scope

The scope of this project is limited to the activities of a Delivery Services, which includes will improving Security outcomes of courier, reduce the Time for Delivery App to Deliver the Product, enhance access and care in the Estate and surrounding communities and ensuring best use of resources, the use of a best Service based management system for improving the efficiency of a Delivery, it is needed and it is an essential part of any modern continuously evolving society.

1.2 The Problem Statement

As there are higher needs of the customer to Pick and Deliver their Belongings within the short Spam of time, it rises many Problems like Misplacement of Parcel, to Handover the Parcels to Genuine Person, Late Delivery Problems, miscommunication between the Delivery boy and customer and many more. As the Result there should always be the way to overcome such problems along with Customer Satisfaction, It Is Necessary to meet the end user requirement along with Customer Support and Courier Responsibility if the courier gets lost. As the current market application which are in this service they are charging too much of service fees from the both end

for customer and delivery boy as well. In the current working application there is no rewards for delivery boy which we have added. Customer have best service and 15% and 20% off on cashless payment method. The current applications do not have live track order function. A system is required which can be used by everyone and which also benefits everyone. [5]

2 Literature review

2.1 The existing system

Today keeping track of one's parcel has also became tedious work. The delivery is always done on the user's inconvenient time which make person hate delivery for their bad timings of the delivery person to deliver the parcel. [8] The missing Parcel and losing of parcel has also become a problem nowadays due to which users are losing trust on the delivery person. Many problems are also faced by delivery person such as not getting an exact location they need to go travel unnecessary in search for location and they are also not getting enough rewards or benefits in return of their work which can also further lead to big problems or issues. [7]

2.2 The proposed system

Aim of the proposed System is to provide Customer on same day demand intra-city courier and delivery service exactly when you need it. Place an order and our system will find the most suitable delivery partner nearby Along with Reliable Service. It's one more aim is to provide more benefits and many rewards to Delivery Partner for their hard work.

It wants to create job opportunities for many people as Delivery Partner and give them many rewards for their work. The proposed system would be designed to help make the rigorous activities carried out in a Delivery app much easier by providing the statistics of Courier in stock, monitoring Courier movement in the app and ensuring effective policing of the activities in the Delivery. The new system will be designed to provide the following benefits in the interest of the Delivery Services; the system would enhance management services and improve productivity.

The system would enhance User/System interface. The system would be cost effective. The system would improve information quality and accessibility. From the problems listed in the existing system, the implementation of the proposed system shall focus on Pickrun having access to the proposed system at any time. Ensuring effective policing by providing statistics of the Courier Service in stock.

2.3 DIFFERENCE BETWEEN SIMILAR SYSTEMS

As we know there are many similar but different applications on courier delivery services. Different apps provide different services. Let's find out those differences by the table given below:

Sr.no	Characteristics	Wefast	Borzo	Proposed system
features				
1	GPS Trackingof goods	Yes	Yes	Yes
2	Credit Card Payment	Yes	Yes	Yes
3	Delivery Status Notification	No	Yes	Yes
4	Customer signature verification	No	Yes	Yes
5	Messageoption	No	No	Yes

Table 1. Difference between similar systems

3 OBJECTIVES

- Completely hassle-free. No need to register to deliver your products
- You choose delivery time with delivery pick source with Pick Destination along with Alternative Destination Just in case the Customer have to rush to other Destination for Some Work.
- Delivery of gifts, documents, cakes, anything anywhere.
- Courier will be send according to customer's time and location customer have the choice of payment i.e. either by cash or online.
- Track your delivery on the map in real time for securing Order.

4 Application Development

The project development consists of several stages with the objective of providing a comprehensive route tracking courier service that would increase the courier service efficiency in terms of cost and customer experience. The application server integrated with database system is developed to support online administration system. The application is developed using flutter an open source platform by goggle to develop an android as well as IOS based applications

The navigation function for the application is based on Google Maps. All of these functions are integrated with the database of the customers' information in the administration system.

4.1 System Architecture

The system architecture provides the broad overview of the system as well as the workflow of the application as shown in Figure below. This diagram shows the system's interconnection between each module and the platforms that will be used in each of the system's components.

Fig. 1 System Architecture

4. 2 System administrator-focused web application

The web-based parcel management system program is housed on the application server and offers essential capabilities for monitoring current inventory, tracking delivery progress, and compiling delivery statistics. Information about clients, packages, and couriers mustbe managed.

4.3 The creation of the Android app

Open-source software called Flutter makes it simple and straightforward to create cross-platform mobile apps. Without having to develop the code for the iOS and Android apps individually, you can easily create high-quality natively generated apps for both platforms. One codebase will do for both systems.

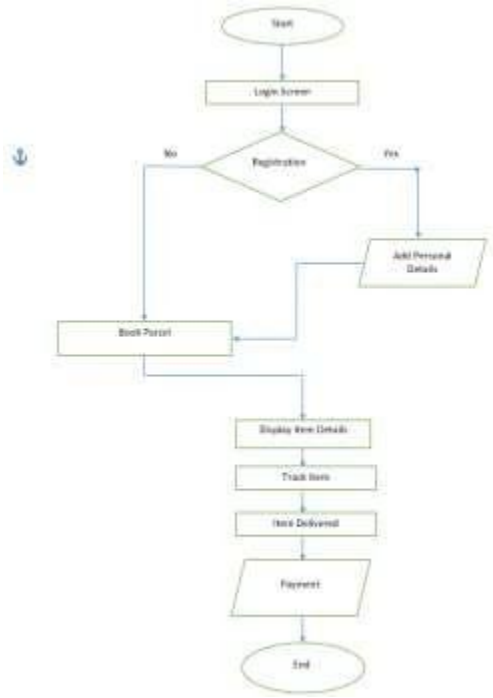

Fig 2.Flowchart for android based application

Using a single codebase, Flutter is a portable UI toolkit for creating native-like apps for mobile, web, and desktop. It integrates Material Design and Cupertino widgets and makes use of the Dart programming language. Developers using Flutter can produce stunning user interfaces that feel and look native. Despite the fact that you just have one codebase,it functions normally on all platforms.[5]

The only framework with a mobile SDK that offers a responsive design without a JavaScript bridge is Flutter, which achieves a level of speed comparable to that of its cousin and main competition React Native. The many platforms, including Android, iOS, and Linux, MAC, Windows, and Google Fuchsia applications, are all simply integrated.

5 Results and analysis

Pickrun application is an application which provides services related to delivery. It helps in bringing user's delivery on time and giving them a fast and reliable service. It also provides many benefits and rewards to Delivery partner.

- After installing the application can get started.
- User needs to provide a mobile number and get an OTP on the number.
- User needs to verify their number for further processing.
- The next step is to place the courier order.

Fig. 3 Starting Pages of Pickrun Client App

Fig. 4 Dashboard and order Screen of Pickrun Client App

- With the order you can select the address of the pickpoint and delivery of the order.
- The customer can also track the live location of the delivery partner.

Fig. 5 Live Tracking &Payment page of Pickrun Client App

- After selecting the location, the calculation of price is done as per price per km and price per weight. The base price is auto selected and after that calculation of total price is done.
- After calculating the total price, the order is placed successfully with customer's choice of payment mode.

Pickrunner application is an application which is used by the courier or delivery person. It helps in bringing user's delivery on time and giving them a fast and reliable service.

- After installing the application can get started.
- User needs to provide the details and do the registration it is compulsory for partner app.
- After registration the admin verifies the details of the driver and allows them to login the system.
- The next step is to track the order and deliver the courier.

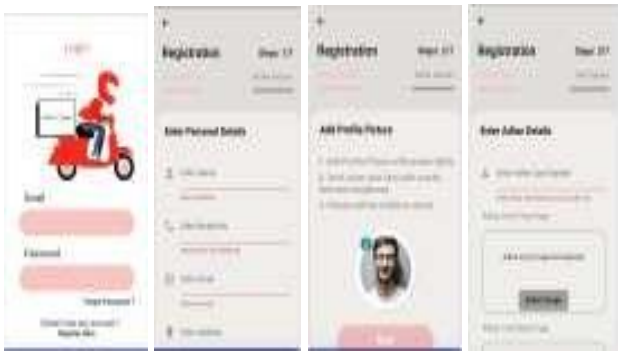

Fig. 7 Login and registration page of pickrun partner app

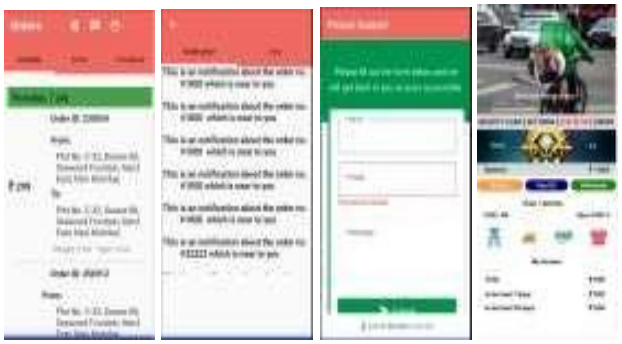

Fig. 8 Orders and Chat Page of pickrun partner app

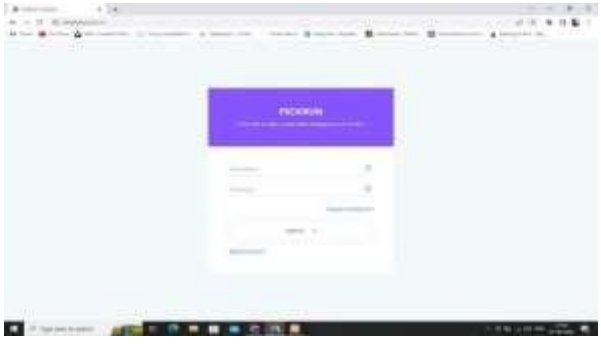

Fig. 9 Admin Login Screen

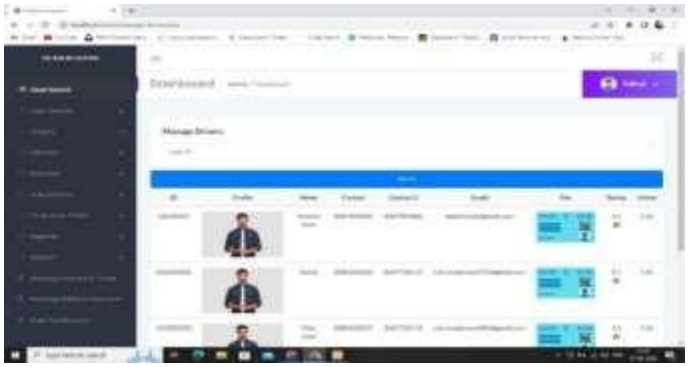

Fig.10 Admin Driver Page

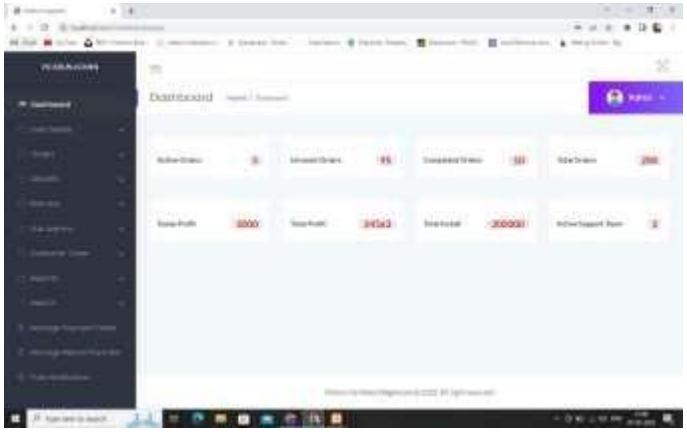

Fig.11 Admin Dashboard

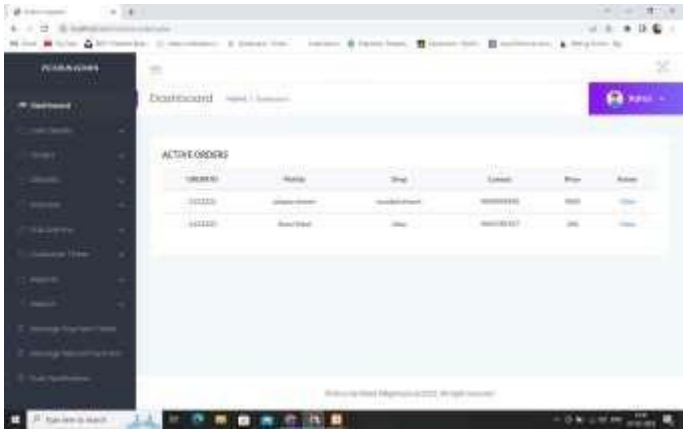

Fig. 12 Admin Order Page

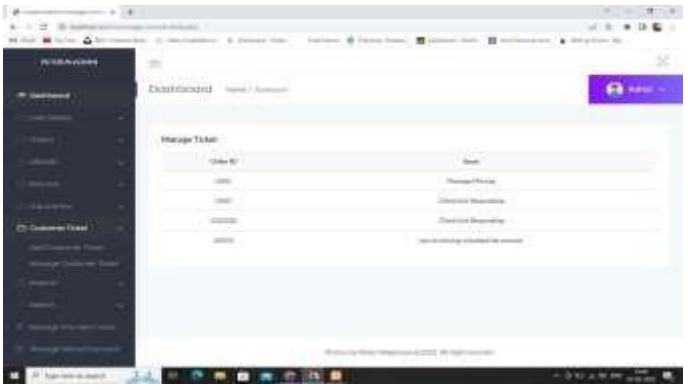

Fig. 13 Admin Ticket Page

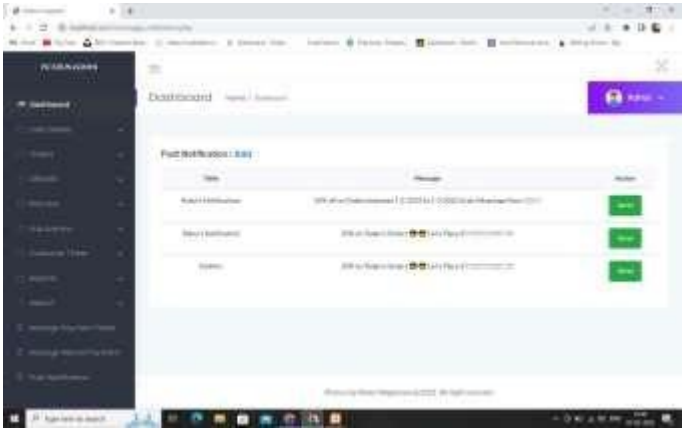

Fig. 14 Admin Notification Page

5.1 Back-end Software

The backend is where we access all our website or application data so that we can process.

The database consists of the tables like customer, delivery partner, sub-admin and orders with payment details.

As it consists of two separate app pickrun and pickrunner and website which consist of information of the super admin the pickrun is the client app and pickrunner is delivery or partner app, it consist of database of customer Ticket, Delivery partner database which consist information of name of delivery boy, pan id details of delivery person (important for purpose of security) and wallet which is connected to payment and order database which will show the payment details.

The data stored of Driver Partner are:

db- root
|
---- drivers(collection)
|
---- $uid(document)
|
----accNo: "0710182107000"
|
----accType: "Current"
|
----address:"xyxhjhjhjhjj"
|
----adharBackPhoto: "https://"
|
----adharFrontPhoto:"https:// "
|
----adharNo: "4594 6905 0211"
|
----branchName: "Hotgi Road"
|
----driverId: "#8945612"
|
----email: abcd630@gmail.com
|
----ifscNo:"BKID123710"
|
----lNo: "MH13 202112343905"
|
----lPhoto"https"
|
----mobNo:"803213363326"
|
----name: "ABCD "
|
----panNo: "AHYP3212048M"
|
----panPhoto"https:// "
|
----Pass: "$$$$$$"
|
----picPhoto: "https:// "
|
----pinCode: "413224"
|
----repass: "$$$$$$"
|
----secNo: "8657736117"
|
----type: "Driver"

The data stored of location are:

db-root

|

---- location(collection)

|

---- $uid(document)

|

---- source_lati: 19.0715582

|

---- source_longi: 73.1019283

|

---- desti_lati: 19.0715582

|

---- desti_longi: 73.1019283

|

---- live_lati: 19.0715582

|

---- live_longi: 73.1019283

|

---- name: "ABCD"

5.2 Android Application as back-end

The Pickrun Android application will be integrated with the database in the main system. This is to ensure the information of the parcels will be recorded properly and hand-on systematically within the back-end system. This Android application consists of four main functions namely Parcel details, Courier tracking system, and chat-support navigation. Each of these function plays an important role in ensuring the smooth interaction within the systems shows the courier navigation page that will be automatically activated when Courier Navigate button is clicked. The target address will be entered into this interface, and the Estimated Time of Arrival (ETA) will be generated based on the distance displayed on Google Maps, taking into account the anticipated time that the package would arrive.

The program for price calculation :

```
double totalDistance = 0;
for(var i = 0; i < polylineCoordinates.length-1; i++){
totalDistance += calculateDistance(
polylineCoordinates[i].latitude,
polylineCoordinates[i].longitude,
polylineCoordinates[i+1].latitude,
polylineCoordinates[i+1].longitude);
}
```

The above lines of codes is to calculate the total distance of the delivery location.

```
    double calculateParcelPrice(double distanceKm, double weightKg) {
    // Define custom constants for price calculation
    final double basePrice = 40.0; // Custom base price for parcels
    final double pricePerKm = 8.0; // Custom price per kilometer
    final double pricePerKg = 10.0; // Custom price per kilogram for weight > 5kg
    // Calculate the distance price
    double distancePrice = distanceKm * pricePerKm;
    // Calculate the weight price if weight is greater than 5kg
    double weightPrice = 0.0;
    if (weightKg > 5) {
    double additionalWeightKg = weightKg - 5;
    weightPrice = additionalWeightKg * pricePerKg;
    }
    // Calculate the total price
    double totalPrice = distancePrice + weightPrice;
// Check if total price is less than base price and apply base price if needed
    if (totalPrice < basePrice) {
    totalPrice = basePrice;
    }
    return totalPrice;
}
```

The above lines of code is to calculate the totalprice for the parcel delivery.

6 Conclusion

Pickrun is the application which provides courier delivery services to the users. Through this application user need not to register themselves they can simply add their mobile number and verify it and place the order for the delivery. They need to add items details such as its weight and type of the item. Delivery man picks the order from the pickup location and deliver it to the delivery location within the estimated time given by the customer. This app is made using flutter for front-end and firebase for back-end. The app is made for android as well as IOS users. They can simply use and get their work done using these application. In the partner app the delivery person needs to register themselves with their original document and get themselves verified by the admin after verification they can start their work. The delivery person gets many reward for their best behavior and hardworking nature. The project accomplished is a proof of delivery system that is an android and ios application, having many new opportunities like having access to camera, geo location on-the-go and the tracking system in this App for the customers and courier management's benefits.

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