

PEGASUS COURIER SERVICE USING ANDROID MOBILE APPLICATION

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Abstract – Pegasus courier service is an Android Application which is useful to help unemployed people to work and earn by themselves. The main motive of the app is to create a revelation among courier services. Anyone can work through this app and get small amount of profit.

This app provides safety and security by collecting mandatory identification of each person for safety purposes.

Key Words: Android Studio, Android SDK, XML, Google Firebase, Android Mobile Application.

1. INTRODUCTION

Tamil Nadu currently has a population of approximately 79.4 million people and as expected there is constant movement of people and goods from one location to another amidst its evolving population, where some of the reasons are job posting, personal reasons or as a result unforeseen circumstances. Moving from one apartment or house to the other can be quite stressful process especially if the individual(s) does not have the resources (vehicle) to carry out such action. This difficulty also occurs when sending a parcel or goods to a particular location instigating that the individual need to perform this action themselves. This is where door to door carriage services can be of invaluable help Courier or carriage services can be defined as an outsourcing medium whereby duty or function of transporting goods of a client from one geo location to another is handled by a contracted company.

The aim of this project is to analyze and the need for the deployment of Courier service system on the android mobile platform.

The system will be used for day-to-day activities like out return, company details, hub rates, booking, non-delivery, and pickup centers. It is not easy to do this process manually because it would become very hectic. Hence it is suggested to automate the process by developing the relevant software

As the world is moving from manual working to an information and technology era where automation becomes important in all parts of life.

The main purpose of this system is to connect all branches to the central database so the everywhere information is the same. This system increases efficiency and increases the customer satisfaction level.

Courier Management System (CMS) is an integrated full business software framework for an enterprise that possesses procedures in domestic and international courier services. CMS performs a variety of activities pertaining to the processes in the logistic situation of a courier business.

CMS solution handles the end-to-end process starting from initiating a courier order, driver pickup, and delivery of a courier business. CMS covers all the controls and processes involved in International Courier Importation Services, International Courier Export Services, and Domestic Pickup & Delivery.

2. HARDWARE REQUIREMENTS:

- 64-bit Microsoft® Windows® 8/10.
- x86_64 CPU architecture;
- 2nd generation Intel Core or newer
- 8 GB RAM or more.
- 8 GB of available disk space minimum (IDE + Android S DK + Android Emulator)
- 1280 x 800 minimum screen resolution

3. SOFTWARE REQUIREMENT:

- **Android studio:**

Android Studio is the official integrated development environment for Google's Android operating system, built on JetBrains' Android Studio is the official integrated development environment for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development

- **Google fire base**

Google Firebase is a Google-backed application development software that enables developers to develop iOS, Android and Web apps. Firebase provides tools for tracking analytics, reporting and fixing app crashes, creating marketing and product experiment.

4. LITERATURE REVIEW

OTP Authentication:

Many apps require their users to be authenticated. So for the purpose of authenticating the apps uses phone number authentication inside their apps. In phone authentication, the user has to verify his identity with his phone number. Inside the app user has to enter his phone number after that he will receive a verification code on his mobile number. He has to enter that verification code and verify his identity. So this is how phone authentication works. Firebase provides so many ways for authentication users such as Google, Email and Password, Phone, and many more. In this article, we will take a look at the implementation of Phone Authentication inside our App using Firebase. Firebase is a mobile platform that helps you quickly develop high-quality apps, grow your user base, and earn more money. Firebase is made up of complementary features that you can mix-and-match to fit your needs, with Google Analytics for Firebase at the core.

Register/Sign in:

Registration form in Android is part of every application out there. So, when we are programming, we work with many registration forms. Forms can be very different from a simple login or registration to a complex ordering form for a mobile store. With registration, we explain how you can check data that the user has entered with simple validation. Validation can check many conditions. In this example, we verify if a mobile number, email id is a valid email and if a user entered all the required data, for instance, we check if Edit Text is empty for the first and last name. We have prepared a way to notify the user that the data is not valid. On login activity, we show how to check if a password is long enough.

Map Implementation:

Android allows us to integrate Google maps in our application. You can show any location on the map, or can show different routes on the map etc., you can also customize the map according to your choices. The Google cloud SDK describes how to store your API key so that it can be securely referenced by the app. You should not check your API key into your version control system, so we recommend storing it in the local properties file, which is located in the root directory of the project.

Firestore:

Google Firebase is a Google-backed application development software that enables developers to develop iOS, Android and Web app. Firebase provides tools for tracking analytics, reporting and fixing app crashes, creating marketing and product experiment. Firebase is a mobile platform that helps you quickly develop high-quality apps, grow your user base, and earn more money. Firebase is made up of complementary features that you can mix-and-match to fit your needs, With Google Analytics for Firebase at the core.

5. LIST OF MODULES:

Our proposed system is made up of these following.

Module 1: User verification

Module 2: Sender.

Module 3: Receiver

Module 4: Map Implementation

Module 5: Mode of payment

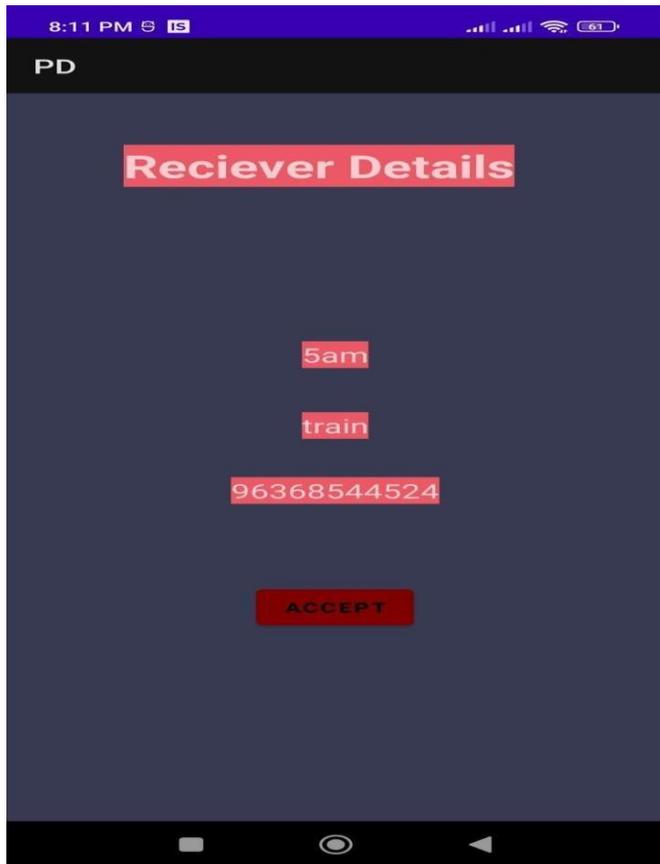
MODULE 1: USER VERIFICATION

We will be building a simple application in which we will be displaying a simple user registration and login form. After user registration, we will be sending a verification link to our user's mobile number to verify the user's mobile number. The One Time Password will be generated by the Google firebase and it will be sent to the user's mobile number by an SMS.

MODULE 2: Sender

The sender app's Cast playback status and controls across these areas must be in sync with playback changes happening on the Web Receiver, even when not originated by the sender app. This will allow proper handling of both multi-sender commands and the

Playback control coming from the device's remote



Controls, buttons, etc.

Figure.1 Sender receiving receiver Details

MODULE 3: Receiver

The receiver plays content and reflects its state to the user. The receiver must respond immediately to actions in the sender app. For example, when content is paused on the receiver, it displays a pause icon and when the user presses play on the sender app, the receiver starts playing the content and removes the pause icon.

MODULE 4: MAP IMPLEMENTATION

When the scrap collector accepts the request, the user can track the location of the scrap collector and view the path till the scrap collector reaches the customer's destination.

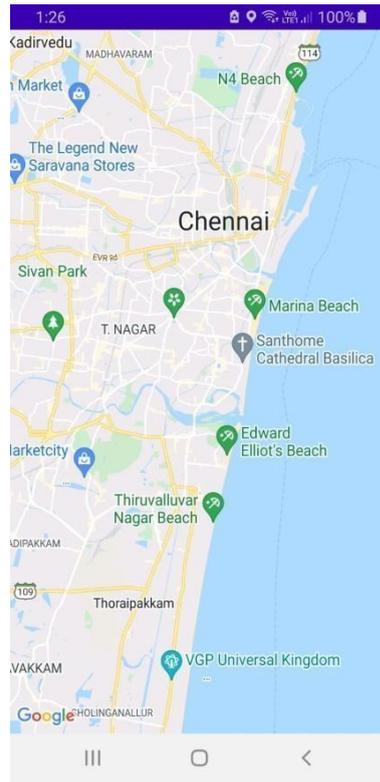


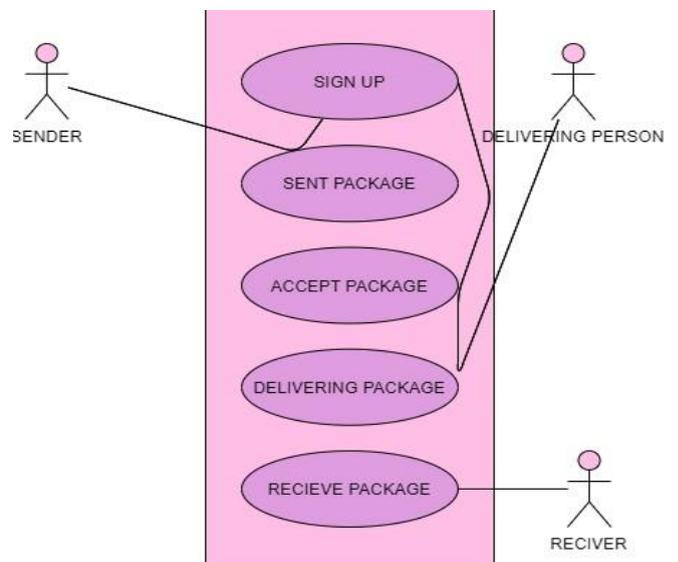
Figure.2 Map implementation

MODULE 5: MODE OF PAYMENT

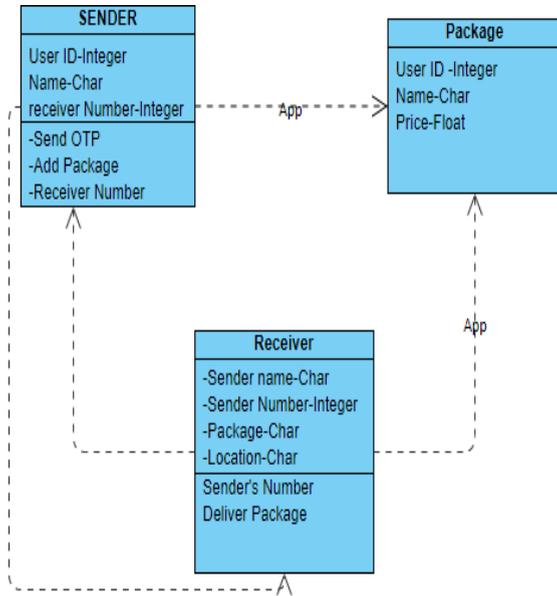
After measuring all the scrap, the bill will be generated using some calculation based on the scrap and the customer will be paid either by cash or UPI payment.

6. IMPLEMENTATION:

USE CASE DIAGRAM:



CLASS DIAGRAM:



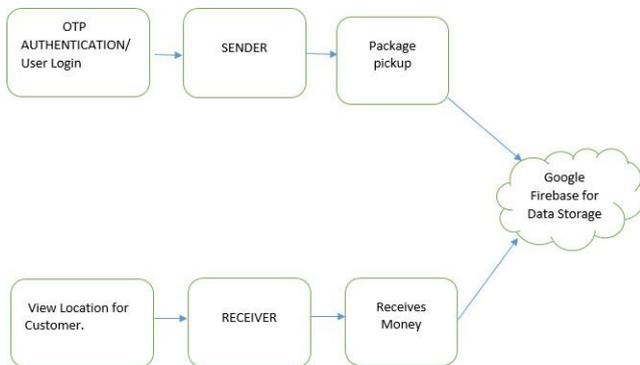
Studio have many modules which can be included in the website as per users need and have very complex framework for the website.

About Pegasus Courier Service

In Pegasus courier service we introduced a new system that anyone can work through this app and earn money. The working system of this app is between the sender and receiver. The sender

Will give the package to the receiver with his comfort location and receiver will get the package with through his/her their own mode of transportation. The sender can track the package through the maps implemented in the app. The receiver should not switch off his phone while delivering the package. All the personal information will be verified in the app. After that only sender or receiver can create the profile. The mandatory details should be submitted or else the app won't login. This is the working of the app.

ARCHITECTURE DIAGRAM:



Pros & Cons of Pegasus App:

1. Pros

- It can be easily installed & customized
- It offers an intuitive & user-friendly dashboard
- It takes few minutes to install the software
- It creates the database tables automatically

2. Cons

- It lacks graphic customization as there is not much you can do with it
- It has limitations with its templates, themes & modules
- It has compatibility issues with some systems
- It does not have official support team
- It supports only English language

7. SYSTEM

OVERVIEW Problem

Statement

The main objective of this system is to develop an android app which has the application level cache implemented in it and integrate the app with the website built using the Android Studio software and connect it to the Google firebase database. Android

Objectives of the system

1. To develop the Pegasus courier service existing system.
2. Integrate the Android App with Android software.
3. Create the connections between the App and the Google firebase.
4. Design the GUI of the App for different devices

5. Design the attractive theme for the App

8. SYSTEM ANALYSIS:

The three factors can be considered while evaluating the quality of Android Studio as follows:

1. **Usability:** - it refers to qualities that empower electronic trade to be helpful in a variety of circumstances, through its own improvement procedure, as well as the utilization and support, and depends on the unwavering quality of the site and comprises of the accompanying two angles

Conceptual Reliability: It manages the potential outcomes of electronic trade to acceptably execute what was indicated and planned.

Representative reliability: It refers to the agent potential outcomes of electronic trade that influence the comprehension and treatment of the store through its life cycle.

Utilizing these variables, the investigation of the site and web application can be completed. It is then conceivable to figure out which of these elements that have been contrasted is suitable with utilize. The examination of the devices depends on the above variables and on their legitimate working to give the clients most extreme help and the utilization of the instruments. The online store can be tried for the client perspective and the managerial perspective, including enlistment, web page route and submitting a request for the items in the Pegasus app.

To assess the general execution of the web application amid execution of its usefulness, the accompanying three measurements can be considered, where bring down qualities show better execution.

1. **Response time:** the time in seconds(s) that the web application takes from the earliest starting point of its execution to the finish of stacking the whole site page content.
2. **CPU time:** the time in seconds(s) that the way toward survey the site page possessed the CPU resource. Since the CPU may perform different tasks while stacking a website page, this metric separates the time taken just by

the application being assessed.

3 Memory usage: the volume in megabytes(MB) that the way toward showing the page utilized as a part of the RAM of the execution condition.

The graphs below show the performance analysis of the web app for different android versions and different android emulator settings for memory usage and CPU time.

By implementing the application level cache in the

Project, we are trying to improve the performance of the android app in terms of response time to communicate the app with the web server to retrieve data from the server to the device over the internet.

9. CONCLUSION

Pegasus Courier Service is an Android application for door to door delivery.

Pegasus provides different Sectors which include Individual House, Society, Organizations and Industries. Anyone can work without any charges.

Because of this application no unemployed people earn some money for their need.

Thus the project is to analyze and the need for the deployment of Courier service system on the android mobile platform.

This Application provides safety and security while the transportation of the shipping package.

Upon accomplishing the aim this project courier service will not be one click away for it users but also be able to reach the masses easily in Tamil Nadu. This development will be immensely useful for door to door courier service in Tamil Nadu.

10. FUTURE ENHANCEMENT:

Thus the Pegasus app can be developed in wide range to get more service and people can work in widerange. The app can be secured more to increase the security.

Provide better communication

Negotiate service-level agreements

Identify and address barriers to quality service

Respond efficiently to specific customer concerns

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