Live Tracking System with Company Resource Management

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Abstract

Now a days mail couriers have thrashed in postal services. The Post Office have move with an urgent haste for tracking of mail couriers. Even in an growing environment, the postal service covers gap within the areas of the social economy, serving its people and businesses. Before replacing in more vigurous form, "This program is an foremost step for replacement of current systems with a single device based on Smartphone technology using GPS & GPRS". This system aims to provide low cost avenue of monitoring resources of courier company. These resources are like manpower, time and money. Application also provides an adverse enhancement likein where customer request can be facilited through proposed systemt in one click without wasting time in going to courier office and request for material. The key point lies with administrator to allocate tasks to the employees so as to handle his resources in a stipulated way. Our application reduces the human errors. Customer gets satiafied commitment of delivery within time. This application gives good remarks for the courier boy to prepare his daily services reports and send it to the administrator through application[3].

1. Introduction

As per current courier services like speed post, postal services and E-courier services, there is no guarantee of service. In this section we include the brief introduction about the "Live Tracking System with Company Resource Management". The philosophy seems to give customers a live tracking of material and the mailing companies look for this as a great utility for customers who want to know material delivery status as it occurs. This system is covers wide area that surrounds for small and large scale courier services for improving their performance. The aim of this study is to reduce the cost of the deliverables using the latest technologies and making it useful for the common people. The existing system has degraded its performance as its time consuming for its human errors. [1].

1.1 What is tracking?

The proposed system provides web based as well as phone based application to keep track of any material. Sender sends request once. Details of courier are registered so that sender can see current updates of his material. Courier boy is given the mobile with Android OS so that tracking can be done easily. Courier gets filtered according to landing place areas. Administrators collect data and then analyze the work process and allocate it.

1.2 Technologies Used

Following technologies are used in proposed "Live Tracking System With Company Resource Management"

1.2.1 GPS

GPS known for global positioning system helps to track the movement of the person; place or any object .This help in apprehend the exact location on Google Map. A good number of courier tracking systems had so far been developed with a wide range of tracking facilities but the operation cost of most of these systems is higher which makes the use daisy.

1.2.2 GPRS

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GPRS known as General Packet Radio Service which helps to locate the position of the entity on the map. We get coordinates of the position in terms of latitude and longitude and we map it on the Google map to get its position. The whole system allows the courier boy's mobility to be tracked using a mobile phone which is equipped with GPS receiver and a GPRS transmitter details. The blend of both the technologies GPS and GPRS provides a constant, continuous and live tracking system. [5].

1.2.3 JSON parsing

JSON stands for JavaScript Object Notation which is the alternative to XML. Its key feature is storing data in less space. It is easy to resolve and access data stored in JSON format. JSON is a text-based format used for human-readable data interchange system. It is derived from the JavaScript scripting language. It is used for representing simple data forms and associative arrays. Despite its relationship to JavaScript, it is language-independent, with resolvers available for many languages. It is used primarily to transmit data between a server and web application acting as client [4].

1.2.4 QR code

A QR code is a type of barcode used for physical evidence of a person. It also holds bunch of information that extends the general wide. The QR basically stands for Quick response code, which entails the speed at which the large amounts of information can be send with short period of time. Later the code can be decoded by scanners in order to retrieve the data.

2. Literature Review

Following are the systems exist for courier services:

Postal service: It forms the basic bedrock where the actual mail couriers started. It included operations like collection of materials, transportation and delivery of goods. It included limited transmission of goods, information and money. The main drawback of postal service was that all the operations required manual intervention.

Speed Post: It is service provider in the domestic courier or mailing industry and providing time-bound and fast delivery of various types of goods. A flaw of this system is Speed post courier does not provide live status of courier. Speed post delivers courier fast, but it is more expensive than postal services [2].

E-Courier services: The "E-Courier Services" delivery status and notification system was developed for the need of company running simultaneously e-

courier services this is specially meant for their front line user service information. This is one of the best efforts to prove that how Internet can be helpful in tire service industry. As the above systems provide various services it widely used everywhere but it has some limitations.

3. System Design

This Architecture consists of four modules: Customer, server, administrator and the courier boy. Block diagram of proposed system architecture is shown below.
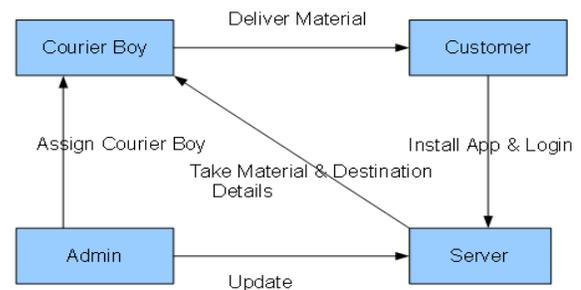

Fig: 1. Block diagram for Resource Tracking and Management

- **Input:** User needs to install and login to the application through registration name and password. Then all the information is updated by the server and maintained by the administrator.

- **Processing:** Input provided by the user updates the server database and administrator manages the delivery keep ups on timely manners.

- **Output:** Live status of the material location will be shown on the Google Map and courier boy will be able to send his Daily service reports through the application.

3.1 Module 1: Customer

Activities performed by Customer

- Install the application.
- Login to the application by providing username and password.
- Fill the details in the MRS form.
- Send request of the material.
- See live status of the material.

3.2 Module 2: Server

Activities performed by Server

- Take details from customer.
- Update Database.

3.3 Module 3: Administrator

Activities performed by Administrator

- Take details from server.
- Filter out the materials according to landing places.
- Allocate material to courier boy and track his location.
- Accept DSR from courier boy.

3.4 Module 4: Courier Boy

Activities performed by Courier boy

- Accept details from administrator.
- Authenticate the customer.
- Deliver the material.
- Send DSR to administrator

4. Methodology

In this section, overview of the project system development is given. In our application android client will request to the server. As server wiil not directly communicate with client, a PHP-based web service will be used to sterilize and de- sterilized the data. It provides the facilities to request and response. Client and Server communication is done using JSON Parsing. Here we create JSON objects through arrays and encore data from them which is much faster than XML.

JSON algorithm

Step 1: Build JSON object.

Step 2: Add key-value pair, where key contains web URL & value contains the website name.

Step 3: Send the JSON object to the server. i.e. over Network.

References

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Step 4: Declare the HTTP client & HTTP post request object & gathering a response from server.

Step 5: Use the convert Stream To String () function convert the input stream to string.

QR code is used here to scan and store the data provided by the user. The code on the receipt will contain the information filled by the customer. This information will be matched while delivering the material [6].

5. Simulation Results

6. Conclusion

Client will be able to see live position of mobile on Google map. Client will be able to request for material with full assurance of material delivery. We conclude that Resource Tracking and Management system provides more efficient and reliable service than other existing system and also helps company to manage its resources.

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