

Service Center Appointment Scheduler System

Pratik M.Dimble, Rohit A. Kulkarni, Nagesh R.Chauhan, Minatai T. Khandare and Prof. Shweta Joshi

Abstract: Now a day, technology is on a boost. People wish to live a luxurious life with minimum physical work. Here we provide a mobile application for 'Android-Based Service Center Appointment Scheduler System'. This application is an android app which can be run on any android compatible tablets and mobile phones. The app will enable any bike user to search and communicate with any bike service center in the vicinity. The user can find the service center, get it's location, check and select any of the services provided by the respective service center. The user can send request for pick and drop, appointment for servicing, test drive as well as accessories purchase to the dealer. The dealer processes these requests and gives a response back to the user through push messages. This app also enables the user to set alarms for next servicing date etc. Thus we are developing an application which goes hand in hand with the new age technology and characterizes - user friendliness, informativeness and time saving.

Keywords: Android application, server, notifications, push messages, database, GPS.

1. INTRODUCTION

If someone wants to make service of their vehicle, they need to call at Service Center or personally visit and then book an appointment. This consumes precious time of the customer. Also if the service center cancels their schedule, the customer does not come to know about it, unless customer goes to the service center. The objective of this project is to build a system that will ease the process of online booking appointment of a two wheeler at the service center for servicing. The customer will book the appointment through his/her mobile phone. The service center will come to know the number of appointments customer has to attend whole day. The system will save customer's as well as service center's time. It will save the paper work. The system will be useful for customer as they can book appointments anytime from anywhere. Customer Interaction System is a very important requirement, especially when the mobile communication technology is rapidly developing. The advantages of this system are making full use of time and to provide fast and adequate services. Android is a Linux based open source operating system which is mainly used in portable device with excellent performance. To meet the needs of the customer, service center provides more efficient and convenient services.

Pratik M.Dimble, Rohit A. Kulkarni, Nagesh R.Chauhan, Minatai T. Khandare; Batchlor of Computer Engineering student, Flora Institute of Technology (FIT) Khopi Pune, Savitribai Phule Pune University- 412205, Maharashtra, India

Associate Prof. Shweta Joshi, Flora Institute of Technology (FIT) Khopi Pune, Savitribai Phule Pune University- 412205, Maharashtra, India

1.1 Background

If someone wants to make service of their vehicle, they need to call at Service Center or personally visit and then book the appointment. This consumes precious time of the customer. Also if the service center cancels their schedule, the customer does not come to know about it, unless customer goes to the service center. The objective of this project is to build a system that will ease the process of online booking appointment of a two wheeler at the service center for servicing. The customer will book the appointment through his/her mobile phone.

The service center will come to know the number of appointments customer has to attend whole day. The system will save customers as well as service centers time. It will save the paper work. The system will be useful for customer as they can book appointments anytime from anywhere. Customer Interaction System is a very important requirement, especially when the mobile communication technology is rapidly developing. The advantages of this system are making full use of time and to provide fast and adequate services. Android is a Linux based open source operating system which is mainly used in portable device with excellent performance. To meet the needs of the customer, service center provides more efficient and convenient services.

1.2 Motivation

The existing system consists of booking an appointment at service center. They provide services through website. The website is very useful as it provides various features.

The appointment confirmation is given by a SMS. The main drawback of this system is that, it is a website and it requires a very good internet connection as loading of web pages may take a long time. Our system will enable customer and service center to schedule and manage their appointments online. Also overcome the disadvantages of existing system.

1.3 Scope

The aim of SCASS is effectively prioritize test case for proposed System. Identification of critical situations based on their locations. This system can be used to reduce human efforts, hand in hand. The goal of the work: To set up a system for customer and service center to schedule and manage their appointments online.

2. LITERATURE SURVEY

Royal Enfield provides online bike service. Royal Enfield App is source for anything and everything customers need to know about Royal Enfield. This app allows customer to:

1. Browse through the entire product portfolio.
2. Enquire about new bikes.
3. Book a service appointment.
4. Provide feedback regarding Motor Cycles.
5. Book a service appointment.

Bajaj provides the information about bike service stations. Also provides the genuine parts dealer's information. Customer can communicate particular service station by calling. They can't provide online booking service facility also they don't have their android application. Hero Motocorp provides online booking service facility through website. They provide only authorized dealer information. Customer can communicate particular service station by calling. They don't have their android application. Mahindra Bikes provides only information of their authorized dealers and service stations. There is no any facility for online service booking or scheduling. Customer can contact to particular service station and schedule their appointment.

Honda Bikes provides only information of their nearest authorized dealers and service stations also there is no any facility for online service booking or scheduling. Customer can contact to particular service station and schedule their appointment.

1. A public safety application of GPS-enabled smartphones and the android operating system [1]

They used the Google Maps Application Programming Interface (API) to determine the location of nearby schools and sounded an alarm if a person drove over the speed limit in a school zone. The advantage of this system is it can reduce accidents on roads near school area. The disadvantage of this system is it is used on smart phone having Android Operating System only.

2. Location Based Services using Android Mobile Operating System [2]

In this paper they proposed location based information system for Android Mobile Operating System because they have observed that all the applications which provides information about places user wants to visit have limited access to desktop computer only. They realized that if all the information is available on mobile devices in user customized format then it will be very use full for everyone. Advantage of this system is user who is using this LBS system is under surveillance all the time. This is very helpful to track a person, parents can keep eye on their children and we can use this functionality in many ways. The disadvantage of this system is it is for android mobile devices only.

3. Location Based Tracking [3]

In this paper they present 'Route Tracker' application. As the user travels with an Android device, Route Tracker application monitors the user's location and visually displays a route on a map. The advantage of this system is it can be helpful to those who don't know the route in new place. The disadvantage of this system is this can be useful to users of android smart phones and also it is dependent on network area.

The survey regarding this application includes information gathering from various sources. These sources include some of the car showrooms and service centers, various related web sites and similar projects developed previously. IEEE papers are used for clearing the concepts and algorithms included in this project. E.g. Google cloud messaging paper for push message services, Dijkstra's Algorithm for finding shortest path algorithm, etc. Mazda Company had developed similar kind of application. Mazda Motor Corporation is a Japanese automaker based in Fuch, Aki District, Hiroshima Prefecture, Japan. My Mazda was the

application developed by this company. This app consisted of features like giving user car info, locating and mapping of service centers, set appointments, etc. References of above applications and additions of some extra features are made in the proposed system.

Extra features include-

1. Navigation to the service center using GPS services.
2. Request for all the services other than just appointment.
3. Accessories chart.
4. Set alarm.
3. How does it work?

3.1 Proposed Model

The purpose of this project is to provide car or any other automobile servicing system more effectively than the existing system. There are some disadvantages of the existing service center management systems. These disadvantages are overcome by the automobile service center management system. And it can be made handily available to every person. Previously people could not get help or locate the service centers conveniently in case of their car break-down or any other emergencies. Thus SCASS is proposed to assist people and fulfill their requirements easily. The proposed system consists of three modules: The Customer, The Service Center, and The Administrator. The customer has to register into the application using Google+ or Facebook or filling the registration form. After registration, the customer will receive a username and password. After logging, the customer has to select a filtration type. The filtration is done on two bases: Area wise and Specialty wise. After selecting the filtration type, the Service center list will be displayed. The customer can select any particular service center and view his profile. Also the customer can view the Service Centers schedule and look for an appointment according to his convenience. The customers then send a request for an appointment. The Service Center can either accept the appointment or reject it. The database will get updated accordingly and the customer will get a confirmation message. The add-on to this system is that the customer will receive a notification 2 hours before the actual appointment. This will be very useful in case the customer tends to forget the appointment. This android-based Service Center Appointment Scheduler System (SCASS) will enable customer and service center to schedule and manage their appointments.

SCASS consists of three user Modules:

1. The Customer Module
2. Service Center Module
3. The Administrator Module.

SCASS contains three different types of users, and can be seen from different perspectives:

1. Customer- Customer will be able to:
 - a. Create his/her account.
 - b. Edit Personal information.
 - c. Book an appointment.
 - d. Cancel an appointment.
 - e. Rescheduling an appointment.
 - f. Consult his/her appointments.
2. Service Center - Service Center shall be able to:
 - a. Create his/her account.
 - b. Edit Personal information.
 - c. Cancel appointments.
 - d. Provide the membership and offers.
 - e. Schedule special appointments.
 - f. Consult his/her appointments.
3. Administrator- Administrator will be able to:
 - a. Activate or deactivate a Service Center.
 - b. Configure employee catalogs.
 - c. Configure departments.
 - d. Configure employees in a department.

4. CONCLUSION

The Android-Based Service Center Appointment Scheduler System is user friendly i.e. easy to use. It is free of cost on android store. Thus, it is time saving as well as cost efficient application. So, the proposed system can be used to reduce human efforts, hand in hand.

5. FUTURE WORK

Further improvements in this system:

- a. Book online the appointments for
 - 4 Wheeler.
 - Long vehicles.
- b. E-bill, online payment service.

6. REFERENCES

- [1] "A public safety application of GPS-enabled smartphones and the android operating system"- Systems, Man and Cybernetics, 2009. SMC 2009.IEEE International Conference-Whipple, J.Inf. Syst. Eng. Dept.,

Southwest Res. Inst., San Antonio, TX, USA Arensman, W. ; Boler, M.S.

[2] “.Survey of location based wireless services” Mohapatra, D.; Suma, S.B.; Personal Wireless Communications, 2005.ICPWC 2005. 2005 IEEE International Conference on Digital Object Identifier: 10.1109/ ICPWC. 2005.1431366 Publication Year: 2005, Page(s): 358 - 362.

[3] Schwinger, W., Grin, C., Prill, B., and Retschitzegger, W. Light-weight framework for location-based services. In Lecture Notes in Computer Science (Berlin, 2005), Springer, pp. 206_210

[4] “Implementation of Cloud Messaging System Based on GCM Service”. Computational and Information Sciences (ICCIS), 2013 Fifth International Conference. Penghui Li Transp. Manage. Coll., Dalian Maritime Univ., Dalian, China Yan Chen ; Taoying Li ; Renyuan Wang ; Junxiong Sun

[5] “A public safety application of GPS-enabled smartphones and the android operating system”- Systems, Man and Cybernetics, 2009. SMC 2009. IEEE International Conference-Whipple, J. Inf. Syst. Eng. Dept., Southwest Res. Inst., San Antonio, TX, USA Arensman, W. ; Boler, M.S.

[6] “Unified platform for the delivery of notifications to smartphones notification” Carpathian Control Conference (ICCC), 2012 13th International. Mojziso, A. Inst. of Control & Informatization of Production Processes, Tech. Univ. of Kosice, Kosice, Slovakia Mojziso, M.

[7] “An improvement of the shortest path algorithm based on Dijkstra algorithm” Computer and Automation Engineering (ICCAE), 2010 The 2nd International Conference on (Volume:2). Ji-xian Xiao Coll. of Sci., Hebei Polytech. Univ., Tangshan, China Fang- Ling Lu.

[8] “Developing an Android based learning application for mobile devices”, Telematics and Information Systems (EATIS), 2012 6th Euro American Conference, de Clunie, G.T.Fac. de Ing. de Sist., Computacionales, Univ. Tecnol. de Panama, Panama City, Panama Serrao, T. ; Monteiro Braz, J.R.- . Serrao, T. Rangel, N. Castillo, A. Gomez, B.

[9] “Crowds replace Experts: Building Better Location-based Services using Mobile Social Network Interactions” Pravin Shankar¹, Woody Huang², Paul Castro², Badri Nath¹, and Liviu Iftode¹

[10] “Selective Cloaking: Need-to-know for Location-based Apps” . Benjamin Henne, Christian Kater, Matthew Smith, Michael Brenner.