

# E-Mechanics

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**Abstract**— Nowadays in 21th century, large number of people have smart phones in their hand, by which their life is simplified to a great extent. They provided easy, fast, secure and hassle free solutions to the problems faced by people. They can do anything like sending messages, photos and videos (using apps like whatsapp), sending money (using apps like paytm) or checking the bank balance. But there are some areas where still work is done manually, which can be made simpler by using mobile apps In this research paper, our topic is about E-mechanic. The reason for keeping the name as E-mechanic provides online mechanics for any vehicle, which can be improvised and made more efficient by using mobile application.

**Keywords:** Mechanics, Vehicle repair, Auto repair, Vehicle service, Mobile App, Engine, Oils, Maintenance engineering.

## I. INTRODUCTION

Vehicles become more useful to mankind. Gradually vehicles become a basic need of human. It is a machine that should be maintained carefully for proper operation. Those who made the vehicle they always give advice for maintenance of the car or motor vehicle to improve the performance of the vehicle. Without proper knowledge of vehicle maintenance conditions may face vehicle running problems.

An auto mechanic is an automotive technician. For repairing the cars or any vehicle first know the main problem accurately and very much quickly so that mechanic can repair cars quickly. Based on car problem mechanic take payment from the car owner. Mechanics main job is to solve the vehicle problem and check whether its work is done properly or not.

Vehicle maintenance is the main part of mechanics work. Because if the customer maintains there vehicle on time then the there vehicle is in good condition. If vehicles are not properly maintained then some big problem occurs on the vehicle.

maintenance is done for replacement of some parts of vehicles which done before they fail to avoid the more expensive damage. many vehicle owners will do not maintain their vehicle properly.

Vehicle repairing shops are also known as garage or workshop in this vehicle like a car, bike or any type of vehicle is repaired or maintained by mechanic and technicians.

These Automobile repair shops specialize in some parts like brakes and Brakes & Brakes Repair, Oil Change, Tires & Tire Repair, Mufflers & Exhaust, Check Engine Light, Batteries, Starting & Charging and Radiator & Engine Cooling etc. they also specialize in vehicle modification in this they change the color of vehicle, modify the vehicle with adding some more extra features.

Our system works for these shop we collect all information from each of the automobile repair shops. Information is like a name of a shop, name of mechanics, qualification, experience, mobile number, email id, an address of shop, mechanically available time and his charges.

## II. LITERATURE SURVEY

The Car Service and repair is currently working in an old fashion way, where a customer goes to mechanics location, and explains about the car's problem and this is very hectic for the customer when they are somewhere outside of the station.

In this, we are providing online mechanics for a vehicle. If we are going somewhere outside and our vehicle is not started then just using our E-mechanic system we get all nearby mechanics information. In this contain the name of a mechanic, visiting fees, mobile number. If we register in the system and book the mechanic then directly mechanic get the message and he or you can call and discuss other details. because of these its lots of help to us because if our vehicle is not started in the middle of the road then these system is very useful its save our time to search mechanic, and we easily get mechanic.

## III. SYSTEM MODEL

### A. Architecture:

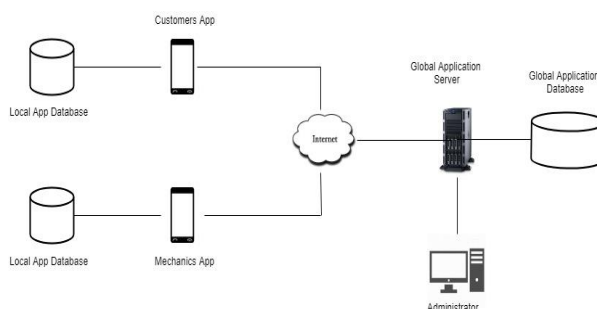


Fig. 1 Framework for E-Mechanics App

There are three parts of this framework:

*i. The mobile apps:*

There are two different mobile apps for customer and mechanics. All these applications have their own database and are connected to internet, but cannot communicate directly through internet. The communication occurs only through global application server.

Every app provides different functionality such Mechanics app has rights to create/modify Visiting charges, servicing charges and also they can change their address details. customer's app has rights to read and also search the mechanics and after selecting the mechanic they can track the mechanic but not to make changes into it.

*ii. Global Application Server:*

This server manages the whole system from one place. This server is directly connected to all parts of the system directly, and also connected to administrator. He can control everything from here like activate/deactivate mechanics, taking backups of system etc.

All the three apps will communicate with each other through global application server.

*iii. Global Database Server:*

This database will store data of entire system such as details of two types of users, their login ids, their certificates, backups of details of both customer and mechanics etc. Only administrator will have direct access to this database server.

*B. Registration Process:*

The system will have two types of users as follows viz. customer and Mechanics. Each user will have its separate profile, and registration process. For customer registration is simple by providing email id, mob no and password. A mechanics has to provide photos of his/her; "Certificate of registration of shop with the municipal authorities" for registration on the app.

For mechanics after registration, system administrator has to validate the proofs (photos of certificates) uploaded by mechanics. This is required because anyone can make fake certificates, upload it to create account and register. To solve this problem, the system administrator will communicate the government or certificate provider authority to check whether the certificates are genuine or not. After the verification is complete, the administrator will activate mechanics account, and they will be ready to use the app.

*C. Working of the System:*

In this, we are providing online mechanics for a vehicle. If we are going somewhere outside and our vehicle is not started then just using our E-mechanic system we get all nearby mechanics information. In this contain the name of a mechanic, visiting fees, mobile number. If we register in the system and book the mechanic then directly mechanic get the message and he or you can call and discuss other details. because of these its lots of help to us because if our vehicle is not started in the middle of the road then these system is very useful its save our time to search mechanic, and we easily get mechanic.

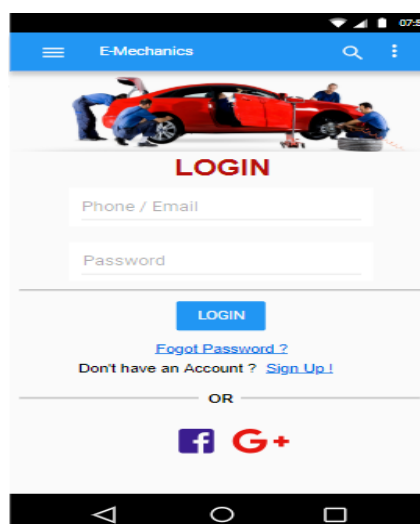


Fig 2.1 Login Page

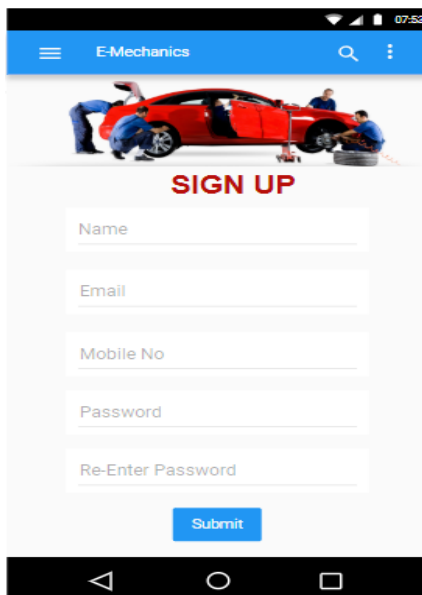


Fig 2.2 Signup Page

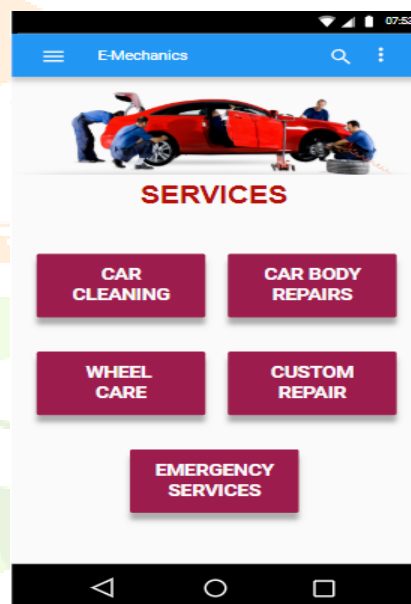


Fig 2.3 menu Page

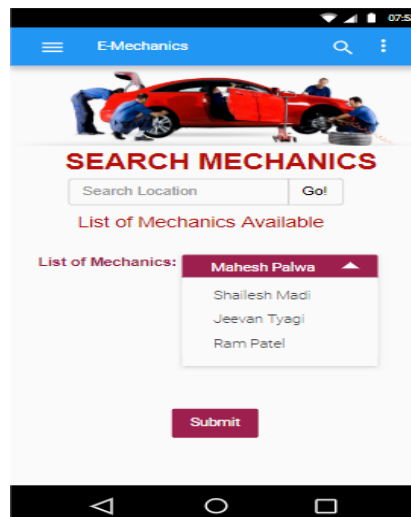


Fig 2.4 Search Mechanics Page

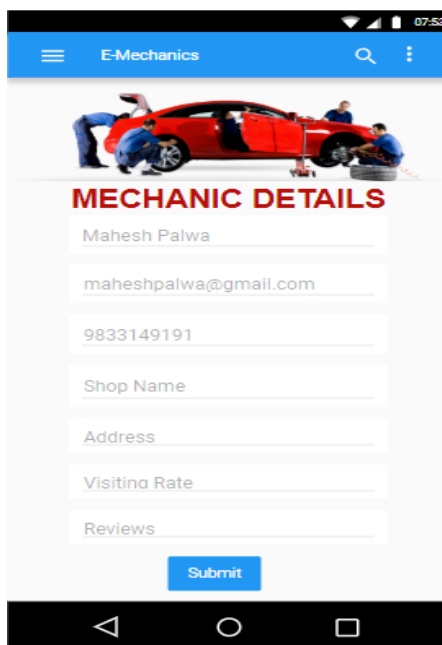


Fig 2.5 menu Page

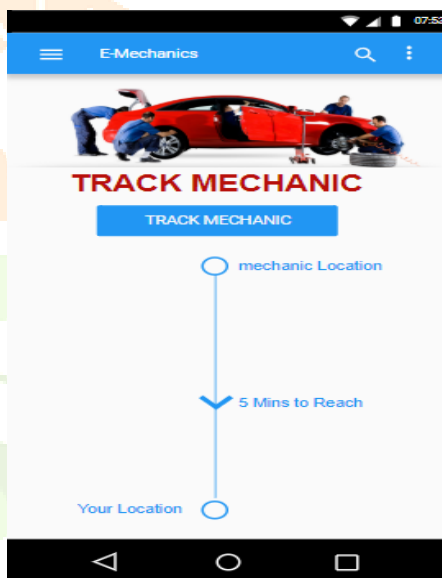


Fig 2.2 menu Page

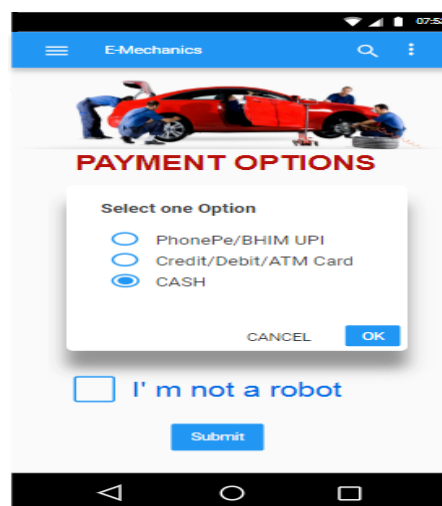


Fig 2.2 menu Page

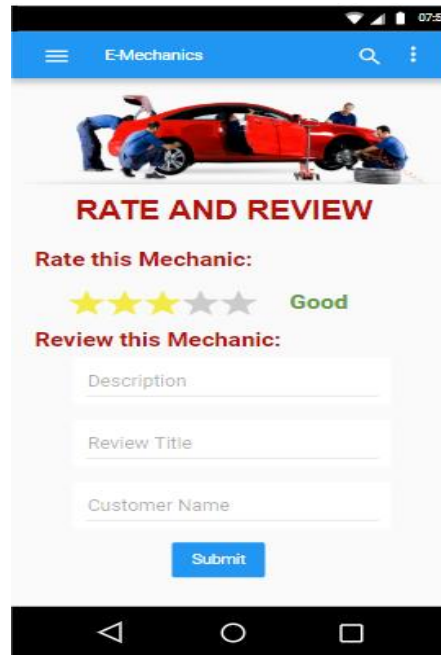


Fig 2.2 menu Page

#### IV. ADDITIONAL FEATURES

We can add features to this app as follows:

- App can provide alarm feature. App will ring an alarm on mechanics app when its emergency for customers.
- It can provide chat facility for customer and mechanic. Both can communicate while mechanic is coming from there shop to vehicle location.
- If customer wants to change the mechanics for car repairing, then such kind of functionality can be given.
- In future app also provides all charges of material required for servicing the car this all cost is display in app and this will see every customer.

#### V. CONCLUSION

This app is very much useful when someone goes to unknown place and that time his vehicle is not start or some major problem is occurred in vehicle then by using this app he can easily get the mechanic anytime and anywhere which is to much environment friendly

#### REFERENCES

- [1]. J. W. Ding, C. F. Wang, F. H. Meng, T. Y. Wu, "Real-time vehicle route guidance using vehicle-to-vehicle communication", *IET Commun.*, vol. 4, no. 7, pp. 870-883, Apr. 2010.
- [2]. Xiao Shumei, Web-based support system of vehicle maintenance [D].Southeast University, 2007..
- [3]. "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.- . Serr o, T. Rangel, N. Castillo, A. G mez, B. Rodr guez, . de Barraza, . Riley, J..
- [4]. <https://transport.maharashtra.gov.in/-> details about RTO of vehicles.
- [5]. "Motor vehicles (per 1000 people)", *The World Bank*, 2009
- [6]. "Society of Indian Automobile Manufactures SIAM", [online] Available: <http://118.67.250.203//scripts/domestic-sales-trend.aspx>.