DEPARTMENT OF TECHNICAL EDUCATION

GOVERNMENT OF KERALA

N.S.S POLYTECHNIC COLLEGE PANDALAM

PROJECT REPORT

ON

ON-ROAD VEHICLE BREAKDOWN ASSISTANCE

DONE BY

1.ANOOP A	**19130142**
2.ADWAITH S GOPAL	**19130130**
3.ANANTHU S	**19130140**
4.KRISHNARAJ V R	**19130165**
5.SRAVAN KRISHNA K G	**19130181**
6.AJITH CHANDRAN	**19130132**

COMPUTER ENGINEERING

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NSS POLYTECHNIC COLLEGE

MANNAM NAGAR, PANDALAM

DEPARTMENT OF COMPUTER ENGINEERING

Certificate

This is to certify that this report of the project work on "**ON-ROAD VEHICLE BREAKDOWN ASSISTANCE"** done by **ANANTHU S (19130140)** during the academic year 2021-22 in partial fulfillment for the award of diploma in computer engineering by the state board of technical education, Govt of Kerala

Smt. Parvathy G S	**Smt. Parvathy G S**	**Examiner**
(Project guide)	**(Head of Section)**	

ACKNOWLEDGEMENT

We hereby express our gratitude to **Smt. Preetha R,** Principal, NSS Polytechnic College Pandalam , Pathanamthitta and **Smt. Parvathy GS, Head of section** , Computer Engineering for their valuable advice and support for this project

We are immensely thankful to our project guide **Smt. Parvathy GS , Head of section** of Computer Engineering for their guidance of the project and giving valuable suggestions without which the work would not have been possible.

Finally we thank our parents, classmates and all well-wishers who helped us in the successful completion of our project. Last but not the least. We thank the almighty without whose blessing we would not have succeed in my endeavors

Yours Sincerely

ANANTHU S

Abstract

On Road Vehicle Breakdown Assistance is going to be a good solution for the people who seek help in the remote locations with mechanical issues of their vehicle. Users of the On Road Vehicle Breakdown Assistance will be the registered public and they be getting connected with the particular mechanic through the trustworthy On Road Vehicle Breakdown Assistance system. Because only the legally and approved mechanics are enlisted in the On Road Vehicle Breakdown Assistance system. Also they are under monitoring by the system for not charging any extra service fee from the users as every user is updating their feedback about the availed service through system.

This application is used to find nearby area mechanics while we suddenly stranded on the remote locations with mechanical issues of our vehicle. It is a good solution to be used in emergency needs. In this, the approved mechanics are enlisted in this application. This can be monitored by the admin through the user feedback based on their service. The registered users can access this application. This application will help to reduce wasting user time to found a proper mechanic.

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INTRODUCTION

1. Introduction

Today most of people use their own vehicle for travel. While travelling most of us are troubling with breakdown of our vehicle on the road. This is a worst experience that they have to face. When our vehicle suddenly breakdown on the road, the user have to search for mechanic and have to see a spare-part shops near to their location. At that time we can't able to search for a good mechanic and we have to arrange some other transportation.

By using this application the user can find suitable mechanic. The most advantage is the user can find a mechanic based on their user location and make payment.This application directly connect with google GPS system and it shows the users current location.This project will show the name and address or location of all the mechanics available in that locaion and the user can able to select any one mechanic.

The problem while travel is breakdown of our vehicle. In this situation, the only way is to look for some other transportation at that time of issue and then they need to get a mechanic to the particular location at which they have left their vehicle. In this application, the mobile users can get nearby area mechanics by searching at anytime and anywhere. The admin can access the shop details and check whether the registered shop is licensed or not and provide approval.

MODULES OF THE SYSTEM

2. Modules of the System

2.1 Administrator

Administration has to give approval to the registering mechanic after verifying their li- censing details for the effective service.

Functions

Provides Approval.

2.2 User

Functions

- Register

  User has to register their basic details to get access with this application service.

- Login

  Once they have registered they need to login to avail the service at the needy time.

- ViewDetails

  Logginginwiththeapplicationwillprovideyouthelistsofmechanicsthathavetheappr oval of theapplication.

- Search recordscall

  So that the users can search the mechanic among the list according to their place and time. After all the process every user has to give their feedback with this application to about their adopted service through this medium.

2.3 Mechanical functions

- Register

  At first every mechanic has to register their details with the admin for getting approval.

- Login

  Registered mechanics can login their accounts if they got their approval from the admin.

- Post details

  Here mechanics have to post their details like name, location, services available, etc.

- View feedback

  Using the feedbacks provided by the users/customers of the service mechanics have to maintain or improve their service.

SYSTEM ANALYSIS

3. System Analysis

3.1 System Analysis

It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components. System analysis is conducted for the purpose of studying a sys- tem or its parts in order to identify its objectives. It is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. Analysis specifies what the system should do.

Information is gathered using an interview. Interviews are planned to proceed top down, from functionally higher levels of staff on down. Support from user management is essential and prior management commitment should have been obtained through the project planning process. This commitment should be communicated by management to the users.

Careful preparation for the interview on the part of the analyst will help maximize use of time available. The user is advised in writing before the interview of the objectives of the interview, in sufficient detail so that the user can also be prepared. Double teaming at interviews is to be arranged when different analysts are examining related business processes. This maximizes use of the interviewee's time by eliminating potential repetition in overlapping areas. The Interview Action List is a useful aid to planning interviews.

An Interview Checklist should be used as a basis for structuring and controlling the interviews. The questions to be asked and the strategy to be applied will depend upon the relative level of responsibility of the interviewee. For example, senior management will not appreciate being asked for detailed lists of data elements.

It is up to the analyst to use skill in adapting the interview to the level and outlook of the interviewee, and still achieve the objectives.

Essential activities after the interview are the prompt documenting of the interview, including hard copy of prototype externals, and verification or amendment by the interviewee. The latter activity is useful as a memory jog for any promised follow-up activities.

3.2 Existing System

In an existing system there are users who have their own mechanic database which is very minimal. And also they have no idea if their vehicles are broke down or had any mechanical issue in remote locations or any long distant locations from their known mechanic shops. Users with the contacts of people at the particular place may look for a help from them only if they are ready to do.

It is not possible to find out the suitable mechanic for the desired service at remote locations. The only way they have is to look for any other transportation at the time of issue and then they need to get a mechanic to the particular location at which they have left their vehicle.

Disadvantages

- It is not suitable application for emergency needs.
- It is not feasible. Because if the user in unknown location first they find the location using one app and searching nearby location another app.

3.4 Proposed System

Here the users of On Road Vehicle Breakdown Assistance (ORVBA) system can search for list of mechanic at any location or the nearby locations which will help them in an unexpected situations raised by the mechanical issues of their vehicles. Only the licensed mechanics can get listed here while the search. And there are available mechanic who can come and repair the mechanical issues in the users vehicle.

Advantages

- Secure registration of user's and mechanics.
- Reduced manual work.
- Search mechanics based on different locations.
- The new system is more user-friendly, reliable and flexible.

3.5 Feasibility Study

A project feasibility study is a comprehensive report that examines in detail the five frames of analysis of a given project. It also takes into consideration its four Ps, its risks and POVs, and its constraints (calendar, costs, and norms of quality). The goal is to determine whether the project should go ahead, be redesigned, or else abandoned altogether.

The five frames of analysis are: The frame of definition; the frame of contextual risks; the frame of potentiality; the parametric frame; the frame of dominant and contingency strategies.

The four Ps are traditionally defined as Plan, Processes, People, and Power. The risks are considered to be external to the project (e.g., weather conditions) and are divided in eight categories: (Plan) financial and organizational (e.g., government structure for a private project); (Processes) environmental and technological; (People) marketing and sociocultural; and (Power) legal and political. POVs are Points of Vulnerability: they differ from risks in the sense that they are internal to the project and can be controlled or else eliminated.

The constraints are the standard constraints of calendar, costs and norms of quality that can each be objectively determined and measured along the entire project lifecycle. Depending on projects, portions of the study may suffice to produce a feasibility study; smaller projects, for example, may not require an exhaustive environmental assessment.

Technical feasibility

This assessment is based on an outline design of system requirements, to determine whether the company has the technical expertise to handle completion of the project. When writing a feasibility report, the following should be taken to consideration:

A brief description of the business to assess more possible factors which could affect the study The part of the business being examined The human and economic factor The possible solutions to the problem At this level, the concern is whether the proposal is both technically and legally feasible (assuming moderate cost).[citation needed]

The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the pro- posed system. It is an evaluation of the hardware and software and how it meets the need of the proposed system.

Operational feasibility

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

The operational feasibility assessment focuses on the degree to which the proposed development project fits in with the existing business environment and objectives with regard to development schedule, delivery date, corporate culture and existing business processes.

To ensure success, desired operational outcomes must be imparted during design and development. These include such design-dependent parameters as reliability, maintainability, sup- portability, usability, productibility, disposability, sustainability, affordability and others. These parameters are required to be considered at the early stages of design if desired operational be- haviours are to be realized. A system design and development requires appropriate and timely application of engineering and management efforts to meet the previously mentioned parameters. A system may serve its intended purpose most effectively when its technical and operating char-

acteristics are engineered into the design. Therefore, operational feasibility is a critical aspect of systems engineering that needs to be an integral part of the early design phases.

Financial feasibility

In case of a new project, financial viability can be judged on the following parameters:

- Total estimated cost of the project
- Financing of the project in terms of its capital structure, debt to equity ratio and promoter's share of total cost
- Existing investment by the promoter in any other business
- Projected cash flow and profitability

The financial viability of a project should provide the following information:

Full details of the assets to be financed and how liquid those assets are
Rate of conversion to cash-liquidity (i.e., how easily the various assets can be converted to cash)
Project's funding potential and repayment terms

- Mild slowing of sales
- Acute reduction/slowing of sales
- Small increase in cost
- Large increase in cost

SYSTEM SPECIFICATIONS

4. System Specifications

4.1 Software Requirements

Front End : HTML 5, CSS 3
BackEnd : Node JS, MYSQL
IDE : Visual Studio Code
Database : xampp-win32-5.5.19-0-VC11

4.2 Hardware Requirements

Processor : Intel 3

Installed

memory(RAM) : 4 GB

HardDisk : 500GB

OperatingSystem : Windows 7,8,10 - 64bit

PLATFORM

5. Platform

5.1 HTML

HTML is the standard markup language for creating Web pages.

- HTML stands for Hyper Text Markup Language
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by tags
- HTML tags label pieces of content such as ”heading”, ”paragraph”, ”table”, and soon
- Browsers do not display the HTML tags, but use them to render the content of thepage

5.2 CSS

CSS(Cascading Style Sheet) is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .

5.3 Node JS

Node.js is an open-source, cross-platform, back-end JavaScript run time environment that runs on the V8 engine and executes JavaScript code outside a web browser. Node.js lets devel- opers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user’s web browser. Consequently, Node.js represents a ”JavaScript everywhere” paradigm, unifying web-application development around a single programming language, rather than different languages for server- side and client-side scripts.

5.4 MySQL

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Micro systems (now Oracle Corporation). In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB.MySQL has stand-alone clients that allow users to interact directly with a MySQL database using SQL, but more often, MySQL is used with other programs to implement applications that need relational database capability..

5.5 Bootstrap

Bootstrap is a potent front-end framework used to create modern websites and web apps. It's open-source and free to use, yet features numerous HTML and CSS templates for UI interface elements such as buttons and forms. Bootstrap also supports JavaScript extensions.It is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

SYSTEM DESIGN

6. System Design

System design is the process of defining the elements of a system such as the architecture, modules and components, the different interfaces of those components and the data that goes through that system. It is meant to satisfy specific needs and requirements of a business or organization through the engineering of a coherent and well-running system.

The system can be divided into sub-systems based on the analysis structure. A normal computer can be taken to implement this design.
The major activities include:

- Input Design
- Output Design
- Database Design
- Data Flow Diagram

6.1 Input Design

In an information system, input is the raw data that is processed to produce output. Dur- ing the input design, the developers must consider the input devices such as PC, MICR, OMR, etc.

Therefore, the quality of system input determines the quality of system output. Well-designed input forms and screens have following properties,

- It should serve specific purpose effectively such as storing, recording, and retrieving the information

- It ensures proper completion with accuracy
- It should be easy to fill and straightforward
- It should focus on user's attention, consistency, and simplicity

All these objectives are obtained using the knowledge of basic design principles regarding,

- What are the inputs needed for the system?
- How end users respond to different elements of forms and screens

Objectives for Input Design

- The objectives of input design are
- To design data entry and input procedures
- To reduce input volume
- To design source documents for data capture or devise other data capture methods
- To design input data records, data entry screens, user interface screens, etc.
- To use validation checks and develop effective input controls

6.2 Output Design

The design of output is the most important task of any system. During output design, developers identify the type of outputs needed, and consider the necessary output controls and prototype report layouts.

Objectives of Output Design

The objectives of input design are,

- To develop output sign that serves the intended purpose and eliminates the production of unwanted output
- To develop the output design that meets the end users requirements
- To deliver the appropriate quantity of output
- To form the output in appropriate format and direct it to the right person

6.3 Database Design

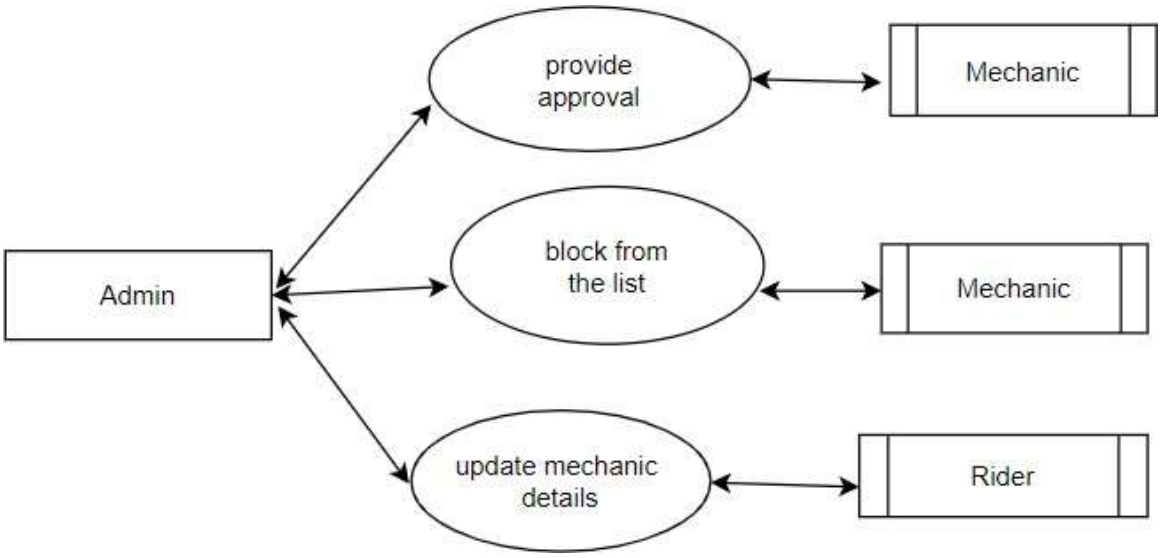
Database design is the organisation of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model.

Database design involves classifying data and identifying interrelationships. This theo- retical representation of the data is called an ontology. The ontology is the theory behind the database's design. In a majority of cases, a person who is doing the design of a database is a per- son with expertise in the area of database design, rather than expertise in the domain from which the data to be stored is drawn e.g. financial information, biological information etc. Therefore, the data to be stored in the database must be determined in cooperation with a person who does have expertise in that domain, and who is aware of what data must be stored within the system.

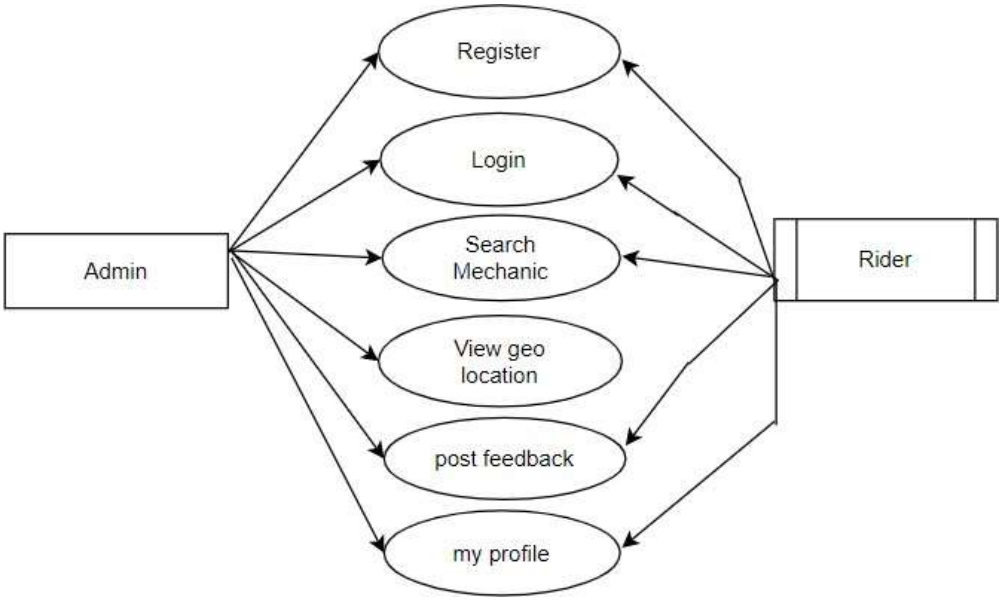
6.4 Data Flow Diagram

A data-flow diagram (DFD) is a way of representing a flow of a data of a process or a system (usually an information system) The DFD also provides information about the outputs and inputs of each entity and the process itself. A data-flow diagram has no control flow, there are no decision rules and no loops. Specific operations based on the data can be represented by a flowchart

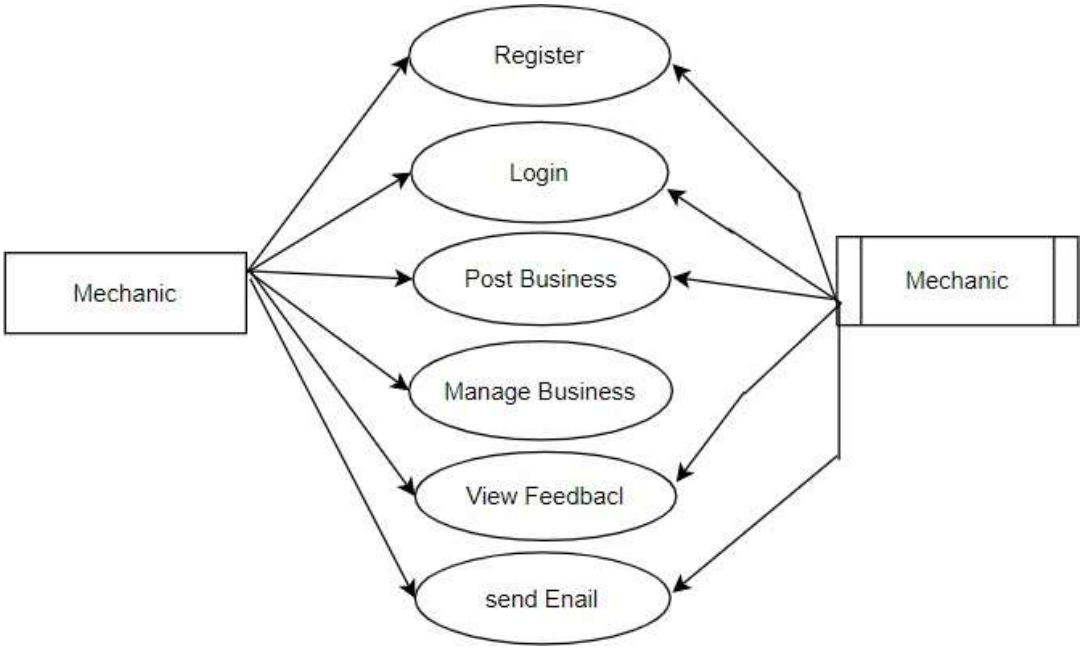
Level 0: Context Diagram



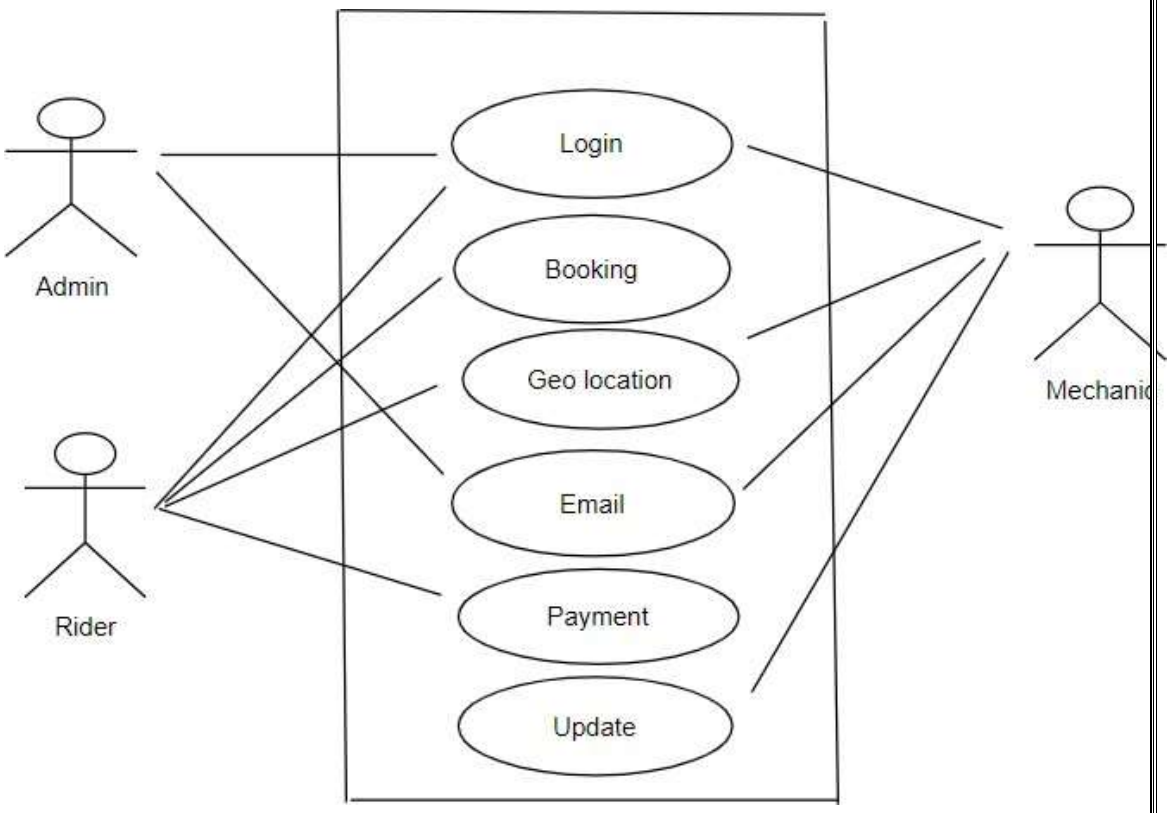
Level 1: Admin



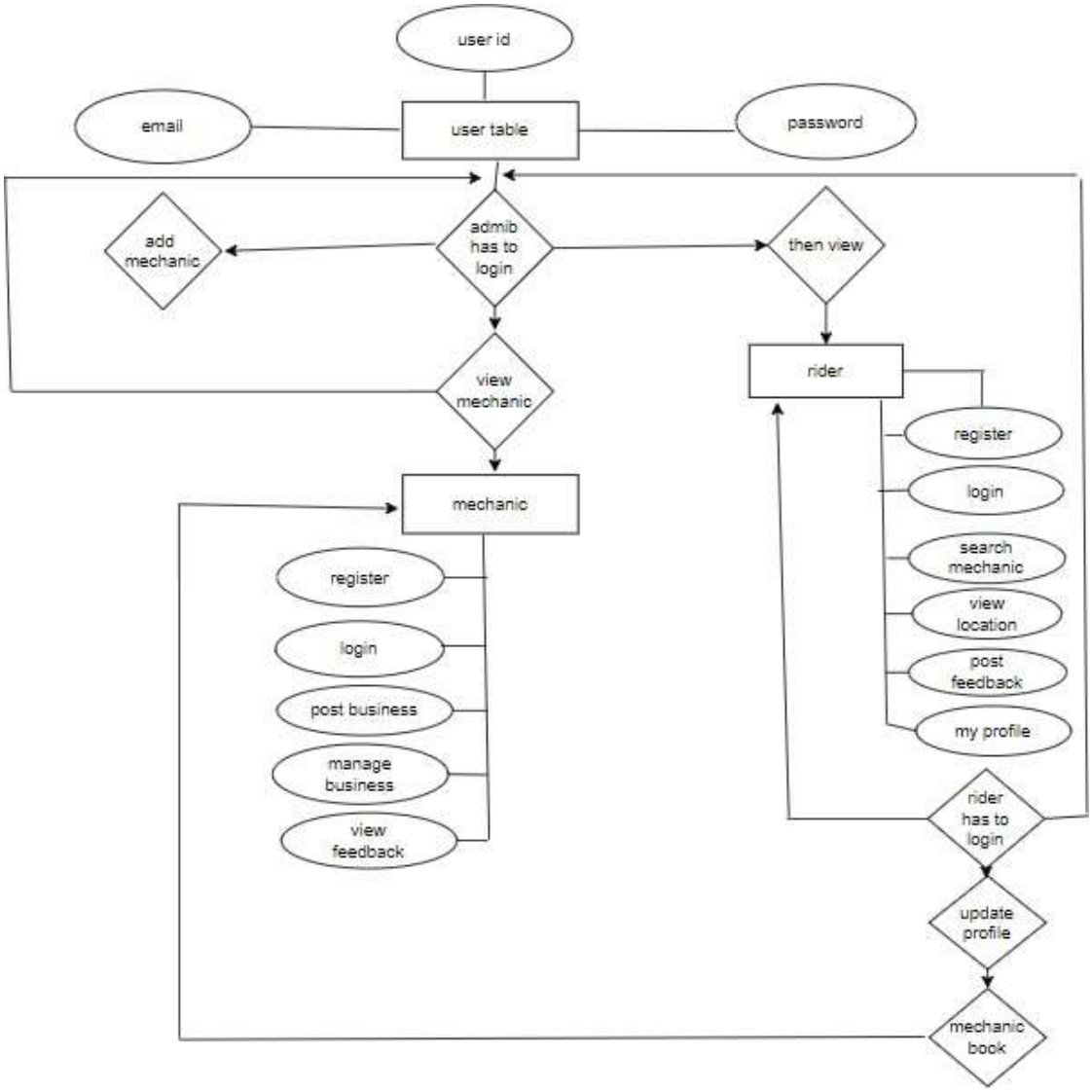
Level 2: Mechanic



Use Case Diagram



ER Diagram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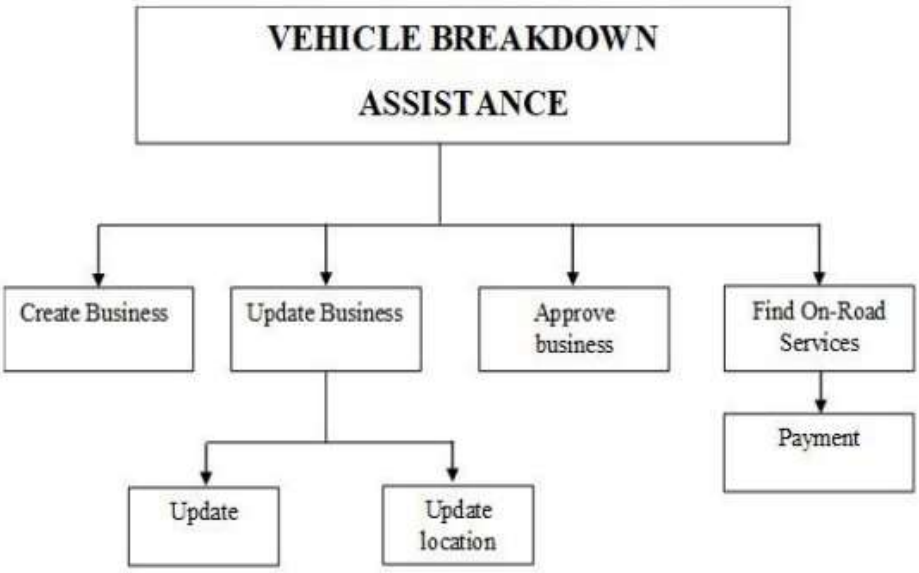
Architecture



SYSTEM TESTING

7. System Testing

System Testing (ST) is a black box testing technique performed to evaluate the complete system the system's compliance against specified requirements. In System testing, the functionalities of the system are tested from an end-to-end perspective.

System Testing is usually carried out by a team that is independent of the development team in order to measure the quality of the system unbiased. It includes both functional and Non-Functional testing.

7.1 Unit Testing

Unit Testing is a level of software testing where individual units/ components of a software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output.

7.2 Integration Testing

Integration Testing is a level of software testing where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. Test drivers and test stubs are used to assist in Integration Testing.

7.3 System Testing

System Testing is a level of software testing where a complete and integrated software is tested. The purpose of this test is to evaluate the system's compliance with the specified requirements.

7.4 Validation Testing

The process of evaluating software during the development process or at the end of the development process to determine whether it satisfies specified business requirements.

Validation Testing ensures that the product actually meets the client's needs.

MAINTENANCE

8. Maintenance

Maintenance means restoring something to its original conditions. Enhancement means adding, modifying the code to support the changes in the user specification. System maintenance conforms the system to its original requirements and enhancement adds to system capability by incorporating new requirements.
System maintenance can be classified into three types,

- Corrective Maintenance
  Enables user to carry out the repairing and correcting leftover problems.

- Adaptive Maintenance
  Enables user to replace the functions of the programs.

- Perfective Maintenance
  Enables user to modify or enhance the programs according to the users' requirements.

FUTURE ENHANCEMENT

9. Future Enhancement

The main objective of this project is to overcome the drawbacks of the existing system, which forms the basis of the proposed system. This project is using powerful tools. The system was tested with all possible samples of data and performance of the system was proved to be efficient. Thus, the entire drawback is rectified and through this user requirements are fulfilled.

The system is very flexible and changes can be made without much difficulty. Further extensions to the system can be made according to new issues. So even after the development phase new application can be applied and integrated very easily with the existing system.

In Future, the vehicle will be categorized according to the vehicle model. Mechanics will be categorized based on their services. Feedback from riders will be added.

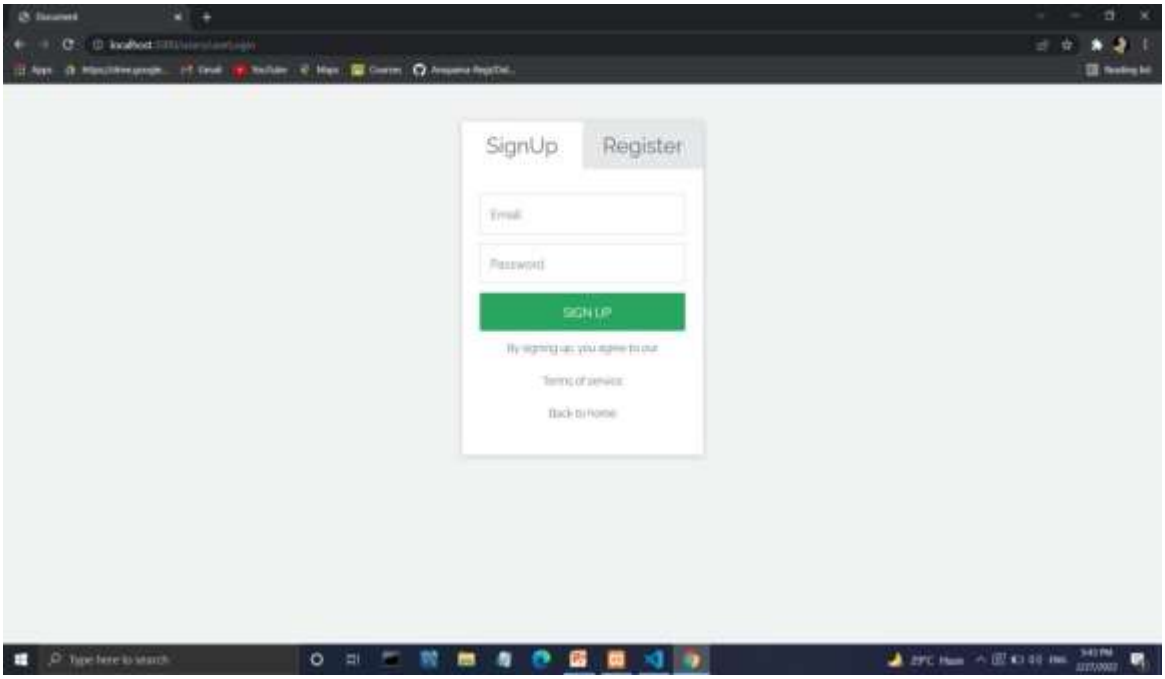
CONCLUSION

10. Conclusion

When the vehicle breakdown occurs the driver have to see a mechanic or the repair shop. The driver has to ask for help from the people. By using this application, the user can find mechanic based on user location. The user can get the mechanical help directly and easily. This is help to save user's time while the traveling. When the breakdown occur, user can fix their vehicle immediately. That make comfortable the user. They won't make tired their journey.

SCREENSHOTS

11. Screenshots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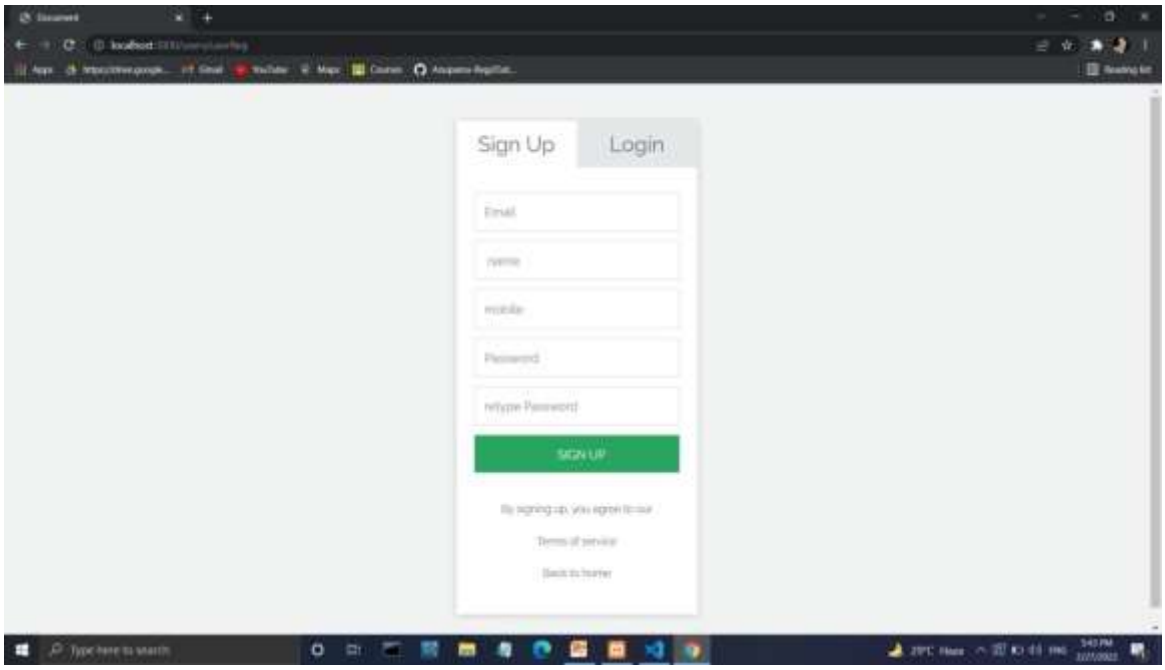
By signing up, you agree to our
Terms of service
Back to home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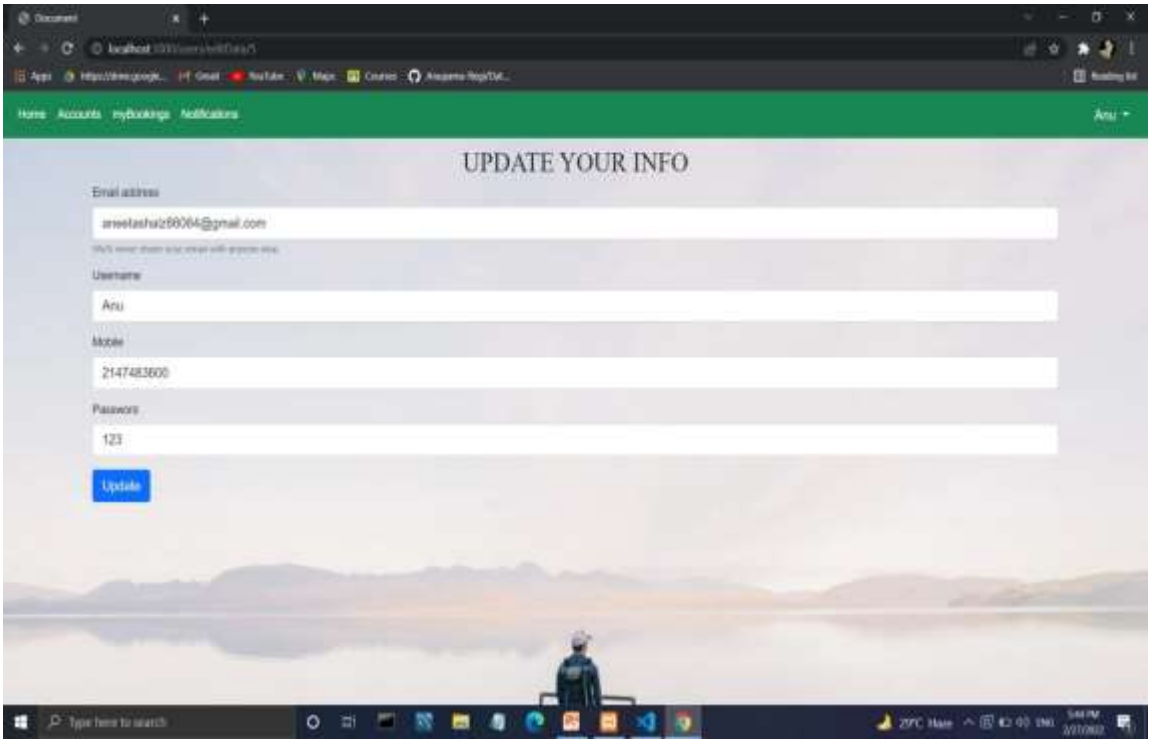
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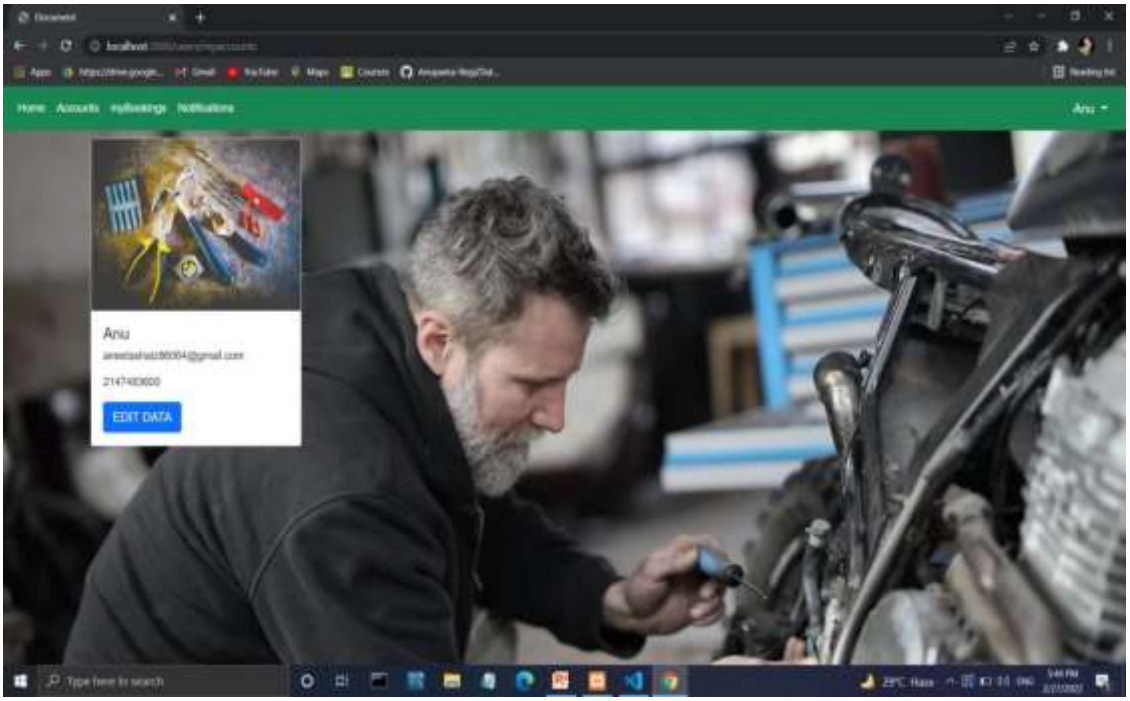
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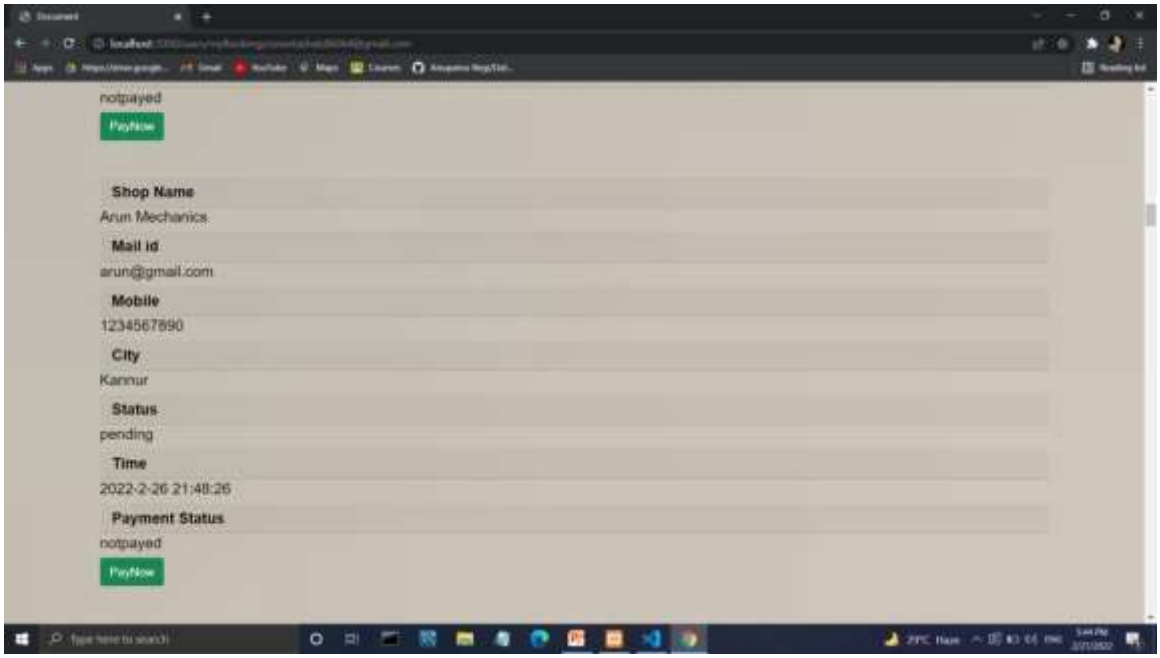
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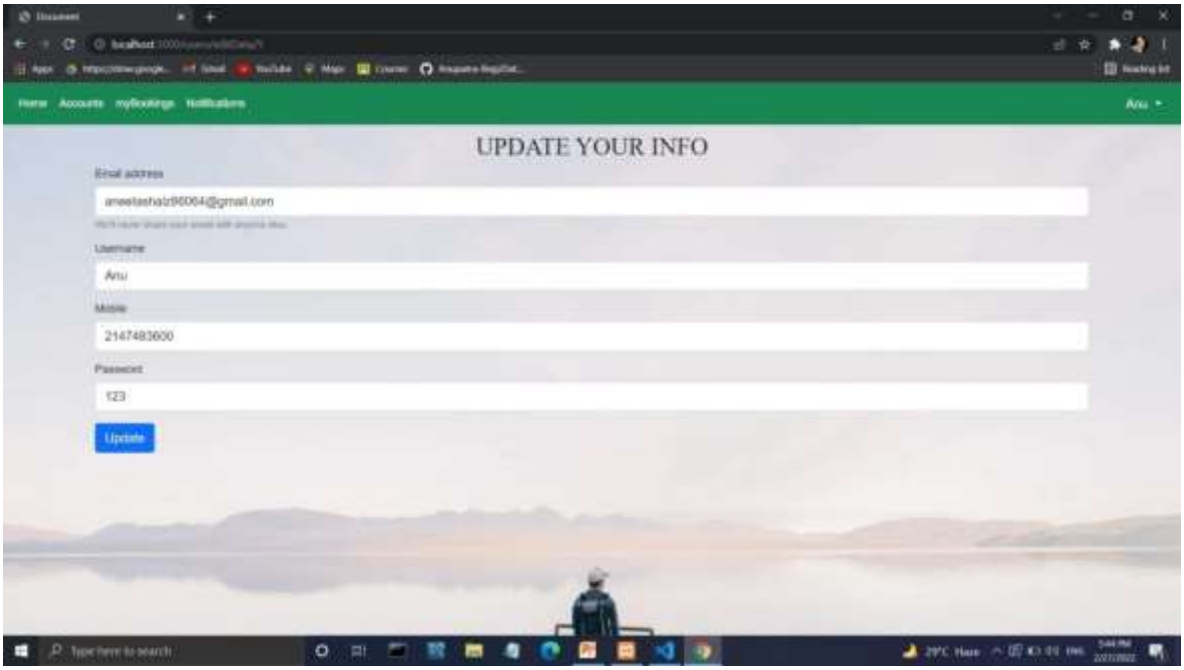
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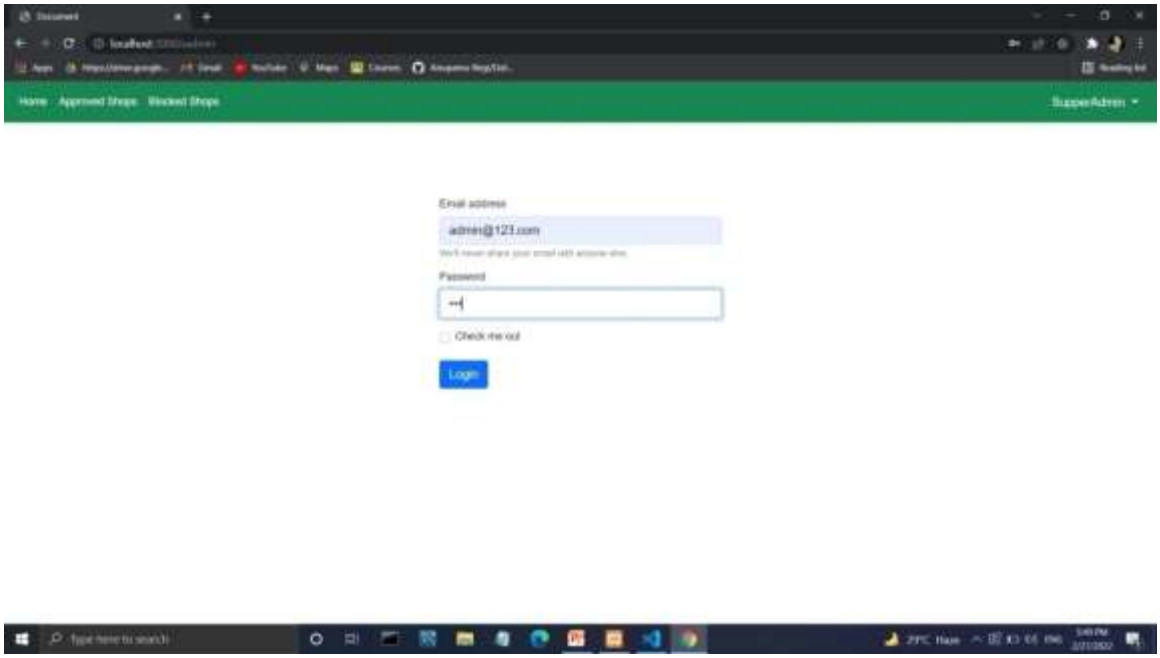
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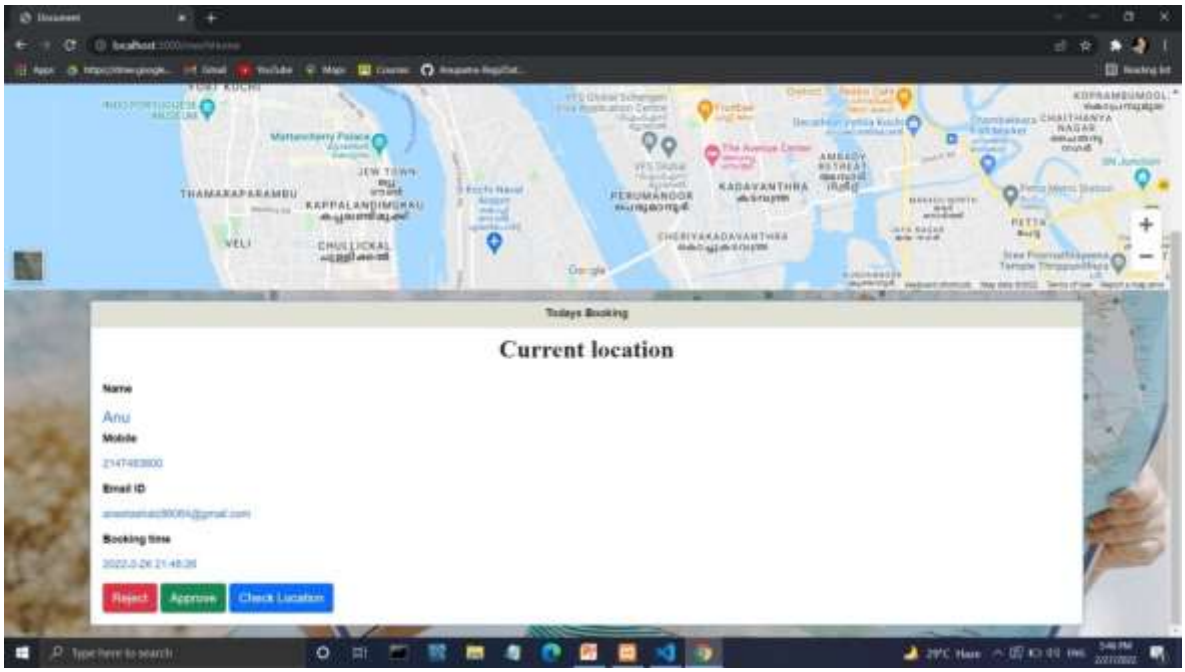
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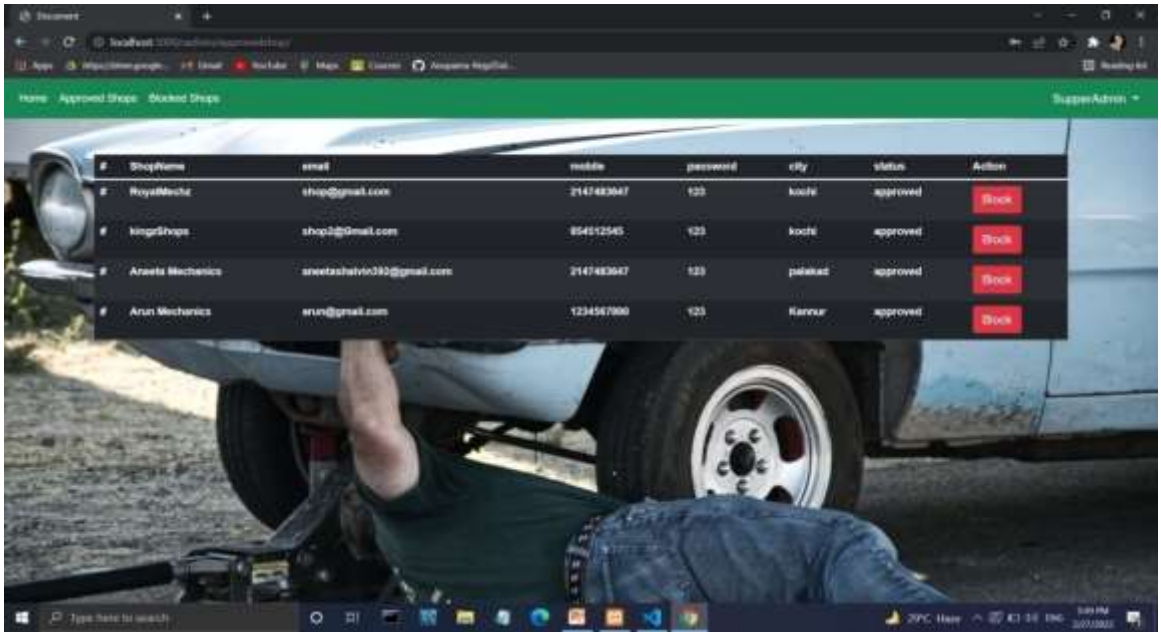
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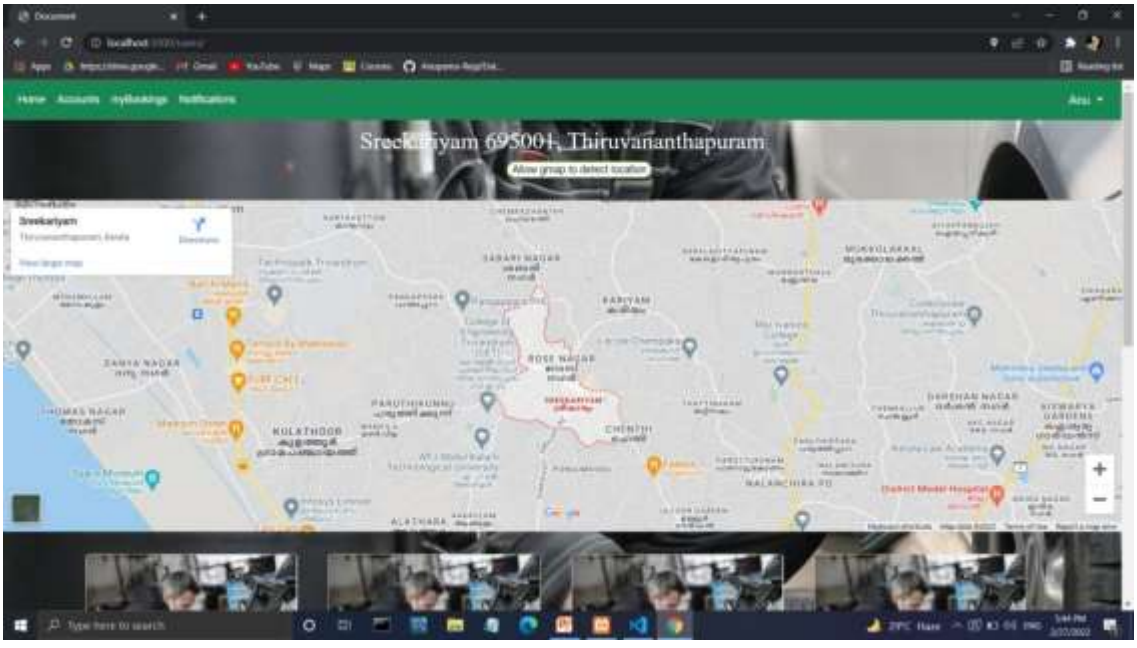
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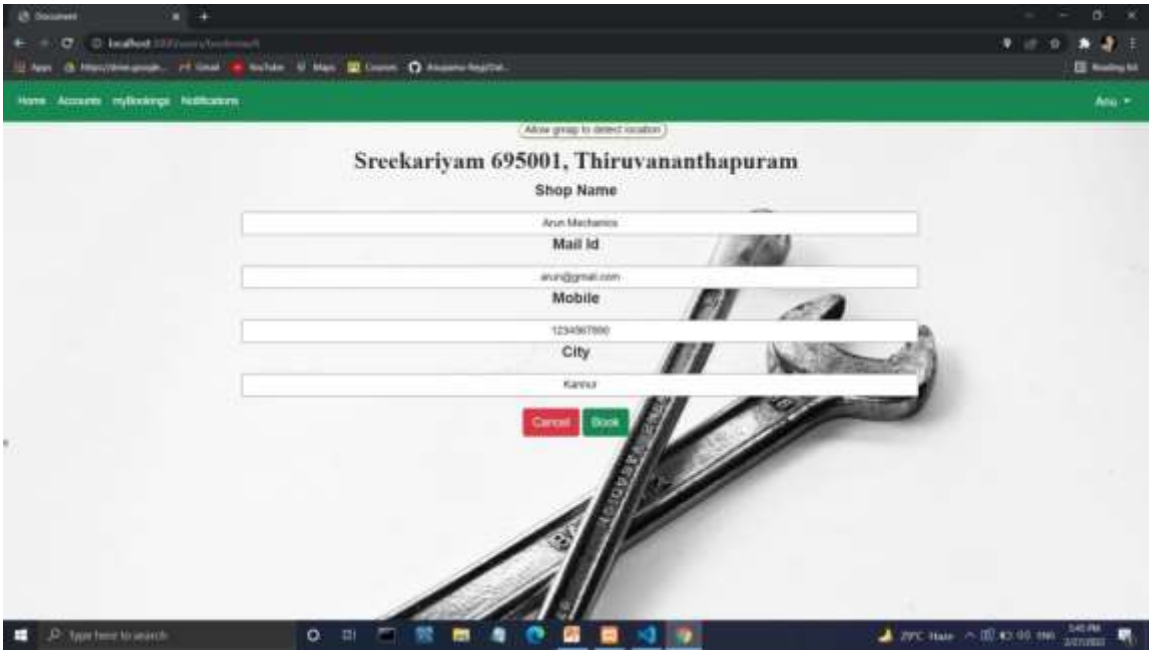
Accounts
myBookings
Notifications
Sreekariyam 695001, Thiruvananthapuram
Allow gmap to detect location
Sreekariyam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Accounts
mybookings
Notifications
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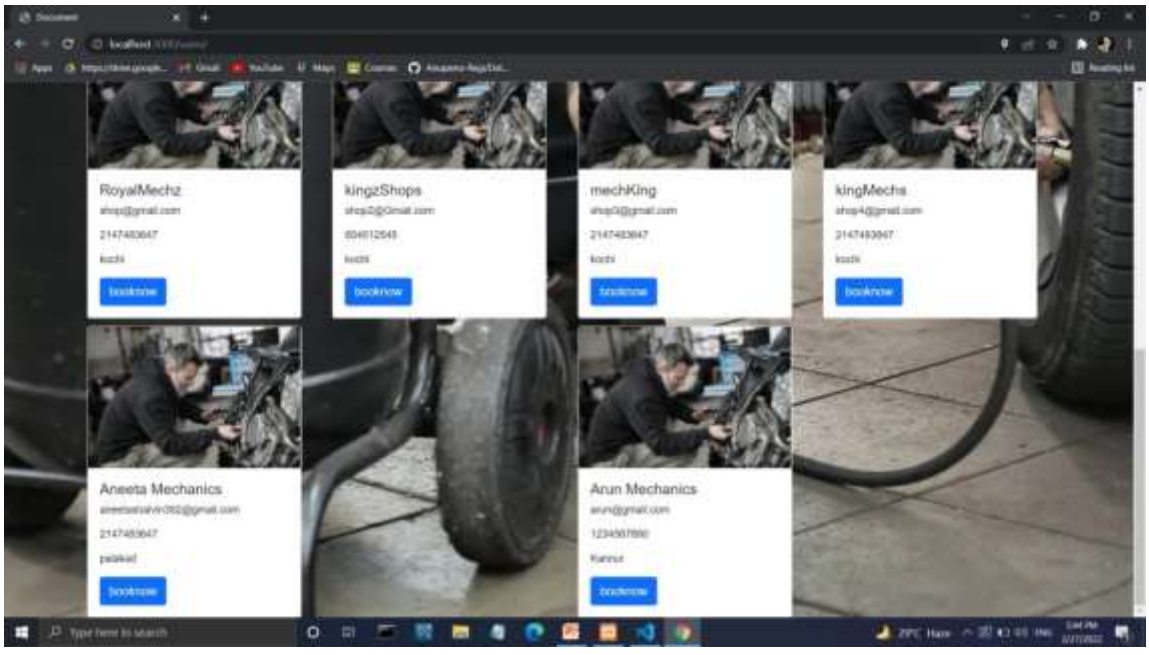
Mail id
Mobile
1234567890
City
Kannur
Cancel
Book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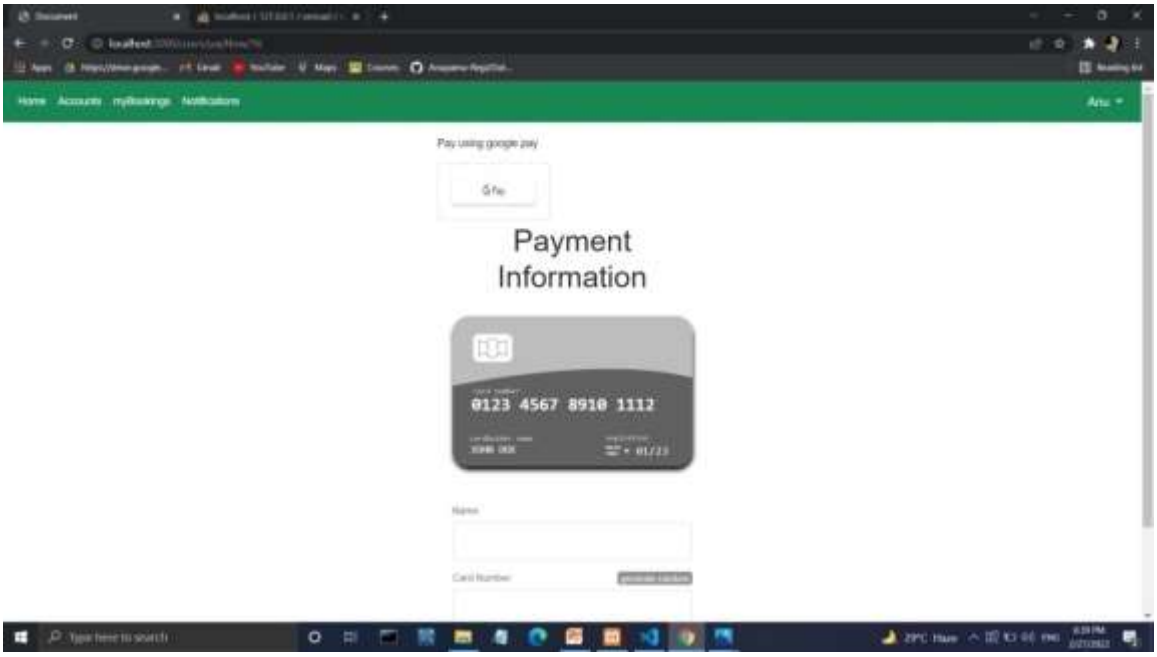
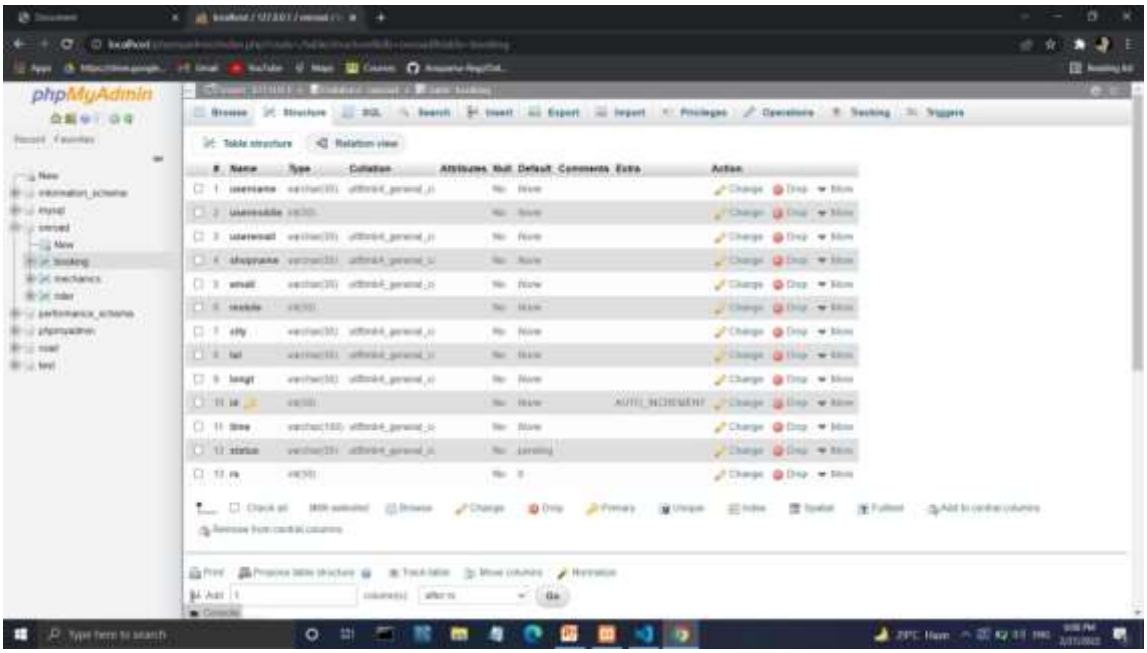
kingzShops
mechKing
kingMechs
booknow
Aneeta Mechanics
palakad
Arun Mechanics
Kannur


Home
Accounts
myBookings
Notifications
Pay using google pay
Payment
Information
0123 4567 8910 1112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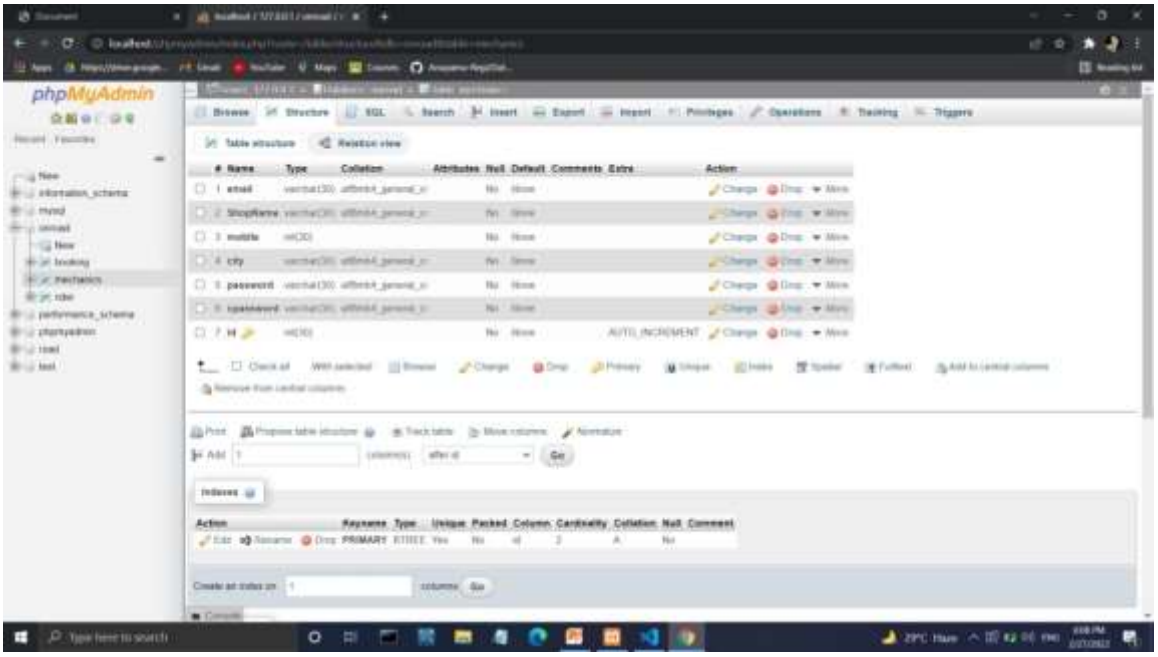
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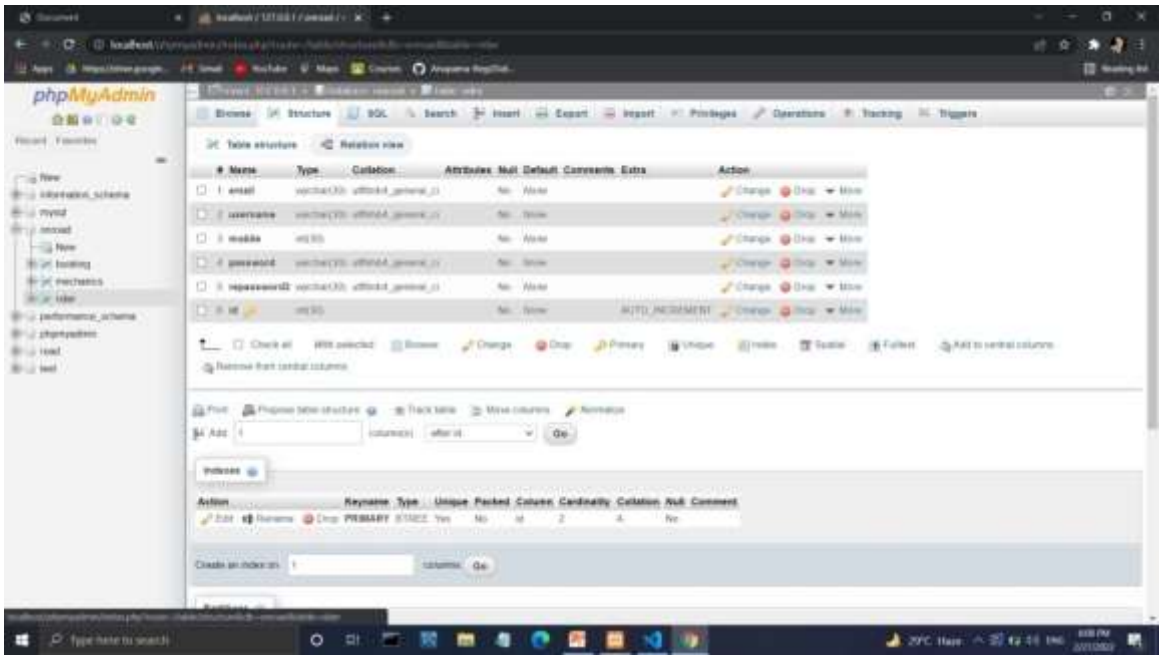
phpMyAdmin

REFERENCES

12. References

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[3] https://codeshoppy.com