

1.INTRODUCTION

Car Servicing is very crucial for the proper functioning of the car. Also, it will run for longer period of time, if you keep getting it done regularly. Thanks to the technology and new ideas, we can do everything online.

Now a days, technology is on a boost. People wish to live a luxurious life with minimum physical work. Here we provide a Web application for “Online Car Service Booking”. The proposed application will enable any car user to book his car for service. The user can register his car, can book for service. The user can send request for pick and drop, book appointment for servicing. The admin processes these requests and gives a response back to the user.

1.1. Background

Earlier, it was common that you went to take your car for servicing. Even if it was a general checkup, the mechanics over there would delay the work. Well, not purposefully but because they have a lot of other cars lined up. Thus, we would always not receive our car on time.

The Existing system does not have a proper online booking system for workshops. It is completely manually functioning. There are few websites which are only for few specific companies or brands which accepts few specific vehicles for service.

Currently there is no online booking car service workshops available. If a customer who does not give his vehicle to the authorized service center, and if he wants to sell his vehicle to someone but he does not have any evidence for any of his repairs in the vehicle.

1.2. Objectives

This project aims to provide a car servicing system that is more efficient than the current one. The current systems for managing service centers have certain drawbacks.

The current approach is semi-manual and relies solely on paper and computers for all tasks.

- a. Following auto repair, customer is unable to view job card details.
- b. Aside from offering customers alternative components, the current system does not give them access to any service history.
- c. The bill only displays details about further sections.
- d. Service-related records are manually maintained.

The online auto servicing system makes up for these drawbacks. Additionally, it can be conveniently made available to everyone. The user of this system can make reservations.

1.3. Purpose and Scope

The purpose of this project is to provide Car servicing system more effectively than the existing system. There are some disadvantages of the existing service centre management systems.

- a. Existing system is semi-manual, and all work is done by paper and computer system.
- b. Customer can't see Job card details after servicing of car.
- c. Only additional parts details can be viewed in bill.
- d. Records are stored manually regarding service.
- e. Existing system is time consuming and not user friendly.
- f. Existing system does not provide any service history, other than any additional parts to the customer.

These disadvantages are overcome by the online car service system. And it can be made handily available to every person. In this system the customer can book his vehicle for service and write all his complaints. The customer can suggest which mechanic he wants, and he can see which mechanic is servicing his vehicle and who is delivering his vehicle from the workshop to his house. The main property of this system is that the customer can see his service history and it will be useful when he is selling his vehicle.

It will maintain vehicle and customer details as well as bookings. The system aims to improve customer satisfaction compared to the existing manual process.

2. SURVEY OF TECHNOLOGIES

2.1 SOFTWARE DEVELOPMENT LIFE CYCLE

The software development lifecycle (SDLC) is the cost-effective and time-efficient process that development teams use to design and build high-quality software. The goal of SDLC is to minimize project risks through forward planning so that software meets customer expectations during production and beyond.

2.1.1. PLANNING

This is the phase in which the existing system is evaluated and thus the requirement for the system is identified. It also assigns time period for its following phase where it should complete.

2.1.2. ANALYSIS PHASE [STUDY PHASE]

The analysis phase in the software development life cycle (SDLC) is a crucial stage that involves gathering, understanding, and documenting the requirements of a software project.

2.1.3. DESIGN PHASE

During the Design Phase, the system is designed to satisfy the requirements identified in the previous phases. The requirements identified in the Requirements Analysis Phase are transformed into a System Design Document that accurately describes the design of the system and that can be used as an input to system development in the next phase.

2.1.4 DEVELOPMENT PHASE [IMPLEMENTATION PHASE]

This is the phase in which computer-based system is constructed. During development phase, computer programs are written. This is analogous to the actual construction of our system from the plans prepared in its design phase. The Development phase consists of:

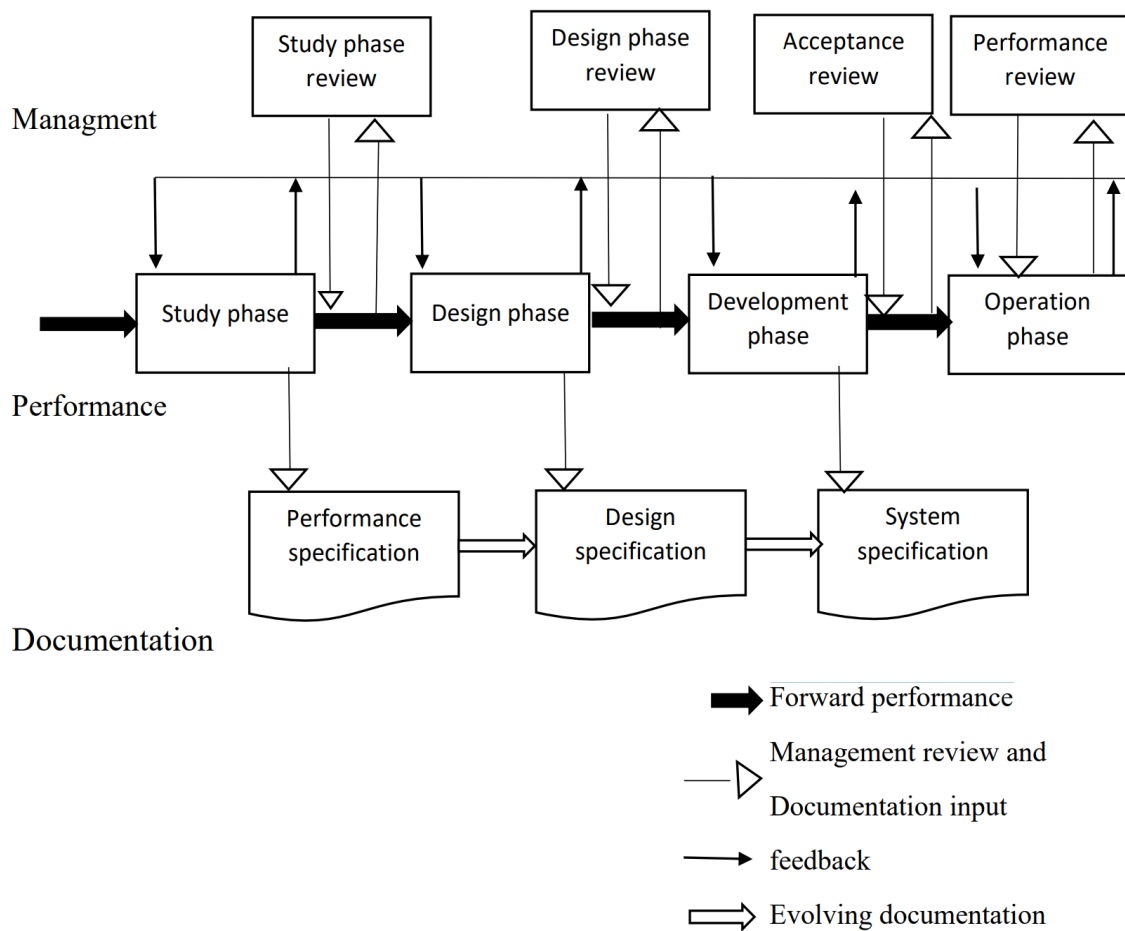
- Translating the detailed requirements and design into system components.
- Testing individual elements (units) for usability.
- Preparing for integration and testing of the IT system.

2.1.5 TESTING

- Unit testing: - Unit testing focuses verification efforts on the smallest unit of the software design and module. Hence this phase is also known as module testing. The testing is individually performed on each module.
- Integration testing: - Integration testing is a systematic technique for constructing the program's structure while at the same conducting test to uncover errors associate within the interface. This technique also combines the modules.
- Validation testing: -Validation succeeds when the software functions in manner that is reasonably expected by the customer.
- Output testing: -After performing the validation testing, the next step in output testing of the proposed system, since no system could be useful if it does not produce the required output in the specific format.
- Acceptance testing: -User acceptance of the system is a key factor for the success of any system.
- System testing: - The purpose of system is to identify and correct errors in our final system.

2.1.6 MAINTENANCE PHASE [OPERATION PHASE]

In this phase, the new system is installed. The new system is operated and maintained, and its performance is reviewed and changes in it are managed. The operation phase is analogous to use the automated system that we developed. If we have performed the activities of the preceding phases adequately, the error free and proper result will be obtained.



2.2 TECHNOLOGICAL SURVEY REPORT

Technical feasibility deals with the hardware as well as software requirements.

PHP

PHP is a server-side scripting language designed for Web development but also used as a general-purpose programming language. PHP is now installed on more than 20 million Web sites and 1 million Web servers. While PHP originally stood for Personal Home Page, it is now said to stand for PHP: Hypertext Preprocessor, a recursive acronym.

PHP code is interpreted by a Web server with a PHP processor module which generates the resulting Web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process death includes free and open-source libraries with the core build. PHP is a fundamentally Internet-aware system with modules built in for accessing File Transfer Protocol (FTP) servers, many database servers, embedded SQL libraries such as embedded PostgreSQL, MySQL, Microsoft SQL Server and SQLite, LDAP servers, and others. PHP is commonly used as the P in this bundle alongside Linux, Apache and MySQL, although the P may also refer to Python, Perl, or some mix of the three. Similar packages are also available for Windows and OS X, then called WAMP and MAMP, with the first letter standing for the respective operating system.

PHP is a server-side scripting language designed specifically for the Web. Within an HTML page, you can embed PHP code that will be executed each time the page is visited. Your PHP code is interpreted at the web server and generates HTML or other output that the visitor will see.

PHP was conceived in 1994 and was originally the work of one man, Rasmus Lerdorf. It was adopted by other talented people and has gone through four major rewrites to bring us the broad, mature product we see today. PHP is an Open-Source project, which means you have access to the source code and can use, alter, and redistribute it all without charge. PHP originally stood for Personal Home Page but was changed in line with the

GNU recursive naming convention (GNU = Gnu's Not Unix) and now stands for PHP Hypertext Preprocessor.

Hypertext Mark-up Language (HTML)

It is the standard mark-up language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets.

Tags such as `` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content.

JavaScript

It is a lightweight, interpreted, object-oriented language with first-class functions, and is best known as the scripting language for Web pages, but it's used in many non-browser environments as well. It is a prototype-based, multi- paradigm scripting language that is dynamic, and supports object-oriented, imperative, and functional programming styles.

JavaScript runs on the client side of the web, which can be used to design / program how the web pages behave on the occurrence of an event. JavaScript is an easy to learn and powerful scripting language, widely used for controlling web page behaviour.

JavaScript can function as both a procedural and an object-oriented language. Objects are created programmatically in JavaScript, by attaching methods and Properties to otherwise empty objects at run time, as opposed to the syntactic class definitions common in compiled languages like C++ and Java. Once an object has been constructed it can be used as a blueprint (or prototype) for creating similar objects.

Cascading Style Sheets (CSS)

It is a style sheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, Math or XHTML). CSS describes how elements should be rendered on screen, on paper, in speech, or on other media.

MYSQL

MySQL is an Oracle-backed open-source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing.

MySQL is an important component of an open-source enterprise stack called WAMP. WAMP is a web development platform that uses Linux as the operating system, Apache as the web server, and MySQL as the relational database management system and PHP as the object-oriented scripting language. (Sometimes Perl or Python is used instead of PHP.)

Originally conceived by the Swedish company MySQL AB, MySQL was acquired by Sun Microsystems in 2008 and then by Oracle when it bought Sun in 2010. Developers can use MySQL under the GNU General Public License (GPL), but enterprises must obtain a commercial license from Oracle. Today, MySQL is the RDBMS behind many of the top websites in the world and countless corporate and consumer-facing web-based applications, including Facebook, Twitter and YouTube.

□ MySQL is the database management system, or a database server.

How MySQL works

MySQL is based on a client-server model. The core of MySQL is MySQL server, which handles all of the database instructions (or commands). MySQL server is available as a

separate program for use in a client-server networked environment and as a library that can be embedded (or linked) into separate applications.

MySQL Features

- Relational Database Management System (RDBMS): MySQL is a relational database management system
- Easy to use MySQL is easy to use. You have to get only the basic knowledge of SQL. You can build and interact with MySQL with only a few simple SQL statements.
- It is secure: MySQL consist of a solid data security layer that protects sensitive data from intruders. Passwords are encrypted in MySQL.
- Client/ Server Architecture: MySQL follows a client /server architecture. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server; that is, they query data, save changes, etc.
- Free to download MySQL is free to use and you can download it from MySQL official website.
- It is scalable: MySQL can handle almost any amount of data, up to as much as 50 million rows or more. The default file size limit is about 4 GB. However, you can increase this number to a theoretical limit of 8 TB of data.
- Compatible on many operating systems: MySQL is compatible to run on many operating systems, like Novell NetWare, Windows* Linux*, many varieties of UNIX* (such as Sun* Solaris*, AIX, and DEC* UNIX), OS/2, FreeBSD*, and others. MySQL also provides a facility that the clients can run on the same computer as the server or on another computer (communication via a local network or the Internet).
- Allows roll-back: MySQL allows transactions to be rolled back, commit and crash recovery.
- High Performance: MySQL is faster, more reliable and cheaper because of its unique storage engine architecture.
- High Flexibility: MySQL supports many embedded applications which makes MySQL very flexible.
- High Productivity: MySQL uses Triggers, Stored procedures and views which allows the developer to give a higher productivity.

PHP MYADMIN

PhpMyAdmin is a (web application) client for MySQL. MySQL is server where your commands get executed and returns you data, it manages all about data while PhpMyAdmin is a web Application, with user friendly, easy to use GUI makes it easy to handle database, which is difficult to use on command line. phpMyAdmin is the web application written primarily in PHP. It's used for managing MySQL database.

To be more specific, here is the detailed definition:

MySQL is the world's most popular open-source database. With its proven performance, reliability, and ease-of-use, MySQL has become the leading database choice for web-based applications, used by high profile web properties including Facebook, Twitter, YouTube, and all five of the top five websites. Additionally, it is an extremely popular choice as embedded database, distributed by thousands of ISVs and OEMs.

PhpMyAdmin is a free and open-source administration tool for MySQL and MariaDB. As a portable web application written primarily in PHP, it is one of the most popular MySQL administration tools, especially for web hosting services.

What is Windows?

Windows 10 professional integrates the strengths of windows 2008 professional such as standards-based security, manageability, and reliability, with the best business features of windows 98 and windows Millennium Edition, such as plug and play, simplified user interface, and innovative support services. This combination creates the best desktop operating system for business.

It is more user friendly, and a stable operating system equipped with much more added features. The operating system supports new technologies such as digital video disks, multiple monitors etc. along with plug and play and multi display features. It has a graphical user interface operating environment. Faster computing, easy access to remote information and control remote computers are some added features. Following are the common features of Windows 10.

Faster computing, easy access to remote information and control remote computers. Built-in networking and messaging facility.

- Easier to set up, add or remove.
- Increase system security and control.
- Support advanced networking and communication.

3. REQUIREMENTS AND ANALYSIS

3.1 PROBLEM DEFINITION

There is no suitable online workshop booking system in the current system. It operates entirely by hand. Thus, the sophisticated online vehicle service booking plays a crucial function. A small number of websites cater exclusively to a select few brands or companies that service a limited number of automobiles. There aren't any online vehicle service workshop reservations available right now. Should a client choose to sell their car to someone without providing proof of any repairs, they will not be able to get their car serviced by an authorized facility.

3.2 REQUIREMENT SPECIFICATIONS

When planning a new project, we need to ensure that the system meets the requirements of the business and the user. The project resources can be categorized as:

- ✓ Hardware requirements
- ✓ Software requirements

The Software requirements including the OS also need to be considered while implementing a new system. It needs to be ensured that changes in technology do not have an adverse effect to the performance of the system. Hardware requirements are dependent on the type of application and the budget of the project. Selection of hardware configuration is very important task related to the software development. The processor should be powerful to handle all the

operations. The hard disk should have the sufficient capacity to solve the database and the application.

3.3 PLANNING AND SCHEDULING

All projects are made up of significant events, or milestones that must occur in some time sequence in order for the project to be completed. A project plan is a schedule of milestones over the duration of project. Charts are an effective means of depicting a project schedule and reporting progress (or lack progress) as it occurs. The type of charts most often used for this purpose is a horizontal bar chart, sometimes called Gantt chart. A Gantt-type chart illustrates the principle of a project planning and reporting chart.

This charts reports:

1. Project tittle: the name of the project.
2. Programmer/analyst: the name of the responsible individual.
3. Committed date: the date the project is scheduled for completion.
4. Completed date: the date the project actually is completed.
5. Status date: the date of the status report.
6. Activity document: a line entry for each major activity or document to be completed.
7. Percent complete: the analyst's interpretation of the percentage already completed of a scheduled line entry.
8. Status: the analyst's evaluation of the status of each line entry. Status is reported be means of the following symbols:



Project status satisfactory



auction: problem encountered but not considered critical



Critical condition: completion of project could be endangered

9. Period ending: the end dates of selected reporting intervals (week or months).

10. Project planning progress symbols:



Scheduled progress



Actual progress to date



Scheduled or rescheduled completion date



Actual completion date

3.4 SOFTWARE AND HARDWARE SPECIFICATON

3.4.1. H/W SYSTEM CONFIGURATION

Processor	I5
RAM	8 GB (min)
SSD	20 GB
Keyboard	Standard Windows Keyboard
Mouse	Two or Three Button Mouse
Monitor	LED

3.4.2. S/W SYSTEM CONFIGURATION


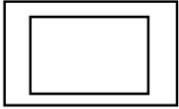
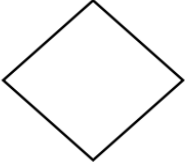
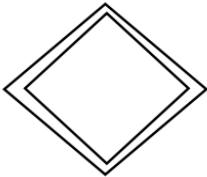


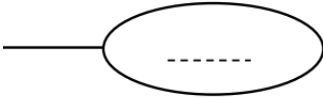

Operating System	Windows 10
Application Server	Wamp2.2e
Front End	HTML
Scripts	JavaScript.
Server-side Script	PHP
Database	MySQL.
Database Connectivity	PhpMyAdmin.

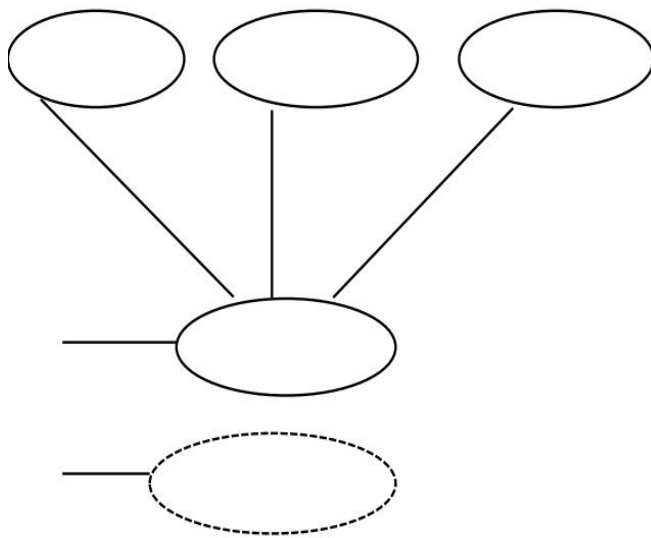
3.5 CONCEPTUAL MODELS

3.5.1 ENTITY-RELATIONSHIP DIAGRAM

Entity-Relationship Diagram is a popular high-level conceptual data model. This model and its variations are frequently used for the conceptual design of database application, and many database design tools employ its concept. The ER model describes data as entities, relationship as attributes.

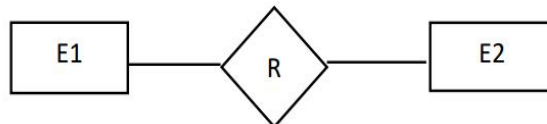
The notations used to prepare ER models are given below:

Symbols	Meaning
	Entity
	Weak entity
	Relationship
	Identifying Relation
	Attributes
	Key Attribute (primary key)
	KeyAttribute (foreign key)
	Multivalued Attribute

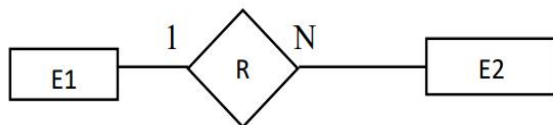


Composite Attribute

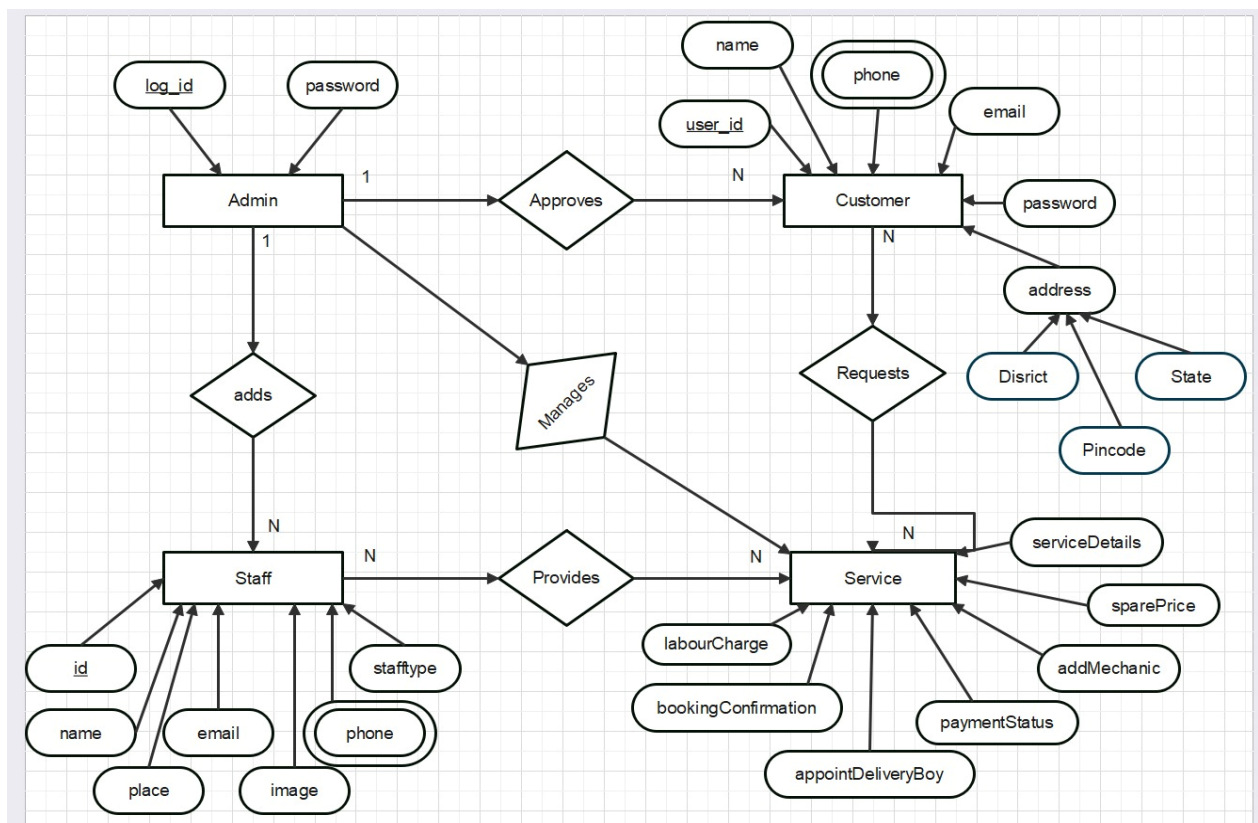
Derived Attributes



Total participation of E2 in R



Cardinality Ratio 1:N for E1:E2 in R



3.5 DATA FLOW DIAGRAM

A data flow diagram (DFD) is a network that describes the flow of data throughout a system, data stores, and the processes that change, or transform, data flows. The DFD network is a formal, logical abstract of a system that may have many possible physical configurations. For this reason, a set of symbols that do not imply a physical form is used to represent data sources, data flows, data transformations, and data storage. In practice, a standardized set of symbols for data flow diagrams has not been adopted.

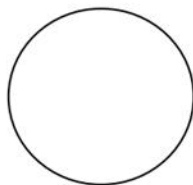
The circle, or bubble, represents a transformation process, and the label inside the bubble describes the process, using an active verb to do so. Data flows are directed lines that identify the input data flows and output data flows at each process bubble. Data storage is represented by an open-ended rectangle with label that identifies the data store, or file. The square is labelled to identify an external entity that is a source or destination of a data flow



A square represents a data source or destination



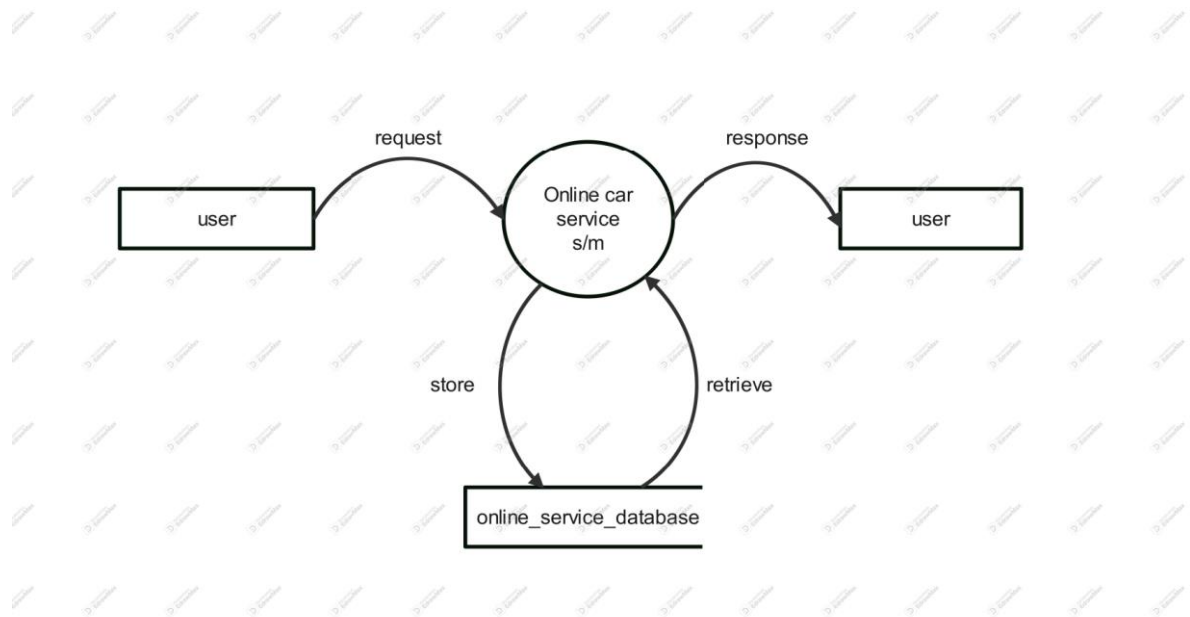
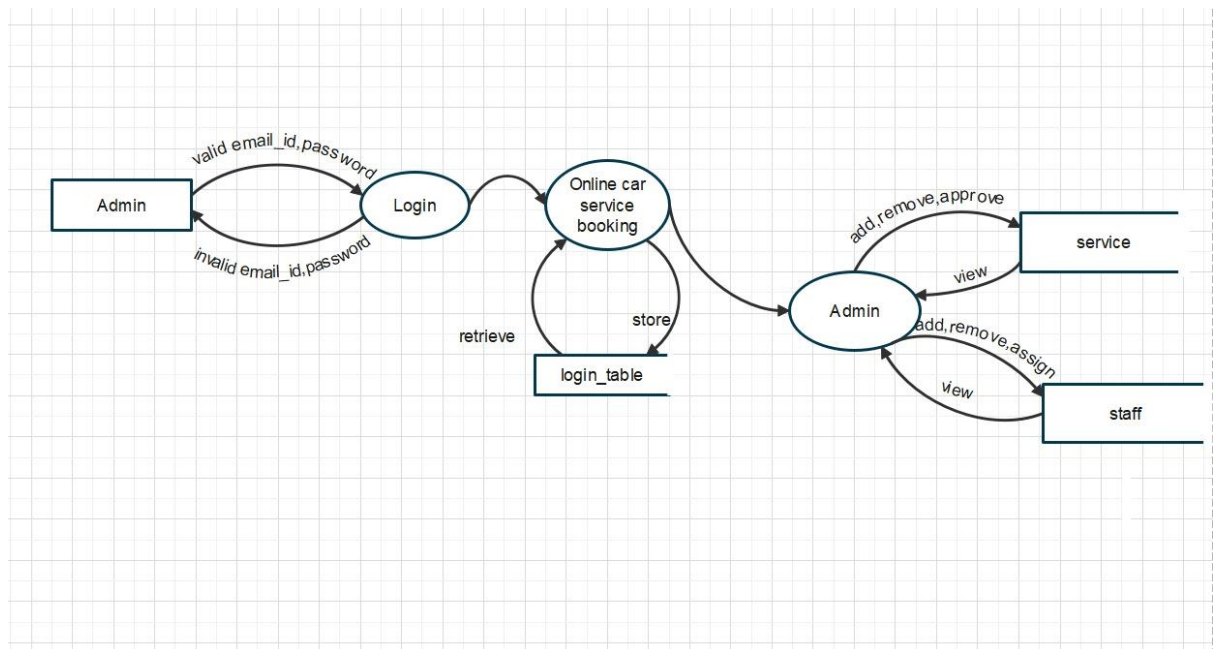
A directed line represents a flow of data, that is, a data stream



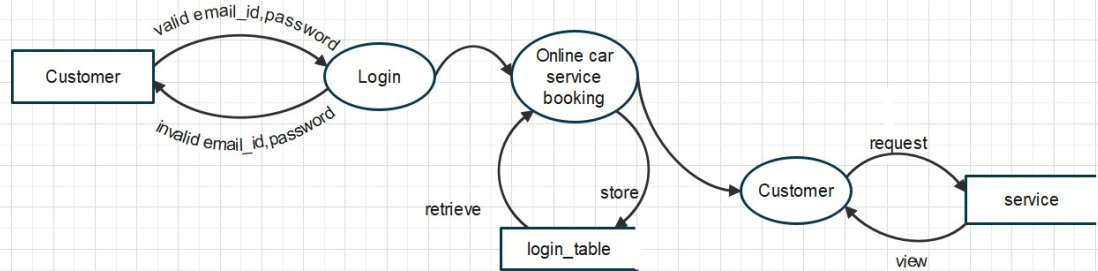
A circle, or a “bubble”, represents a process that informs data streams.



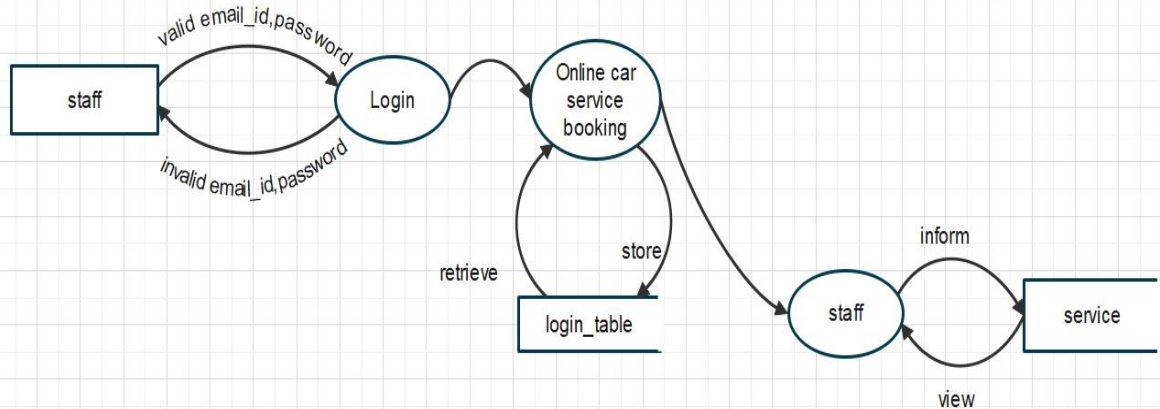
An open-ended rectangle represents a data store.

LEVEL 0**Level 1****Admin**

Customer

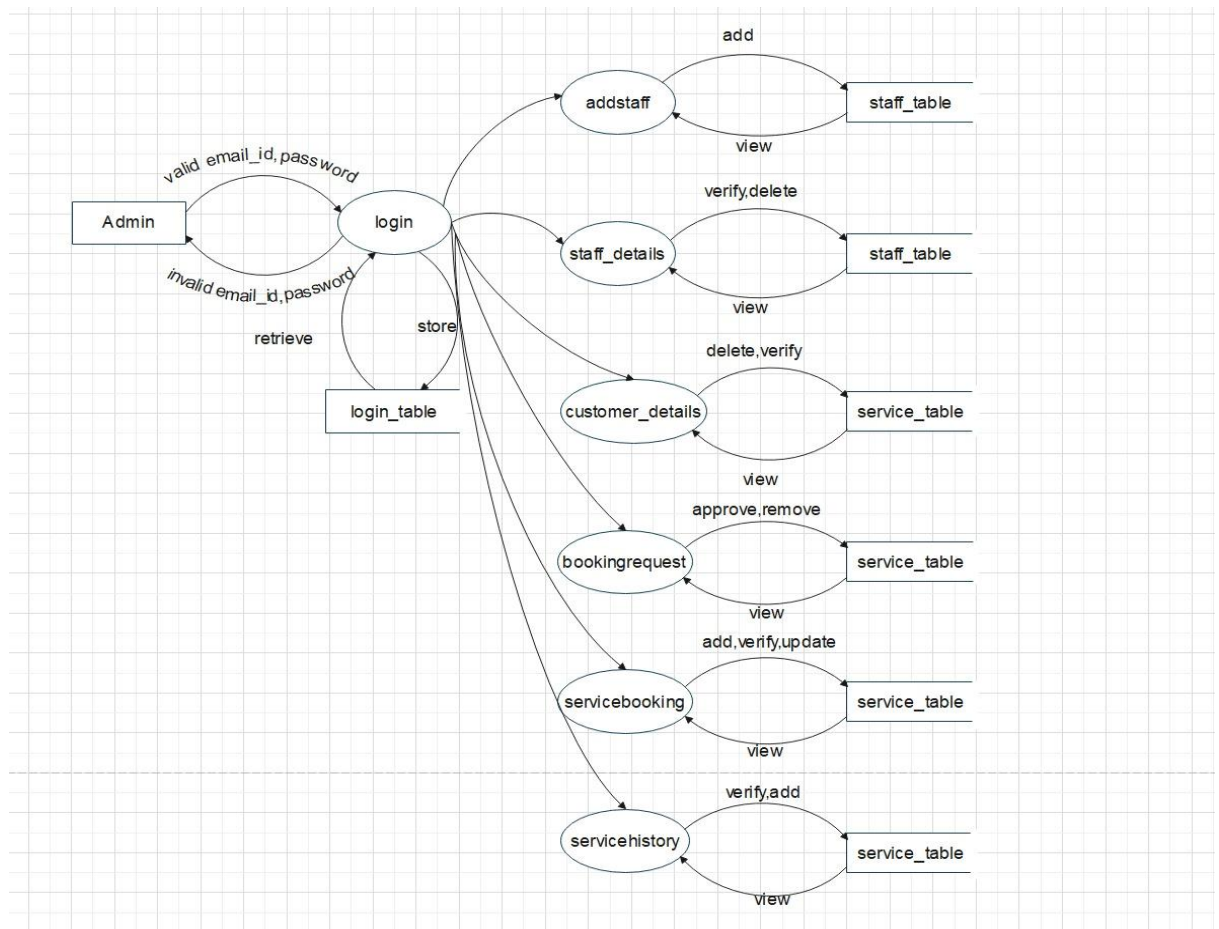


Staff

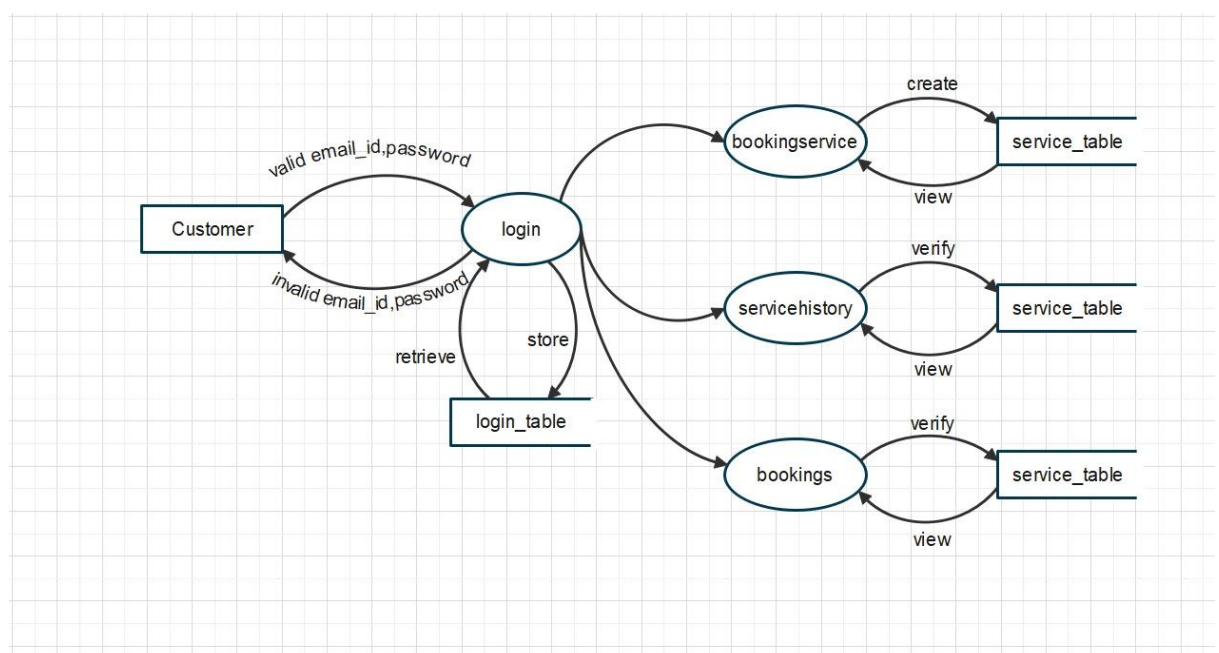


Level 1.1

Admin



Customer



3.6 Tables

Database for Online Car Service Booking includes 4 tables. They are

1. login
2. register
3. service
4. staff

1. Table name: login

Description: Used to store login details

Primary key: reg_id

Field	Data type	Size	Constraints	Field Description
lid	int	20	NOT NULL	
reg_id	int	20	PRIMARY KEY	Stores register id
username	varchar	100	NOT NULL	Stores users name
password	varchar	100	NOT NULL	Stores user's password
user_type	varchar	20	NOT NULL	Stores user type
status	varchar	20	NOT NULL	Stores status

2. Table name: register

Description: Used to store customer details

Foreign key: user_id

Field	Data type	Size	Constraints	Field Description
user_id	int	11	FOREIGN KEY	Stores the user id
name	varchar	100	NOT NULL	Stores the user's name
phone	bigint	11	NOT NULL	Stores the user's phone number

address	varchar	100	NOT NULL	Stores the user's address
email	varchar	100	NOT NULL	Stores the user's email id
password	varchar	100	NOT NULL	Stores the user's password

3. Table name: service

Description: Stores service details of customers

Foreign key: user_id

Field	Data type	Size	Constraints	Field description
id	int	200	NOT NULL	Access from service table
user_id	int	20	FOREIGN KEY	Stores users id
username	varchar	50	NOT NULL	Stores users names
company	varchar	50	NOT NULL	Stores vehicle company
model	varchar	50	NOT NULL	Stores vehicle model
regNo	varchar	20	NOT NULL	Stores registration number of customer vehicle
bookingDate	date		NOT NULL	Stores the service booking date
image	varchar	50	NOT NULL	Stores image of vehicle
serviceType	varchar	50	NOT NULL	Stores the service type
delivery	varchar	50	NOT NULL	Stores the delivery details

bookingConfirmation	varchar	50	NOT NULL	Stores the booking confirmation details
addMechanic	varchar	50	NOT NULL	Stores mechanic details
serviceDetails	varchar	500	NOT NULL	Stores service details of customer
appointDelivery Boy	varchar	50	NOT NULL	Stores delivery boy details
paymentStatus	varchar	50	NOT NULL	Store payment details
sparePrice	varchar	50	NOT NULL	Stores spare parts price and details
labourCharge	varchar	50	NOT NULL	Stores labour charge details
totalAmount	varchar	50	NOT NULL	Stores the total amount of service

4. Table name: staff

Description: Stores the details of staff

Field	Data type	Size	Constraints	Field description
id	int	10	NOT NULL	Stores staff id
name	varchar	50	NOT NULL	Stores staff name
email	varchar	50	NOT NULL	Stores email id of staff
phone	int	50	NOT NULL	Stores phone number of staff
place	varchar	10	NOT NULL	Stores place and address of staff
image	varchar	50	NOT NULL	Stores image of the staff
staffType	varchar	50	NOT NULL	Stores the type of staff

4. SYSTEM DESIGN

The term design describes the final system and the way in which it is developed. The system design is a solution, how to approach to the new system. This important phase is composed of several steps. An emphasis is on translating the performance requirements of our proposed system into design specification. Design goes through logical and physical stage of development. In the design phase the physical design producing the working system by defining a particular specification that helps to knowing exactly what the new system must do. The logical design determines the information flow into and of the system and require database. Design is a multistep process that focuses on data structure, software, architecture, procedural details, and interface between modules. The design process translates the requirements into the representation of the software. Computer software design changes continually because new methods, better analysis and broader understanding evolved. It provides the understanding and procedure details necessary for implementing the proposed system .an emphasis is on translating the performance requirement of our proposed system into design specification. Design goes through logical and physical stage. The system design is the last phase that indicate the final system and process of design phase. In the designed phase of maintenance management system, the database tables, input screens and output reports are designed. In table designing, redundancy is avoided. Design is the only way that we can accurately translate a system requirement into a software product. In our production management system, the all-input screens are designed as user friendly and understandable.

INPUT DESIGN

Input design is the link that ties the information system into the world of its users. The input design involves determining what the input is, how the data should be performed, how to validate data, how to minimize data entry and how to provide a multiuser facility, inaccurate input data are the most common cause of errors in data processing. Errors entered by data entry operator can be controlled by input design. Input design is the process of converting user originated input to a computer-based format. Input data are collected and organized into groups of similar data. Once identified, appropriate input media are selected for processing.

All the input data re validated in the order and if any data violates any conditions, the user is warned by a message. If the data satisfies all the conditions, then it is transferred to the appropriate table in the database. A form is designed to enter the details should be user friendlier so that authorized user with even less knowledge can enter the data. The form is designed using v b tools like command boxes, text boxes, labels, option buttons, combo boxes etc. System analyst decodes the following input design details.

OUTPUT DESIGN

Output design is very important concept in the computerized system, without reliable output the user may feel the entire system unnecessary and avoids using it. The proper output design is important in any system and facilitates effective decision making. The output design of this system includes various reports. output requirements are designed during system analysis. An application is successful only when it can provide efficient and effective reports.

The goal of the output design is to capture the output and get the data into a format suitable for the computer. It is very helpful to produce clear, accurate and speedy information for end users.

A major form of the output is the harder copy from the pointer and screen reports. Printouts are designed around the output requirements of the user. Allowing the user to view the sample screen is important because the user is the ultimate judge of the quality of output. Output of this project is provided in the form of reports created using crystal report tool.

4.1 INTERFACE DESIGN

The software development lifecycle (SDLC) is the cost-effective and time-efficient process that development teams use to design and build high-quality software. The goal of SDLC is to minimize project risks through forward planning so that software meets customer expectations during production and beyond.

1. Attractive
2. Simple to use
3. Responsive in a short time
4. Clear to understand

5. Consistent on all interface screens

Types of User Interface

1. **Command Line Interface:** The Command Line Interface provides a command prompt, where the user types the command and feeds it to the system. The user needs to remember the syntax of the command and its use.
2. **Graphical User Interface:** Graphical User Interface provides a simple interactive interface to interact with the system. GUI can be a combination of both hardware and software. Using GUI, the user interprets the software.

User Interface Design Process

The analysis and design process of a user interface is iterative and can be represented by a spiral model. The analysis and design process of user interface consists of four framework activities.

1. User, Task, Environmental Analysis, and Modeling

Initially, the focus is based on the profile of users who will interact with the system, i.e., understanding, skill and knowledge, type of user, etc., based on the user's profile users are made into categories. From each category requirements are gathered. Based on the requirement's developer understand how to develop the interface. Once all the requirements are gathered a detailed analysis is conducted. In the analysis part, the tasks that the user performs to establish the goals of the system are identified, described and elaborated. The analysis of the user environment focuses on the physical work environment.

2. Interface Design

The goal of this phase is to define the set of interface objects and actions i.e., control mechanisms that enable the user to perform desired tasks. Indicate how these control mechanisms affect the system. Specify the action sequence of tasks and subtasks, also called a user scenario. Indicate the state of the system when the user performs a

particular task. Always follow the three golden rules stated by Theo Mandel. Design issues such as response time, command and action structure, error handling, and help facilities are considered as the design model is refined. This phase serves as the foundation for the implementation phase.

3. Interface Construction and Implementation

The implementation activity begins with the creation of a prototype (model) that enables usage scenarios to be evaluated. As iterative design process continues a User Interface toolkit that allows the creation of windows, menus, device interaction, error messages, commands, and many other elements of an interactive environment can be used for completing the construction of an interface.

4. Interface Validation

This phase focuses on testing the interface. The interface should be in such a way that it should be able to perform tasks correctly, and it should be able to handle a variety of tasks. It should meet all the user's requirements. It should be easy to use and easy to learn. Users should accept the interface as a useful one in their work.

User Interface Design Golden Rules

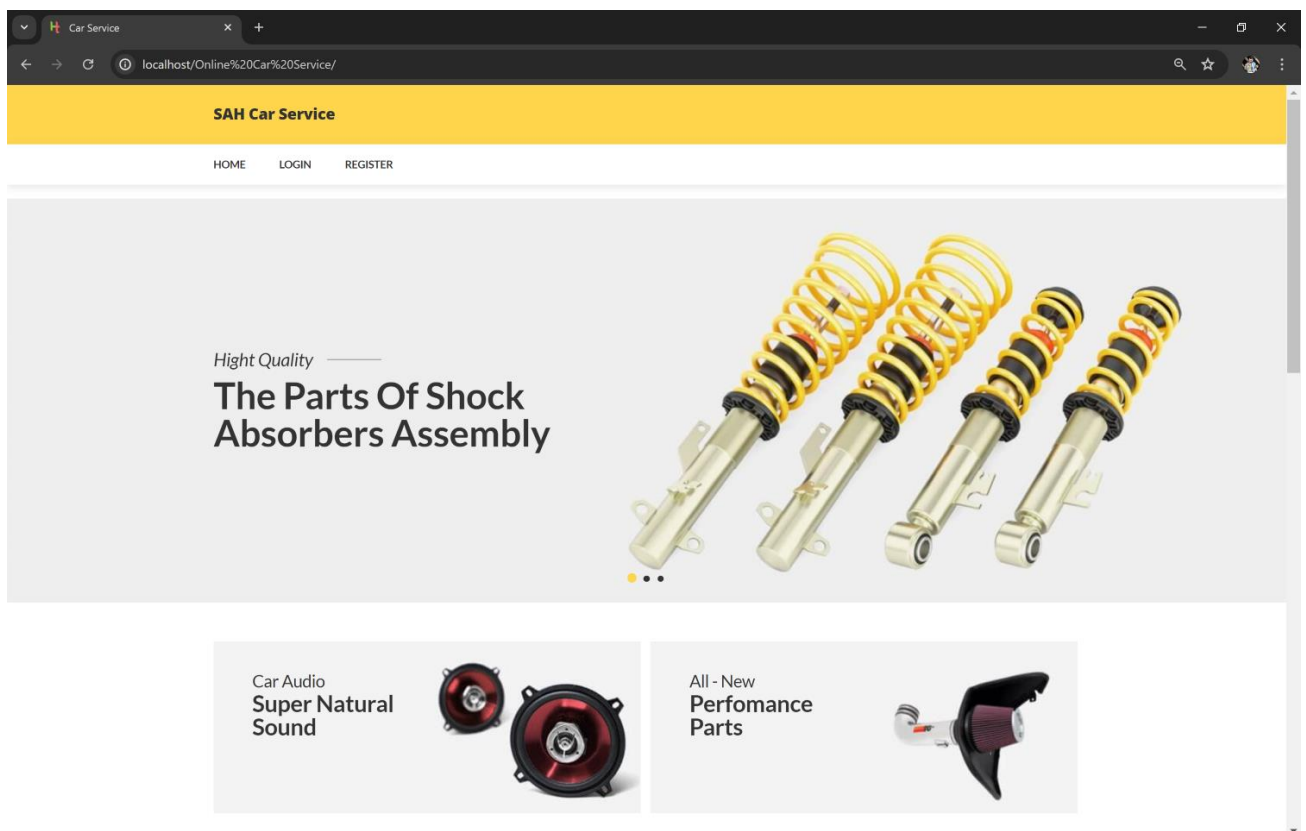
The following are the golden rules stated by Theo Mandel that must be followed during the design of the interface. Place the user in control:

1. Define the interaction modes in such a way that does not force the user into unnecessary or undesired actions: The user should be able to easily enter and exit the mode with little or no effort.
2. Provide for flexible interaction: Different people will use different interaction mechanisms, some might use keyboard commands, some might use mouse, some might use touch screen, etc., Hence all interaction mechanisms should be provided.
3. Allow user interaction to be interruptible and undoable: When a user is doing a sequence of actions the user must be able to interrupt the sequence to do some

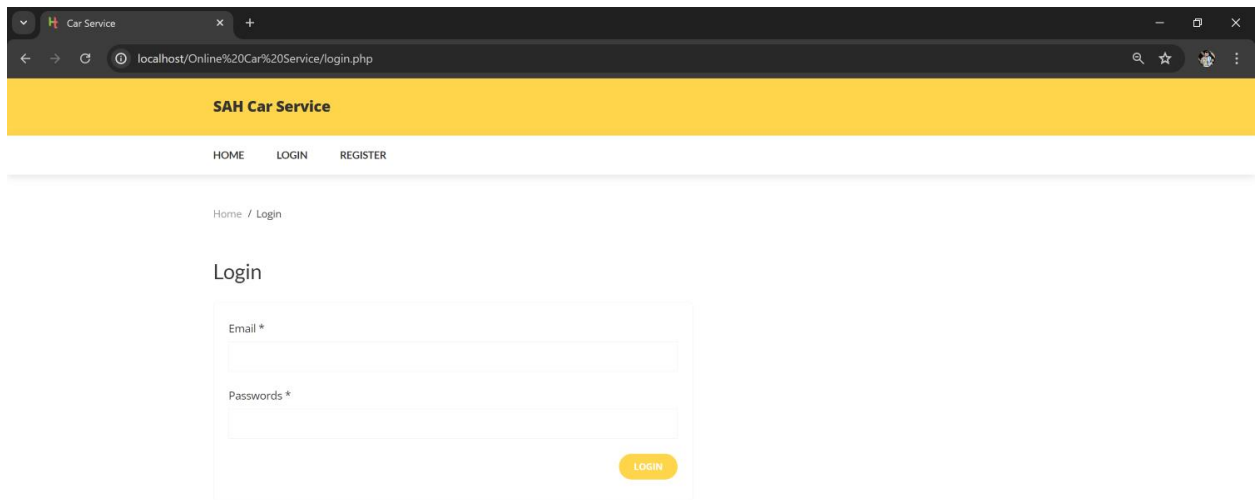
other work without losing the work that had been done. The user should also be able to do undo operation.

4. Streamline interaction as skill level advances and allow the interaction to be customized: Advanced or highly skilled user should be provided a chance to customize the interface as user wants which allows different interaction mechanisms so that user doesn't feel bored while using the same interaction mechanism.
5. Hide technical internals from casual users: The user should not be aware of the internal technical details of the system. He should interact with the interface just to do his work.
6. Design for direct interaction with objects that appear on-screen: The user should be able to use the objects and manipulate the objects that are present on the screen to perform a necessary task. By this, the user feels easy to control over the screen.

Website Home Page



Login Page



The screenshot shows a web browser window with the address bar displaying 'localhost/Online%20Car%20Service/login.php'. The page has a yellow header with the text 'SAH Car Service'. Below the header is a navigation bar with links for 'HOME', 'LOGIN', and 'REGISTER'. The main content area shows a breadcrumb trail 'Home / Login' and a heading 'Login'. There is a form with two input fields: 'Email *' and 'Passwords *'. A yellow 'LOGIN' button is located at the bottom right of the form.

SAH Car Service

HOME LOGIN REGISTER

Home / Login

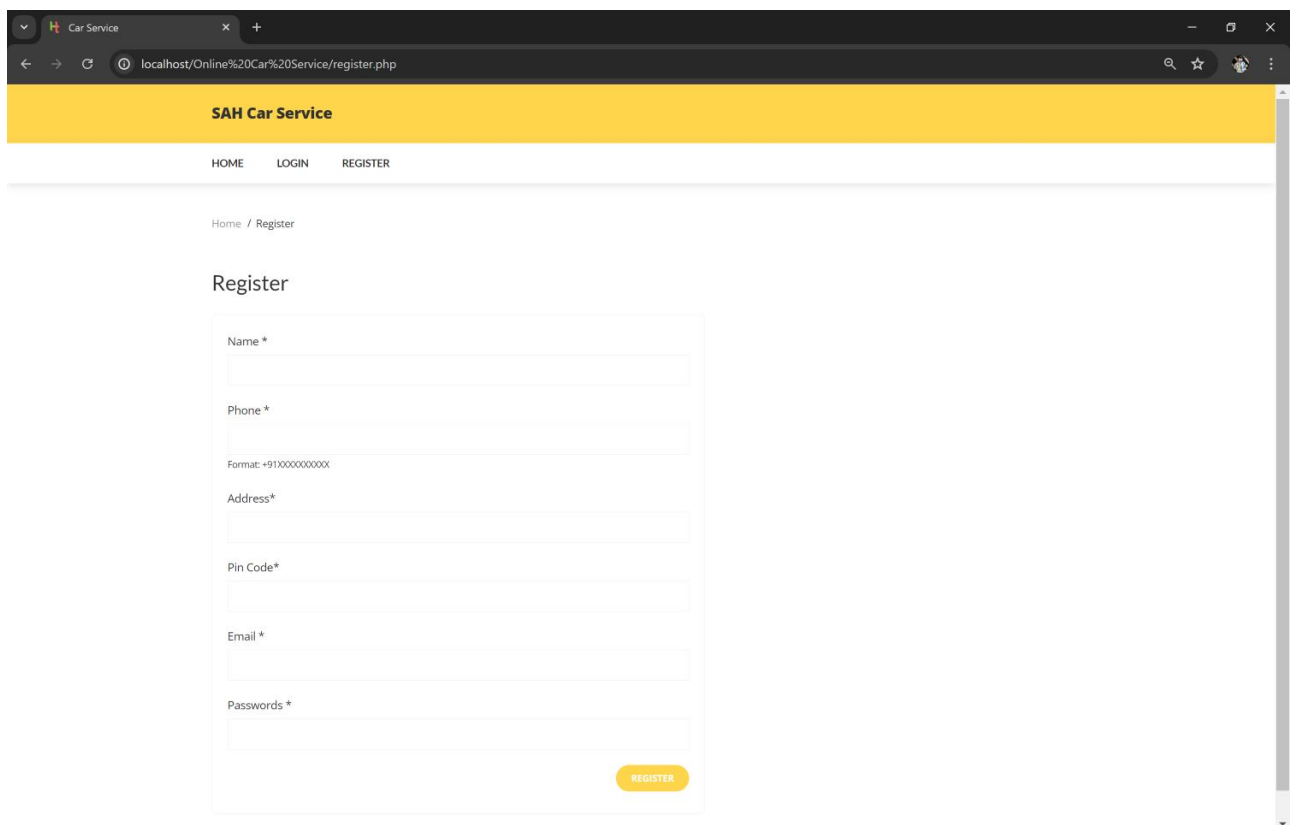
Login

Email *

Passwords *

LOGIN

User Register Page



The screenshot shows a web browser window with the address bar displaying 'localhost/Online%20Car%20Service/register.php'. The page has a yellow header with the text 'SAH Car Service'. Below the header is a navigation bar with links for 'HOME', 'LOGIN', and 'REGISTER'. The main content area shows a breadcrumb trail 'Home / Register' and a heading 'Register'. There is a form with several input fields: 'Name *', 'Phone *', 'Address *', 'Pin Code*', 'Email *', and 'Passwords *'. A yellow 'REGISTER' button is located at the bottom right of the form.

SAH Car Service

HOME LOGIN REGISTER

Home / Register

Register

Name *

Phone *

Format: +91XXXXXXXXXX

Address*

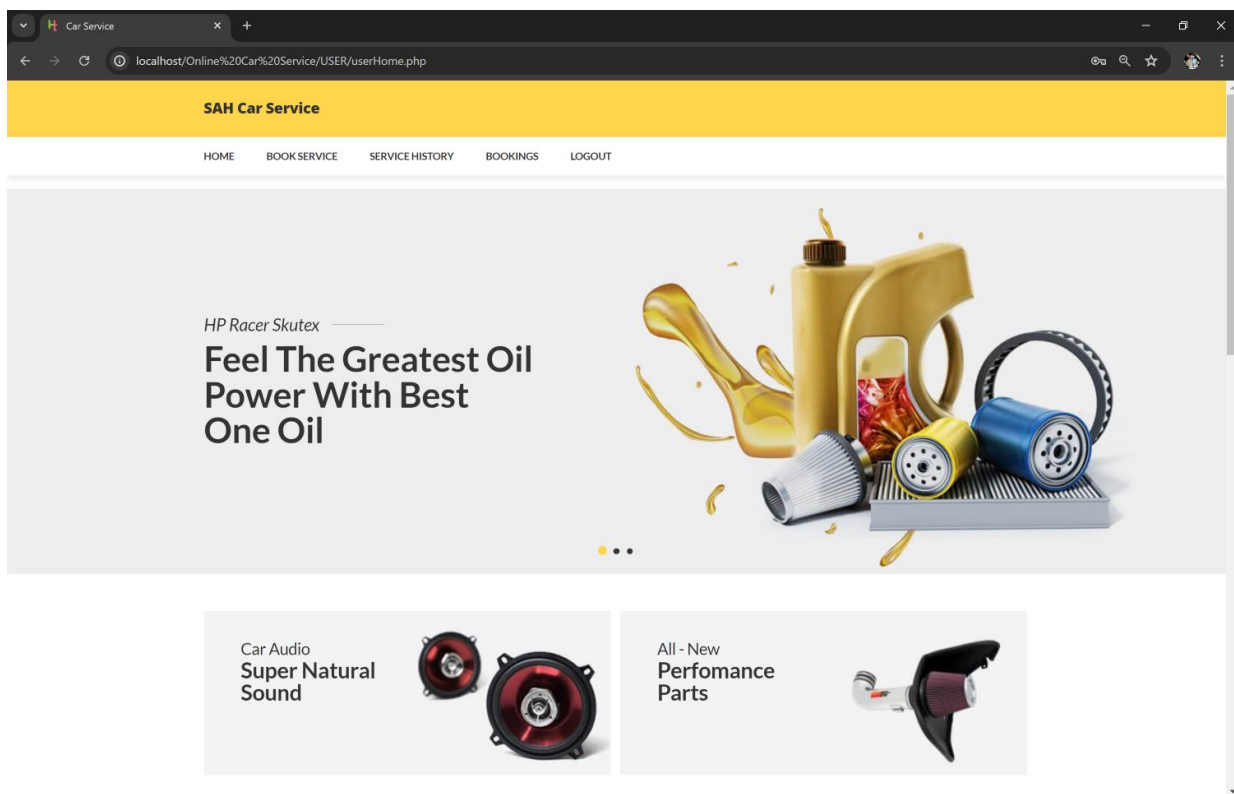
Pin Code*

Email *

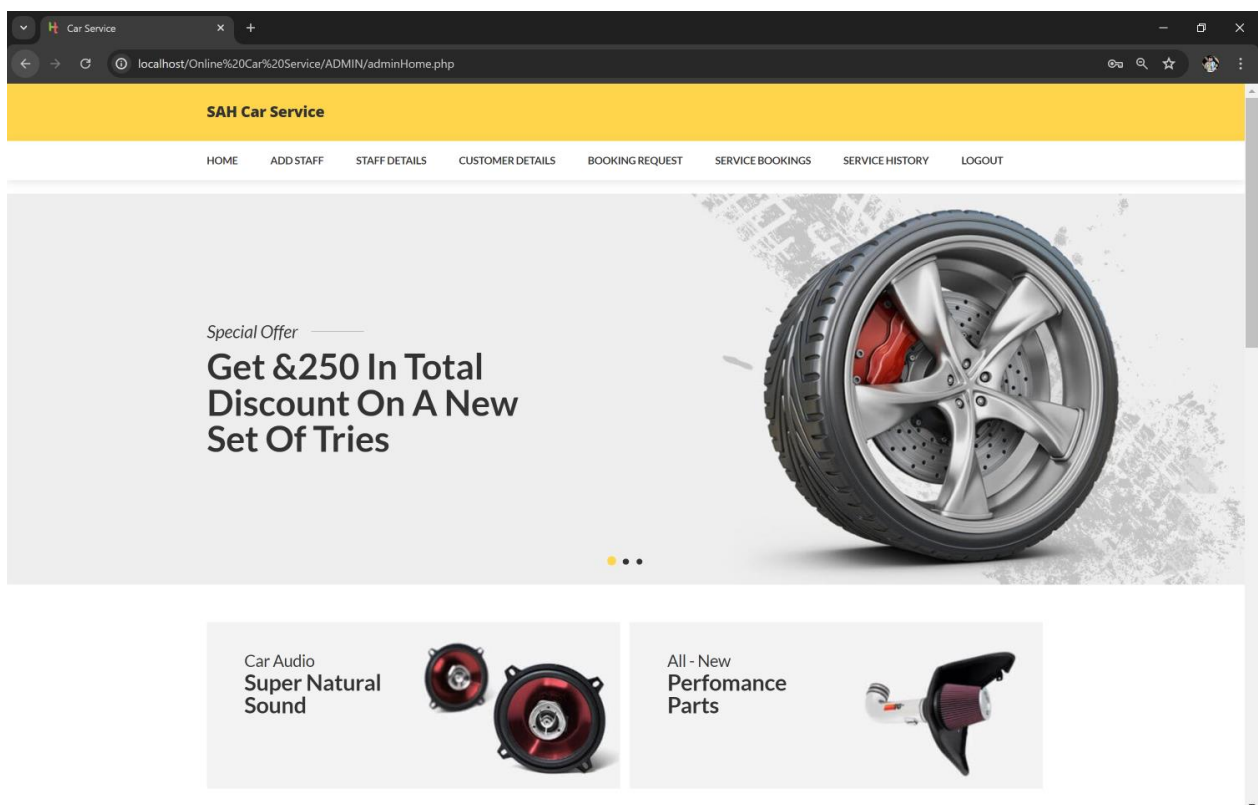
Passwords *

REGISTER

User Home Page



Admin Home Page



4.2 TEST PLAN

The testing phase requires organizations to complete various tests to ensure the accuracy of programmed code, the inclusion of expected functionality, and the interoperability of applications and other network components. Thorough testing is critical to ensuring systems meet organizational and end-user requirements. Test plans created during initial project phases enhance an organization's ability to create detailed tests. A bottom-up approach tests smaller components first and progressively adds and tests additional components and systems. A top-down approach first tests major components and connections and progressively tests smaller components and connections. Bottom-up tests often begin with functional (requirements based) testing. Functional tests should ensure that expected functional, security, and internal control features are present and operating properly. Testers then complete integration and end-to-end testing to ensure application and system components interact properly. Users then conduct acceptance tests to ensure systems meet defined acceptance criteria. Organizations should review and complete user, operator, and maintenance manuals during the testing phase. Additionally, they should finalize conversion, implementation, and training plans.

For testing of the website:

1. All the features of the website are tested by running each function available in the website.
2. The results of the tests conducted on the website are analyzed properly. Only after getting satisfactory results of testing the website can be uploaded on the network i.e. internet.

3. 5. REFERENCES

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