

# **Project Report**

## **Online Electronics Services Management System**

Submitted by

**BSCS-17-27**  
**Abdul Hakeem**  
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Supervised by

**Dr. Minhaj Ahmad Khan**



**DEPARTMENT OF COMPUTER SCIENCE**  
**BAHAUDDIN ZAKARIYA UNIVERSITY MULTAN**  
**PAKISTAN**

## FINAL APPROVAL

This is to certify that we have read this report titled “**Online Electronics Services Management System**” submitted by **Abdul Hakeem Roll No. BSCS17-27** and it is our judgment that this report is of sufficient standard to warrant its acceptance by Bahauddin Zakariya University, Multan for the degree of BS (Computer Science).

### *Committee:*

#### 1. External Examiner

---

Dr. Tauqeer Safdar  
Assistant Professor  
Department of Computer Science  
AIR University, Multan Campus

#### 2. Supervisor

---

Dr. Minhaj Ahmad Khan  
Assosicate Professor  
Department of Computer Science  
Bahauddin Zakriya University, Multan

#### 3. Head of Department

---

Dr. Minhaj Ahmad Khan  
Assosicate Professor  
Department of Computer Science  
Bahauddin Zakriya University, Multan

## **DEDICATION**

*To my Loving Parents & Teachers*

***In The Name of ALLAH  
The Most Beneficent And The Most  
Merciful***

## **ACKNOWLEDGMENT**

Up and above everything, I am grateful to Almighty ALLAH. The Most Gracious, Merciful and Beneficent, who faith me in every aspect of life and never disappointed me, by whom grace I have grace, I have been able to complete this project successfully and His Holy Prophet MUHAMMAD (PBUH) who is forever a true guidance for the whole humanity. I feel great honor to express my sincere and cordial thanks to my respected Dr. Minhaj Ahmad Khan for his invaluable guidance, meticulous training, healthy criticism, deep concern and strong motivation regarding to my problems that I have faced not only during project, but also throughout the study period. Who guided me in critical times and helped me whenever I needed. Especially I am grateful to my parents for providing me all sort of moral and social support in life. Their prayers have enabled me to reach this stage. I heartily express my thanks to my loving brothers for their love and care.

**Abdul Hakeem**

# PROJECT BRIEF

PROJECT NAME	Online Electronics Services Management System
ORGANIZATION NAME	Multan Service Center
UNDERTAKEN BY	Abdul Hakeem
SUPERVISED BY	Dr. Minhaj Ahmad Khan
STARTING DATE	December 15, 2020
COMPLETION DATE	July 15, 2021
COMPUTER USED	Intel(R) Core(TM) i5-5300U CPU @ 2.30GHz 2.30 GHz, 16GB RAM , 500GB Hard disk
OPERATING SYSTEM	MS Windows 10
SOURCE LANGUAGE(S)	HTML, CSS, PHP, JAVASCRIPT
DBMS USED	MY SQL
TOOLS/PACKAGES	Visual Studio Code, Xampp

# Table of Contents

Contents	Page No
<i>Chapter 1</i>	
<b>Introduction</b>	
1.1 Introduction	10
1.2 Overview	10
1.3 Objectives	10
<i>Chapter 2</i>	
<b>System Analysis</b>	
2.1 Introduction	12
2.2 Software Requirements Specification (SRS)	12
2.2.1 Data Gathering	13
2.2.2 Feasibility Study	13
2.2.3 Software Process Model	15
2.3 Data Flow Diagrams (DFD)	17
2.3.1 DFD 0 Level	17
2.2.2 DFD 1 Level	17
2.2.3 DFD 2 Level	19
2.4 Entity Relationship Diagram (ER-Diagram)	20
2.5 Flow Chart	21
2.6 Gantt Chart	24
<i>Chapter 3</i>	
<b>System Design</b>	
3.1 Introduction	26
3.2 Input to Project	26
3.3 Output to Project	28
3.4 Modularization Detail	28
3.5 System Design Using UML	31
3.5.1 Use Case Diagram	31
3.5.2 Sequence Diagram	33
3.6 Class Diagram	34
3.7 Process Logic	35
3.8 Data Integrity	36
3.7 Data Dictionary	36

## *Chapter 4*

### **System Development**

4.1	Tools and Environment	46
4.1.1	Hardware Requirements	46
4.1.2	Software Requirements	46
4.2	Software Description	47
4.2.1	Visual Studio Code	47
4.2.2	Languages	47
4.3	Why using MySQL	48
4.4	yEd Graph Editor	48
4.5	StarUML	49
4.6	Testing	50
4.6.1	Types of Testing	50
4.6.2	Test Case	51
4.7	Implementation	53
4.8	Limitation	54
4.9	Future Scope	55

## *Chapter 5*

### **User Guide**

5.1	User's Guide	57
5.1.1	User Registration	57
5.1.2	User Login	58
5.1.3	Profile	59
5.1.4	Submit Request	59
5.1.5	Change Password	60

## *Chapter 6*

### **Conclusion**

6.1	Conclusion	62
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<b>Bibliography</b>	63
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# **Chapter 1**

## **INTRODUCTION**

## 1.1 Introduction

OESMS is Pakistan's leading chain of multi-brand electronics and electrical service workshops offering wide array of services. It focuses on enhancing your uses experience by offering world-class Electronic Appliances maintenance services. Our sole mission is "To provide Electronic Appliances care services to keep the devices fit and healthy and customers happy and smiling". With well-equipped Electronic Appliances service centres and fully trained mechanics, we provide quality services with excellent packages that are designed to offer you great savings. Our state-of-art workshops are conveniently located in many cities across the country.

## 1.2 Overview

Through computers organization, IT Firms, Universites and Businesses etc.. can transact to their clients in a convenient way using advance technologies and specially Web Application, The Web Application is created for Service Centre functions through this "Online Service Managment System" Admin (Manager) can lessen their errors and efforts in every Customer Support processing and transactions and in making reports.

It is Web Application which is developed in HTML, CSS, PHP & MySQL. The purpose of this Web Application is to manage the activities of service centre. Even a person can handle very easily; it means Web Interface is user friendly.

## 1.3 Objectives

- **Practicality:** The software must be stable and can be operated by people with average intelligence.
- **Efficiency:** This involves accuracy, timeliness and comprehensiveness of the output.
- **Cost:** It is desirable to aim for a system with a minimum cost subject to the condition that it must satisfy all the requirements.
- **Portability:** The Web Application should be portable to all environments.
- **Security:** This important aspect of design covers areas of physical security of data. This could be provided by a login facility enabling username and password for the user and administrator. Thus it makes the Admin work simple with 100% efficiently.

## **Chapter 2**

# **SYSTEM ANALYSIS**

## 2.1 Introduction

System Analysis is a problem solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose.

A systems analyst researches problem, plans solutions, recommends software and systems, and coordinates development to meet business or other requirements. The main goal of this system analyst is to collect different data from different site, process these data and generate progress as well as daily report.

System analyst operates in a dynamic environment where change is a way of life. The environment may be a business firm, a business application, or a computer system. to construct a system the following key elements must be considered: -

**Input:** Input is what data the system receives to produce a certain output.

**Output:** What goes out from the system after being processed is known as Output.

**Processing:** The process involved to transform input into output is known as Processing.

**Control:** In order to get the desired results it is essential to monitor and control the input, Processing and the output of the system. This job is done by the control.

**Feedback:** The Output is checked with the desired standards of the output set and the necessary steps are taken for achieving the output as per the standards, this process is called as Feedback. It helps to achieve a much better control in the system.

**Boundaries:** The boundaries are nothing but the limit of the system. Setting up boundaries helps for better concentration of the actives carried in the system.

**Environment:** The things outside the boundary of the system are known as environment. Change in the environment affects the working of the system.

**Interfaces:** The interconnections and the interactions between the sub-systems are known as the Interfaces. They may be inputs and outputs of the systems.

## 2.2 Software Requirements Specification (SRS)

A software requirements specification is a document that captures complete description about how the system is expected to perform. It is usually signed off at the end of requirements engineering phase.

### Product perspective

The software product is a Web application. The application will be made up of two parts, one administrator who has all the rights and the other user who has limited rights to handle the

application. The two users of the system, namely the Service Manager (Admin) and Customers (User) interact with the system in different ways.

### **Product Functions**

First of all it will authenticate the user whether he is Admin or User the unauthorized person can't get access to the application.

The Admin will be able to Add, delete, and modify Product details. He can also Add, delete and modify Service Request made by Customers. He can use this application to check all reports related to Product Sell, and assign work order as well as he can manipulate the data of Repair Request.

The User has some less function compare to Admin. He will be able to Submit Service Requests, Update Own Profile etc. He can check request status.

### **Safety Requirements**

All the data will be saved to database for safety purpose so there will be no data loss. These data can be accessed only by an authorized person so data theft is also not possible in this application.

### **Security Requirements**

For preventing unauthorized access to the application, this application have login feature so only granted user can access with defined rights.

## **2.2.1 Data Gathering**

Data collection is the systematic approach to gathering and measuring information from a variety of sources to get a complete and accurate picture of an area of interest. Data collection enables a person or organization to answer relevant questions, evaluate outcomes and make predictions about future probabilities and trends. Accurate data collection is essential to maintaining the integrity of research, making informed business decisions and ensuring quality assurance.

## **2.2.2 Feasibility study**

Feasibility study means to check whether the project is feasible or not, that means possible or not. Some feasibility study regarding this project is as follows: -

**Economic Feasibility**

The project has shown the economic feasibility by the study of the fact that by using this software the increased number of the customers can be given service effectively and efficiently and can save a lot time and saving time means saving money. The cost and benefit analysis has shown that cost that have incurred in developing the project is less than the benefits that the project is going to provide once it is developed, so this project has passed the feasibility test.

**Technical Feasibility**

Technical feasibility centers on the existing computer system (Hardware, Software etc.) and to what extent it supports the existing system. As the existing system computer system is viable so there is no matter of technical feasibility that is the system is technically feasible. In this type of feasibility study it is checked whether there is a need of new hardware/software or not. What are the basic requirements of the project? If there is need then how it can be fulfilled. In this context, this project doesn't need any special hardware or software.

**Behavioral Feasibility**

The User also interested in this project, as it will help them to do work with ease and efficiently without complexity, so they supported the development of this project with full enthusiasm. This shows the behavioral feasibility of the project.

**Time Feasibility**

It is the determination of whether a proposed project can be implemented fully within stipulated time frame. The project was decided to be done in three months and was thought to be feasible

**Operational Feasibility**

In this feasibility study it is determined whether there is need of well qualified operator or simple user. Is there need to train the operator or not? This project is supporting the Graphical User Interface; hence operating this project is so simple. Even a person who has a little knowledge of computer can easily handle this well. There is no need of trained operator.

### 2.2.3 Software Process Model

The Software Process Models are the various processes or methodologies that are being selected for the development of the project depending on the project's aims and goals. There are many development life cycle models that have been developed in order to achieve different required objectives. The models specify the various stages of the process and the order in which they are carried out.

The selection of model has very high impact on the testing that is carried out. It will define the what, where and when of our planned testing, influence regression testing and largely determines which test techniques to use.

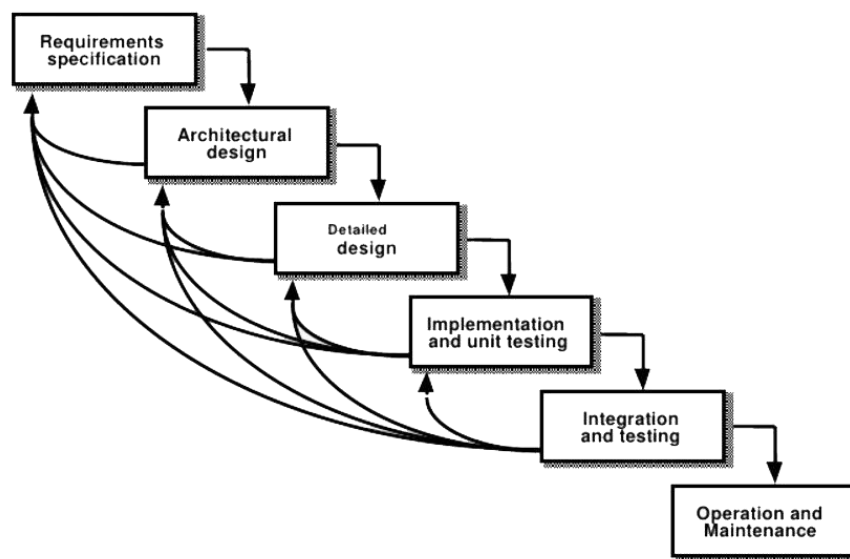
Choosing right model for developing of the software product or application is very important. Based on the model the development and testing processes are carried out.

A Process Model describes the sequence of phases for the entire lifetime of a product. Therefore it is sometimes also called Software Life Cycle. This covers everything from the initial commercial idea until the final de-installation or disassembling of the product after its use.



**Figure 2.1 Software Process Model**

In order to develop the project “Online Service Managment System” we have adopted the **Iterative Enhancement Model** also known as Incremental Model. This model removes the shortcoming of waterfall model. Since many facts of this system are already known. It is not a new concept and hence no research is required. A working version can be easily created and hence the system can start working. Rest of the functionalities can be implemented in the next iteration and can be delivered later. As the requirement analysis is also not required. It not being a new technology risk involved is also less. So one need not perform detailed risk analysis. If redevelopment Admin is less than development can be started with less number of people and in next increments others can be involved. As this model combines the advantage of waterfall model and prototyping, clients are always aware of the product being delivered and can always suggest changes and enhancements and can get them implemented. As less amount of customer communication is required one need not apply spiral model in which all types of analysis is done in detail. As the deadline is affordable one need not to for Rapid Application Development model. Iterative enhancement model is useful when less manpower is available for software development and the release deadlines are specified. It is best suited for in house product development, where it is ensured that the user has something to start with. The complete product is divided into releases and the developer delivers the product release by release.



Iterative Enhancement Model

**Figure 2.2 Iterative Enhancement Mode**

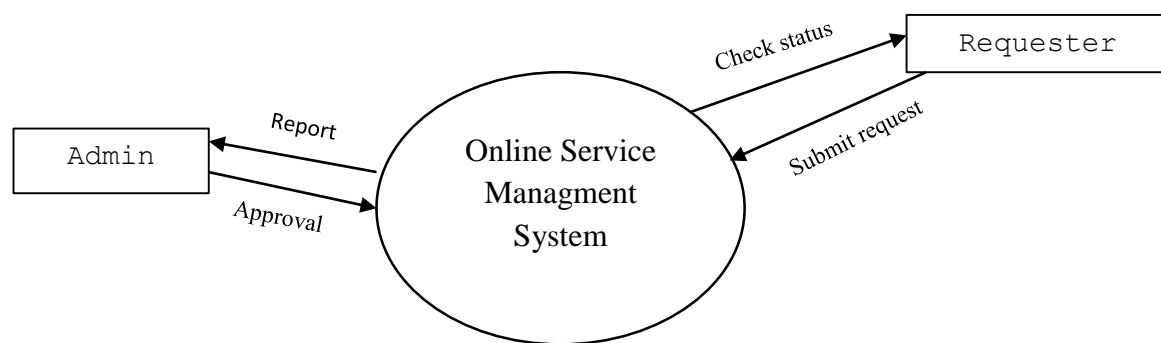


## 2.3 Data Flow Diagram (DFD)

Data flow diagram is graphical representation of flow of data in an information system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. Data flowcharts can range from simple, even hand-drawn process overviews, to in-depth, multi-level DFDs that dig progressively deeper into how the data is handled.

### 2.3.1 DFD 0 Level

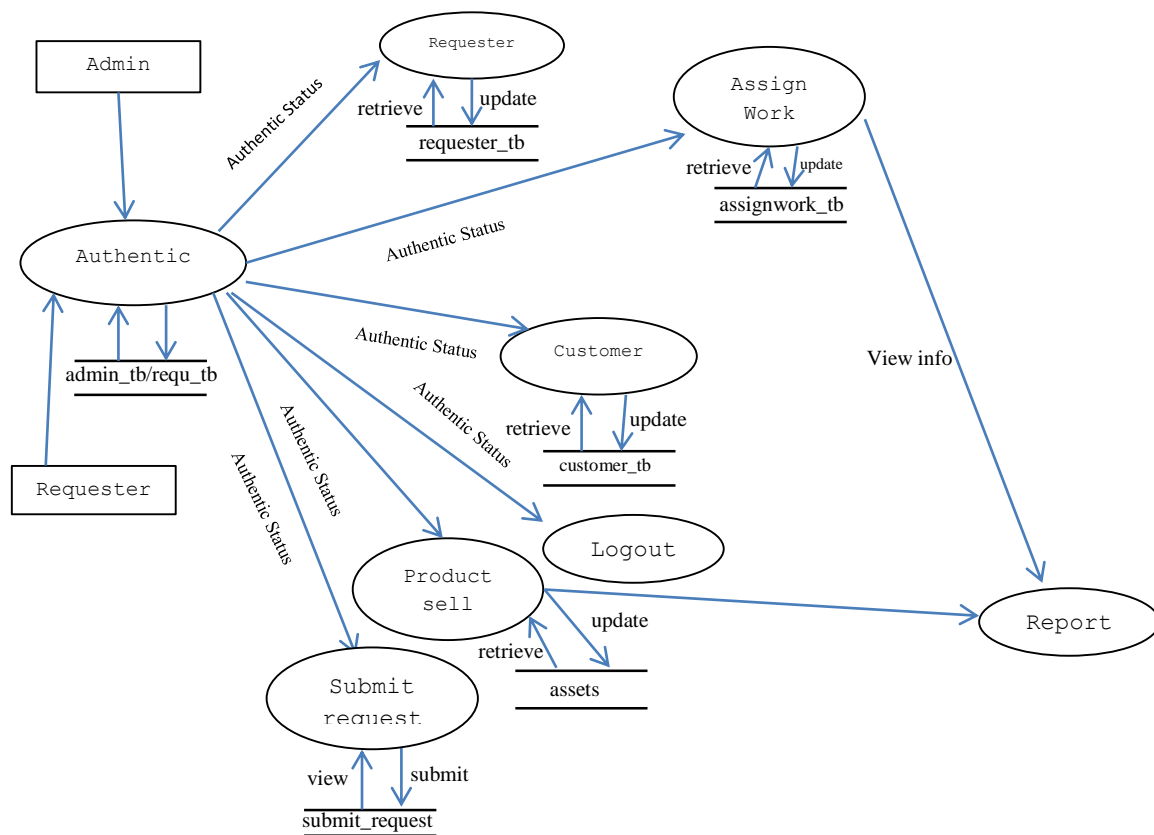
The 0 Level DFD shows flow of data of application. DFD Level 0 is also called a Context Diagram. It's a basic overview of the whole system or process being analyzed or modeled.



**Figure 2.3 DFD 0 Level**

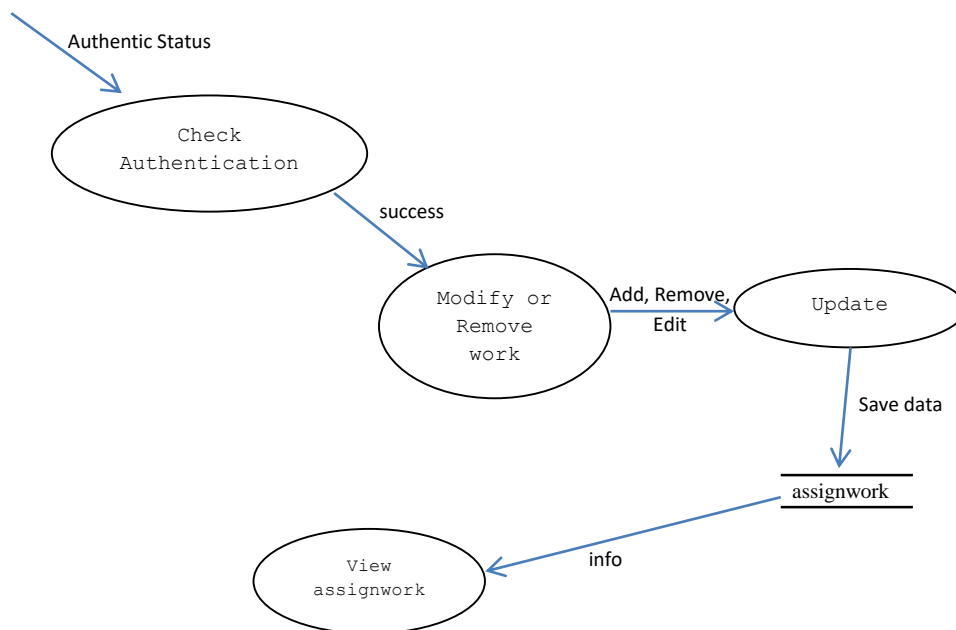
### 2.3.2 DFD 1 Level

DFD Level 1 provides a more detailed breakout of pieces of the Context Level Diagram. This DFD describes main functions carried out by the system, as we break down the high-level process of the Context Diagram into its sub-processes.

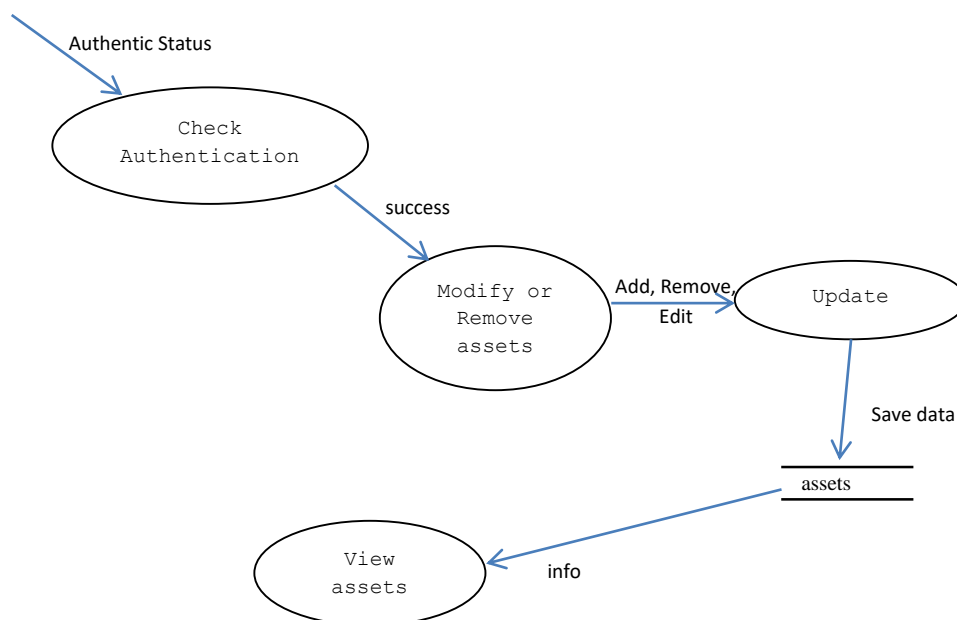
**Figure 2.4 DFD Level 1**

### 2.3.3 DFD 2 Level

The DFD 2 Level describes flow of data in more detail. DFD Level 2 goes one step deeper into parts of Level 1. It may require more text to reach the necessary level of detail about the system's functioning.



**Figure 3.5 DFD Level 2**



**Figure 4.6 DFD Level 2**

## 2.4 Entity Relationship Diagram (ER-Diagram)

An Entity Relationship Diagram (ERD) is a visual representation of different entities within a system and how they relate to each other. Entity relationship diagrams are used in software engineering during the planning stages of the software project. They help to identify different system elements and their relationships with each other.

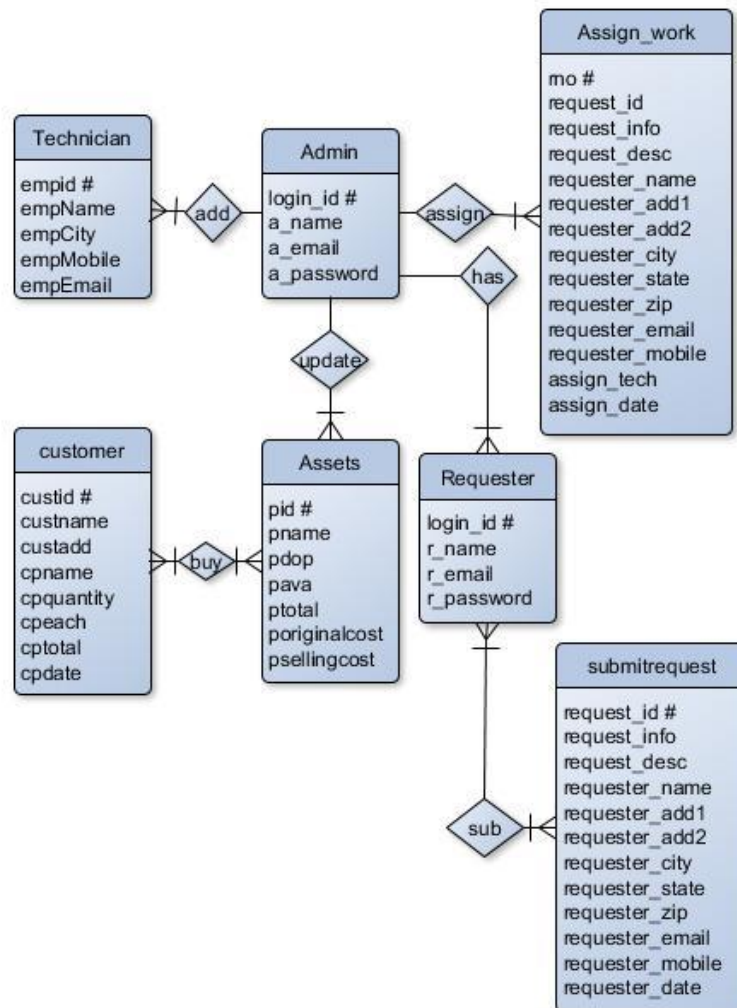
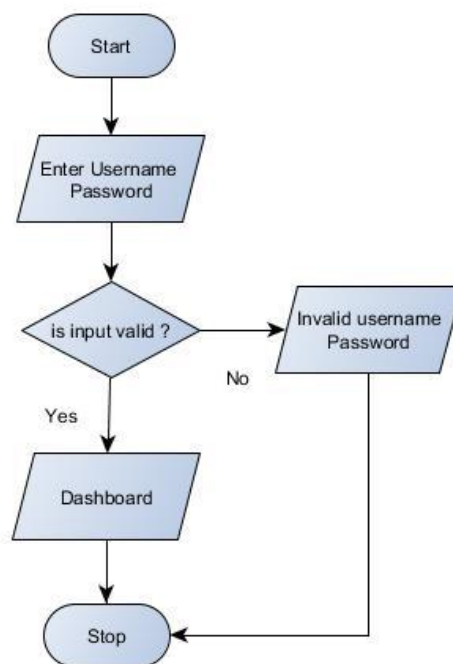


Figure 5.7 ER-Diagram

## 2.5 Flow Chart

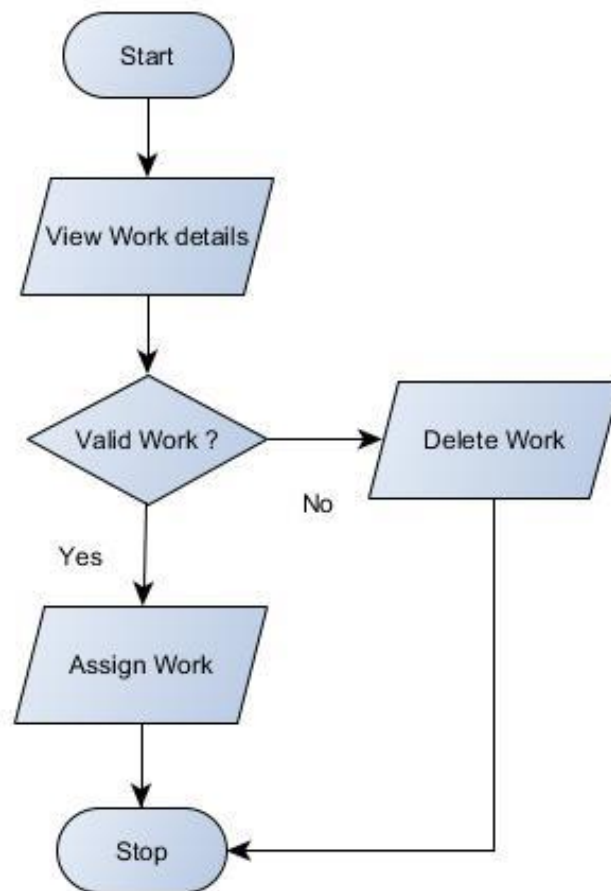
A flowchart is a diagram that depicts a process, system or computer algorithm. They are widely used in multiple fields to document, study, plan, improve and communicate often complex processes in clear, easy-to-understand diagrams. Flowcharts, sometimes spelled as flow charts, use rectangles, ovals, diamonds and potentially numerous other shapes to define the type of step, along with connecting arrows to define flow and sequence.

### Login



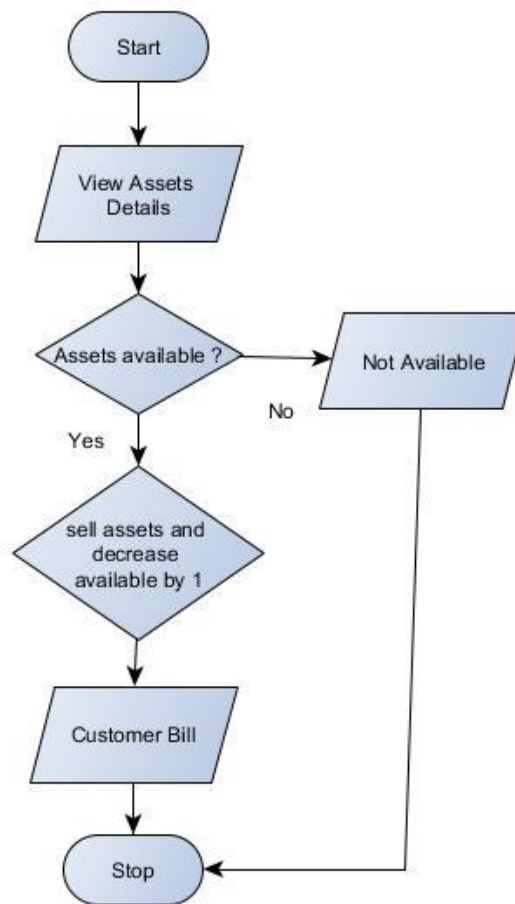
**Figure 6.8 Login**

## Assign Work



**Figure 7.9** Assign Work

## Sell Product



**Figure 8.10 Sell Product**

## 2.6 Gantt Chart

Gantt chart was invented by a mechanical engineer named Henry Gantt in 1910. A gantt chart is simply a type of bar chart that visually represents a project plan over time. It shows start and end dates for tasks, displays milestones, and allows for dependencies between tasks. With all the features of Henry gantt's project management system, it's no wonder that even now, more than 100 years later, the gantt chart is still the preferred tool for managing projects of all sizes and types.

Week	1	2	3	4	5	6	7	8	9	10	11	12
Activities												
Research												
Define Specification												
Project Planning												
Design												
Development												
Test Plan												
Testing and Q A												
Delivery												

**Figure 9.11 Gantt Chart**



## **Chapter 3**

# **SYSTEM DESIGN**

### 3.1 Introduction

The systems design approach first appeared right before World War II, when engineers were trying to solve complex control and communications problems. They needed to be able to standardize their work into a formal discipline with proper methods, especially for new fields like information theory, operations research and computer science in general. 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.

### 3.2 Input to the project

In order to complete the tasks of the Application and to get output by using this application work, there is need of some input based on the work that is to be carried out by using it. Different kinds of input are required for different purposes.

- i. Input for new Registration
  - ✦ Login ID # (Automatically generated)
  - ✦ Requester Name
  - ✦ Requester Email
  - ✦ Requester Password
- ii. Input for new Technician
  - ✦ Emp ID# (Automatically generated)
  - ✦ Emp Name
  - ✦ Emp City
  - ✦ Emp Mobile
- iii. Input for Submit Request
  - ✦ Request ID # (Automatically generated)
  - ✦ Request Info
  - ✦ Request Desc
  - ✦ Requester Name
  - ✦ Requester Add1
  - ✦ Requester Add2
  - ✦ Requester City
  - ✦ Requester State
  - ✦ Requester Zip

- ✦ Requester Email
- ✦ Requester Mobile
- ✦ Requester Date
- iv. Input for Assign Work
  - ✦ Rno # (Automatically generated)
  - ✦ Request ID
  - ✦ Request Info
  - ✦ Request Desc
  - ✦ Requester Name
  - ✦ Requester Add1
  - ✦ Requester Add2
  - ✦ Requester City
  - ✦ Requester State
  - ✦ Requester Zip
  - ✦ Requester Email
  - ✦ Requester Mobile
  - ✦ Assign\_tech
  - ✦ Assign\_date
- v. Input for Assets
  - ✦ pid #
  - ✦ Product Name
  - ✦ Product date of Purchase
  - ✦ Product available
  - ✦ Product Total
  - ✦ Product Original Cost
  - ✦ Product Selling Cost
- vi. Input for getting reports
  - ✦ Date rang
- vii. Input for login in the application
  - ✦ Email #
  - ✦ Password

### 3.3 Output to the project

The project named “**Online Service Managment System**” is being made keeping in mind to solve the activities that are carried out in the Service Centre. By using this Admin can easily do many things like as:

- i. Maintain assets details easily
- ii. Maintain the Requester details easily
- iii. Maintain the Technician details easily
- iv. Can check work order details
- v. Can assign work
- vi. Can check Service Request Status
- vii. Can generate Bill
- viii. Can generate hard copy output of all product sell
- ix. Can generate report of particular

### 3.4 Modularization Detail

#### **Home:**

When the user click on this button,it will display the other modules and pages of the website such as Services, Registration, Login, Contact, and Admin Login. This module will be used to display the brief introduction of the project and will show the title of the project as well as the name of the developer.

#### **Services:**

This modules describes which services company provides to its customers.

#### **Registration:**

This is the most important module of the Online Service Managment System which provides a Registration form where user/requesters can register themselves and submit Service Requests.

#### **Contact:**

This module contains a contact us form which can be used to send feedback or to communicate with the service provider.

#### **Login:**

This is user login form. When an user clicks on this link a user login form will be appear where user can enter their email id and password for logging in to the user panel.

### **User Panel:-**

#### **Profile:**

User can see their register email id and Name as well as if they wish to change the name, they can update new Name. The Registered Email ID is read only so it can't be altered.

#### **Submit Request:-**

Using this module user can submit service request. It is necessary to fill up all the details asked in the form. After submitting form user will get an receipt which he can print out.

#### **Service Status:-**

User can check their service request status by filling up service request id

#### **Change Password:-**

User can change his/her login password.

#### **Logout:-**

This Logout and Exit the Application.

#### **Admin Login:**

This is Admin login form. When Admin clicks on this link an Admin login form will be appear where admin can enter their email id and password for logging in to the Admin panel.

### **Admin Panel:-**

#### **Dashboard:-**

This screen displays overview of work and other stuff like Number of technician and list of requesters.

#### **Work Oder:-**

This page contains all the assigned request made by users. Admin can view or delete the assigned work as per their need.

#### **Requestes:-**

This is the most important module of admin panel where admin can assign the work/requests made by users/requesters. If there is any invalid request admin can delete that request without assigning them.

#### **Assets:-**

The main work is to accomplish in this module is to add, modify or remove any assets of the Service centre. This contains few sub modules through which works are performed. These are as follows:

- New: This is used to add new Product Part in the service centre. There is a Plus (+) sign button which is actually New Button.
- Edit: This sub module is used to modify the existing details of the Product if anything goes changes in their record. There is a Pencil button which is actually Remove Button.
- Remove: This is used to remove any product from the service centre. There is a Trash button which is Remove Button.
- Sell: This is used when going to sell a product Admin can also print out a bill for customer.

**Technician:-**

The main work is to accomplish in this module is to add, modify or remove Technician of the Service centre. This contains few sub modules through which works are performed. These are as follows:

- New: This is used to add new Technician details in the service centre. There is a Plus (+) sign button which is actually New Button.
- Edit: This sub module is used to modify the existing details of the Technician if anything goes changes in their record. There is a Pencil button which is actually Remove Button.
- Remove: This is used to remove Technician from the service centre. There is a Trash button which is Remove Button.

**Requester:-**

The main work is to accomplish in this module is to add, modify or remove Requesters/Users. This contains few sub modules through which works are performed. These are as follows:

- New: This is used to add new Requesters details in the service centre database. There is a Plus (+) sign button which is actually New Button.

- **Edit:** This sub module is used to modify the existing details of the Requester if anything goes changes in their record. There is a Pencil button which is actually Remove Button.
- **Remove:** This is used to remove Requester from the service centre. There is a Trash button which is Remove Button.

**Sell Report:-** This module is used to view and print sell report.

**Work Report:-** This module is used to view and print Work report.

**Change Password:-** User can change his/her login password.

**Logout:**This Logout and Exit the Application.

### 3.5 System Design Using UML

UML stands for Unified Modeling Language is standard language for specifying, visualizing, constructing and documenting the artifacts of software system, as well as for business modeling and other non-software system. The UML presents a collection of best engineering practices that have been proven successful in modeling of large and complex system. The UML is very important part of developing object oriented software and the software development process. The UML mostly uses graphical notation to express the design of software project.

Using UML helps project term's communication, explore potential design and validate the architecture design of software. UML allows people to develop several different types of visual diagrams that represent various aspect of the system such as:

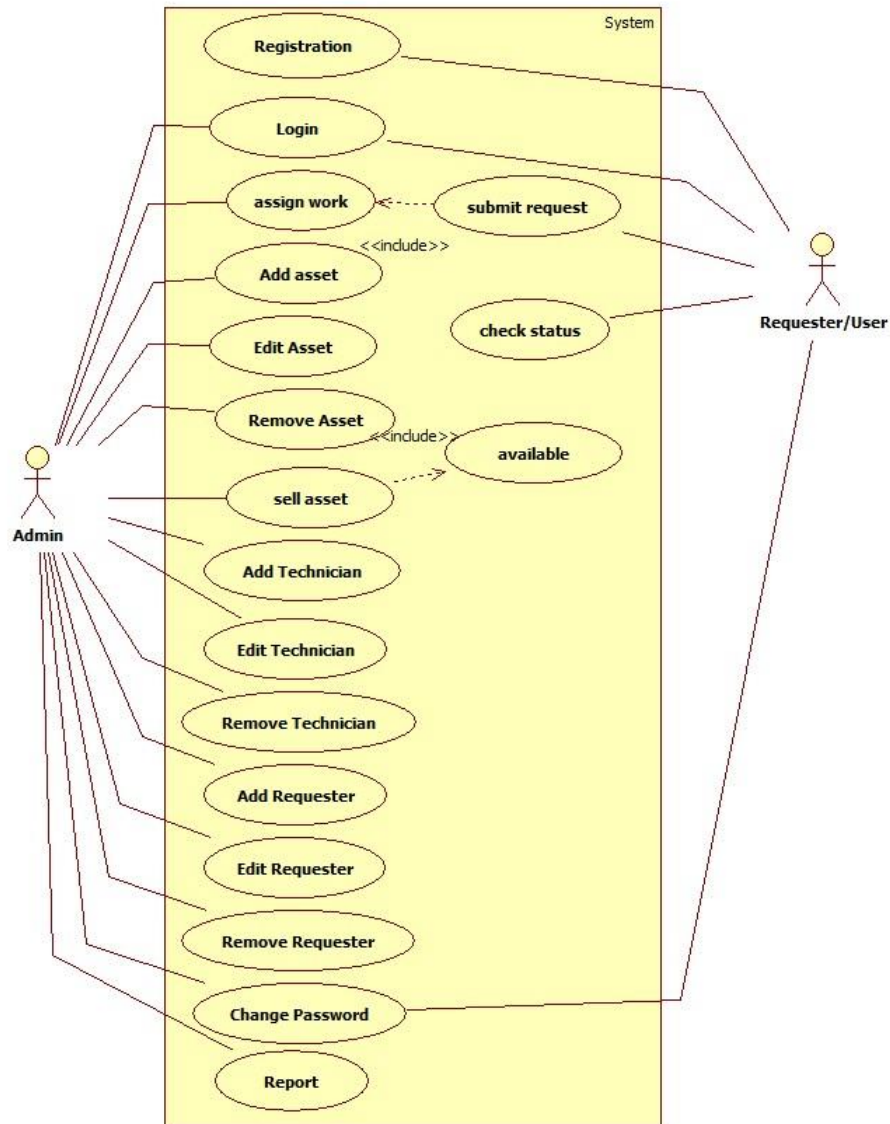
1. Use Case Diagram
2. Sequence Diagram

#### 3.5.1 Use Case Diagram

It is a simple representation showing interaction of user with the system. Use case and actors are the main ingredients of such type of diagrams i.e., it shows the roles that a user can take towards a system. It is often used in early stages of design process to collect the potential requirements of the project. Such designs how the overall functionality of the system.

As such diagrams provide high-level view of the system they were called as the blue prints of your system. As they have simple nature and mimic the real-world view of the system, they are being use as a communication tool for stakeholders. Users, project manager, developers,

quality assurance engineers can view these diagrams and understand the overall working of the system.



**Figure 3.1 Use Case Diagram**



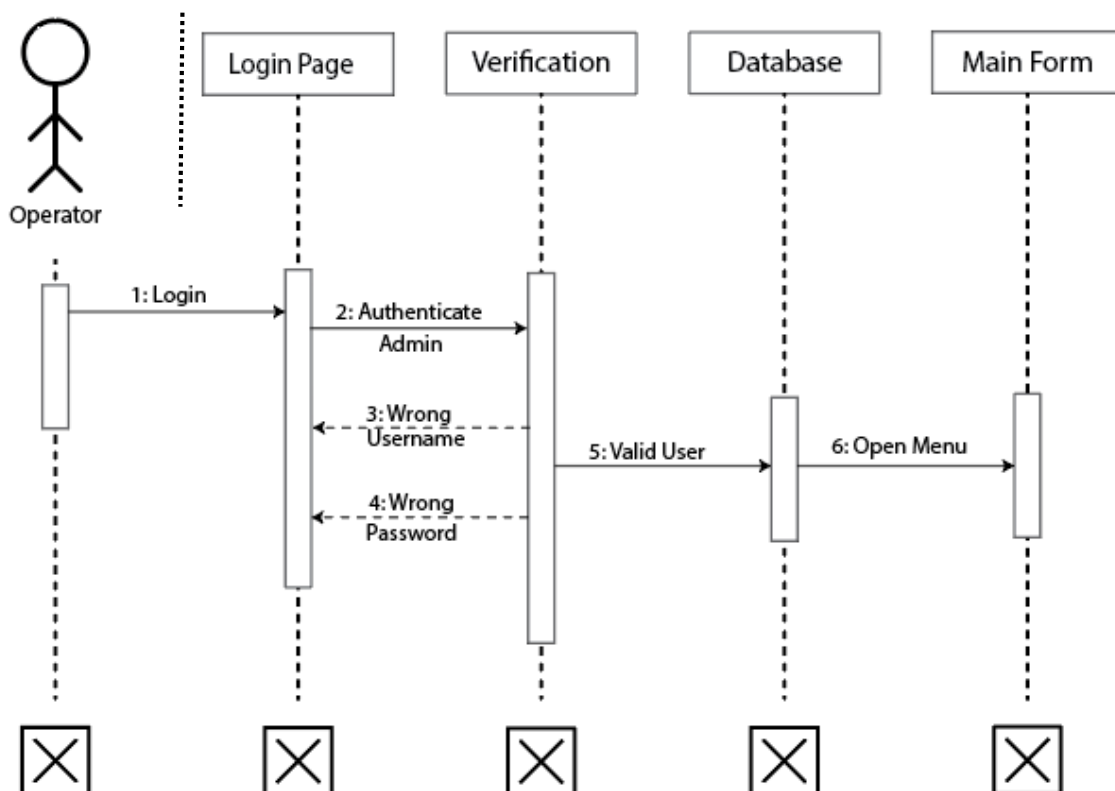
### 3.5.2 Sequence Diagram

It shows the interaction between objects or modules in sequential manner. It depicts in what manner the modules or objects of the system are going to perform their specified tasks. They are also called as event diagrams. These are commonly used by the developers to deeply comprehend the requirements of the system both new and existing.

It consists of actors; which are the users outside the actual system, lifelines; which are basically all the instances of sequence diagram, messages; represents the communication between objects and at last guards; which are used to model the conditions in UML Sequence diagram.

The messages used in these interactions can take a few forms. They may be synchronous, where sender have to wait for accomplishment message from receiver or they may be asynchronous where sender do not wait for reply from receiver. They may be reply or self-messages.

Sequence diagrams are used to primarily design, document and validate the architecture, interfaces and logic of the system by describing actions to be performed in sequence.



**Figure 3.2 Sequence Diagram**

### 3.6 Class Diagram

Class diagrams are the main building block in object-oriented modeling. They are used to show the different objects in a system, their attributes, their operations and the relationships among them.

Classes in class diagrams are represented by boxes that are partitioned into three:-

- The top partition contains the name of the class.
- The middle part contains the class's attributes.
- The bottom partition shows the possible operations that are associated with the class.

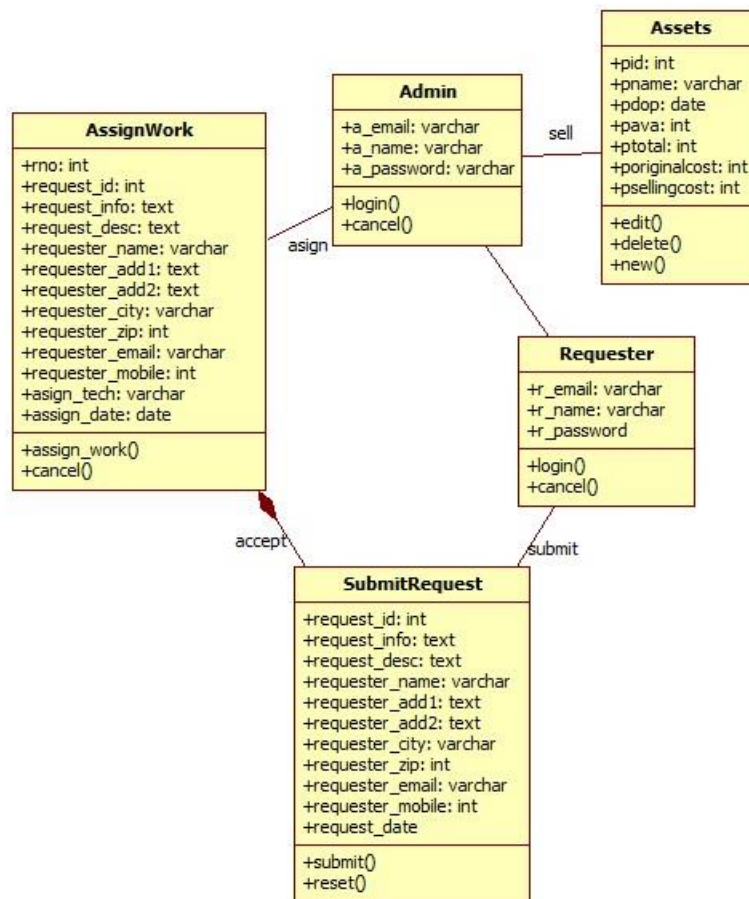
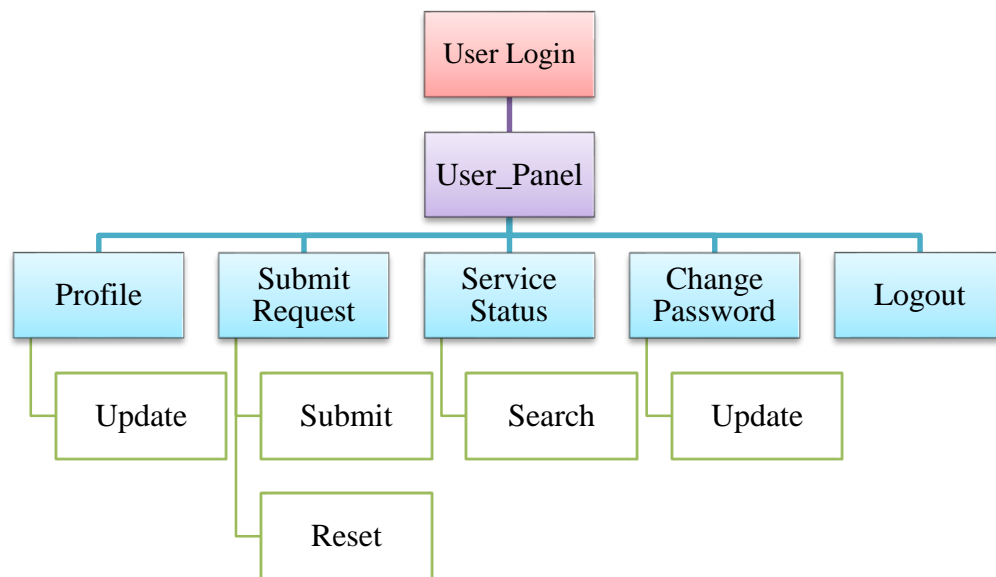
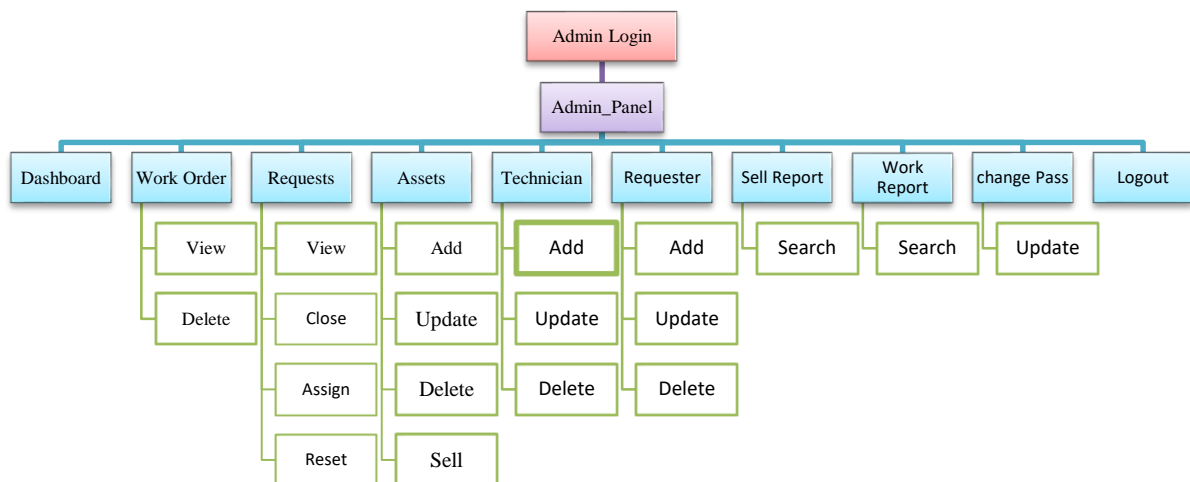


Figure 3.3 Class Diagram

### 3.7 Process Logic



**Figure 3.4 Process Logic**



**Figure 3.5 Process Logic**

### **3.8 Data Integrity**

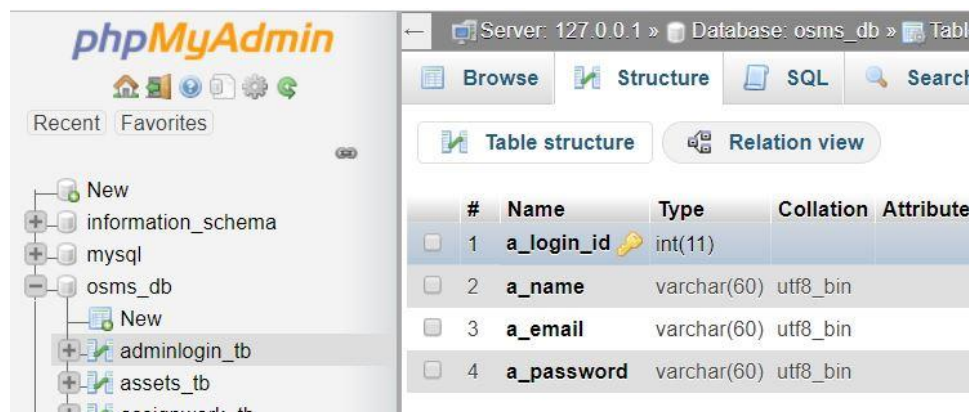
Data integrity is the overall completeness, accuracy and consistency of data. This can be indicated by the absence of alteration between two instances or between two updates of a data record, meaning data is intact and unchanged. Data integrity is usually imposed during the database design phase through the use of standard procedures and rules. The concept of data integrity ensures that all data in a database can be traced and connected to other data. This ensures that everything is recoverable and searchable. Having a single, well-defined and well-controlled data integrity system increases stability, performance, reusability and maintainability. Data values are standardized according to a data model and data type. All characteristics of the data must be correct including business rules, relations, dates and definitions for data to be complete. Data integrity is imposed within a database when it is designed and is authenticated through the ongoing use of error checking and validation routines. As a simple example, to maintain data integrity numeric columns/cells should not accept alphabetic data.

### **3.9 Data Dictionary**

A data dictionary contains a list of all files in the database, the number of records in each file, and the names and types of each field. Most database management systems keep the data dictionary hidden from users to prevent them from accidentally destroying its contents. For most relational database management systems (RDBMS), the database management system software needs the data dictionary to access the data within a database. For example, the Oracle Database software has to read and write to an Oracle Database. However, it can only do this via the data dictionary created for that particular database.

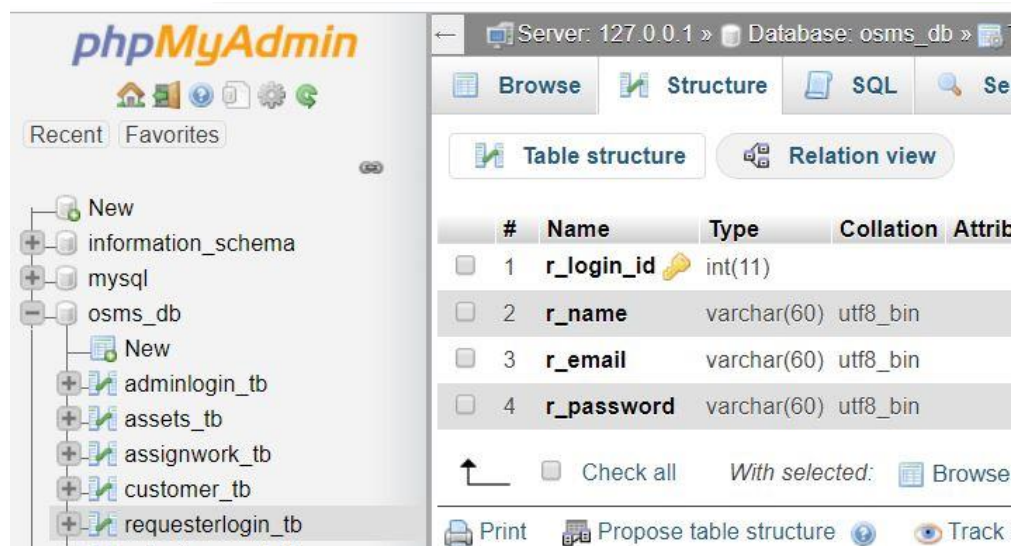
**Table Name: adminlogin\_tb**

Attribute	Data Type	Description
a_login_id #	int	Stores login id (Automatically Generated)
a_name	varchar(60)	Stores Name
a_email	varchar(60)	Store Email
a_password	varchar(60)	Store Password

**Figure 3.6 adminlogin\_tb**

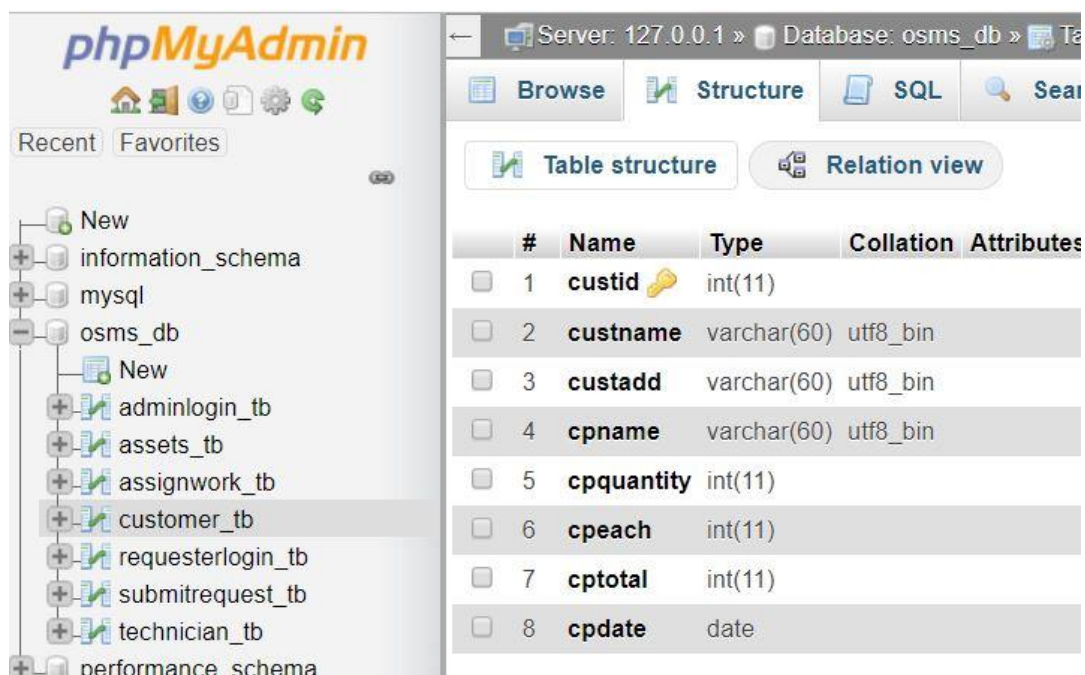
**Table Name: requesterlogin\_tb**

Attribute	Data Type	Description
r_login_id #	int	Stores login id (Automatically Generated)
r_name	varchar(60)	Stores Name
r_email	varchar(60)	Store Email
r_password	varchar(60)	Store Password

**Figure 3.7 requesterlogin\_tb**

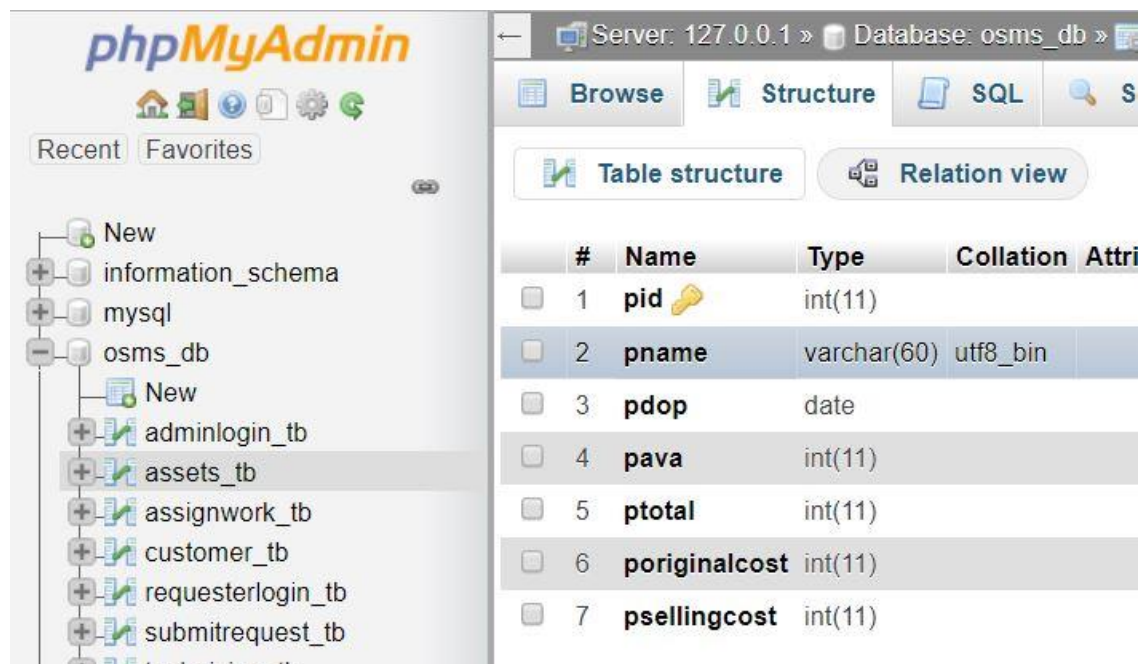
**Table Name: customer\_tb**

Attributes	Data Type	Description
custid #	int	Customer ID (Automatically Generated)
custname	varchar(60)	Customer Name
custadd	varchar(60)	Customer Address
cpname	varchar(60)	Product Name
cpquantity	int	Product Quantity
cpeach	int	Each Quantity Price
cptotal	int	Total Price
cpdate	date	Selling Date

**Figure 3.8 customer\_tb**

**Table Name: assets\_tb**

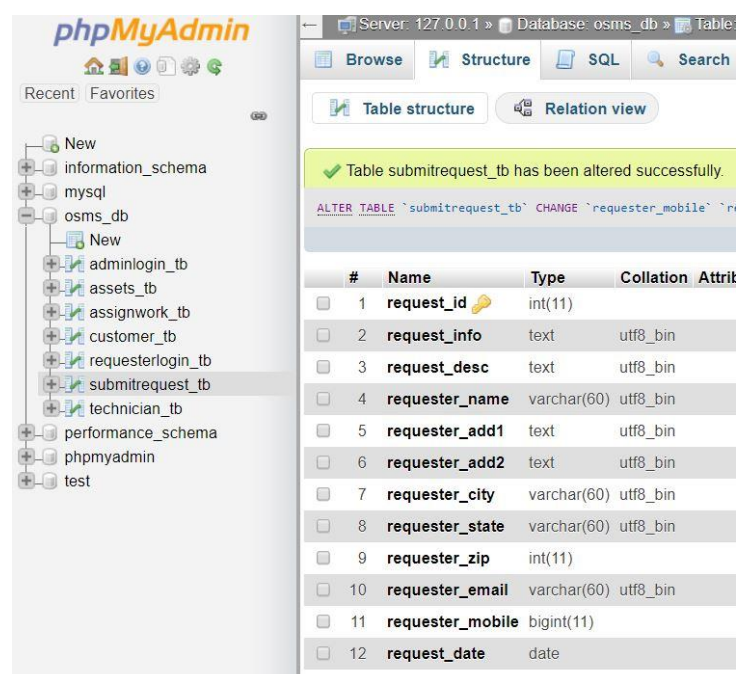
Attributes	Data Type	Description
pid #	int	Product ID (Automatically Generated)
pname	varchar(60)	Product Name
pdop	date	Product Date
pava	int	Number of Available Product
ptotal	int	Number of Total Product
poriginalcost	int	Product Original Cost
psellingcost	int	Product Selling Price

**Figure 3.9 assets\_tb**



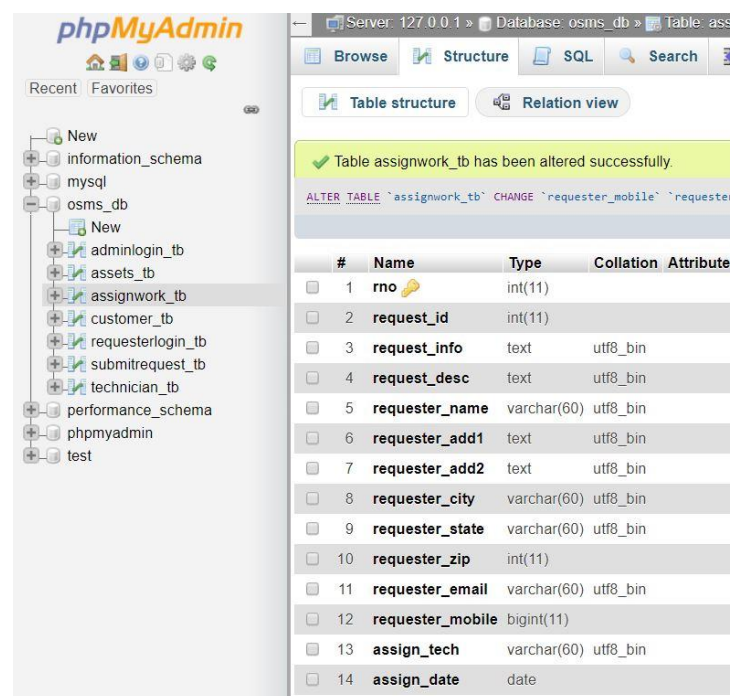
**Table Name: submitrequest\_tb**

Attributes	Data Type	Description
request_id #	int	Request ID (Automatically Generated)
request_info	text	Request Info
request_desc	text	Request Description
requester_name	varchar(60)	Requester Name
requester_add1	text	Requester Address Line 1
requester_add2	text	Requester Address Line 2
requester_city	varchar(60)	Requester City
requester_state	varchar(60)	Requester State
requester_zip	int	Requester Zip
requester_email	varchar(60)	Requester Email
requester_mobile	bigint	Requester Mobile
request_date	date	Request Date

**Figure 3.10 submitrequest\_tb**

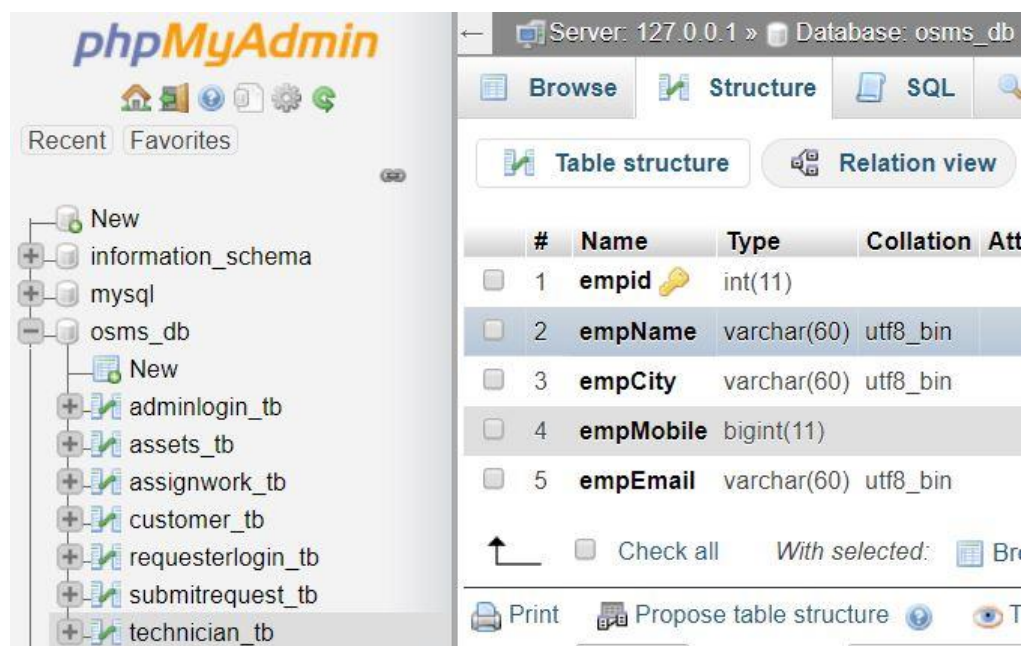
**Table Name: assignwork\_tb**

Attributes	Data Type	Description
rno #	int	Request Number (Automatically Generated)
request_id	int	Request ID
request_info	text	Request Info
request_desc	text	Request Description
requester_name	varchar(60)	Requester Name
requester_add1	text	Requester Address Line 1
requester_add2	text	Requester Address Line 2
requester_city	varchar(60)	Requester City
requester_state	varchar(60)	Requester State
requester_zip	int	Requester Zip
requester_email	varchar(60)	Requester Email
requester_mobile	bigint	Requester Mobile
assign_tech	varchar(60)	Assign Technician Name
assign_date	date	Assigned Date

**Figure 3.11 assignwork\_tb**

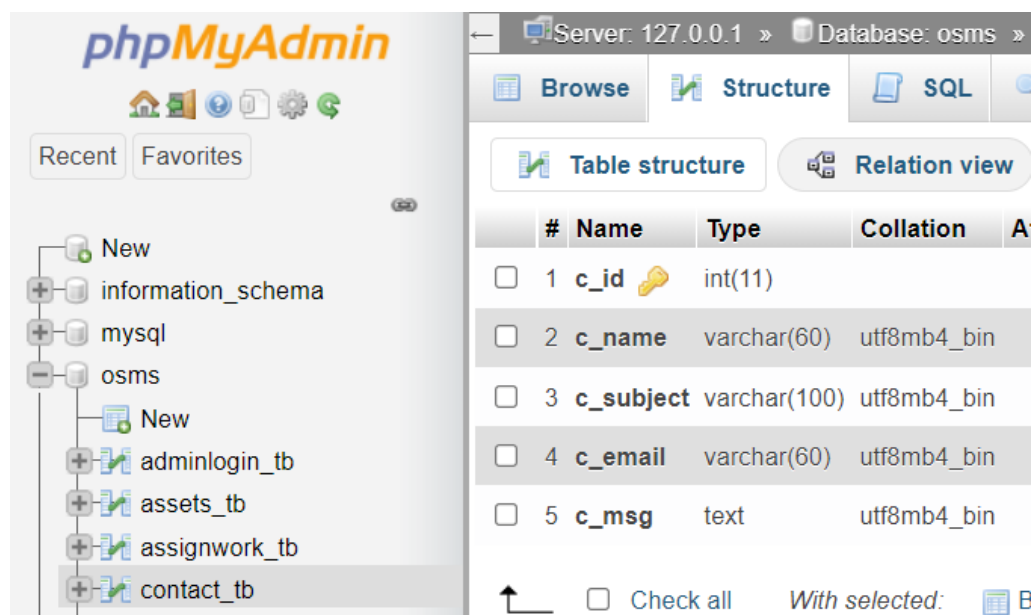
**Table Name: technician\_tb**

Attributes	Data Type	Description
empid #	int	Employee ID (Automatically Generated)
empName	varchar(60)	Employee Name
empCity	varchar(60)	Employee City
empMobile	bigint	Employee Mobile Number
empEmail	varchar(60)	Employee Email ID

**Figure 3.12 technician\_tb**

**Table Name: contact\_tb**

Attributes	Data Type	Description
c_id	int	Contact Person ID
c_name	varchar(60)	Contact Person Name
c_subject	varchar(60)	Contact Person Subject
c_email	varchar(60)	Contact Person Email
c_msg	text	Contact Person Messag

**Figure 3.13 contact\_tb**

## **Chapter 4**

# **SOFTWARE DEVELOPMENT**

## 4.1 Tools and Environment

### 4.1.1 Hardware Requirements

Processor	1.6 GHz or Faster Processor
RAM	1.5 GB
Disk Space	4GB of Available Hard Disk
Graphic	DirectX 9-Capable Video Card
Display	1024 X 768 or Higher Resolution

### 4.1.2 Software Requirements

Operating System	Windows 10
Front End	HTML, CSS, JS
Frameworks/Library	Bootstrap, FontAwesome, Google Font
Back End	PHP
Text Editor	Visual Studio Code
Database	MySQL
Web Browser	Google Chrome
Web Server	Apache
Drawing Tools	yEd Graph Editor
	StarUML

## **4.2 Software Description**

### **4.2.1 Visual Studio Code**

Visual Studio Code was announced on April 29, 2015 by Microsoft at the 2015 Build conference. A Preview build was released shortly thereafter.

On November 18, 2015, Visual Studio Code was released under the MIT License and its source code posted to GitHub. Extension support was also announced.

On April 14, 2016, Visual Studio Code graduated the public preview stage and was released to web. Visual Studio Code is a source code editor developed by Microsoft for Windows, Linux and macOS. It includes support for debugging, embedded Git control, syntax highlighting, intelligent code completion, snippets, and code refactoring. It is also customizable, so users can change the editor's theme, keyboard shortcuts, and preferences. It is free and open-source, although the official download is under a proprietary license..

### **4.2.2 Languages**

#### **HTML**

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.

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.

#### **CSS**

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS 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 .css file, and reduce complexity and repetition in the structural content.

## JavaScript

JavaScript often abbreviated as JS, is a high-level, interpreted programming language. It is a language which is also characterized as dynamic, weakly typed, prototype-based and multi-paradigm.

## Why using PHP

Every PHP is an open source language and all its components are free to use and distribute. PHP is server-side scripting language. It is embedded in HTML source code. It is used to generate dynamic pages content. People find it useful to develop websites and dynamic web pages. It is platform independent. PHP supports all major web servers such as Apache, Microsoft IIS and Netscape etc. All the major database such as Mysql, PostgreSQL, Oracle, Sybase, Microsoft SQL Server is supported by PHP. The main reasons for using PHP language are:

- i) It collects form data and save data send by mail.
- ii) It sends and receives cookies by accessing cookies variables.
- iii) It provides add, delete and modify element function within our database.
- iv) Through PHP, we can restrict users to access some pages of our website.
- v) It can encrypt data, so that our data will become more secure.

## 4.3 Why using MySQL

Mysql is the most popular open source relational database management system .It is one of the best RDBMS being used to develop web-based software applications. It is easy to use and fast RDBMS. There are many good reasons which help us to develop website using this RDBMS:

- It is open-source, so available for free.
- It works on many operating system and with many languages including PHP, PERL, C, C++ etc.
- Mysql is customizable.
- Mysql works very friendly to PHP.
- Mysql works very quickly and works well even with large data sets.



## **4.4 yEd Graph Editor**

yEd is a powerful Free Desktop Application that can be used to quickly and effectively generate high-quality diagrams. yEd can be used to draw many different types of diagrams, including flowcharts, network diagrams, UMLs, BPMN, mind maps, organization charts, and entity-relationship diagrams. yEd can automatically arrange diagram elements using a variety of graph layout algorithms. The program works much like many similar applications.

yEd can export diagrams to various raster and vector formats, including GIF, JPEG, PNG, EMF, BMP, PDF, EPS, and SVG.

## **4.5 StarUML**

StarUML is an open source project to develop fast, flexible, extensible and featureful diagrams. With StarUML it is very easy to make Class Diagram. StarUML is implemented to provide many user-friendly features such as Quick dialog, Keyboard manipulation, Diagram overview, etc.

## 4.6 Testing

Software testing is a process used to identify the correctness, completeness and quality of developed computer software. It includes a set of activities conducted with the intent of finding errors in software so that it could be corrected before the product is released to the end users. In other word software testing is an activity to check that the software system is defect free.

Software testing is primarily a broad process that is composed of several interlinked processes. The primary objective of software testing is to measure software health along with its completeness in terms of core requirements. Software testing involves examining and checking software through different testing processes.

### **The objectives of these processes can include:**

- Completeness - Verifying software completeness in regards to functional/business requirements
- Errors Free - Identifying technical bugs/errors and ensuring the software is error-free
- Stability - Assessing usability, performance, security, localization, compatibility and installation

This phase determine the error in the project. If there is any error then it must be removed before delivery of the project.

### 4.6.1 Types of Testing

For determining errors various types of test action are performed: -

**Unit Testing:** - Unit testing focuses verification effort on the smallest unit of software design – the module. Using the detail design description as a guide, important control paths are tested to uncover errors within the boundary of the module. The relative complexity of tests and the errors detected as a result is limited by the constrained scope established for unit testing. The unit test is always white box oriented, and the step can be conducted in parallel for multiple modules.

Unit testing is normally considered an adjunct to the coding step. After source level code has been developed, reviewed, and verified for correct syntax, unit test case design begins.

**Integration Testing** - A level of the software testing process 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.

**System Testing:** - Software is only one element of a larger computer based system. Ultimately, software is incorporated with other system elements (e.g. new hardware, information), and a series of system integration and validation tests are conducted. Steps taken during software design and testing can greatly improve the probability of successful software integration in the larger system.

A classic system testing problem is “finger pointing”. This occurs when a defect is uncovered, and one system element developer blames another for the problem. The software engineer should anticipate potential interfacing problems and design error handling paths that test all information coming from other elements of the system, conduct a series of tests that simulate bad data or other potential errors at the software interface, record the results or tests to use as “evidence” if finger pointing does occur, participate in the planning and design of system test to ensure that software is adequately tested.

There are many types of system tests that are worthwhile for software-based systems:-

**Usability Testing** - Usability Testing is a type of testing done from an end-user’s perspective to determine if the system is easily usable.

**Functionality testing** - Tests all functionalities of the software against the requirement.

**Performance testing** – Performance testing is designed to test the run-time performance of software within the context of an integrated system

**Security testing** – Security testing attempts to verify that protection mechanisms built into a system will protect it from improper penetration

**Stress tests** – Stress tests are designed to confront programs with abnormal situations.

### 4.6.2 Test Case

A test case is a set of conditions or variables under which a tester will determine whether an application, software system or one of its features is working as it was originally established for it to do.

**Login:**

Test Case ID	Test Scenario	Test Case	Pre-Condition	Test Steps	Test Data	Expected Result	Actual Result	Status Pass/Fail
TC_Login_1	Verify Login	Enter Valid username and valid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Valid username Valid password	Successful login, Main screen of application should displayed	Successful login, Main screen of application displayed	Pass
TC_Login_2	Verify Login	Enter Valid username and invalid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Valid username Invalid Password	No Matched Username/ Password	No Matched Username/ Password	Pass
TC_Login_3	Verify Login	Enter Invalid username and valid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Invalid username Valid Password	No Matched Username/ Password	No Matched Username/ Password	Pass
TC_Login_4	Verify Login	Enter Invalid username and invalid password	Need a valid username and password to do login	1. Enter username 2. Enter Password 3. Click Login	Invalid username Invalid Password	No Matched Username/ Password	No Matched Username/ Password	Pass

**Registration**

Test Case ID	Test Scenario	Test Case	Pre-Condition	Test Steps	Test Data	Expected Result	Actual Result	Status Pass/Fail
TC_REG_1	Verify Registration Detail	Enter Valid and correct data	Need valid text and number Data to be entered	1. Enter Valid Data in appropriate fields 2. Click Submit	Valid Text and Number Data	Successful, Member Added Successfully	Successful, Member Added Successfully	Pass
TC_REG_2	Verify Registration Detail	Enter invalid and incorrect data	Need text and number Data to be entered	Enter invalid Data in fields	Invalid Text and Number Data	Enter Valid Data	Enter Valid Data	Pass
TC_REG_3	Verify Registration Detail	Entering Nothing, Required Fields are blank	-	Click Submit	Nothing to enter Required fields are blank	Fill required field	Fill required field	Pass

## **4.7 Implementation**

Our dedication to our Clients goes well beyond the deployment of our software. We are committed to providing our Client with a positive experience that starts with a successful implementation.

Implementation is the stage in the project where the theoretical design is turned into a working system. The implementation phase constructs, installs and operates the new system. The most stage is achieving a new successful system is that it will work efficiently and effectively.

Security and integrity of database are very important for any software system because databases are the backbone of the system. Security need to be implanted at every level of the system so that only authorized user can access the system for updation and other significance process.

## **4.8 Limitation**

- SMS alert facility is not available.
- Portal is not SEO friendly
- Registration Email Verification Not available
- Risk unauthorized accessibility

## **4.9 Future Scope**

The various things can be made it simple and user friendly. As by increasing some of the coding we can improve it functionality. online payment system is yet not integrated to the system which can be featured in the near future.

Till now it does not have the facility of back up the database. By as the next advancement we can make it able to bundle the backup facility so that one can perform operation based on previous records.

As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.

Based on the future security issued, security can be improved using emerging technologies.

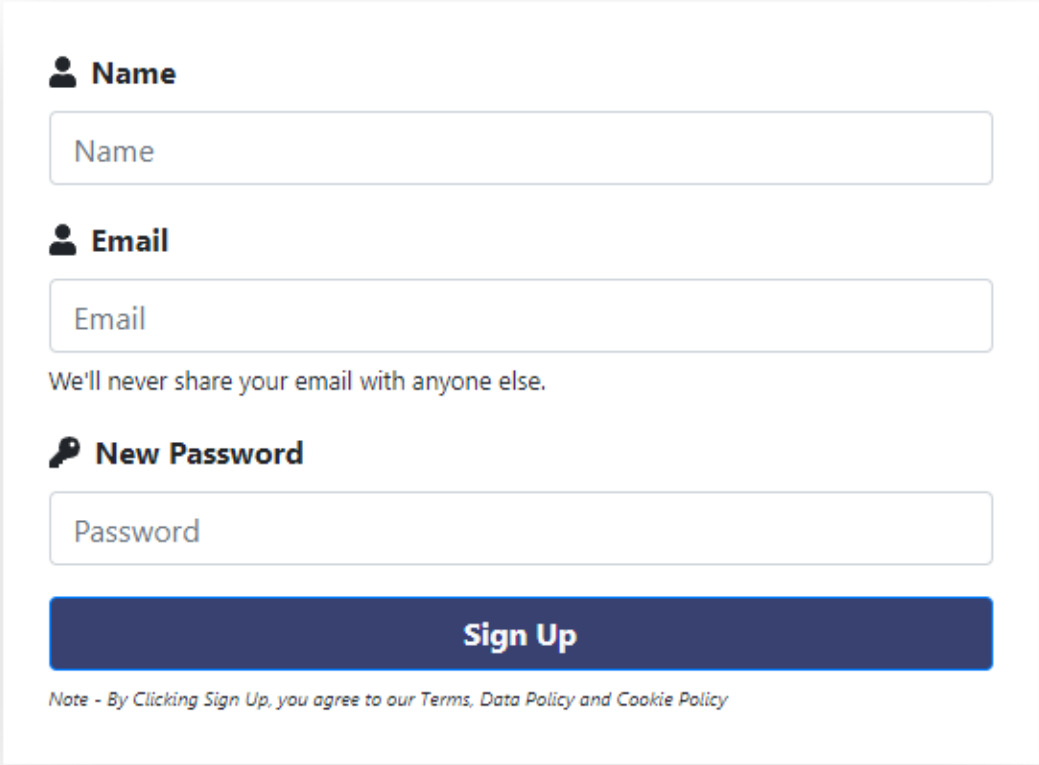
**Chapter 5**  
**USER'S GUIDE**



## 5.1 User's Guide

The homepage contains the information about organization It has services, testimonials and the contact form where user can directly contact it. There are two main buttons login and registration. User can register yourself to put a sufficient information in the registration form.

### 5.1.1 Registration



The registration form is titled "Online Service Management System" and "Requester Registration". It contains three input fields: "Name", "Email", and "New Password". Below the "Email" field is a note: "We'll never share your email with anyone else." Below the "New Password" field is a "Sign Up" button. At the bottom, there is a note: "Note - By Clicking Sign Up, you agree to our Terms, Data Policy and Cookie Policy".

**Online Service Management System**

**Requester Registration**

**Name**

Name

**Email**

Email

We'll never share your email with anyone else.

**New Password**

Password

**Sign Up**


*Note - By Clicking Sign Up, you agree to our Terms, Data Policy and Cookie Policy*

**Figure 5.1 Registration**


### 5.1.2 Login

# Online Service Management System

## Requester Login

 **Email**

We'll never share your email with anyone else.

 **Password**

**Login**

**Figure 5.2 Login**

### 5.1.3 Profile

OSMS

- Profile
- Submit Request
- Service Status
- Change Password
- Logout

Email

user@osms.com

Name

User

Update

Figure 5.3 Profile

### 5.1.4 Submit Request

OSMS

- Profile
- Submit Request
- Service Status
- Change Password
- Logout

Request Info

Request Info

Description

Write Description

Name

Abdul Hakeem

Address Line 1

House No. 123

Address Line 2

Gulghast Colony

City

State

ZIP

Email

Mobile

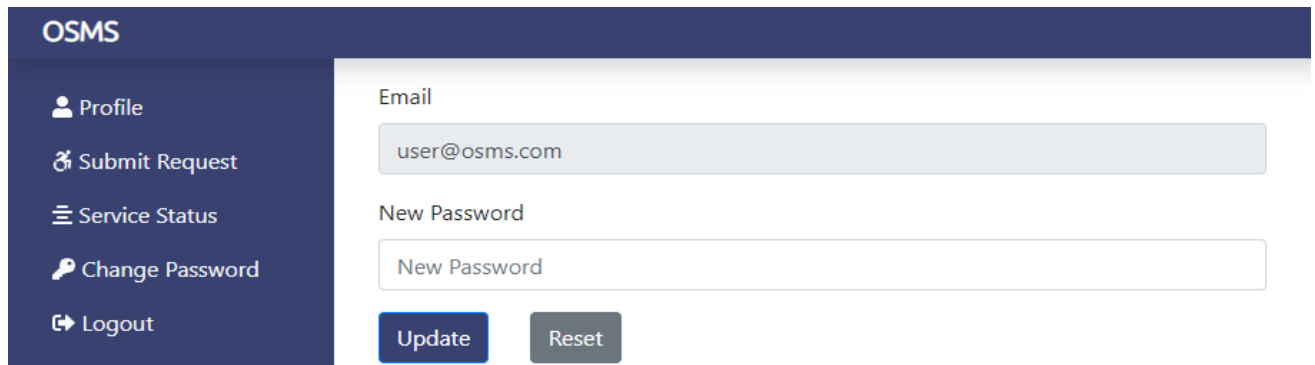
Date

dd/mm/yyyy

Submit Reset

Figure 5.4 Submit Request

### 5.1.5 Change Password



The screenshot shows the OSMS user interface for changing a password. On the left is a dark blue sidebar with the OSMS logo at the top and five menu items: Profile, Submit Request, Service Status, Change Password (highlighted), and Logout. The main content area has a light gray header with the OSMS logo. Below the header, there are two input fields: 'Email' containing 'user@osms.com' and 'New Password' containing 'New Password'. At the bottom of the form are two buttons: 'Update' (dark blue) and 'Reset' (gray).

OSMS

Profile

Submit Request

Service Status

Change Password

Logout

Email

user@osms.com

New Password

New Password

Update

Reset

**Figure 5.5** Change Password

## **Chapter 6**

# **CONCLSUION**

## 6.1 Conclusion

The Online Service Managment System has been computed successfully and was also tested successfully by taking "Test Cases". It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The Software is developed using HTML, CSS, JS as front end and PHP, MySql as back end in windows environment.

The goals that are achieved by the software are:

- Simplification of the operations
- Less processing time and getting required information
- User friendly
- Portable and flexible for further enhancement

## **Bibliography**

The following reference has been used to develop the project “Online Service Managment System” :-

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- Head First SQL: Your Brain on SQL by Lynn Beighley

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- [www.tutorialspoint.com](http://www.tutorialspoint.com)
- [www.stackoverflow.com](http://www.stackoverflow.com)
- [www.docs.microsoft.com](http://www.docs.microsoft.com)