A Mini Project Synopsis on

Lab Maintenance Query Portal

T.E. - I.T Engineering

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CERTIFICATE

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ABSTRACT

Lab Maintenance Query Portal (LMQP) is a web-based application in which customers can register their complaints, these queries are then sent to staff which resolves the queries and update the status of the queries. The portal consists of four basic modules: Login page, User, Maintenance Staff, and Admin. The GUI of all these modules is built on HTML, CSS, and PHP. The user can register a complaint by creating a ticket and can also track the resolution of the query. The maintenance staff resolves the query within the stipulated time and updates the status regarding resolution on Portal. The admin keeps track of complaints registered and resolved. Also, the admin can add or delete users and maintenance staff. The portal is able to segregate the complaints according to different Departments. These functions are given using Javascript and to make these portal dynamic we have used Ajax. The portal keeps records of complaints registered and solved. The portal is useful in Educational Institutes, IT Firms, and various other sectors. The portal increases productivity and reduces the burden on the employees and users from raising the query till its resolution as the whole process is streamlined.

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Chapter No: 1

INTRODUCTION

Lab Maintenance query Portal (LMQP) as the name suggests the primary focal point is placed to generate a query related to the maintenance of the lab or the issues regarding the systems i.e., computers, Projectors, etc. This Queries can be raised by Lab attendants or users.

Computer labs are the part and parcel of many institutions, schools, colleges, and IT firms. A great amount of work is conducted on these machines hence they require proper maintenance. Also, these machines sometimes have updates, hardware issues, OS corrupts, network issues, or sometimes any part of it gets damaged. There is a separate staff that handles all these issues and resolves them. But there are many machines in an institution or organization which further subdivided into departments. For e.g. XYZ college may have 200 computers in the IT department, 300 in the computer science department, 110 in the civil department, and 150 in the mechanical department. Solving queries from such departments becomes difficult. Also maintaining physical records of solved queries becomes difficult to store and maintain. But resolving the queries on a large scale that too on daily basis is difficult. Most of the time queries registered do not have the proper information. Many times, queries registered are neglected. Also keeping track of queries solved and registered becomes difficult and tedious.

Lab Maintenance Query Portal is a web-based application in which customers can register their complaints, these queries are then sent to staff which resolves the queries and update the status of the queries. The admin can track the complaints registered and solved. Admins can also add or delete a user. The portal has multiple logins for customers, staff, and admin. Thus, the Lab Maintenance Query Portal eases the process of registering complaints. The system proposed also keeps the track of the complaints registered.

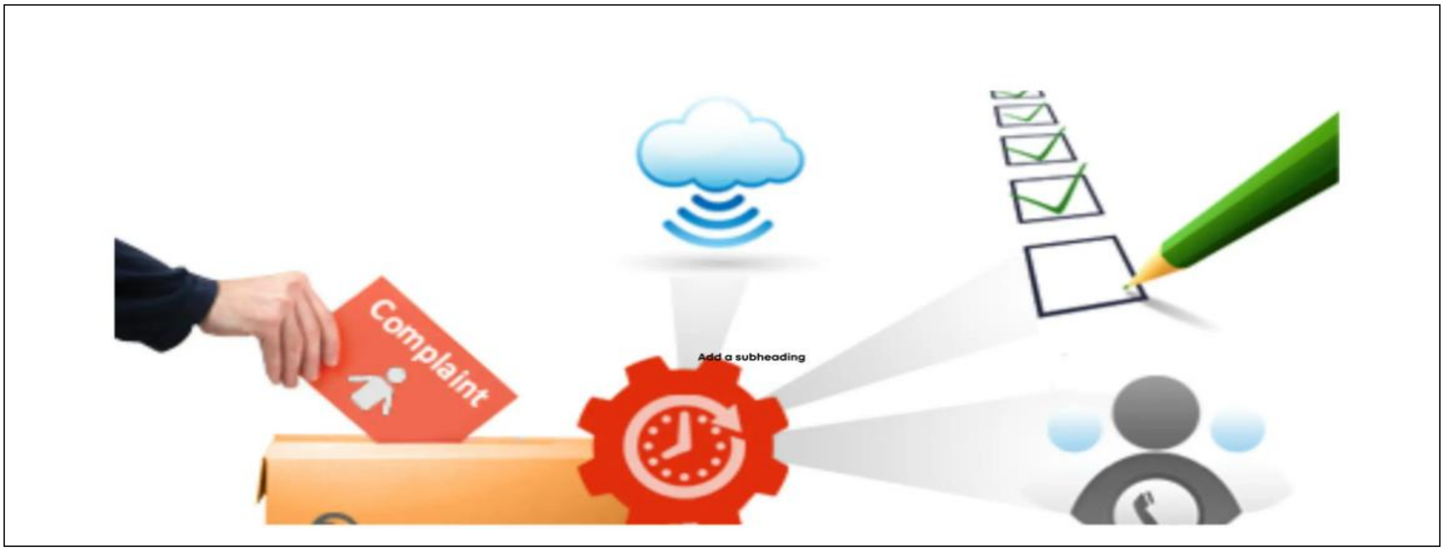

Figure 1: LMQP Challenges

1.1 Purpose:

The Lab Maintenance query portal is web base portal that allows the user or stakeholder to launch a query. The query launched by the user is forwarded to the maintenance team who solves the query. The admin can see the queries registered and solved. If any query is not solved within a stipulated time, Admin will get a pop-up message. Admin will be able to add or delete a maintenance officer. This portal will ease the process of registering complaints. Also, it will be easier to produce a record of complaints registered and solved.

1.2 Problem Statement:

This is the age of technology. Computers, Laptops, and projectors have become a necessity in the world. With the emerging new technologies, the need for these devices has been increasing. Even the education system has understood its importance and added the required content to its syllabus. Computers and Laptops have now become an integral part of the educational system. There are separate degree branches that are most demanded. Schools, colleges, Universities, and Educational institutes have several computer labs. Computers have replaced the traditional file work in offices. Many IT companies and firms do 99 % of their work on computers. Hence these computer labs need to be maintained properly. They face many issues like network issues, internet connectivity issues, software updates, viruses, malware, device damage, etc. All these issues need to be addressed on time otherwise it affects productivity. To tackle these issues, these organizations and institutes have separate maintenance teams which address these issues. But it becomes difficult for the maintenance teams to solve these issues on time as an educational institute or an office have several computer or labs. Also, sometimes user gives incorrect information about the query. Besides these both the user and maintenance officer require to keep records of queries registered and solved so that the admin or head of the institute can analyze the data when required. But sometimes there can be a miscalculation in recording the data on either side. Also maintaining such records manually is time-consuming and requires a lot of space. Hence the offline system of solving lab queries becomes tedious. Also, the admin is unable to keep track of queries registered and queries solved. The user is also unable to track query resolution. There is a need for an online portal to streamline the process**.**

1.3 Objectives:

- To build user-friendly software, and a transparent system to ease the process of registering complaints.
- To track the record of registered complaints and maintain records.
- To ease the work of the maintenance team.
- To keep the track of solved complaints.
- To provide alerts before the due date of the query.

1.4 Scope:

- **Can be applied in educational institutes like schools and colleges.**

Computer labs are an essential part of schools, colleges, and educational institutes. Also, there are many IT and computer science branch colleges. Here students perform several practicals on the computers. There are several computers in different branches of colleges. Solving the queries of all these machines on time is a challenging task for the Maintenance team. Also, much management work is done on these machines. Hence, they need regular maintenance. At these institutions, this software can be very useful. Complaints registered on the portal can be quickly acted upon by the maintenance team. Hence, Queries will get solved faster.

- **Can also be applied in offices, IT companies, or firms.**

Computers and laptops are the main functional unit of IT companies and firms. Various important operations are carried out on these machines. The profits of these companies are dependent on the work carried out on these machines. Also, these operations have high requirements. Hence maintaining these machines is a great task. Also, there are thousands of machines in these companies with several officials working on them. So, solving these queries on time is time-consuming. These portals will help the officials get their queries resolved faster.

- **Can be used to avoid tedious offline work and the process can be streamlined.**

Maintaining the registers of queries and their resolution is a time-consuming task. Also preserving these registers or records requires a lot of space. Also, the same data needs to be maintained by both sides - user or stakeholder and Maintenance team which is again time-wasting. Also sometimes there may be a miscalculation in the data. Hence it becomes difficult to tally the records of both sides. Hence the data stored manually becomes difficult to analyze. But this portal can streamline the process. All the information stored in databases of both sides can be taken out and analyzed at any time.

Chapter No: 2

Literature Review

[1] In this paper Complaint Management System is a system to enable customers to channel the issues about the organization for immediate action. Thus, a responsive complaint system is essential for the organization to ensure customer satisfaction in managing complaints. This paper introduces the agent-based Complaint Management System (ACM). The objective of the system has autonomously accepted the complaints and forward them to the respective responsibility. The initial result shows the system can entertain users' complaints with minimal intervention by a human. Keyword recognition was proposed as an intelligent element for the system. This is an ML-based project. Future efforts are looking for a complete agent-based complaint management system with more intelligent features. The drawbacks of the project are that human intervention is required when the keyword inside the complaint is not available in the library of the system to determine where the complaints should be routed.

[2] In this paper Complaint Management system is a web-based application and it is designed to keep track of complaints registered by the college department/lab staff, so this system needs to have distributed platform independent web application. The task Administrator executives can control all the activities in the system, creating issues using call registration, assigning to the service engineer, and checking the service engineer's performance. The main objective of this Complaint Management system is to focus on the issues related to the internal system. Complaint Management system is a platform-independent application, so this web application can be accessed anywhere in the system. The technology stack used for the project is ASP.NET, C#.NET, HTML, and CSS. A facility to inform through SMS or Email on the landing of the consignment can be added in the future. The drawbacks of the project are the use of phone numbers and email which can be a potential Cyber security risk.

[3] In this paper Smart Complaint Management System (SCMS) is a mobile application with, a chatbot and web application, for solving customer dissatisfaction issues. Furthermore, the SCMS has a service for classifying the complaint, then automatically direct to the responsible department, and a service for finding a similar complaint to avoid submitting a duplicate complaint. The test result shows that this system can reduce the time and procedures for complaint handling, increase the channel for filing the complaint, and increase the channel for progress reporting and tracking the status of the complaint. It lacks the admin control page to control the activities of the portal.

Chapter No: 3

PROPOSED SYSTEM

The aim of the project is to ease the process of registering and solving lab queries. The admin will be able to view the number of registered complaints and the queries solved. The proposed system can overcome all the limitations and errors of the manually prepared notes.
The system provides proper security and reduces the manual work.

- Security of Data
- Ensure data Accuracy
- Greater efficiency
- Better services
- Minimum time required
- Admin Control
- Time-saving

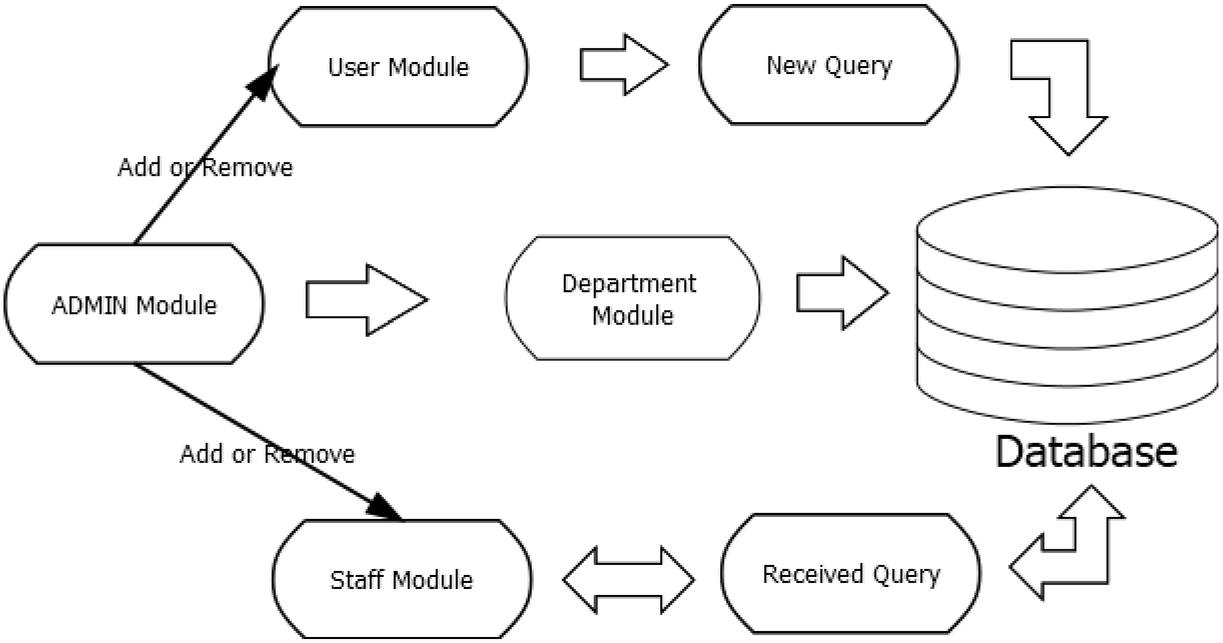

Fig 3.1: Proposed System Diagram

3.1 Features and Functionality:

- All User's Login Page

  The page where system users will submit their credentials to access the data and functionalities of the system.

- Dashboard Page

  The page where the system users will be redirected by default after logging into the Lab Maintenance Query Portal.

- New Ticket or query Page

  The page where can system users create a new ticket. The admin or support staff has a custom field because this feature is based on users encountered issues with the product.

- Manage Ticket or query

  This feature includes View, Edit, and Delete. The admin and support staff are permitted to update the status of the ticket.

- Manage Account Modal

  The popup modal where the system users update their system credentials such as their email and password.

- Admin Side Only User Page

  The page where the admin can manage the list of customers.

- Maintenance Staff Page

  The page where the admin can manage the list of staff and or remove staff.

Chapter No: 4

REQUIREMENT ANALYSIS

Importance of Requirements Gathering:

Requirements gathering is a fundamental part of any business decision. It helps generate a list of system, functional and technical requirements from the different stakeholders involved in the process. Being confident about what requirements to look for ensures your expectations with the deliverables are clear, and that eventually enables you to make the right choice when it comes to selecting a Lab Maintenance Query Portal solution for your business or institutes. So, it’s important to figure out your expectations from the platform before you start looking for one the requirements. Once we know what we want the software to do for our project, so it becomes way easier to pick solutions that line up with your needs.

System development methodology System development methodology refers to the frame work that is used to structure plan and control the flow of developing an information system there are different system development methodologies that are suitable for different projects based on the values technical organizational project and team consideration. For this project the team used object-oriented software development methodology.

The reason why we selected object-oriented system development is because it has the following advantages.

- In an object-oriented environment,
- Object-oriented systems development is a way to develop software by building self-contained modules or objects that can be easily replaced, modified, and reused.
- Software is a collection of discrete objects that encapsulate their data as well as the functionality to model real-world "objects."

- Each object has attributes (data) and methods (functions).
- Objects are grouped into classes; in object-oriented terms, we discover and describe the classes involved in the problem domain.
- Encourages re-use not only modules but also entire design.

4.1 Hardware and software Requirements

There are system requirements for developed any kind of application. We use a different types of software and hardware to develop our project. This requirement is like hardware and software.

4.1.1 Software requirement

Since there are many software tools for developing our projects. This system or project uses are listed below.

- VS Code: - to write different codes of the projects. It is important because it support different languages like HTML, PHP, and JavaScript. It also used to run and test the project
- Html: -to present and communication data on the web page.
- CSS: - for the formatting of the web site. • JavaScript: - used for validation.
- XAMPP Server: - to run and test system application.
- Anti-Virus Software: - used to keep secure, scan, fix Flash Disk and to prevent data destruction and corruption.
- Microsoft Office word 2013: - used to write documentation part of this project.
- Microsoft Office power point 2013: - used to write the presentation part of this project.
- Dia: - used to design the diagram of the system or project.

4.1.2 Hardware requirement

The software which we develop requires the following minimum hardware configuration:

System with

- Processor: Pentium-i3
- RAM: 4 GB
- Hard disk: 500GB.

4.1.3 Programming and database tools

Programming language: PHP

- Because Increased efficiency & usability - PHP provides incomparable efficiency and usability when it is used for the development of websites.
- Compatible- PHP is compatible with all operating systems including windows and UNIX among other systems.
- Data processing - a website that has been developed using PHP functions has fast features of data processing.
- Easy to understand - when compared with other scripting languages, PHP can be understood easily because it has simple techniques and features.
- Integration - it is easy to integrate popular web applications using this scripting language.
- Cost advantages - PHP based websites are affordable to develop, design, modify and customize.
- There are many websites development companies which provide professional services within the area of PHP, including websites designing, developing web application and so forth.
- We are familiar with PHP language, so we select it to develop the proposed system.

Database tool: MYSQL latest version

- Because: MYSQL is a relational database management system which is an open-source database.
- Because of its unique storage engine architecture MYSQL performance is very high.
- Supports large number of embedded applications which makes MYSQL very flexible.
- Use of Triggers, Stored procedures and views which allows the developer to give a higher productivity. It is compatible to PHP languages and portable.

4.2 Data collection methodology

There were several data collection methods. From these methods to do our project we used observation, interview and document analysis method.

4.2.1 Interview technique

We interview members of the association from their office, and members from their work place.

Like: -

What kind of system the organization has used? How does the existing system work?

What is the duty of the institution workers?

What are the problems of the existing system?

4.2.2 Document analysis

By reading the document which is prepared by the institution that explain about the institution feature from start date up to current situation.

4.2.3 Observation

We use this method to get the right information about the organization and also to understand how the existing system works. To gathering data by watching behaviours, events, or nothing physical characteristics in their physical setting. It is also a habit of to spend day or to with direct user simply to sit and observe what they do.

4.3 Feasibility study

It is an analysis of the ability to complete a project successfully, taking into account legal, economic, technological, scheduling and other factors. Rather than just diving into a project and hoping for the best, a feasibility study allows project managers to investigate the possible negative and positive outcomes of a project before investing too much time and money.

4.3.1 Operational Feasibility

Proposed applications are beneficial only if they can be turned into user friendly that meet the users' requirements. Simply stated, this test of feasibility asks if the application will be worked when it is developed. Therefore, the system will be designed to be operationally feasible. That means, the system will operate without failure. Because of it is simplicity and easy access. In addition to this the system is practical, applicable and also the system operation is easy for the users. The new system that we develop requires organization end user potential and skilled man power, also social acceptability that the system completely changed from a manual system to computerized due to this potential and skilled man power of our team to operate the system is operationally feasible

4.3.2 Technical feasibility

The technical feasibility of the proposed system deals with the technology used in the system. It deals with the hardware and software used in the system whether they are of the latest technology or not. It happens that after a system is prepared a new technology arises and the user wants the system based on that technology. In this project the team uses languages such as HTML, PHP, java script and CSS to develop the new system. All these are the technology side. The technical persons who develop the new system are all the members of the project.

4.3.3 Economic Feasibility

The project is economically feasibility attempts to weight the costs of developing and implementing a new system, against the benefits that would occur from having the new system in place or the cost of developing and implementing a new system less than the cost that finding benefit from the developed system.

Tangible Benefits of the proposed system

- Cost and Error reduction and/or avoidance
- Increased flexibility
- Increase the speed of activities
- Improvement of management planning and control.
- Reduction in material consumption

Intangible Benefits of the proposed system

- More timely information
- Faster decision making
- improving employee morale
- Increase accuracy

4.3.4 Legal feasibility

The proposed system not conflicts with legal requirements, the government/ company. It meets to the rule and regulations of the organization or the university or it is not conflict to each other.

4.4 System Requirement Specification

4.4.1 Functional requirements

The functional requirements are concerned with the actual performance of the system that is going to be developed. Functional requirements describe the functionality or service provided by the new system:

- The system is capable of request complain to the handling grievance office on-line.
- The system is capable of Recording new complaints and complain information to the database in the main process of the system.
- Enabling the users to take or get the registered complain that they registered orderly.
- Document the file which is placed on the system of the data base to be accessed as registers information.
- The system validates data entry for correctness.
- The system generates a report.

4.4.2 Non-functional requirements

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system.

Non-functional requirements place constraints on how the system will do so. The non-functional requirement elaborates on a performance characteristic of the system. Also, these requirements relate to system attributes such as reliability and response time and they can arise due to user requirements. Any requirement which specifies how the system performs a certain function is considered when designing the solution. The following are non-functional requirements associated with the system:

- Performance: -The system error-free when accessing a huge amounts of data. And the system should be accessed by many users and should have fast response time.

- User interface: The system user friendly. The developed system provides a web-based application user interface and is compatible with browsers like internet explorer, Mozilla Firefox, and Google chrome.
- Resources: the system is compatible with the specified hard ware and software requirements and the system should have compatible with any environment
- The system is usable to anyone who has a skill in English.
- The capacity to retrieve data from the stored data base

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Chapter No: 5

PROJECT DESIGN

In this phase, a logical system is built which fulfills the given requirements. The design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following two steps:

1. Primary Design Phase: In this phase, the system is designed at block level. The blocks are created based on analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Secondary Design Phase: In the secondary phase the detailed design of every block is performed.
The general tasks involved in the design process are the following:

- Design various blocks for overall system processes.
- Design smaller, compact, and workable modules in each block.
- Design various database structures.
- Specify details of programs to achieve the desired functionality.
- Design the form of inputs and outputs of the system.
- Perform documentation of the design.

User Interface Design:

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventual presentation of desired inputs and outputs. The overall flow of screens and messages is called dialogue.

The following steps are various guidelines for User Interface Design:

- The system user should always be aware of what to do next.
- The screen should be formatted so that various types of information, instructions, and messages always

appear in the same general display area.

- The message, instructions, or information should be displayed long enough to allow the system user to read them.
- Default values for fields and answers to be entered by the user should be specified.
- A user should not be allowed to proceed without correcting an error.
- The system user should never get an operating system message or fatal error.

The Basic Modules used in this portal are:

- Login page: This module has login page for three Admin, Customer and Staff. The authorized user can select the category to enter the correct credentials and login into the portal.
- User: The user will be able to lodge a complaint using the fields provided. The option given ticket helps them to write the query.
- Staff: The Staff can view the complaint/ queries posted. They can also update the status of the query.
- Admin: This module is only accessible by the Admin. Here Admin can add or delete staff. Admin will be able to view the number of registered complaints and the number of solved complaints. In case, the complaints are not solved within the stipulated time then a warning or alert will be generated.
- Profile: User and Staff can view their details in this module.

Data Design:

- Data design will consist of how you organize, manage and manipulating the data.
- Schema Design: Define the structure and explanation of schemas used in the Project.
- Data Integrity and Constraints: Define and explain all the validity checks and Constraints you are providing to maintain data integrity.

Procedural Design:

- Procedural design is a systematic way of developing algorithms or procedurals.
- Logic Diagrams: Define the systematical flow of the procedure that improves its comprehension and helps the programmer during implementation. e.g., Control Flow Chart, Process Diagrams, etc.
- Data Structures: Create and define the data structure used in your procedures.

- Algorithms Design: With proper explanations of input data, output data, and logic of processes, design and explain the working of algorithms.

5.1 Use Case Diagram

Description of the use-case view of the software architecture. The Use Case View is an important to input to the selection of the set of scenarios and/or use cases that are the focus of an iteration. It describes the set of scenarios and/or use cases that represent some significant, central functionality. It also describes the set of scenarios and/or use cases that have a substantial architectural coverage (that exercise many architectural elements) or that stress or illustrate a specific, delicate point of the architecture.

Actor and use case identification

A use case is a list of steps, typically defining interaction between a role of an actor and a system to achieve a goal.

- The actor can be a human or an external system.
- The use case made up of a set of a possible sequences of interactions between systems and users in a particular

Actor of the system

- System administrator
- Maintenance Staff
- Users

Use case

- Login
- Register complains
- Modify complain
- View complains
- View compliant person
- Create account
- Manage account
- Delete user
- Add user
- Send comments
- View and reply to comments

- Edit profile

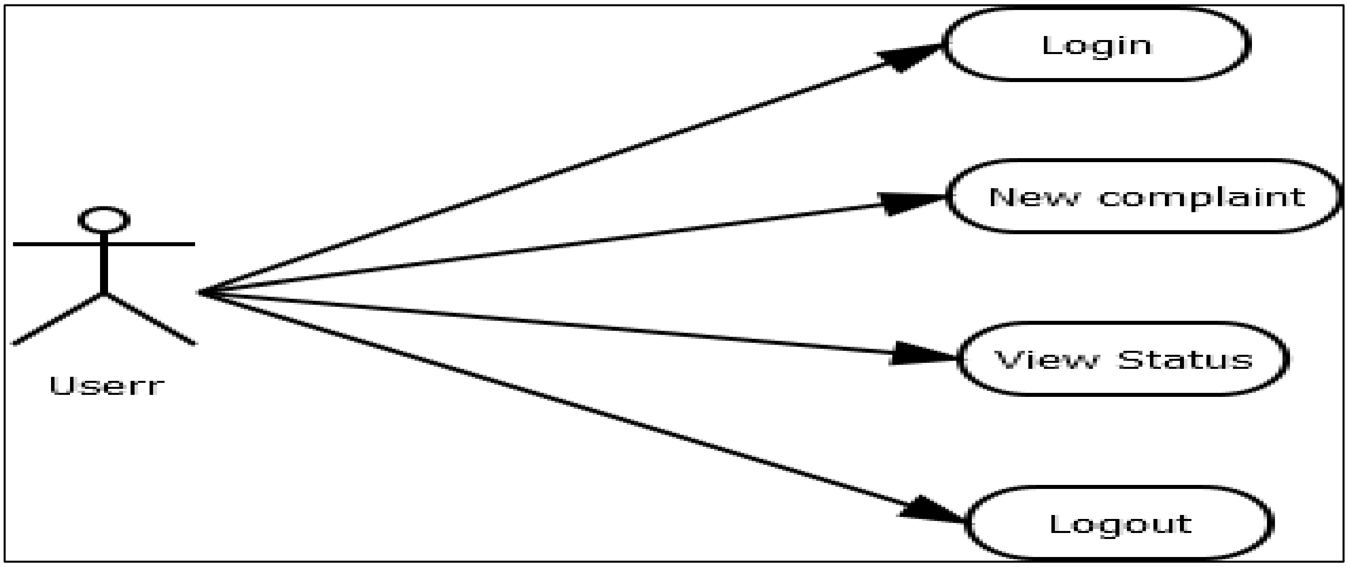


Fig 5.1.1: Use case diagram of User

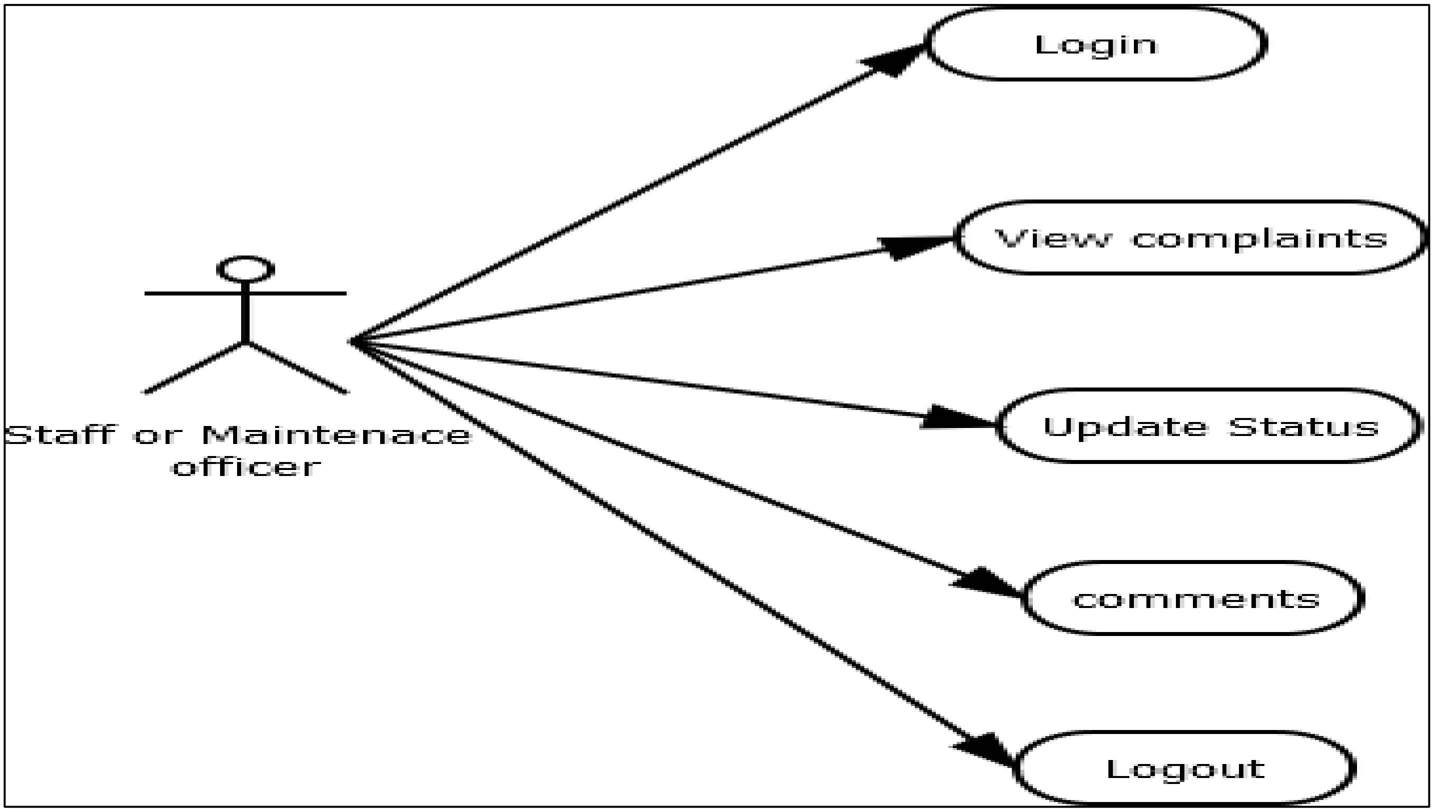


Fig 5.1.2 : Use case diagram of Maintenance Staff

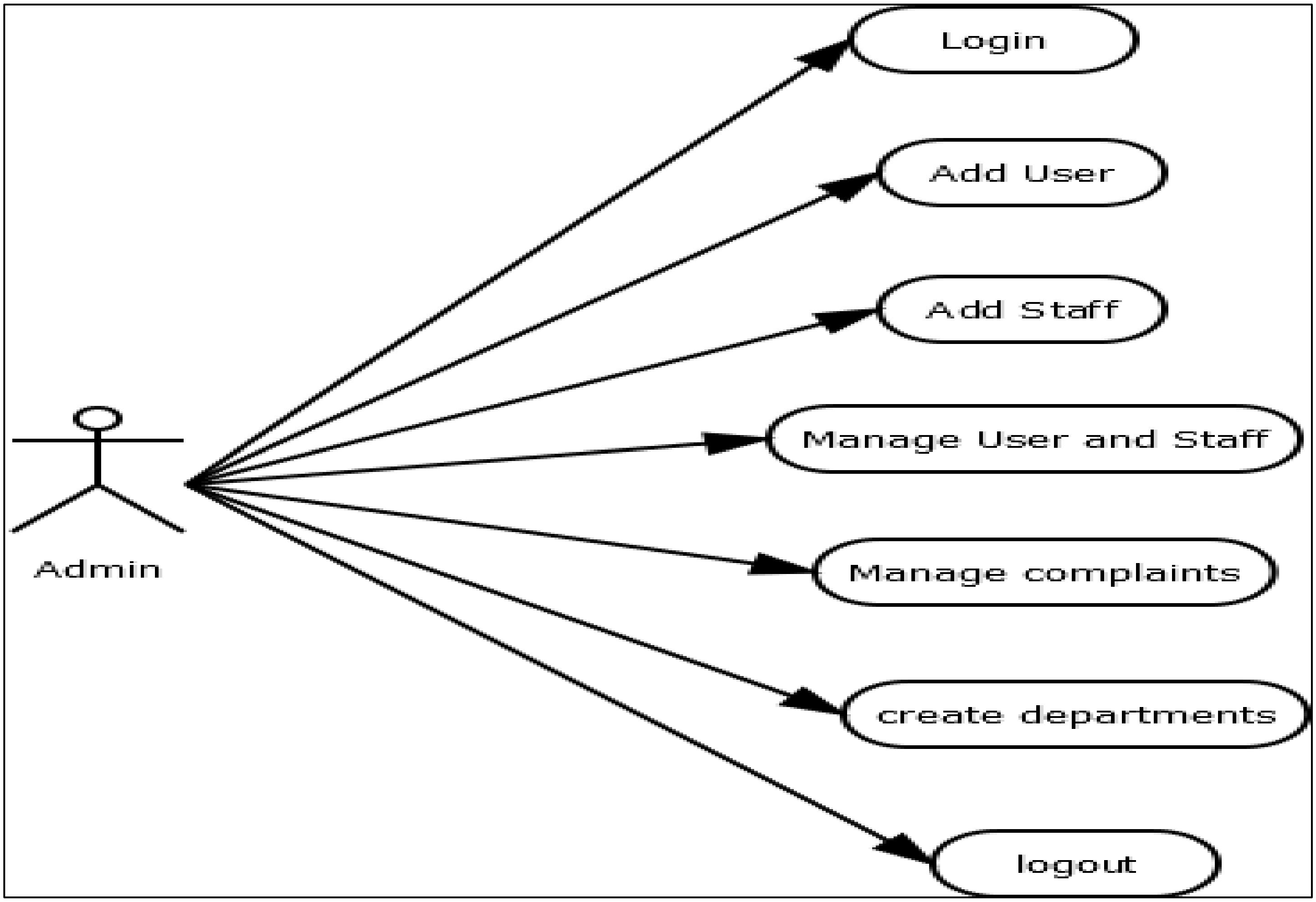


Fig 5.1.3: Use case diagram of Admin

5.2 Data Flow Diagrams

A Data Flow Diagram (DFD) is a graphical representation of the “flow” of data through an Information System. A data flow diagram can be used for the visualization of Data Processing. It is common practice for a designer to draw a context-level DFD that first show the interaction between the system and outside entities. This context-level DFD is then “exploded” to show more detail of the system being modeled.

A DFD represents the flow of data through a system. Data flow diagrams are commonly used during problem analysis. It views a system as a function that transforms the input into a desired output. A DFD shows the movement of data through the different processes in the system. Dataflow diagrams can be used to provide the end user with a physical idea of where of data they input ultimately affects the structure of the whole system from order to dispatch to restock how any system is developed can be determined through a dataflow diagram. The appropriate register is saved in the database and maintained by the appropriate authorities.

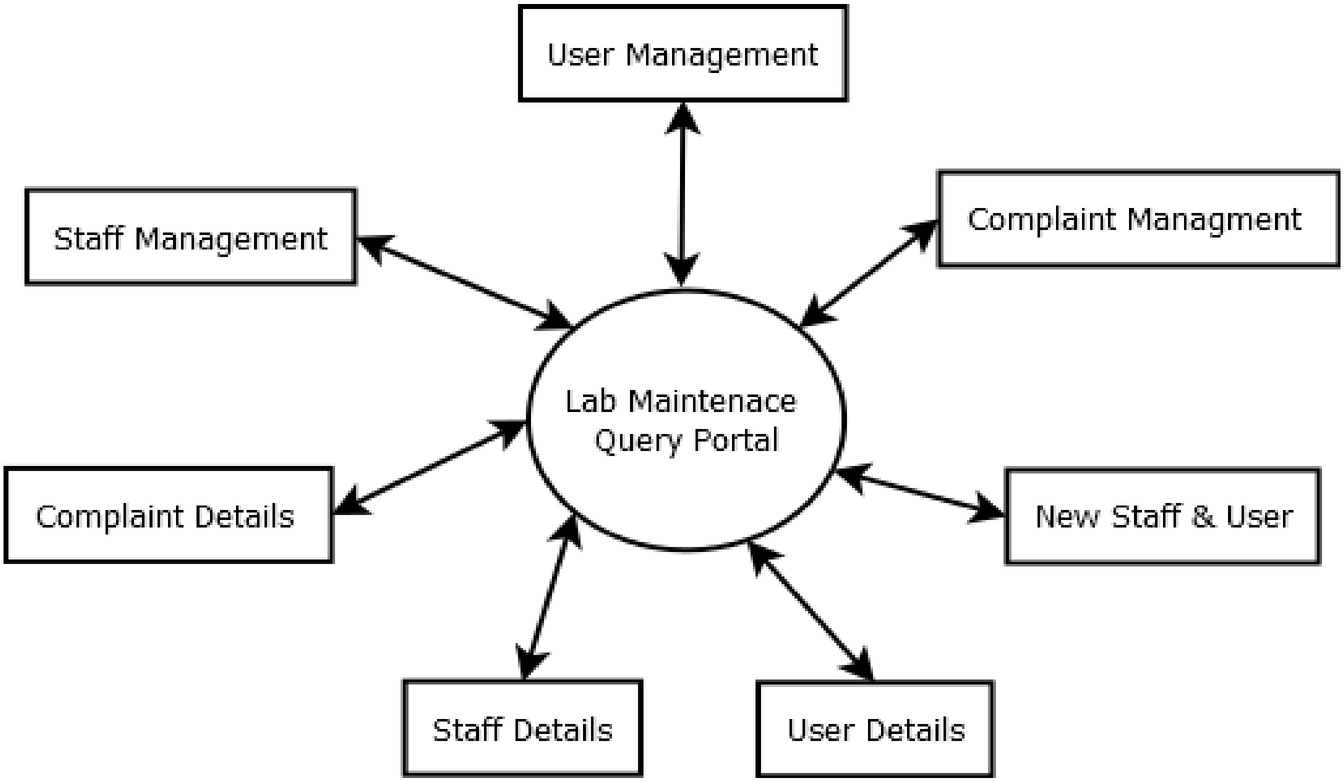


Fig 5.2.1: DFD Level 0

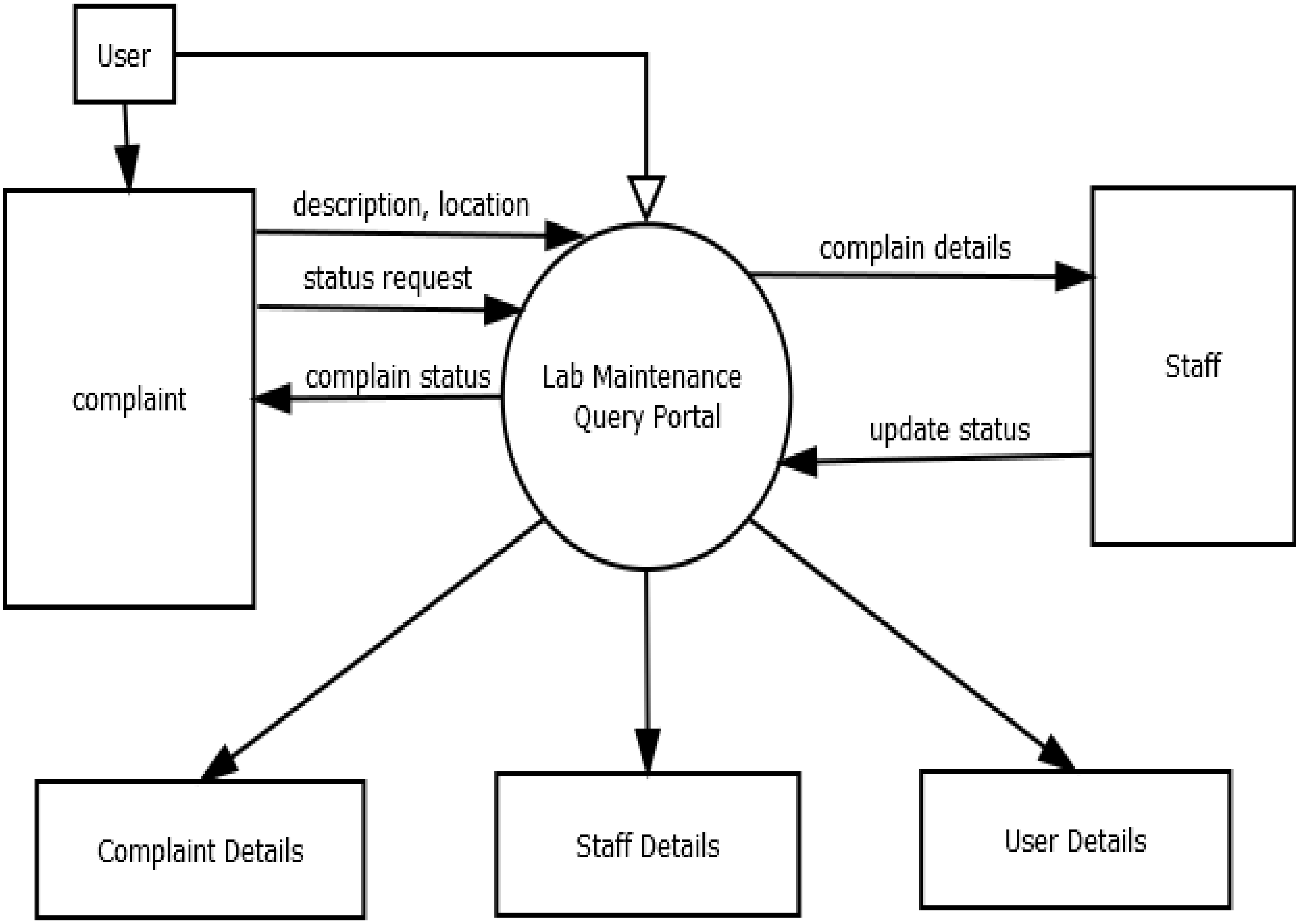


Fig 5.2.2: DFD Level 1

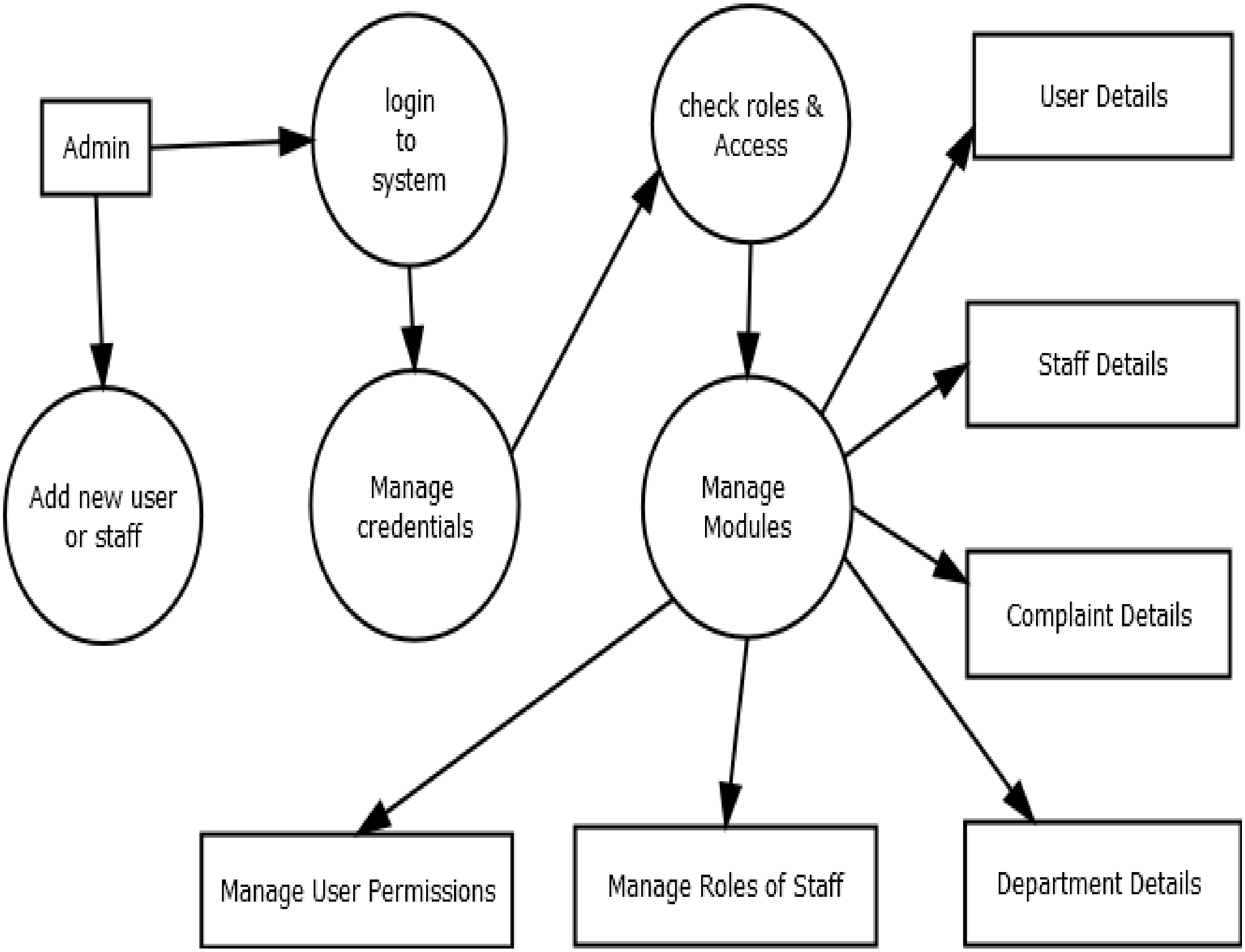


Fig 5.2.3: DFD Level 2

5.3 ER-Diagram:

A database management system (or DBMS) is essentially nothing more than a computerized data-keeping system. Users of the system are given facilities to perform several kinds of operations on such a system for either manipulation of the data in the database or the management of the database structure itself. The e-R model stands for an Entity-Relationship model. It is a high-level data model. · It develops a conceptual design for the database. The E-R diagram of LMQP represents six tables containing detail data on Admin, Staff, User, Comments, Tickets, and Departments. The primary key of the database is the unique id of each id entered in each database in each table. Below is the representation of the E-R Diagram:

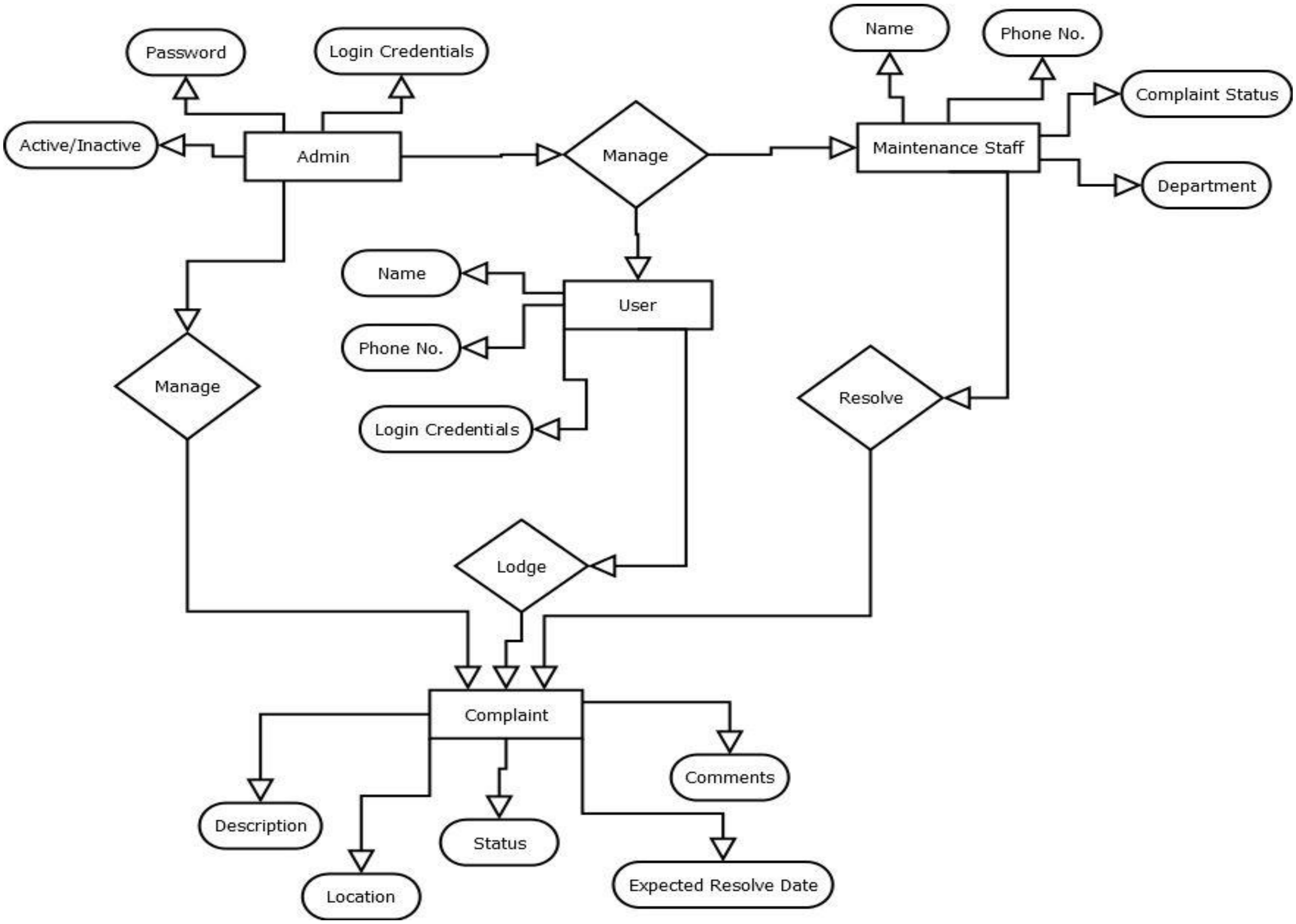


Fig 5.2.4 E-R Diagram

5.4 System Architecture

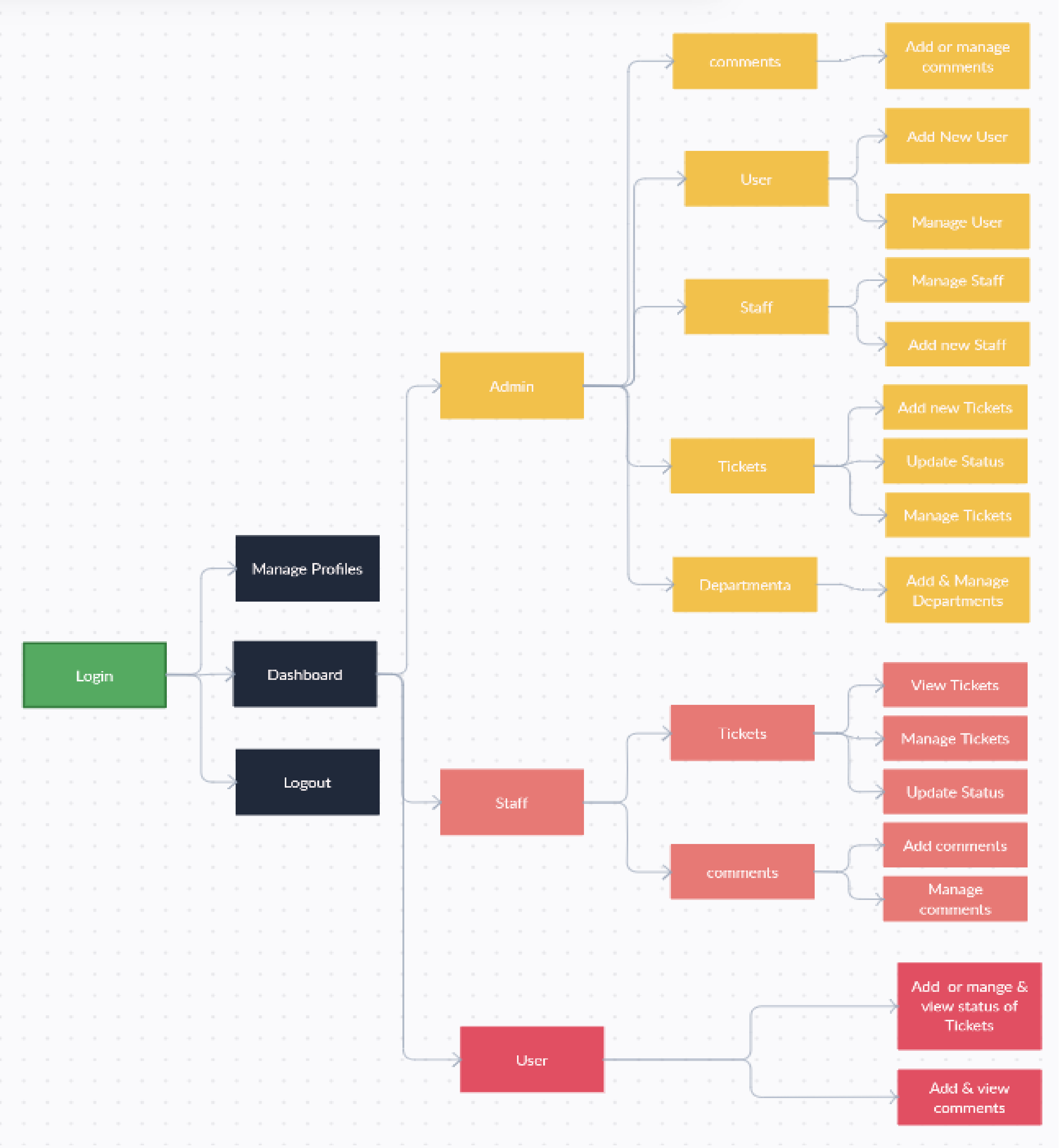


Fig 5.4.1: System Architecture of LMQP

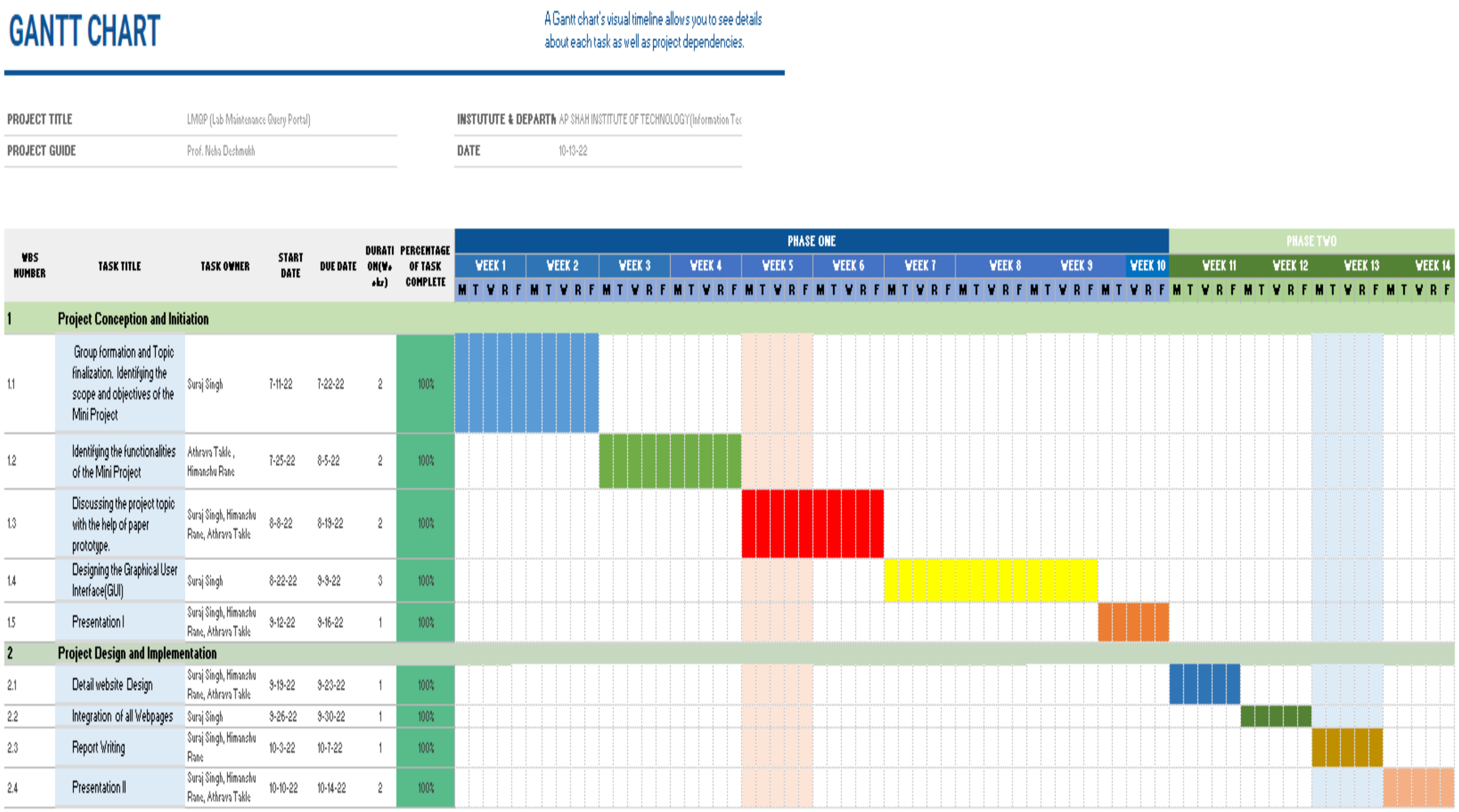
Chapter No: 6

TECHNICAL SPECIFICATIONS

Development:	VS code
Language Used:	PHP
Database Used:	My SQL
Design Interface:	Bootstrap JavaScript, HTML, CSS, Ajax
Browser:	Opera Mozilla, Google Chrome IE8, or any browser
Software:	XAMPP
OS:	Windows, Ubuntu, and mac.
Development:	VS Code

CHAPTER 7

PROJECT SCHEDULING



GANTT CHART

A Gantt chart's visual timeline allows you to see details about each task as well as project dependencies.

PROJECT TITLE LMQP (Lab Maintenance Query Portal)

INSTUTUTE & DEPARTN AP SHAH INSTITUTE OF TECHNOLOGY(Information Tec

PROJECT GUIDE Prof. Neha Deshmukh

DATE 10-13-22

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION(Weeks)	PERCENTAGE OF TASK COMPLETE	PHASE ONE										PHASE TWO			
							WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14
							M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F	M T W R F
1	Project Conception and Initiation																			
1.1	Group formation and Topic finalization. Identifying the scope and objectives of the Mini Project	Suraj Singh	7-11-22	7-22-22	2	100%	■	■												
1.2	Identifying the functionalities of the Mini Project	Athrava Takle , Himanshu Rane	7-25-22	8-5-22	2	100%			■	■										
1.3	Discussing the project topic with the help of paper prototype.	Suraj Singh, Himanshu Rane, Athrava Takle	8-8-22	8-19-22	2	100%					■	■								
1.4	Designing the Graphical User Interface(GUI)	Suraj Singh	8-22-22	9-9-22	3	100%							■	■	■					
1.5	Presentation I	Suraj Singh, Himanshu Rane, Athrava Takle	9-12-22	9-16-22	1	100%										■				
2	Project Design and Implementation																			
2.1	Detail website Design	Suraj Singh, Himanshu Rane, Athrava Takle	9-19-22	9-23-22	1	100%											■			
2.2	Integration of all Webpages	Suraj Singh	9-26-22	9-30-22	1	100%												■		
2.3	Report Writing	Suraj Singh, Himanshu Rane	10-3-22	10-7-22	1	100%													■	
2.4	Presentation II	Suraj Singh, Himanshu Rane, Athrava Takle	10-10-22	10-14-22	2	100%														■

CHAPTER 8

IMPLEMENTATION

Function Login: This function helps the user to log in as per his/her assigned to the system. This function fetches the data from the database based on their entered credentials to the landing page.

```
function login(){
extract($_POST);
if($type ==1)
$qry = $this->db->query("SELECT *,concat(lastname,', ',firstname,' ',middlename) as name
FROM users where username = '".$username."' and password = '".md5($password)."' ");
elseif($type ==2)
$qry = $this->db->query("SELECT *,concat(lastname,', ',firstname,' ',middlename) as name
FROM staff where email = '".$username."' and password = '".md5($password)."' ");
elseif($type ==3)
$qry = $this->db->query("SELECT *,concat(lastname,', ',firstname,' ',middlename) as name
FROM customers where email = '".$username."' and password = '".md5($password)."' ");
if($qry->num_rows > 0){
foreach ($qry->fetch_array() as $key => $value) {
if($key != 'password' && !is_numeric($key))
$_SESSION['login_'.$key] = $value;
}
$_SESSION['login_type'] = $type;
return 1;
}else{
return 3;
```

Function Save User: This function helps the admin to save the user and maintenance staff to the system and the admin can also be assigned the roles to them so that when the user or maintenance staff log in to the system they can land on their respective pages. Similarly, Admin can delete their respective user from the portal. The users and maintenance staff are only added by the admin.

```
function save_user(){
extract($_POST);
$ue = $_SESSION['login_type'] == 1 ? 'username' : 'email';
                                $data = " first name = '$firstname' ";
$data = " middle name = '$middlename' ";
$data = " lastname = '$lastname' ";
$data .= ", $ue = '$username' ";
if(!empty($password))
$data .= ", password = '".md5($password)."' ";
$chk = $this->db->query("Select * from $table where $ue = '$username' and id !='$id' ")->num_rows;
if($chk > 0){
return 2;
exit;
}
if(empty($id)){
$save = $this->db->query("INSERT INTO $table set ".$data);
}else{
$save = $this->db->query("UPDATE $table set ".$data." where id = ".$id);
}
```

```
if($save){
$_SESSION['login_firstname'] = $firstname;
$_SESSION['login_middlename'] = $middlename;
$_SESSION['login_lastname'] = $lastname;
return 1;
}
}
function delete_user(){
extract($_POST);
$delete = $this->db->query("DELETE FROM users where id = ".$id);
if($delete)
return 1;
}
function save_page_img(){
extract($_POST);
if($_FILES['img']['tmp_name'] != ''){
$fname = strtotime(date('y-m-d H:i')).'_'.$_FILES['img']['name'];
$move = move_uploaded_file($_FILES['img']['tmp_name'],'assets/uploads/'. $fname);
if($move){
$protocol = strtolower(substr($_SERVER["SERVER_PROTOCOL"],0,5))=='https'?'https':'http';
$hostName = $_SERVER['HTTP_HOST'];
$path =explode('/',$_SERVER['PHP_SELF']);
$currentPath = '/'.$path[1];
// $pathInfo = pathinfo($currentPath);
return json_encode(array('link'=>$protocol.'://'.$hostName.$currentPath.'/admin/assets/uploads/'.$fname));
}}}
function save_customer(){
extract($_POST);
$data = "";
foreach($_POST as $k => $v){
if(!in_array($k, array('id','cpass')) && !is_numeric($k)){
if($k =='password')
$v = md5($v);
if(empty($data)){
$data .= " $k='$v' ";
}else{
$data .= ", $k='$v' "; }}}
$check = $this->db->query("SELECT * FROM customers where email ='$email' ".(!empty($id) ? " and id != {$id} " : ''))->num_rows;
if($check > 0){
return 2;
exit;
}
if(empty($id)){
$save = $this->db->query("INSERT INTO customers set $data");
}else{
$save = $this->db->query("UPDATE customers set $data where id = $id");
}
if($save)
return 1;
}
function delete_customer(){
extract($_POST);
$delete = $this->db->query("DELETE FROM customers where id = ".$id);
if($delete){
return 1;
}}
function save_staff(){
extract($_POST);
$data = "";
foreach($_POST as $k => $v){
if(!in_array($k, array('id','cpass')) && !is_numeric($k)){
if($k =='password')
$v = md5($v);
if(empty($data)){
$data .= " $k='$v' ";
}else{
$data .= ", $k='$v' ";
}}}
$check = $this->db->query("SELECT * FROM staff where email ='$email' ".(!empty($id) ? " and id != {$id} " : ''))->num_rows;
if($check > 0){
return 2;
exit;
}
if(empty($id)){
$save = $this->db->query("INSERT INTO staff set $data");
}else{
$save = $this->db->query("UPDATE staff set $data where id = $id");
}
if($save)
return 1;
}
function delete_staff(){
extract($_POST);
$delete = $this->db->query("DELETE FROM staff where id = ".$id);
if($delete){
return 1;
}}
```

Function Create Department: This function helps the admin to create a department so the maintenance staff can assigned to the specific department as well as the admin can able to delete the Department. Due to this the flow of process is streamlined.

```
function save_department (){
extract($_POST);
$data = "";
foreach($_POST as $k => $v){
if(!in_array($k, array('id')) && !is_numeric($k)){
if(empty($data)){
$data .= " $k='$v' ";
}else{
$data .= ", $k='$v' ";
}}}
$check = $this->db->query("SELECT * FROM departments where name ='$name' ".(!empty($id) ? " and id != {$id} " : ''))->num_rows;
if($check > 0){
return 2;
exit;
}
if(empty($id)){
$save = $this->db->query("INSERT INTO departments set $data");
}else{
```

```
$save = $this->db->query("UPDATE departments set $data where id = $id");
}
if($save)
return 1;
}
function delete_department(){
extract($_POST);
$delete = $this->db->query("DELETE FROM departments where id = ".$id);
if($delete){
return 1;
}}
```

Function save Ticket: Now this function helps the admin, maintenance staff, and users to raise a query, and the raised query going to store in the database. So the raised query can be fetched to another user for status updating and to delete it as well. Also, the user and staff can able to add comments regarding their query.

```
function save_ticket(){
extract($_POST);
$data = "";
foreach($_POST as $k => $v){
if(!in_array($k, array('id')) && !is_numeric($k)){
if($k == 'description'){
$v = htmlentities(str_replace("'","&#x2019;",$v));
}
if(empty($data)){
$data .= " $k='$v' ";
}else{
$data .= ", $k='$v' ";
}}}
if(!isset($customer_id)){
$data .= ", customer_id={$_SESSION['login_id']} ";
}
if($_SESSION['login_type'] == 1){
$data .= ", admin_id={$_SESSION['login_id']} ";
}
if(empty($id)){
$save = $this->db->query("INSERT INTO tickets set $data");
}else{
$save = $this->db->query("UPDATE tickets set $data where id = $id");
}
if($save)
return 1;
}
function update_ticket(){
extract($_POST);
$data = " status=$status ";
if($_SESSION['login_type'] == 2)
$data .= ", staff_id={$_SESSION['login_id']} ";
$save = $this->db->query("UPDATE tickets set $data where id = $id");
if($save)
return 1;
}
function delete_ticket(){
extract($_POST);
$delete = $this->db->query("DELETE FROM tickets where id = ".$id);
if($delete){
return 1;
}}
function save_comment(){
extract($_POST);
$data = "";
foreach($_POST as $k => $v){
if(!in_array($k, array('id')) && !is_numeric($k)){
if($k == 'comment'){
$v = htmlentities(str_replace("'","&#x2019;",$v));
}
if(empty($data)){
$data .= " $k='$v' ";
}else{
$data .= ", $k='$v' ";
}}}
$data .= ", user_type={$_SESSION['login_type']} ";
$data .= ", user_id={$_SESSION['login_id']} ";
if(empty($id)){
$save = $this->db->query("INSERT INTO comments set $data");
}else{
$save = $this->db->query("UPDATE comments set $data where id = $id");
}
if($save)
return 1;
}
function delete_comment(){
extract($_POST);
$delete = $this->db->query("DELETE FROM comments where id = ".$id);
if($delete){
return 1;
}}}
```

CHAPTER 9

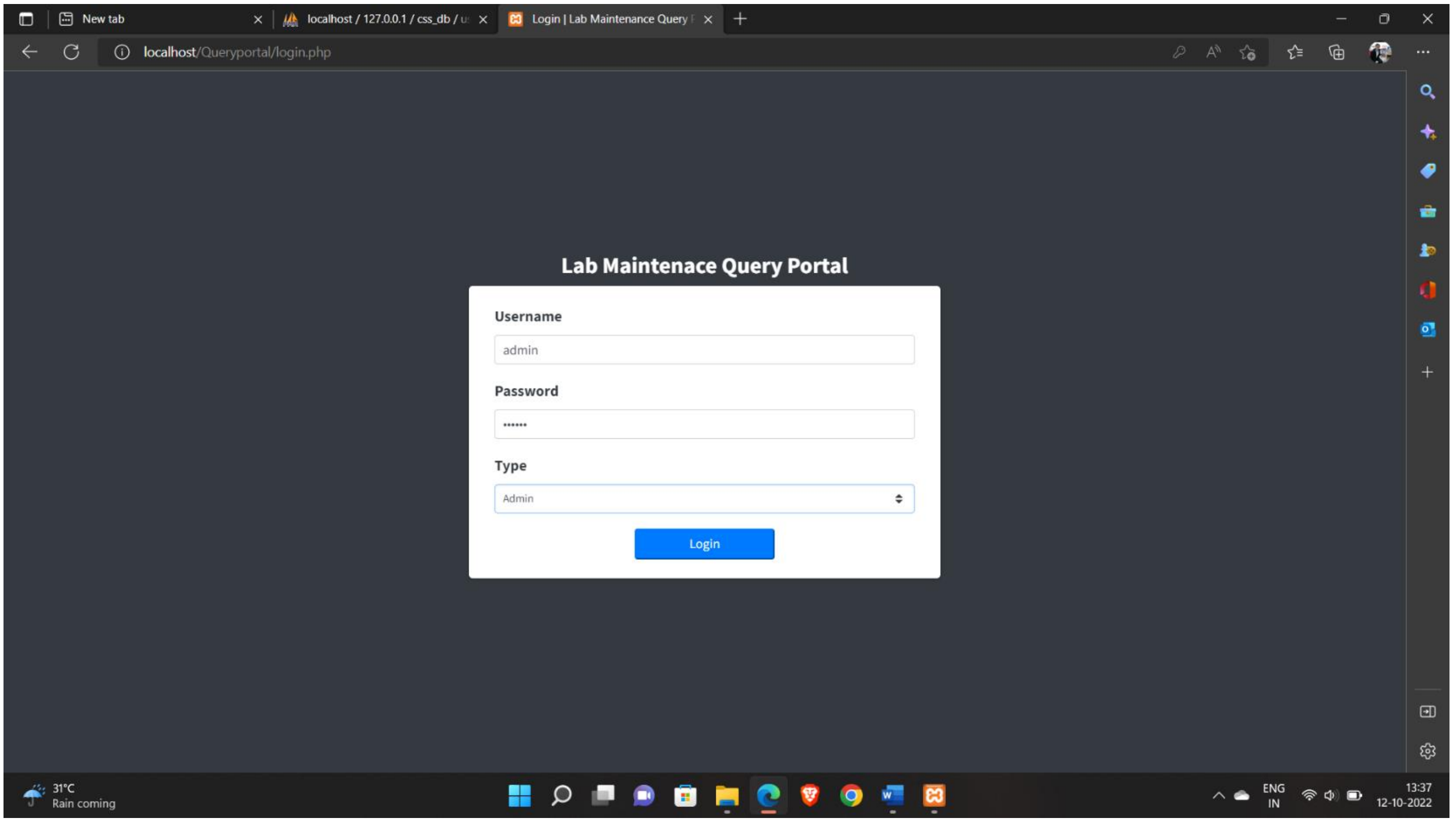
RESULT AND DISCUSSION

The **Lab Maintenance query Portal (LMQP)** has been implemented at the faculty level and a promising result was yielded. 10 users registered complaints through different departments. There were 5 maintenance officers each from a different department and one as admin.

The user was able to log in only in to the role (user, Maintenance Officer or Admin) assign to him/her.
The user complaint was registered into the portal database and was directed to the Maintenance Officer allotted to the department. The complaints were sorted and directed to the maintenance officers as per their department. The user was able to track the resolution of the complaint and also Maintenance Officer updated the status of the query through a small chat box.

All the activities on the portal could be viewed by the Admin. Admin could view the number of complaints registered and resolved by each department. Admin could track the user who registered the complaint and the maintenance officer who resolved the query. Admin could add or delete the user. Also, Admin could add a maintenance Officer according to the department.

All the participants were satisfied with the performance of the portal. All the participants found the Portal easy to use and liked the design of the portal. The participants who liked the most was Admin. Participants think that the Portal is useful and would like to use the portal if this portal exists.


New tab
localhost / 127.0.0.1 / css_db / u
Login | Lab Maintenance Query P
Login
31°C
Rain coming
ENG
IN
13:37
12-10-2022

localhost/Queryportal/login.php

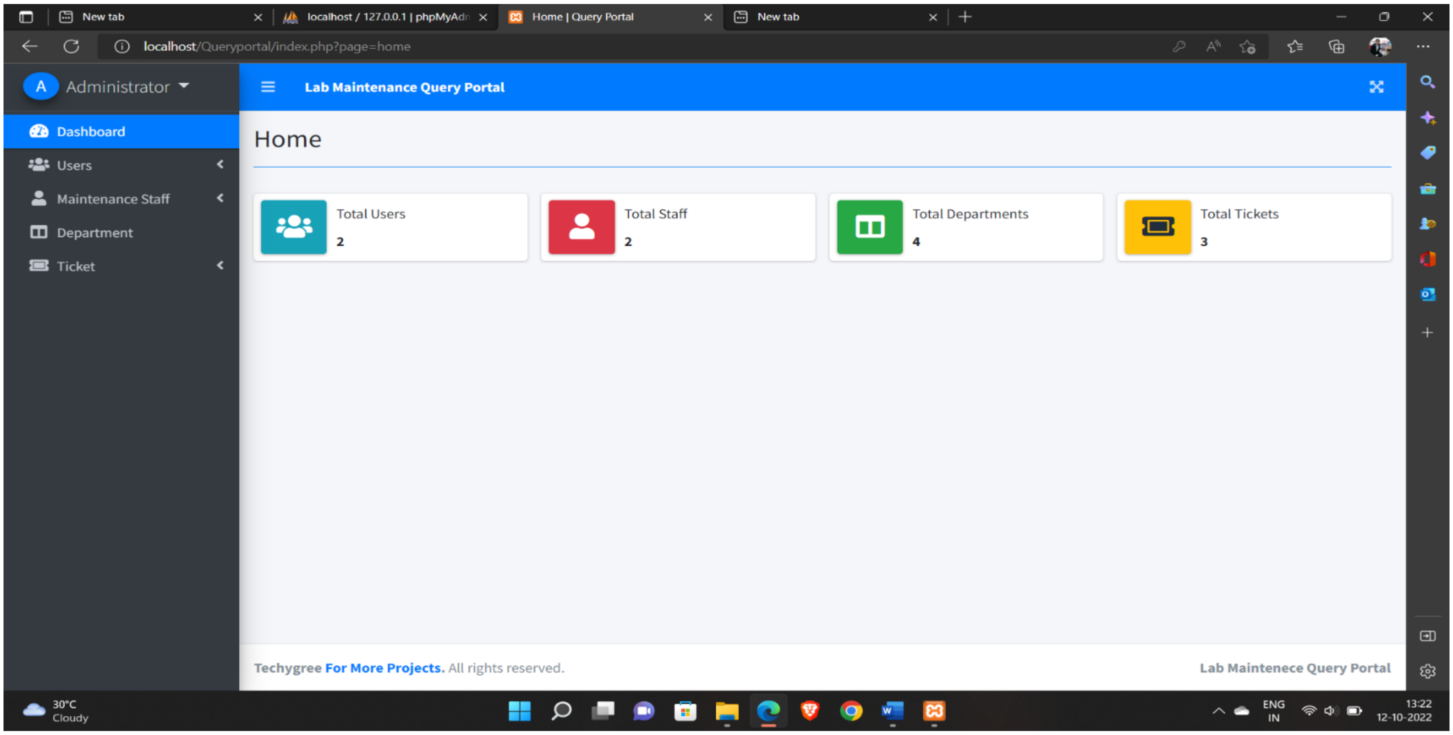
Lab Maintenace Query Portal

Username: admin

Password: ••••••

Type: Admin

Fig 9.1 Login page of LMQP for User, Maintenance Officer and Admin.



localhost/Queryportal/index.php?page=home

Lab Maintenance Query Portal

Home

Total Users	Total Staff	Total Departments	Total Tickets
2	2	4	3

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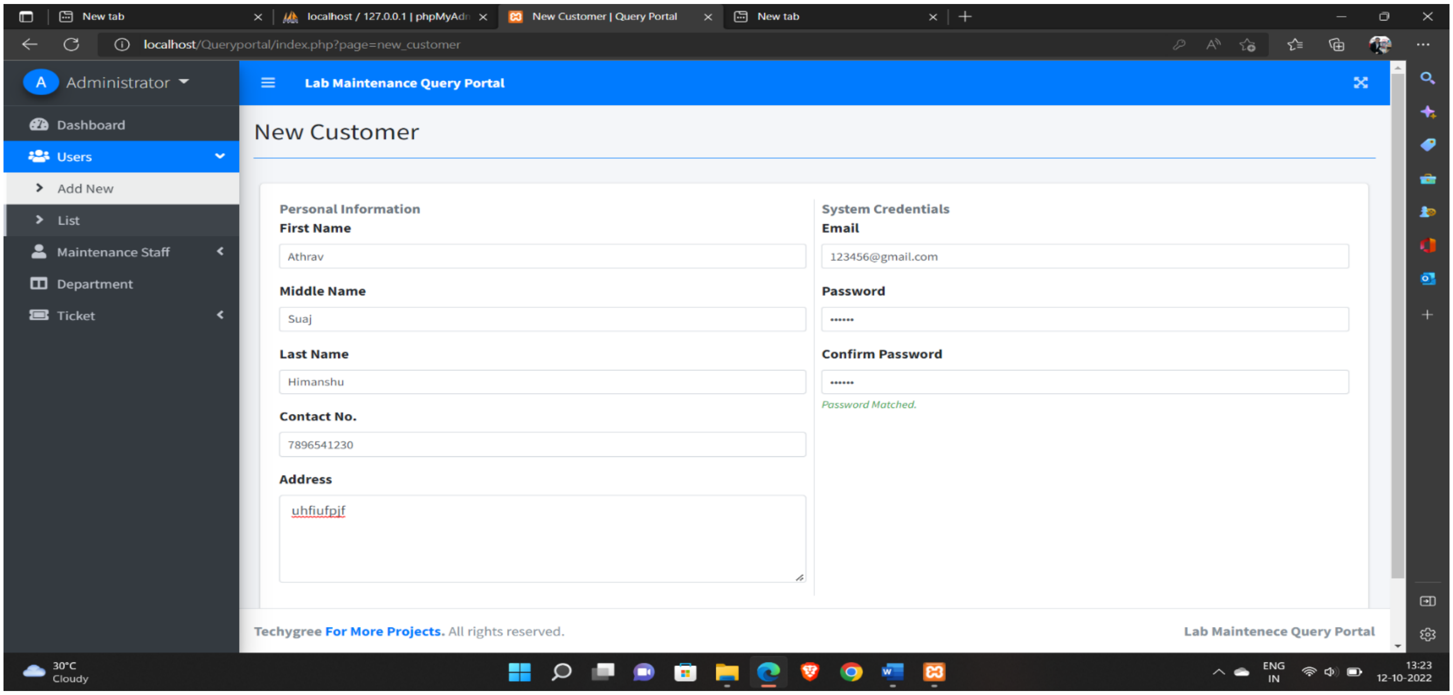
Lab Maintenece Query Portal

Fig 9.2 Dashboard for the Admin


New tab
localhost / 127.0.0.1 | phpMyAdr
New Customer | Query Portal
New tab
localhost/Queryportal/index.php?page=new_customer
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Add New
List
Maintenance Staff
Department
Ticket
30°C
Cloudy
ENG
IN
13:23
12-10-2022

New Customer

Personal Information

First Name: Athrav

Middle Name: Suaj

Last Name: Himanshu

Contact No.: 7896541230

Address: uhfiufpjf

System Credentials

Email: 123456@gmail.com

Password: ••••••

Confirm Password: ••••••

Password Matched.

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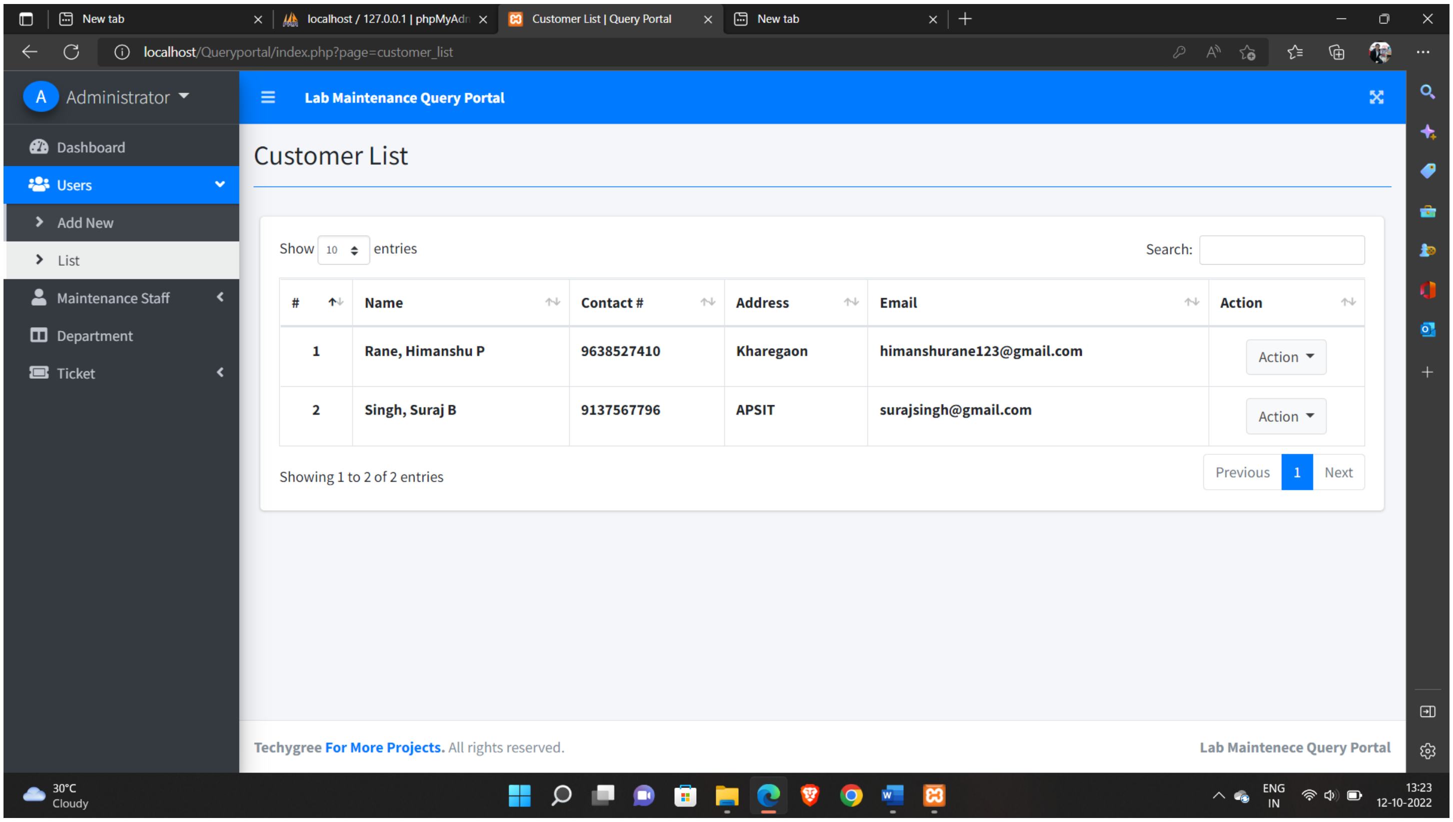
Fig 9.3 Page for Admin to add new User to the portal.


New tab
localhost / 127.0.0.1 | phpMyAdr
Customer List | Query Portal
New tab
localhost/Queryportal/index.php?page=customer_list
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Add New
List
Maintenance Staff
Department
Ticket
30°C
Cloudy
ENG
IN
13:23
12-10-2022

Customer List

Show 10 entries Search:

#	Name	Contact #	Address	Email	Action
1	Rane, Himanshu P	9638527410	Kharegaon	himanshurane123@gmail.com	Action
2	Singh, Suraj B	9137567796	APSIT	surajsingh@gmail.com	Action

Showing 1 to 2 of 2 entries Previous 1 Next

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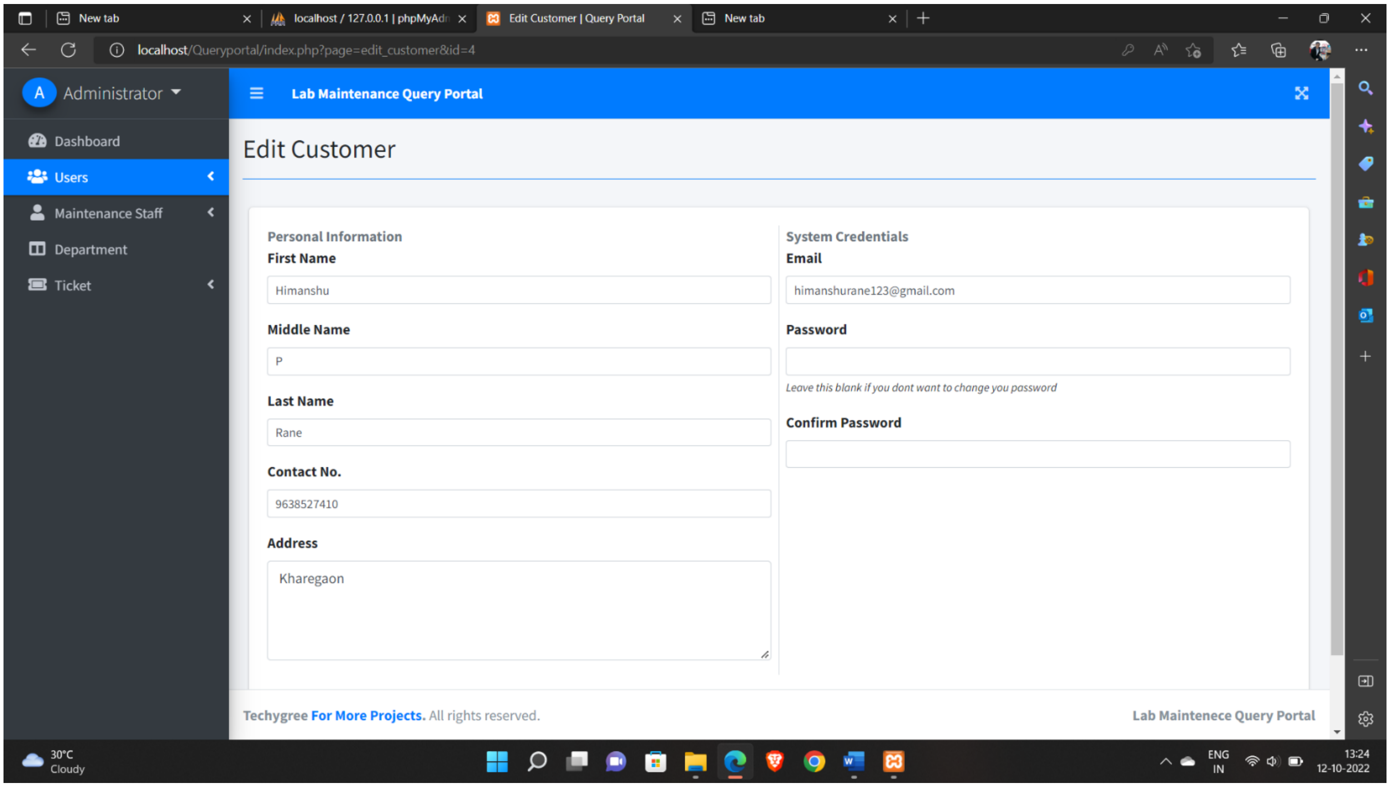
Fig 9.4 Admin page to view users in the portal.


New tab
localhost / 127.0.0.1 | phpMyAdr
Edit Customer | Query Portal
New tab
localhost/Queryportal/index.php?page=edit_customer&id=4
Administrator
Dashboard
Users
Maintenance Staff
Department
Ticket
Lab Maintenance Query Portal
30°C
Cloudy
ENG
IN
13:24
12-10-2022

Edit Customer

Personal Information

First Name: Himanshu

Middle Name: P

Last Name: Rane

Contact No.: 9638527410

Address: Kharegaon

System Credentials

Email: himanshurane123@gmail.com

Password:

Leave this blank if you dont want to change you password

Confirm Password:

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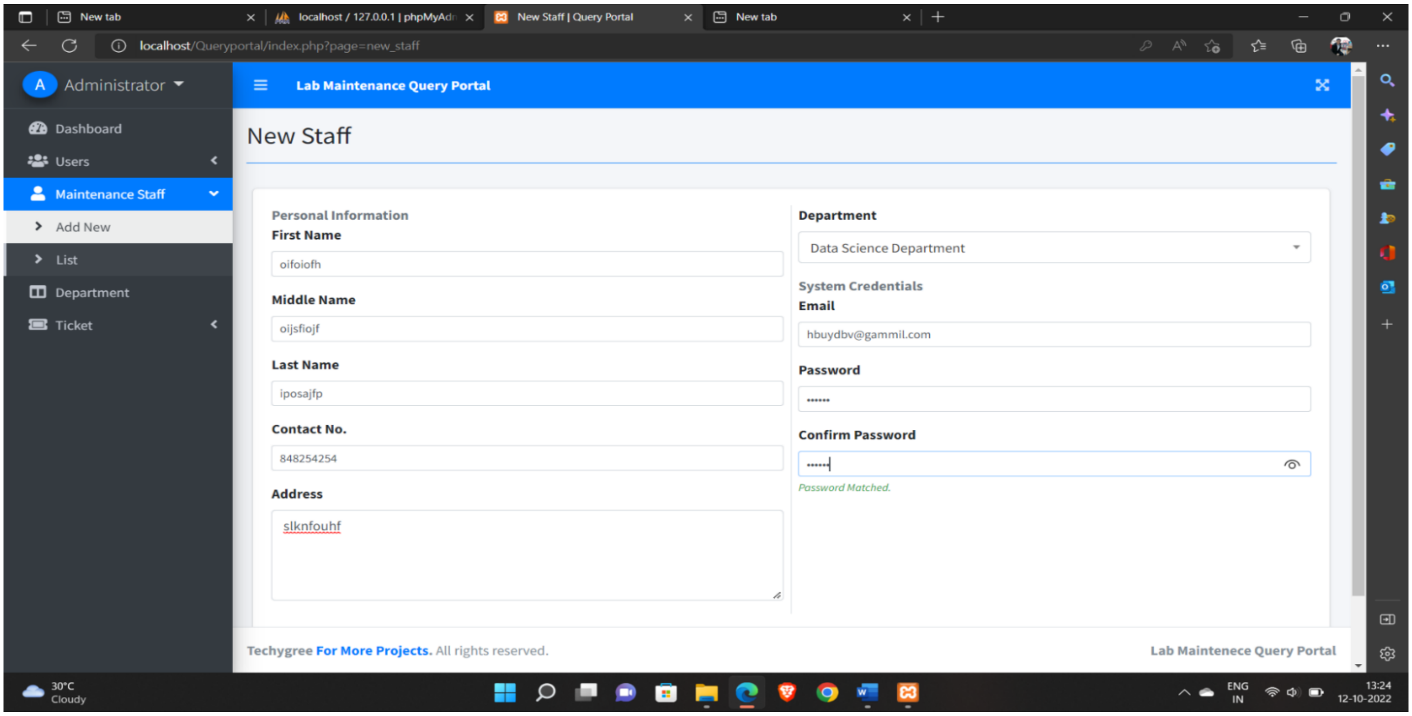
Lab Maintenece Query Portal

Fig 9.5 Edit customer page for Admin to edit user details.



New Staff

Personal Information

First Name: oifoiofh

Middle Name: oijsfiojf

Last Name: iposajfp

Contact No.: 848254254

Address: slknfouhf

Department: Data Science Department

System Credentials

Email: hbuydbv@gammil.com

Password: ••••••

Confirm Password: ••••••

Password Matched.

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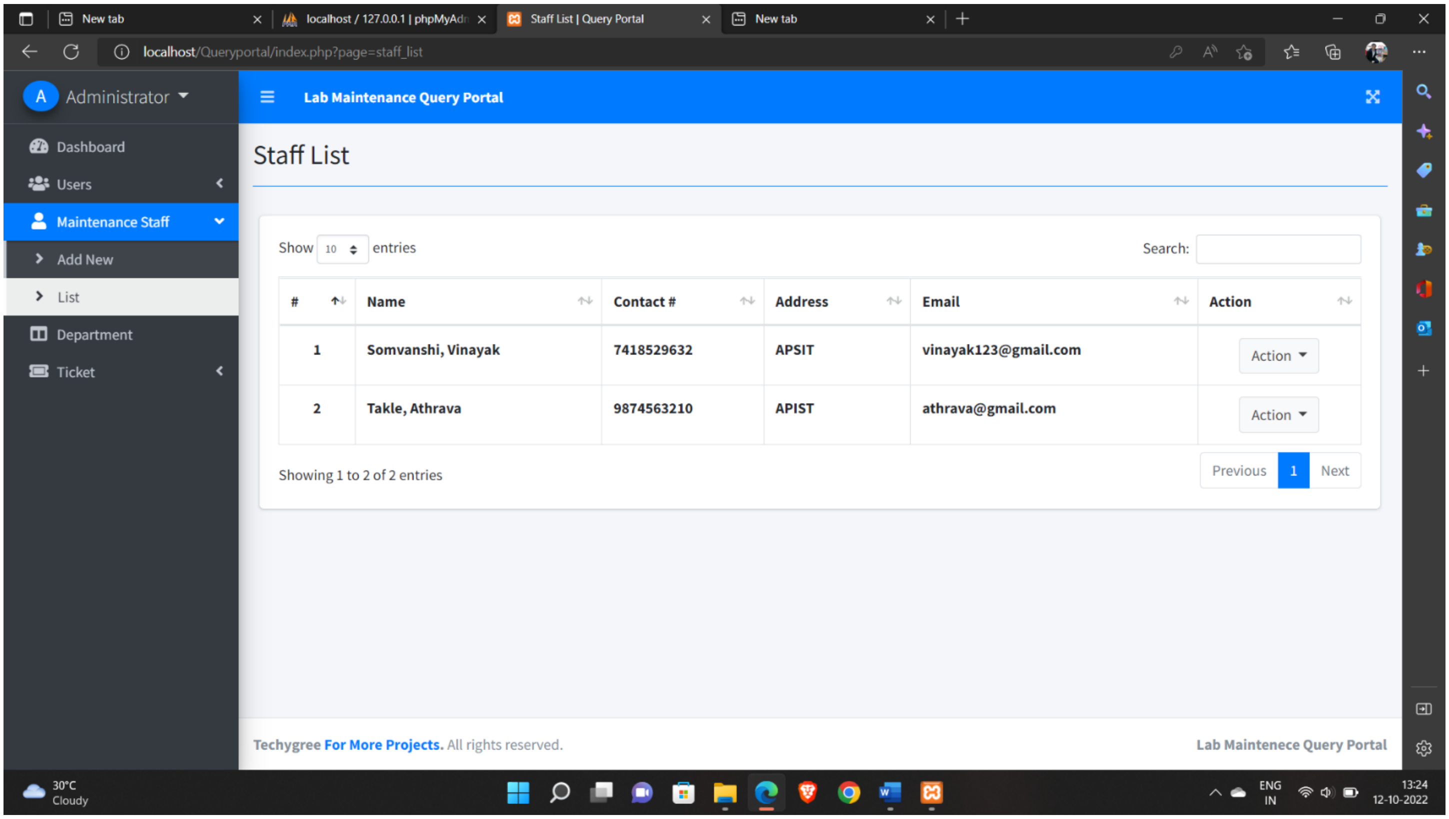
Lab Maintenece Query Portal

Fig 9.6 Admin page to add new staff.



Staff List

#	Name	Contact #	Address	Email	Action
1	Somvanshi, Vinayak	7418529632	APSIT	vinayak123@gmail.com	Action
2	Takle, Athrava	9874563210	APIST	athrava@gmail.com	Action

Showing 1 to 2 of 2 entries

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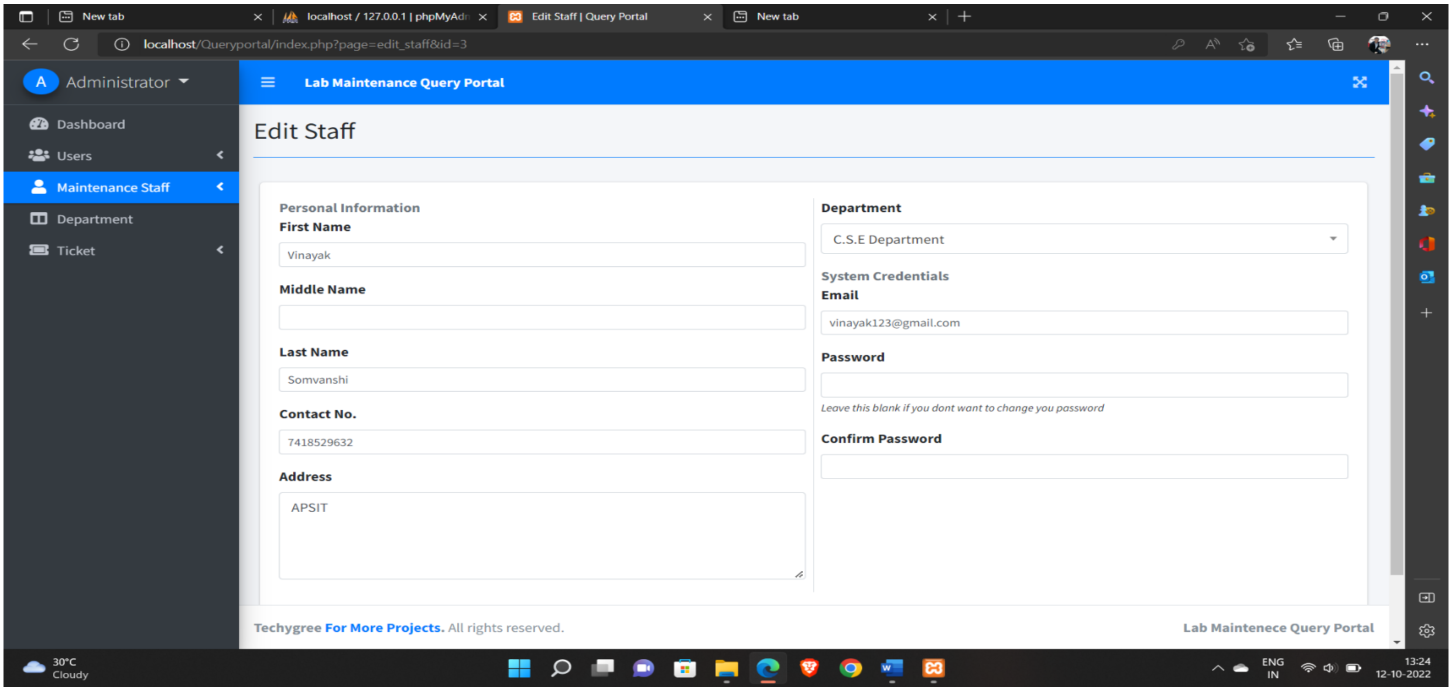
Fig 9.7 Admin page to view all the staff using portal.


New tab
localhost / 127.0.0.1 | phpMyAdm
Edit Staff | Query Portal
New tab
localhost/Queryportal/index.php?page=edit_staff&id=3
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Maintenance Staff
Department
Ticket
30°C
Cloudy
ENG
IN
13:24
12-10-2022

Edit Staff

Personal Information

First Name: Vinayak

Middle Name:

Last Name: Somvanshi

Contact No.: 7418529632

Address: APSIT

Department: C.S.E Department

System Credentials

Email: vinayak123@gmail.com

Password:

Leave this blank if you dont want to change you password

Confirm Password:

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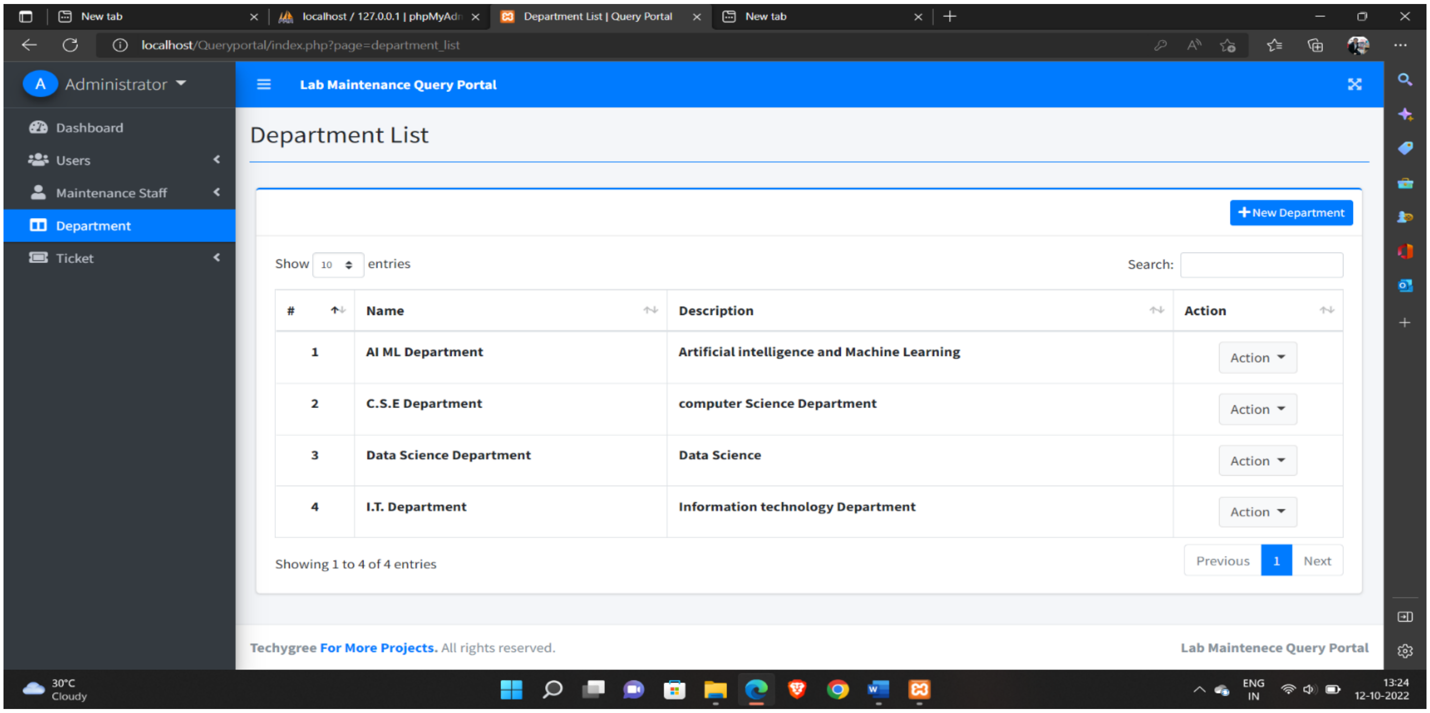
Fig 9.8 Admin page to view the and edit staff information.


New tab
localhost / 127.0.0.1 | phpMyAdmin
Department List | Query Portal
New tab
localhost/Queryportal/index.php?page=department_list
Administrator
Dashboard
Users
Maintenance Staff
Department
Ticket
Lab Maintenance Query Portal
+New Department
30°C
Cloudy
ENG
IN
13:24
12-10-2022

Department List

Show 10 entries

Search:

#	Name	Description	Action
1	AI ML Department	Artificial intelligence and Machine Learning	Action
2	C.S.E Department	computer Science Department	Action
3	Data Science Department	Data Science	Action
4	I.T. Department	Information technology Department	Action

Showing 1 to 4 of 4 entries

Previous 1 Next

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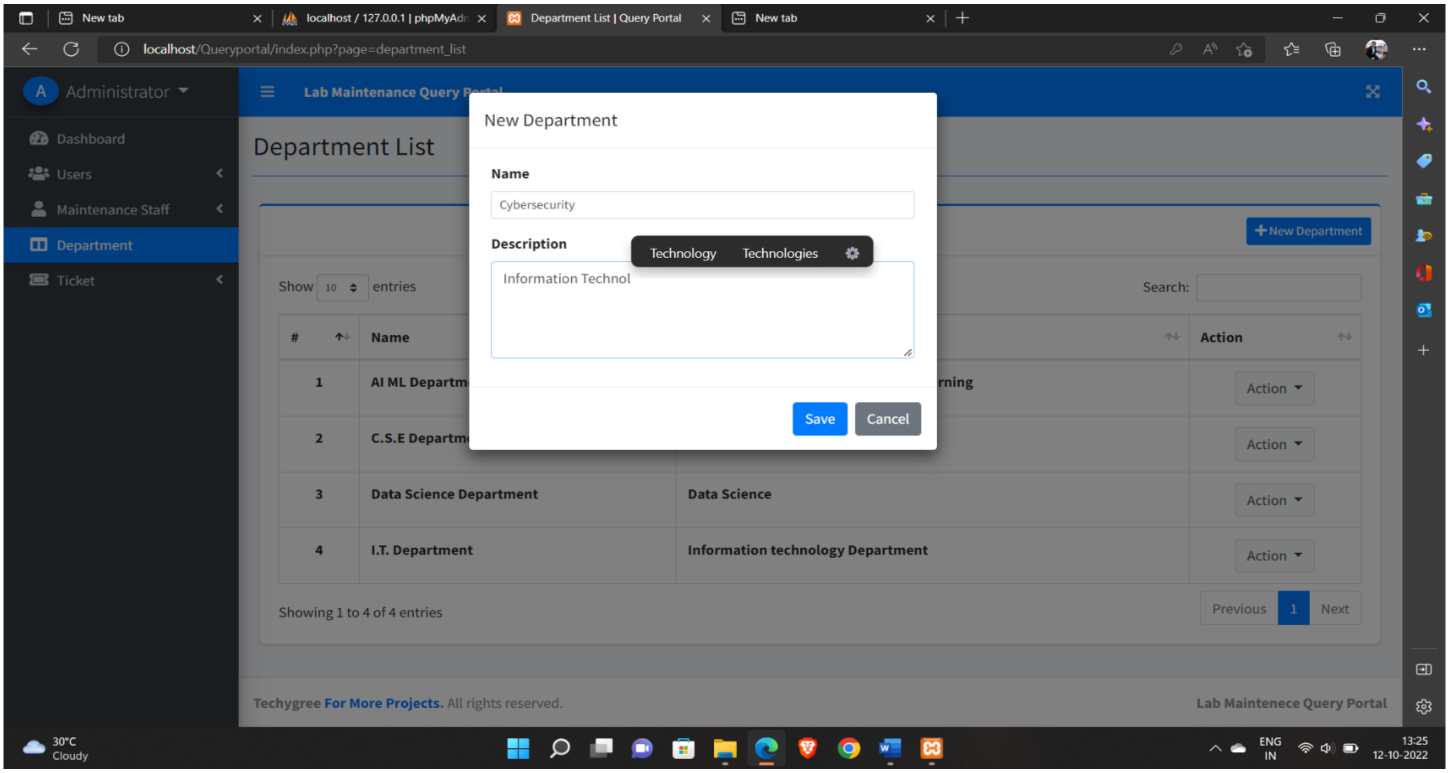
Fig 9.9 Admin page to view information department wise.


New tab
localhost / 127.0.0.1 | phpMyAdmin
Department List | Query Portal
New tab
localhost/Queryportal/index.php?page=department_list
Administrator
Dashboard
Users
Maintenance Staff
Department
Ticket
Lab Maintenance Query Portal
Technology
Technologies
+New Department
30°C
Cloudy
ENG
IN
13:25
12-10-2022

New Department

Name: Cybersecurity

Description: Information Technol

Save Cancel

Department List

Show 10 entries

Search:

#	Name	Description	Action
1	AI ML Departm	rning	Action
2	C.S.E Departm		Action
3	Data Science Department	Data Science	Action
4	I.T. Department	Information technology Department	Action

Showing 1 to 4 of 4 entries

Previous 1 Next

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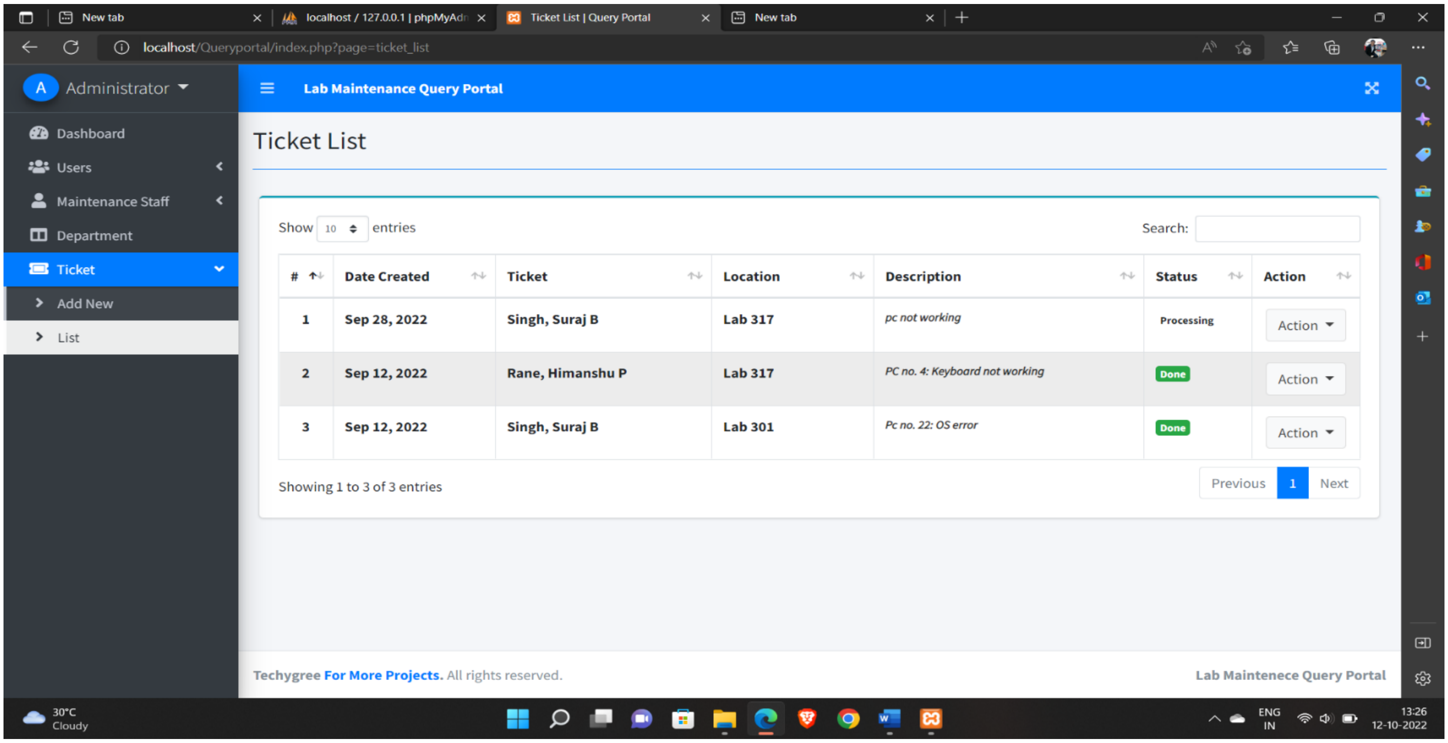
Fig 9.10 Admin page to add new department in the portal.


New tab
localhost / 127.0.0.1 | phpMyAdr
Ticket List | Query Portal
New tab
localhost/Queryportal/index.php?page=ticket_list
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Maintenance Staff
Department
Ticket
Add New
List
30°C
Cloudy
ENG
IN
13:26
12-10-2022

Ticket List

Show 10 entries Search:

#	Date Created	Ticket	Location	Description	Status	Action
1	Sep 28, 2022	Singh, Suraj B	Lab 317	pc not working	Processing	Action
2	Sep 12, 2022	Rane, Himanshu P	Lab 317	PC no. 4: Keyboard not working	Done	Action
3	Sep 12, 2022	Singh, Suraj B	Lab 301	Pc no. 22: OS error	Done	Action

Showing 1 to 3 of 3 entries

Previous 1 Next

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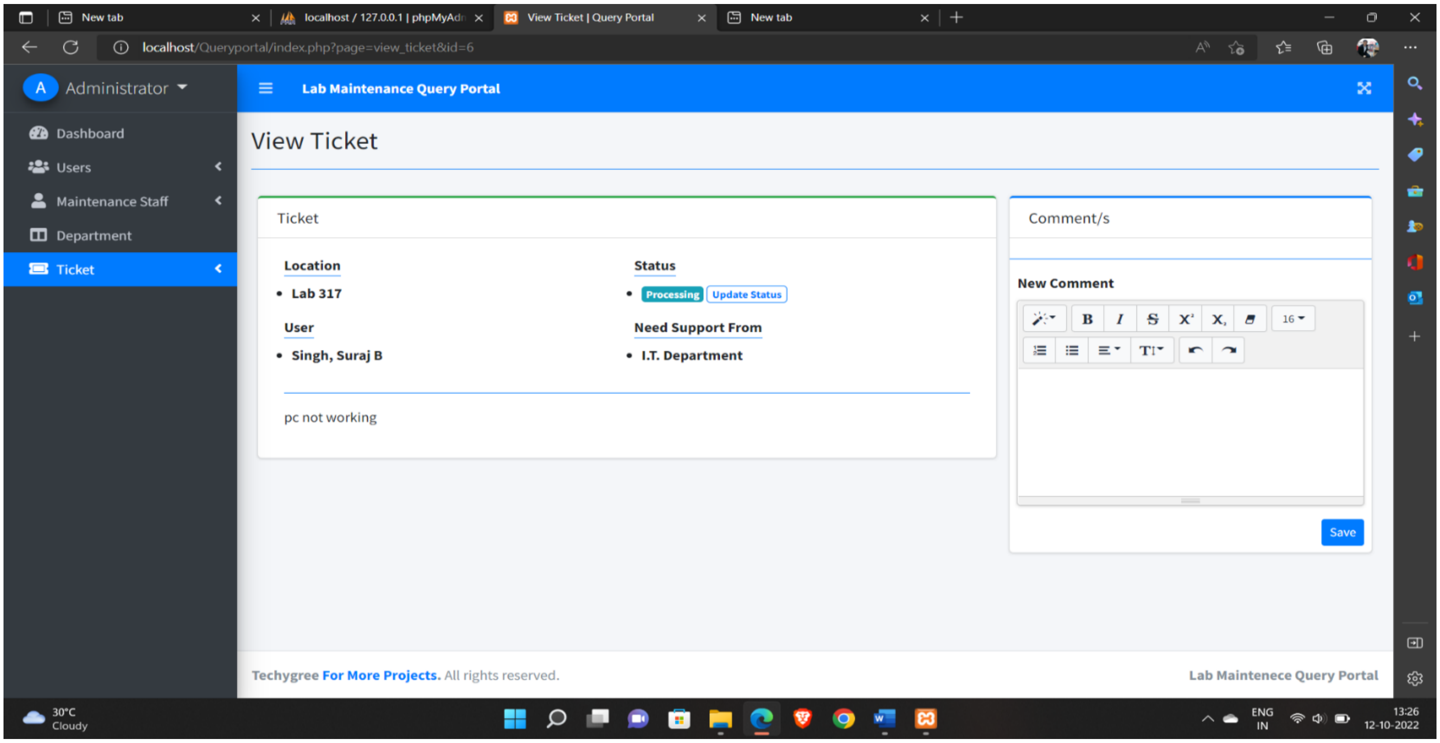
Fig 9.11 Ticket list page for Admin to view complaints registered in the portal.


New tab
localhost / 127.0.0.1 | phpMyAdr
View Ticket | Query Portal
New tab
localhost/Queryportal/index.php?page=view_ticket&id=6
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Maintenance Staff
Department
Ticket
16
Save
30°C
Cloudy
ENG
IN
13:26
12-10-2022

View Ticket

Ticket

Location
- Lab 317

Status
- Processing Update Status

User
- Singh, Suraj B

Need Support From
- I.T. Department

pc not working

Comment/s

New Comment

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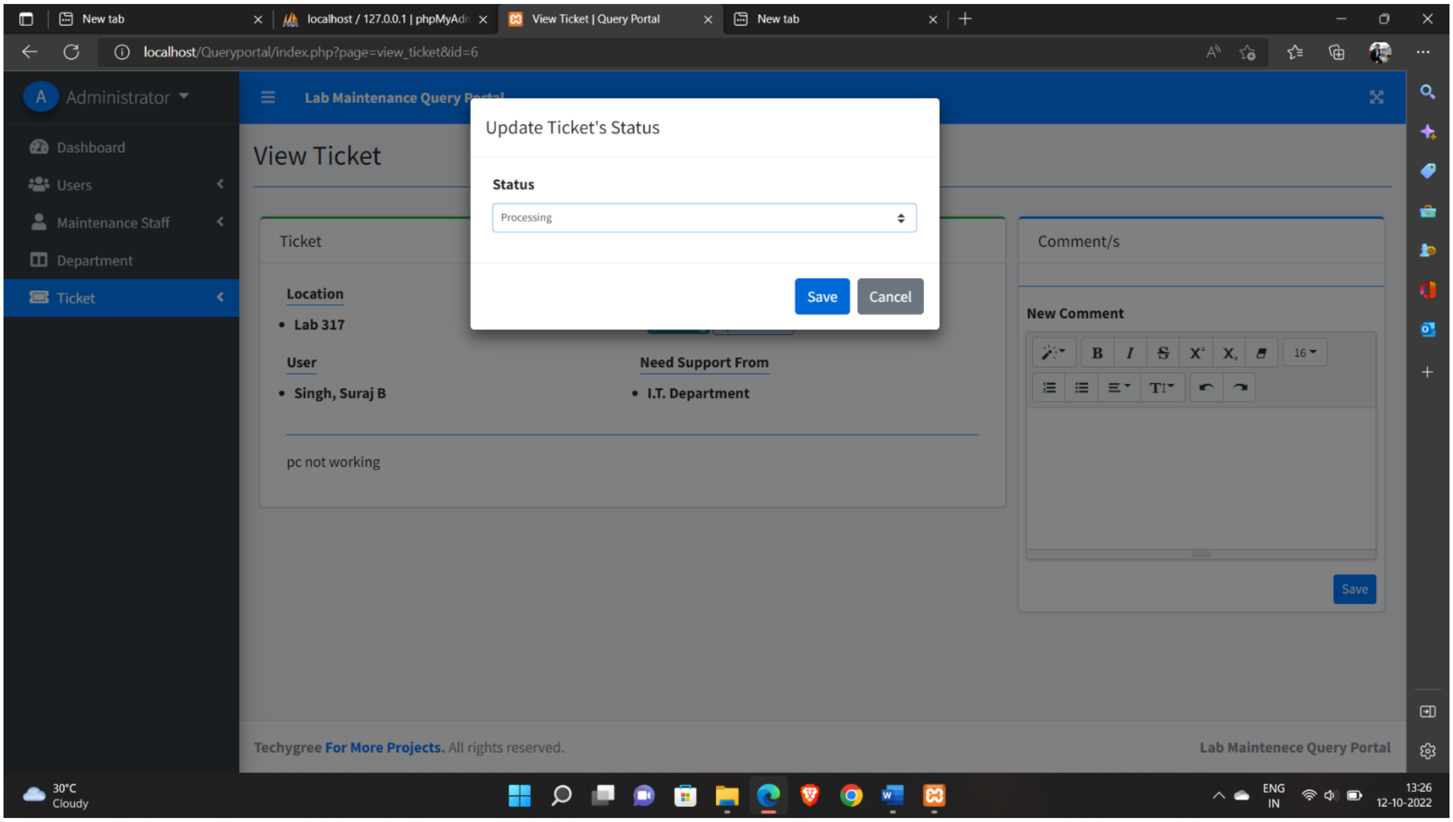
Fig 9.12 Single complaint page view


New tab
localhost / 127.0.0.1 | phpMyAdmin
View Ticket | Query Portal
New tab
localhost/Queryportal/index.php?page=view_ticket&id=6
Administrator
Dashboard
Users
Maintenance Staff
Department
Ticket
Lab Maintenance Query Portal
Save
Cancel
New Comment
Save
30°C
Cloudy
ENG
IN
13:26
12-10-2022

Update Ticket's Status

Status: Processing

View Ticket

Ticket

Location
- Lab 317

User
- Singh, Suraj B

Need Support From
- I.T. Department

pc not working

Comment/s

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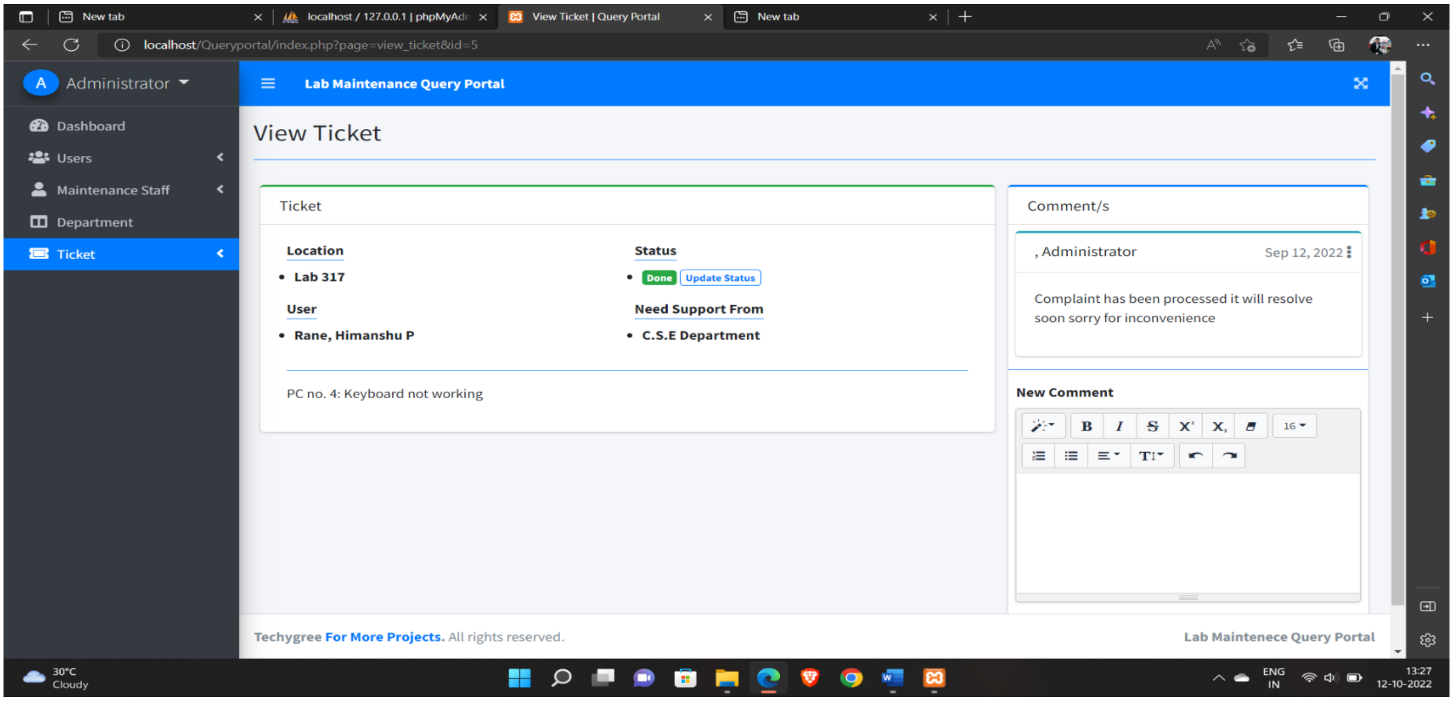
Lab Maintenece Query Portal

Fig 9.13 Update query status view.


New tab
localhost / 127.0.0.1 | phpMyAdmin
View Ticket | Query Portal
New tab
localhost/Queryportal/index.php?page=view_ticket&id=5
Administrator
Dashboard
Users
Maintenance Staff
Department
Ticket
Lab Maintenance Query Portal
Update Status
New Comment
30°C
Cloudy
ENG
IN
13:27
12-10-2022

View Ticket

Ticket

Location
- Lab 317

Status
- Done

User
- Rane, Himanshu P

Need Support From
- C.S.E Department

PC no. 4: Keyboard not working

Comment/s

, Administrator Sep 12, 2022

Complaint has been processed it will resolve soon sorry for inconvenience

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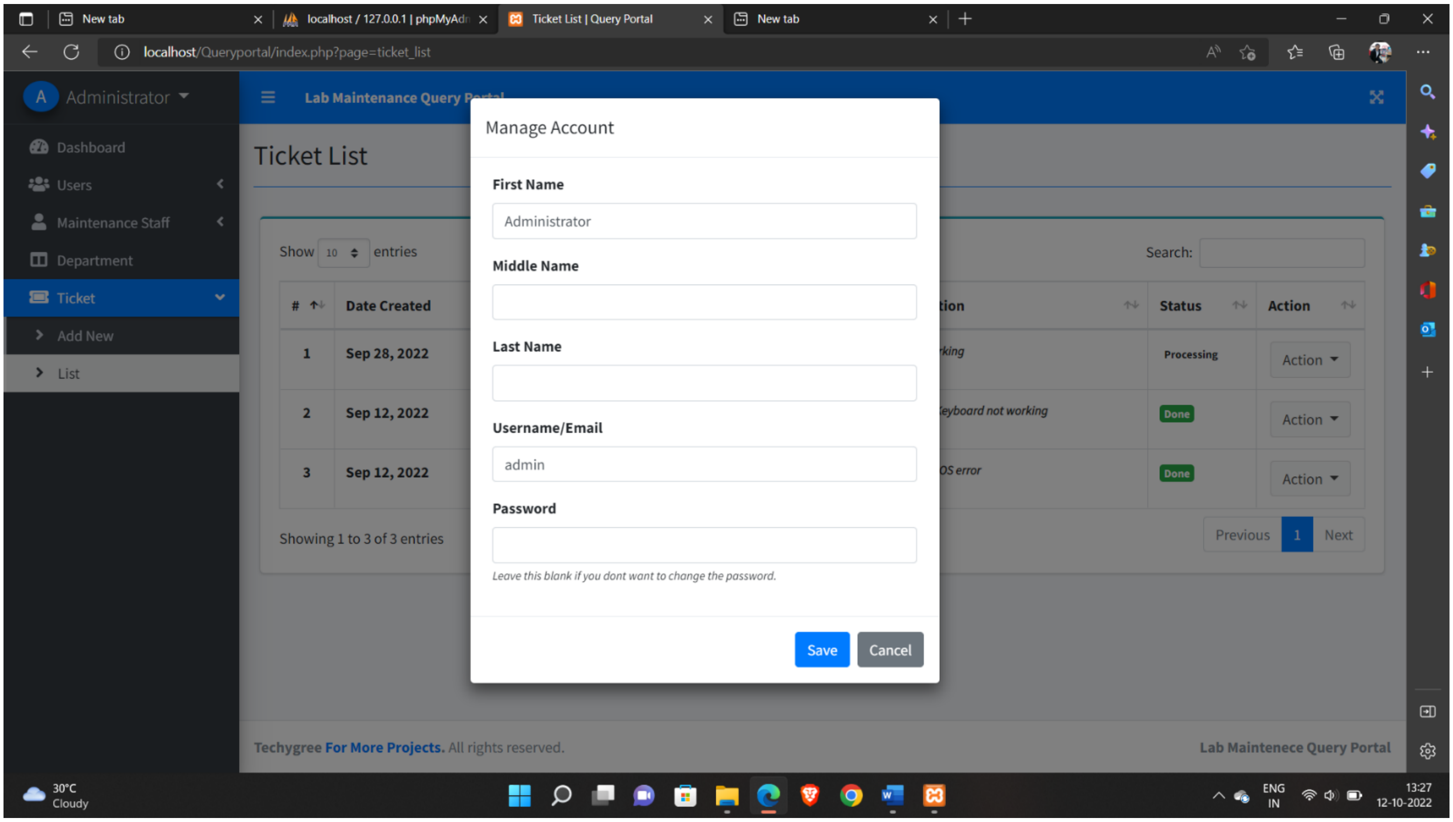
Lab Maintenece Query Portal

Fig 9.14 Review complaint.


New tab
localhost / 127.0.0.1 | phpMyAdr
Ticket List | Query Portal
New tab
localhost/Queryportal/index.php?page=ticket_list
Administrator
Lab Maintenance Query Portal
Dashboard
Users
Maintenance Staff
Department
Ticket
Add New
List
Techygree For More Projects. All rights reserved.
Lab Maintenece Query Portal
30°C
Cloudy
ENG
IN
13:27
12-10-2022

Ticket List

Show 10 entries

Search:

#	Date Created	…tion	Status	Action
1	Sep 28, 2022	…king	Processing	Action
2	Sep 12, 2022	…eyboard not working	Done	Action
3	Sep 12, 2022	OS error	Done	Action

Showing 1 to 3 of 3 entries

Previous 1 Next

Manage Account

First Name: Administrator

Middle Name:

Last Name:

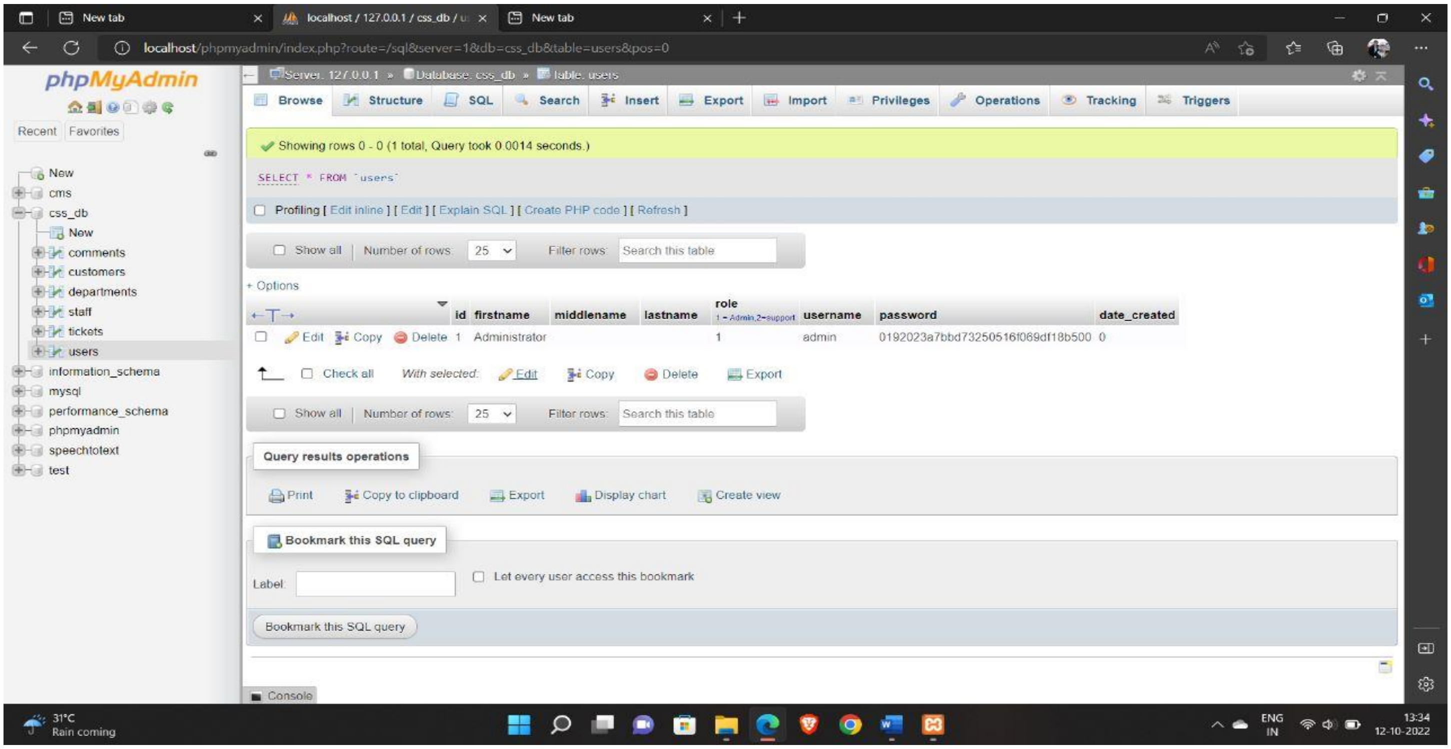
Username/Email: admin

Password:

Leave this blank if you dont want to change the password.

Save Cancel

Fig 9.15 Manage account page



Showing rows 0 - 0 (1 total, Query took 0.0014 seconds.)

```
SELECT * FROM `users`
```

□ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

□ Show all | Number of rows: 25 Filter rows: Search this table

+ Options

	id	firstname	middlename	lastname	role 1 - Admin,2-support	username	password	date_created
□ Edit Copy Delete	1	Administrator			1	admin	0192023a7bbd73250516f069df18b500	0

□ Check all With selected: Edit Copy Delete Export

□ Show all | Number of rows: 25 Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label: □ Let every user access this bookmark

Bookmark this SQL query

Fig 9.16 Databases

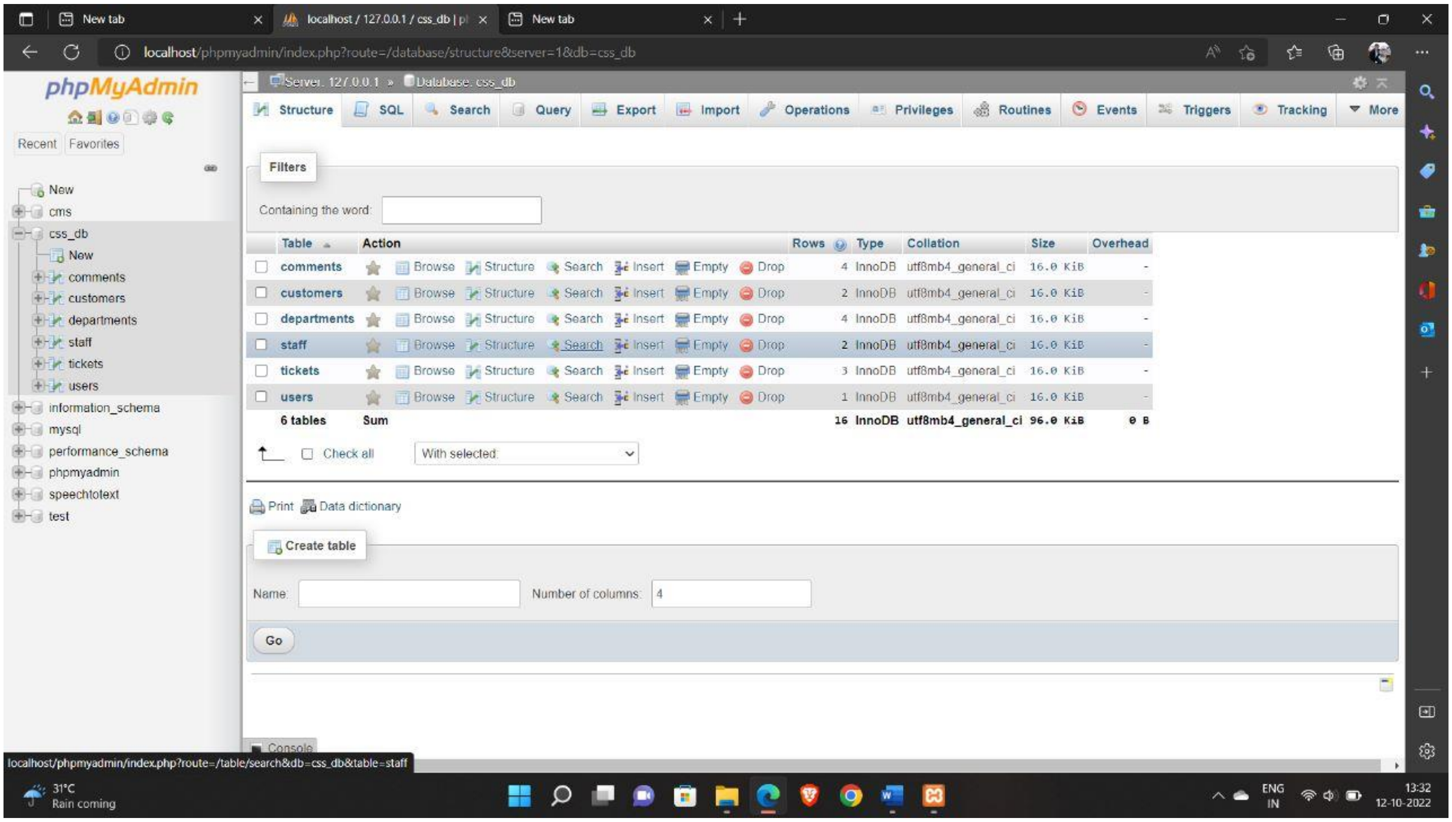


Table	Action	Rows	Type	Collation	Size	Overhead
comments	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
customers	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB	-
departments	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
staff	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB	-
tickets	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
users	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_general_ci	16.0 KiB	-
6 tables	Sum	16	InnoDB	utf8mb4_general_ci	96.0 KiB	0 B

Fig 9.17 Database Attributes

CHAPTER 10

CONCLUSION AND FUTURE SCOPE

Our project is only a humble venture to satisfy the needs of the user. The main aim of the project is to create a transparent system to ease the process of registering complaints. It facilitates the user to easily register complaints. The query is then directed to the Maintenance Officer. The Portal enables the user to track the resolution of the query and the Maintenance officers too can update the status of the query. The portal segregates the complaints per department. The multiple logins provided ensures that the user logins to the role assigned i.e Login, User, Maintenance Officer, or admin and provides security to the portal against unauthorized users.

The admin page controls all the activities of the portal. Admin can add or delete the user and maintenance officer. Admin can view the complaints registered and resolved as per department. The Portal helps to streamline the process of registering and resolving complaints. It maintains also maintains the records for the same. It reduces the burden of the Maintenance team and increases the productivity of the organization. The portal ensures that all the queries are solved and no query remains unsolved. The Portal is useful for educational institutes like schools, colleges and Universities, etc. and Offices, It companies and firms, etc.

The future scope we are planning for our project is to provide users to add images of the query so that the maintenance officer gets a clearer idea of the query. Also, we are planning to add more security features to the portal.

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