DHAKA UNIVERSITY OF ENGINEERING & TECHNOLOGY, GAZIPUR

A project on Diagnostics Centre Recommendation System

BY

Kazi Sanir Ahmed ID: 204001

Jahed Hasan ID:204003

Md. Sabbir Hossain Sojib ID: 204057

Md. Mehedi Hasan ID:204058

Supervised By

Dr. Mohammod Abul Kashem
PROFESSOR
Department of CSE, DUET

Mr. Khawja Imran Masud
ASSISTANT PROFESSOR
Department of CSE, DUET

Mr. Md. Rajibul Islam
LECTURER
Department of CSE, DUET

DECLARATION

We hereby declare that this project has been done by Kazi Sanir Ahmed, Jahed Hasan, Md. Sabbir Hossain Sojib and Md. Mehedi Hasan under the supervision of Dr. Mohammod Abul Kashem, Professor, Department of CSE, DUET. Mr. Khawja Imran Masud, Assistant Professor, Department of CSE, DUET. and Mr. Md. Rajibul Islam, Lecturer Department of CSE, DUET. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree. “All the information mentioned above in the resume is correct to the best of our knowledge and belief.”

Sincerely,

Kazi Sanir Ahmed

Jahed Hasan

Md. Sabbir Hossain Sojib

Md. Mehedi Hasan

ABSTRACT

Nowadays, Online Diagnostic Lab Management System is one of the most essential tools that are mostly used in Diagnostic Lab; it is mostly used to manage medical lab related activities. In this project we tried to develop a computerized and web based Diagnostic lab management system. Our main intention is to allow this application to be used in most retailing diagnostic lab, where a small point of customization will be required to each diagnostic lab in the implementation period. This system is designed to overcome all challenges related to the management of diagnostic that were used to be handled locally and manually. The system is an online diagnostic lab manager application that brings up various diagnoses working online. Using this system, it will help us to records all transaction made at the daily sales; recognize all customers, employees, etc. It will manage all activities around the diagnostic lab that increases productivity and maximize profit, it will also minimizing the risk of getting loss because all transactions are recorded to the system.

Keywords: HTML, CSS, PHP, SQL, etc.

ACKNOWLEDGEMENT

We express our heartiest thanks and appreciation to Almighty God for His heavenly gift makes us conceivable to finish this year's venture effectively. From the start we might want to thank our fair undertaking teacher Dr. Mohammod Abul Kashem, Mr. Khawja Imran Masud, and Mr. Md. Rajibul Islam for her sincere assistance, significant recommendation, and ceaseless consolation driving us to proceed.

Our team members, whose unwavering commitment, creativity, and tireless efforts have been instrumental in shaping the vision and objectives of this project. W3Schools is a popular online platform that provides web development tutorials and references for various web technologies. For this project, we take lots of help from this platform.

We should thank our entire associate in Dhaka University of Engineering & Technology, Gazipur, who took in this inspection while completing this work. Finally, we ought to perceive with due respect the reliable assistance and patience of our parents.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

The Diagnostics Centre Recommendation System (DCRS) is web-based technology which brings up various diagnosis work online. Here patients are first allowed to register on the website and also login using registered details. Once registered with their address and contact details, the patients may now see a variety of tests conducted by the lab along with their costs and also they take appointments of other person who are not registered. The patient will select the required test and book an appointment after that lab center send a lab boy at the registered address to collect a sample. The cost of the test will be paid to the lab while the samples are taken as cash on delivery (COD). After successful testing the user now gets a notification of the test result. The system allows the admin to attach a copy of the report into the system and automatically show it on the user side so the user can download the report.

In the Diagnostics Centre Recommendation System (DCRS) we use PHP and MySQL databases. It has three modules i.e. Admin, Lab Employee and User.

CHAPTER 2

FEATURE

2.1 Admin

Dashboard: In this section, admin can briefly view the total register users, total new appointment, total approved appointment, total rejected appointment by admin, total canceled appointment by user, total sample received, total report uploaded and total employee.

Test Detail: In this section, admin can manage test detail (Add/Update).

Lab Employee: In this section, admin can manage employees (Add/Update).

Appointments: In this section, admin can view the booking appointment and the admin also has right to change the appointment status according to current status and his/her remarks.

Lab: In this section, admin received the information of the sample collected by the employee and uploaded the report to a test.

View Reg Users: In this section, admin view the detailed registered users.

Search: In this section admin can search a particular appointment detail by patient appointment number, name and mobile number.

Report: In this section admin can view between-dates appointment reports, sales report and employee wise report according to dates.

Admin can also update his profile, change the password and recover the password.

2.2 Employee

Dashboard: In these sections, employees can briefly view total new assigned appointments,total sample collected, total sample sent to lab and total appointments.

Test Detail: In this section, employees can view test detail.

Assign Appointments: In this section, the employee can view the appointment that is assigned by the admin and the employee has rights to change the appointment status according to current status.

Search: In this section,employees can search a particular appointment detail by patient appointment number, name and mobile number.

Reports: In this section, an employee can view how many appointments have been assigned, how many samples have been collected and how many appointments have been pending in his/her end.

Employee can also update his profile, change the password and recover the password.

2.3 Users(Patients)

Dashboard: This is the welcome page for users or patients

Test Detail: In this section, employees can view test detail.

Appointment: In this section, users can book the appointments for tests.

Appointment History: In this section, users can view the appointment history and also can check the status of the appointment.

View Medical Report: In this section, users can download the patient report.

User can also update his profile, change the password and recover the password.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Hardware Configuration :

Client Side:

RAM	4 GB
Hard disk	512 GB
Processor	1.0 GHz

Server side:

RAM	1 GB
Hard disk	20 GB
Processor	2.0 GHz

3.2 Software Requirement:

Client Side:

Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

Server Side:

Web Server	APACHE
Server side Language	PHP5.6 or above version
Database Server	MYSQL
Web Browser	Google Chrome or any compatible browser
Operating System	Windows or any equivalent OS

CHAPTER 4

ANALYSIS AND DESIGN

4.1 Analysis

Today also we have to go to the diagnostic center, wait in the queue to get our blood test done. As Tell their patients' details with their test reports.

Disadvantage of present system:

- Not user friendly: The present system is not user friendly because data is not stored in structure and proper format.
- Manual Control: All report calculation is done manually so there is a chance of error.
- Lots of paperwork: Visitors maintain in the register so lots of paper requires storing details.
- Time consuming

4.2 Design Introduction:

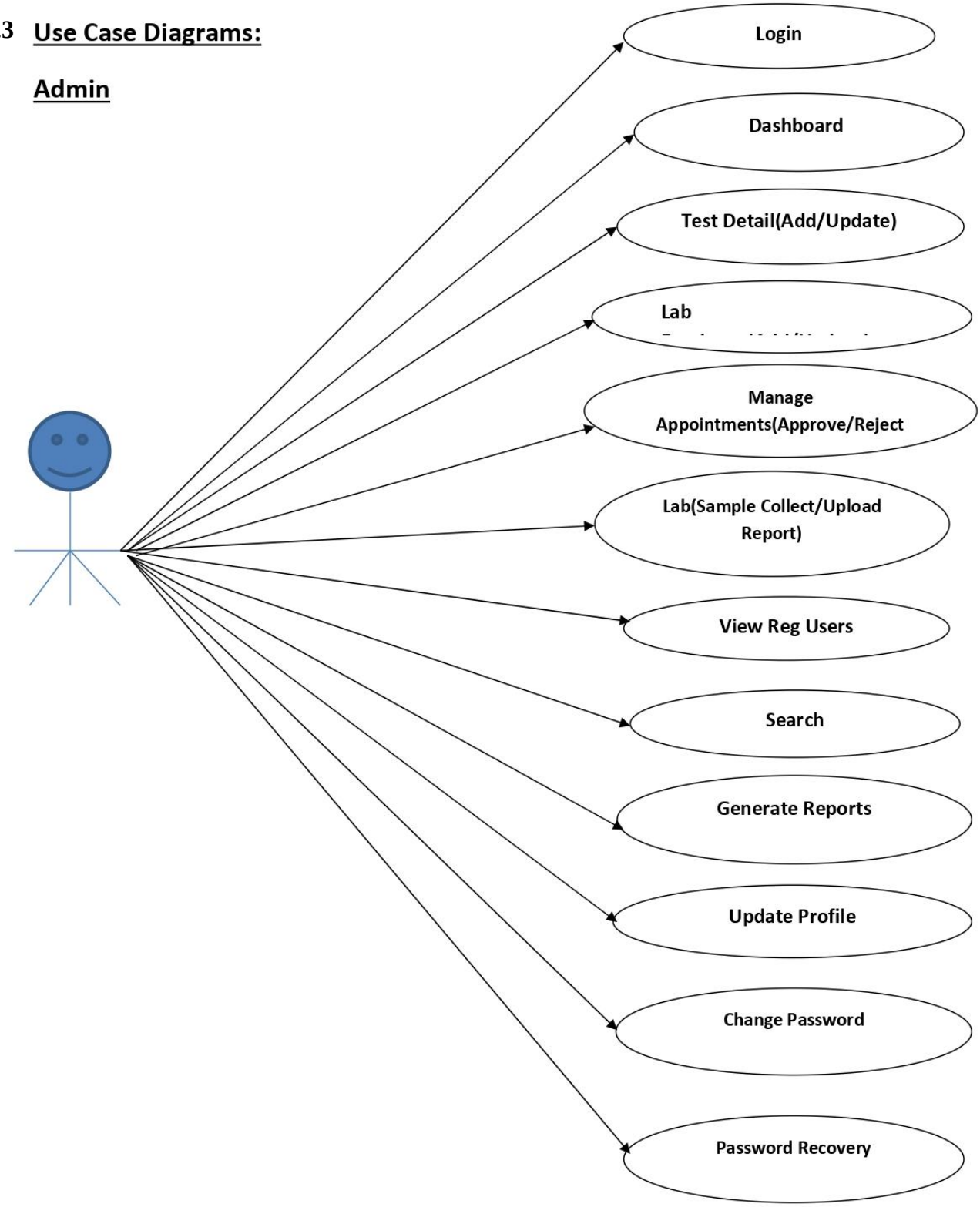
Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer’s requirements into finished software or a system.

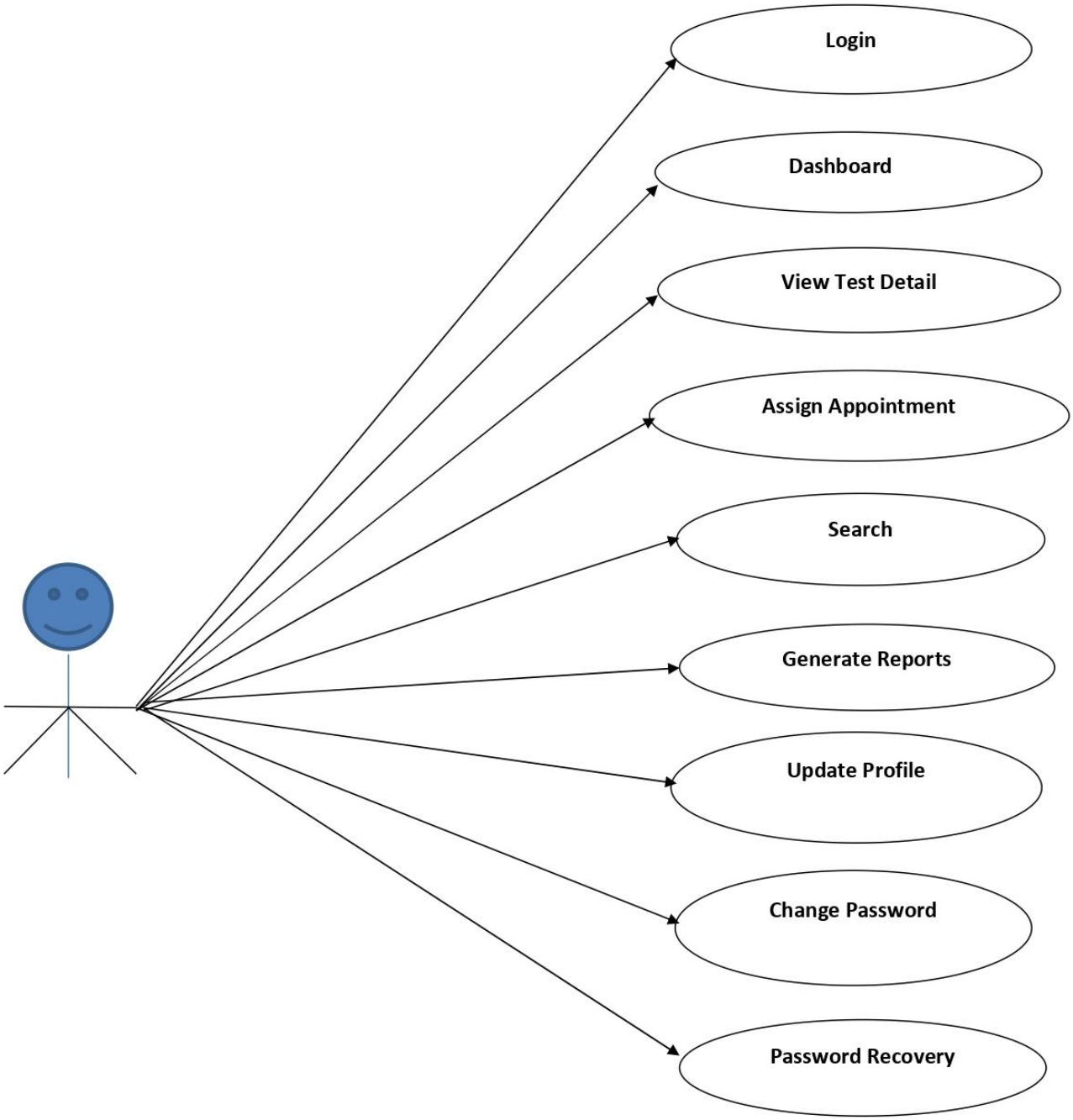
Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data.

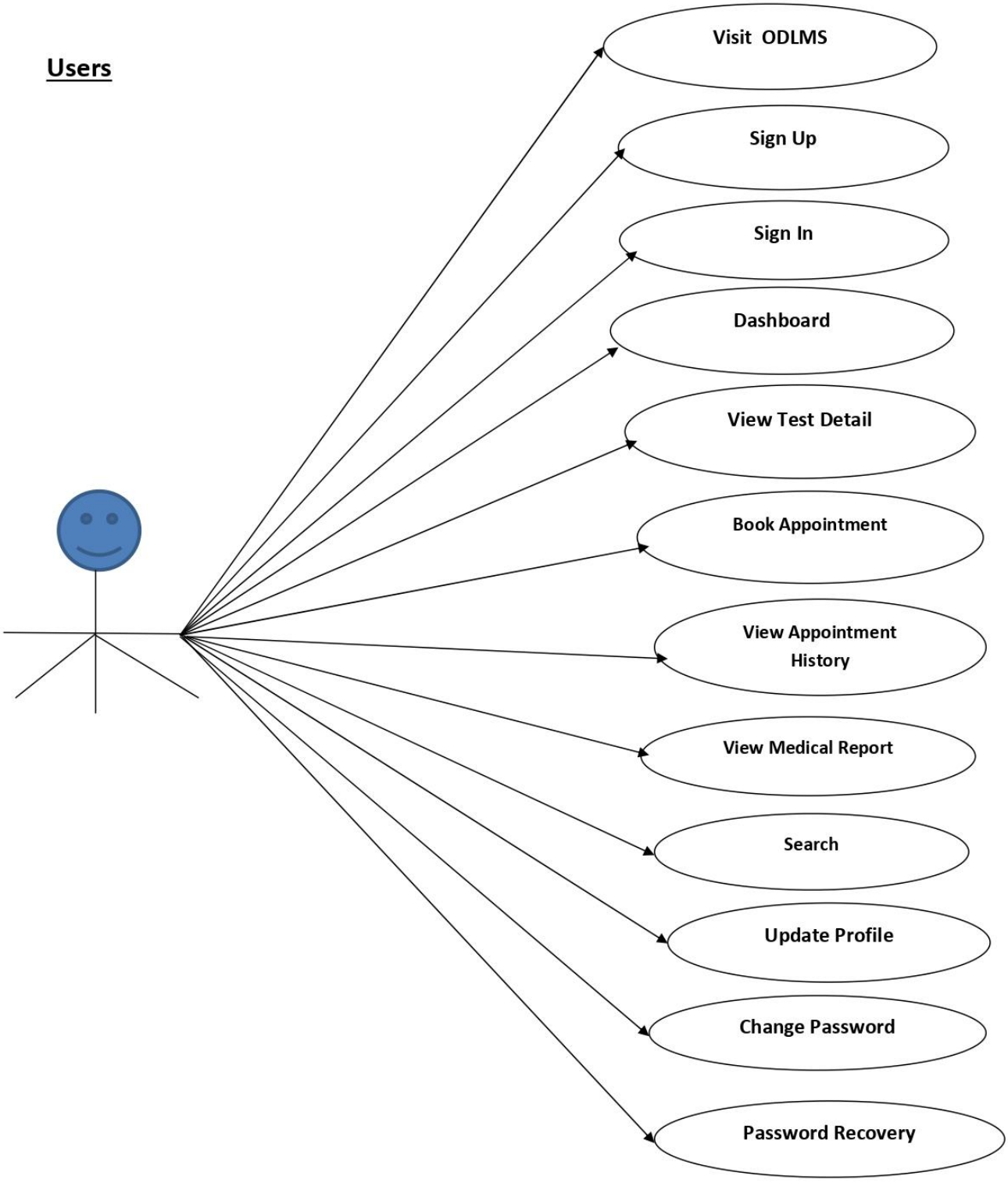
4.3 Use Case Diagrams:

Admin



Employee


Login
Dashboard
View Test Detail
Assign Appointment
Search
Generate Reports
Update Profile
Change Password
Password Recovery

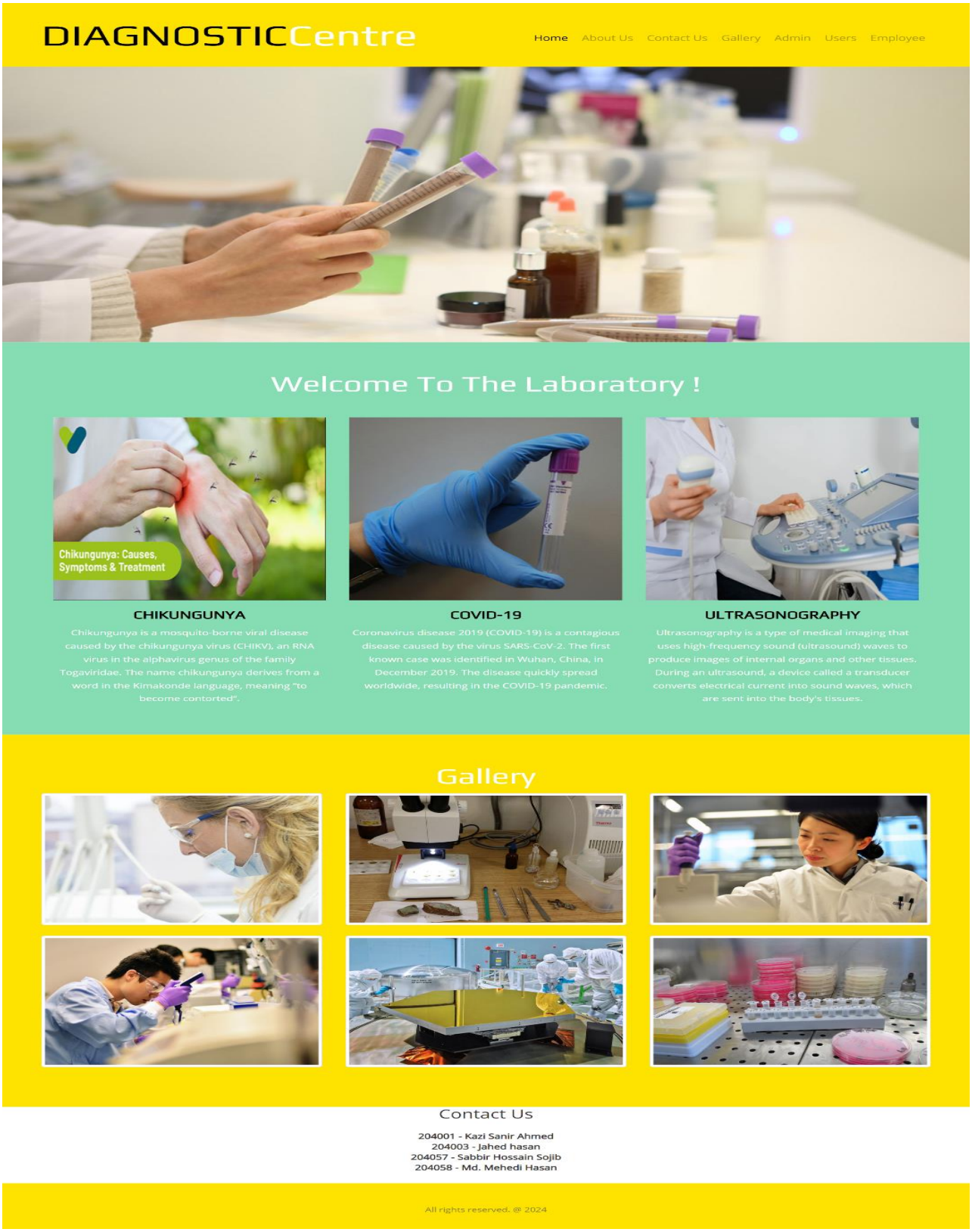

Users
Visit ODLMS
Sign Up
Sign In
Dashboard
View Test Detail
Book Appointment
View Appointment History
View Medical Report
Search
Update Profile
Change Password
Password Recovery

CHAPTER 5

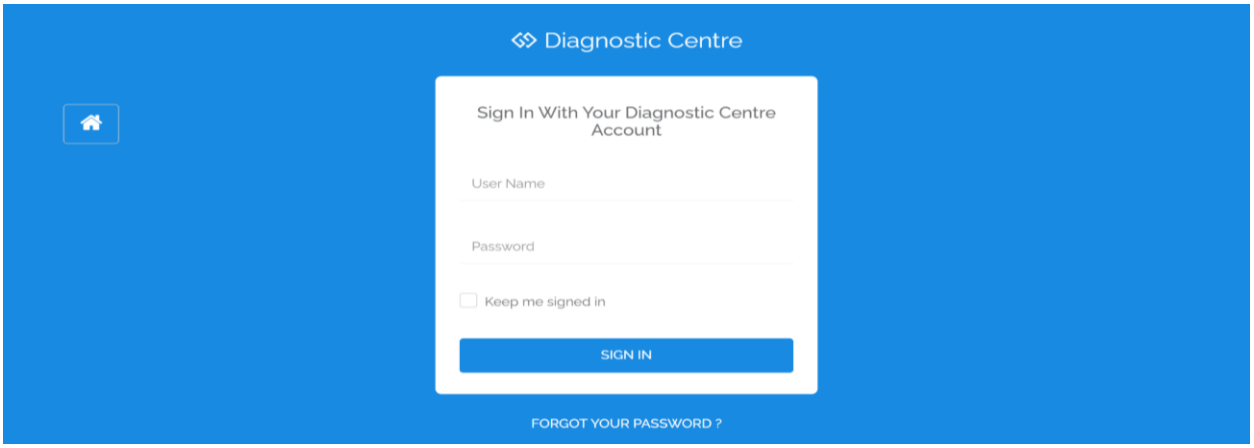
GRAPHICAL USER INTERFACE

Project URL: [diagnosticCentre]

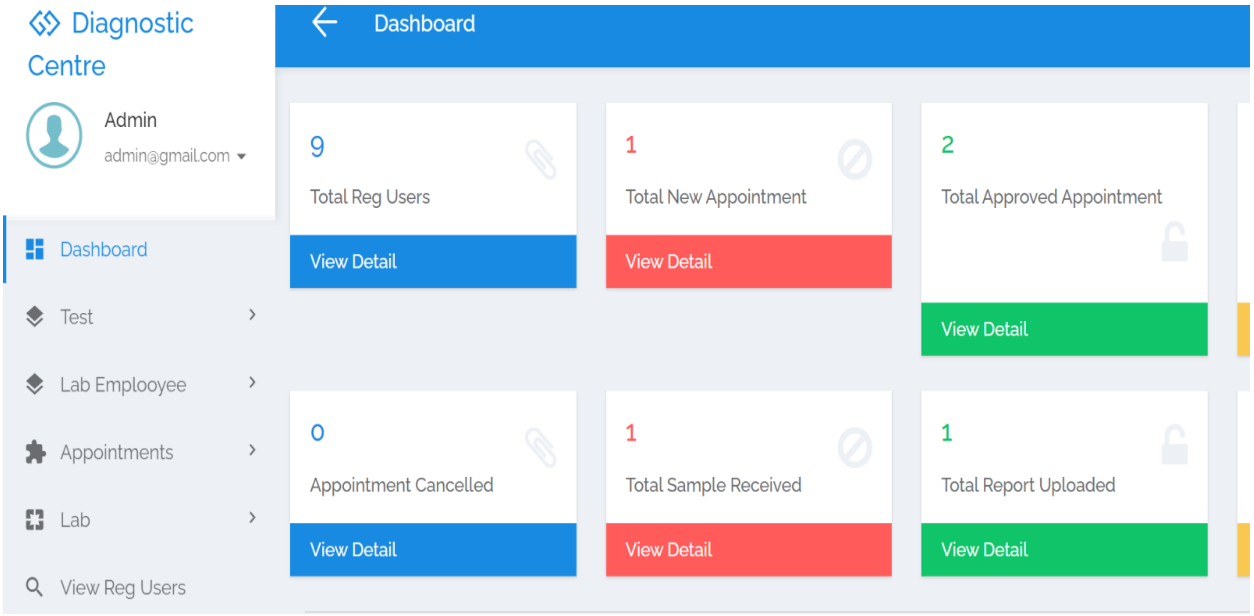
Home Page



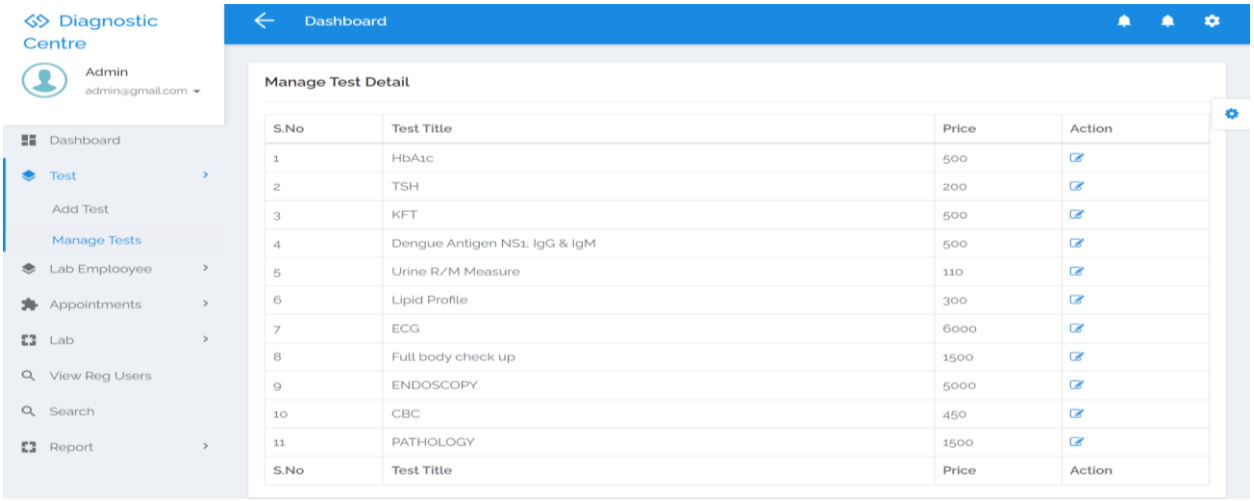
Admin Login



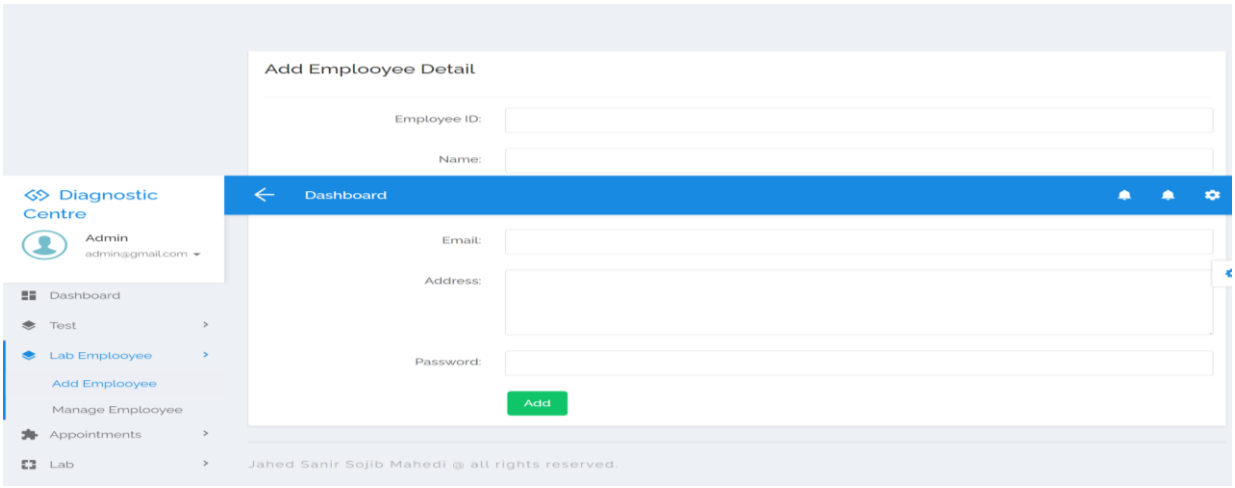
Dashboard



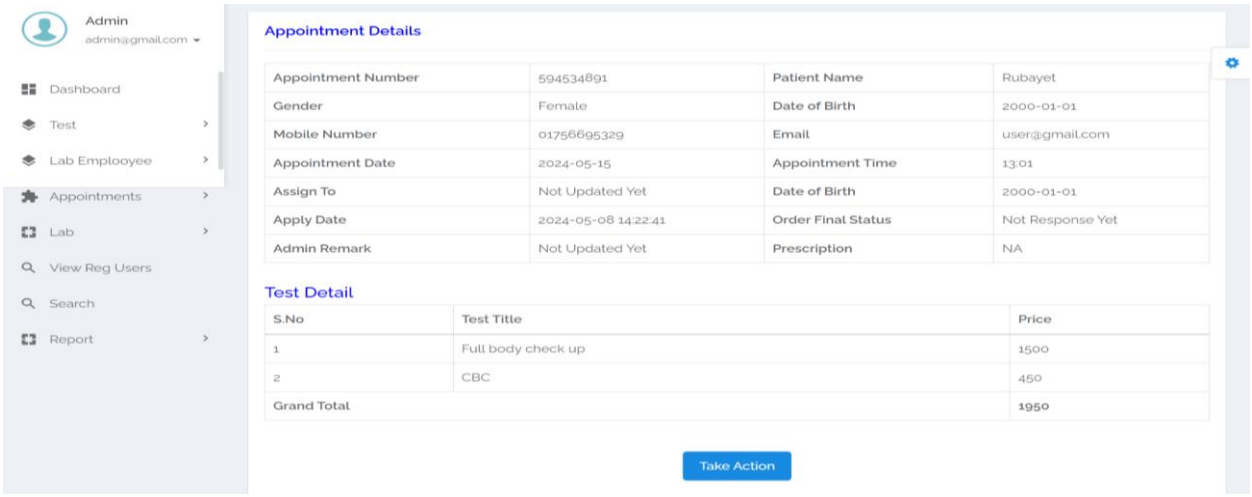
Manage Test



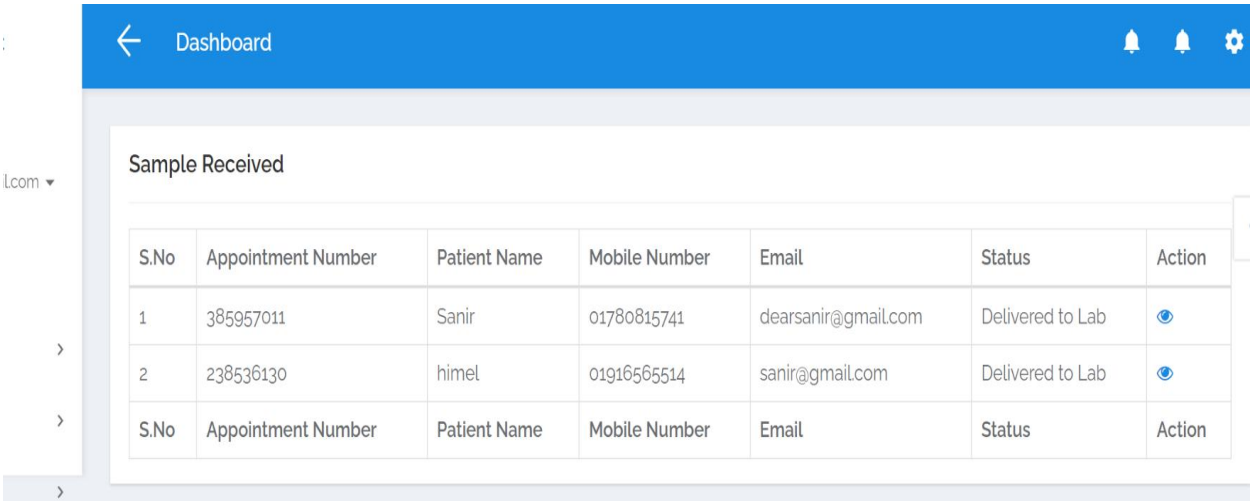
Add Lab Employee



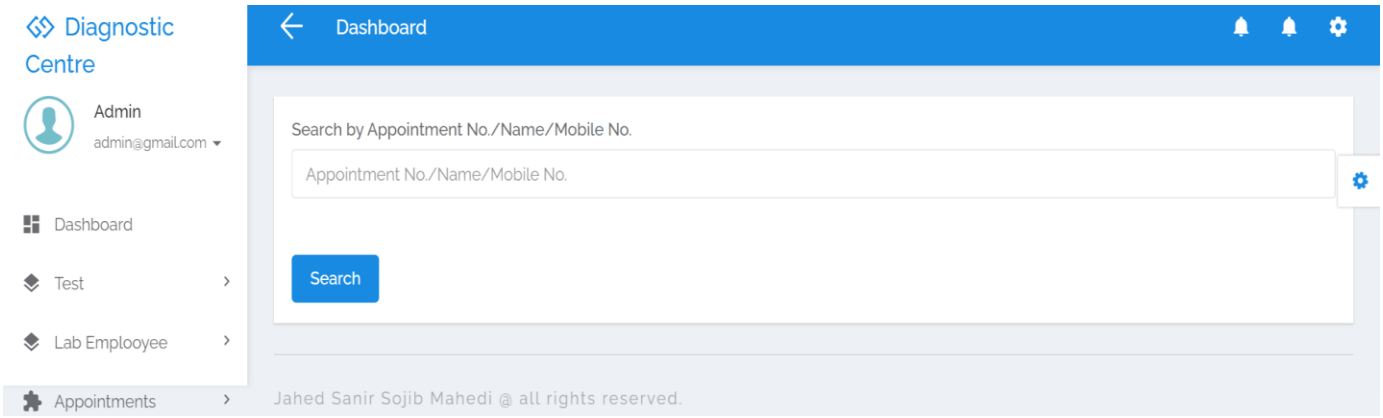
Appointment Details



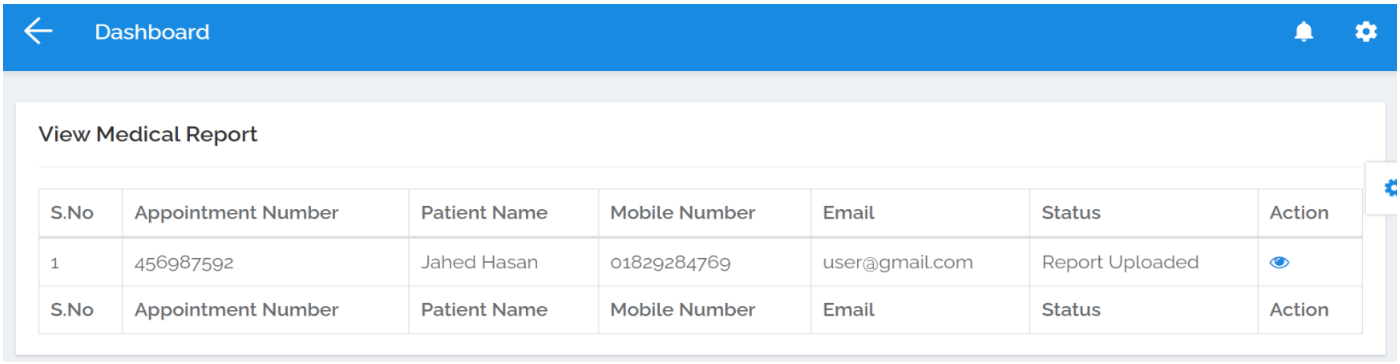
Sample Received



Search



View Medical Report



CHAPTER 5

CONCLUSION AND FUTURE SCOPE

5.1 Conclusion

Online Diagnostic Lab system is very much graceful and lively. Patients have to register to the portal by giving their details and then they can take appointment through online with minimal effort. Once appointment is confirm,diagnostic center send the technician to patient address to collect the blood sample. Once test is done and test report is generated patient can downlaod the report by logged in to the portal. This system can be implemented in diagnostic labs and clinics.

- Automation of the entire system improves the productivity.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The System has adequate scope for modification in future if it is necessary.

5.2 Scope for Further Developments

1. **Multivendor system :** A multi-vendor diagnostic center system integrates multiple centers into one platform, offering users diverse medical services conveniently. Users can choose centers based on factors like location and specialty. Each center operates independently but benefits from centralized tools for management tasks. This fosters competition and innovation, improving service quality. The system ensures prompt access to healthcare services while empowering centers to operate efficiently.
2. **Integration of Additional Data Sources:** Expanding the scope of data sources beyond diagnostics centres to include electronic health records (EHRs), patient preferences, and outcomes data could provide richer insights for personalized recommendations. Integration with wearable devices and health tracking apps could also enable real-time updates and further customization.
3. **Enhanced Personalization:** Implementing advanced machine learning techniques such as deep learning and natural language processing can improve the system's ability to understand and adapt to individual preferences and medical histories, leading to more accurate and relevant recommendations.

4. **Dynamic Recommendation Updates:** Developing algorithms that continuously learn and adapt based on user feedback and changing healthcare trends can ensure that recommendations remain up-to-date and reflective of evolving user needs and preferences.

5.3 Limitation

The Diagnostics Centre Recommendation System (DCRS) project also has several limitations that need to be acknowledged. Firstly, the accuracy and reliability of recommendations heavily rely on the quality of the data available. Incomplete or inaccurate data about diagnostics centres can lead to suboptimal recommendations or biased results. Moreover, the system may face challenges in accommodating diverse user preferences and medical needs, particularly in cases where certain diagnostics services are niche or specialized. Additionally, the recommendation system may not account for individual medical histories or conditions, which can significantly influence the choice of diagnostics centre. Furthermore, there may be limitations in the scalability of the system, particularly as the number of users and diagnostics centres increases, which could impact response times and computational resources. Lastly, the system may not fully address issues of equity and access in healthcare, as it relies on existing infrastructure and may inadvertently reinforce disparities in healthcare access based on factors such as geographic location or socioeconomic status. Despite these limitations, the DCRS project aims to mitigate these challenges through ongoing refinement and improvement, guided by user feedback and iterative development processes.

REFERENCES

[1]ONLINE DIAGNOSTIC LAB MANAGEMENT SYSTEM. by P Deshmukh. Available at: https://www.irjmets.com/uploadedfiles/paper/issue_6_june_2022/26623/final/fin_irjmets1655965452.pdf

Hypertext Mark-up Language

[2] W3schools.com. 2021. Introduction to HTML. [online] Available at: http://www.w3schools.com/html/html_intro.asp

Introduction with PHP.

[3] W3schools.com. 2021. PHP Introduction. [online] Available at: https://www.w3schools.com/php/php_intro.asp

Introduction with CSS

[4] W3schools.com. 2021. CSS Introduction. [online] Available at: https://www.w3schools.com/css/css_intro.asp

MySQL, Opensource database.

[5] Dev.mysql.com. 2021. MySQL :: MySQL 5.7 Reference Manual :: 1.2.1 What is MySQL?. [online] Available at: https://dev.mysql.com/doc/refman/5.7/en/what-is-mysql.html

Youtube Video Tutorial.

[6] Youtube.com . [online] Available at: https://www.youtube.com/watch?v=q_16ASAk03U