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A Minor Project Report on

"ONLINE DIAGNOSTIC LAB MANAGEMENT"

Submitted in partial fulfillment of Bachelor of Engineering in Computer Science & Engineering during the academic year 2022-23.

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CERTIFICATE

Certified that the minor project work entitled *"ONLINE DIAGNOSTIC LAB MANAGEMENT"* is a bonafide work carried out By **ANJALI K (4MN20CS004)** & **DRUPAD S(4MN20CS015)** for the course **DBMS Laboratory with Mini-Project** with course code **18CSL58** of Fifth Semester in Computer Science & Engineering under Visvesvaraya Technological University, Belagaviduring academic year **2022-23**.

It is certified that all corrections/suggestions indicated for Internal Assignment have been incorporated in the report.The report has been approved as it satisfies the course requirements.

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ABSTRACT

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 diagnosis 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.

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CHAPTER – 1

INTRODUCTION

1.1 Project Description

Online Diagnostic Lab Management System 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 appointment of other person who are not registered. The system allows admin to attach a copy of the report into the system and automatically shown on user side so user can downloads report.

1.2 Objective of the Project

The main purpose of online diagnostic lab management system to provide a platform where patients can take the appointment online and get their blood test done. With the help of this project we are bringing the use of technology in the field of medical diagnosis where patients can avail all the diagnosis facilities. Another purpose for developing this application is to generate the report automatically. This project makes the diagnosis process easy and reduce the burden of patients. At a same time its help the diagnostic center to track all their patients details with their test reports. This access friendly software provides quick and effective services which helps the diagnostic center to increase their sales and profit.

1.3 Existing System

Today also we have to go to the diagnostic center, wait in the queue to get our blood test done. Present system is manual. The system is not user friendly because data is not stored in structured and proper format. The system is manual control, all report calculation is done manually so there is chance of error. Its require lots of paper work. This system is time consuming.

1.4 Proposed System

After understanding the existing system and understanding the need for developing the required system for the effective operation of diagnostic labs this system is developed. In this system we are automating all the manual work for faster access of data. we are utilizing the latest technology by making access simpler. Another purpose for developing this application is to generate the report automatically

CHAPTER – 2

REQUIREMENTS AND ANALYSIS

2.1 Hardware Requirement

    *RAM:1GB

    *Hard disk:20GB

    *Processor:i3/dual core

2.4 Software Requirement

*Operting system:Linux/Windows

*Connectivity:PHP

*Database:MYSQL

*Other tools:browser,apache server

PHP:PHP is a general-scripting language geared toward web development.PHP was originally an abbreviation of Personal Home Page,but it now stands for the recursive initialism PHP:Hypertext Preprocessor.PHP is the most widely used open source and general purpose server side scripting language used mainly in web development to create website and appplicatins.

MYSQL:MYSQL is an open-source relational database management system(RDBMS).MYSQL is a tool used to manage database and servers,so while its not a database,its widely used in relation to managing and organizing data in databases.SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database

Apache server: Apache HTTP server is a free and open-source web server that delivers web content through the internet.It is commonly referredvto as Apache and after development,it quickly became the most popular HTTP client on the web

2.3 Analysis

2.3.1 Use Case Diagram
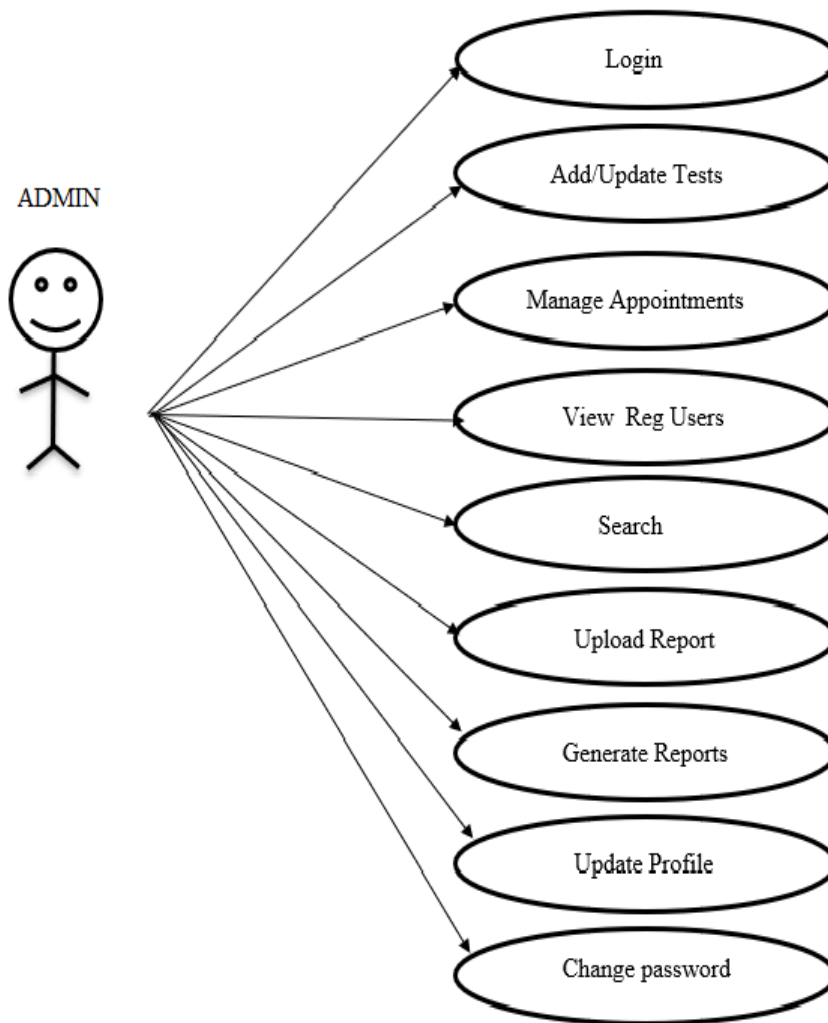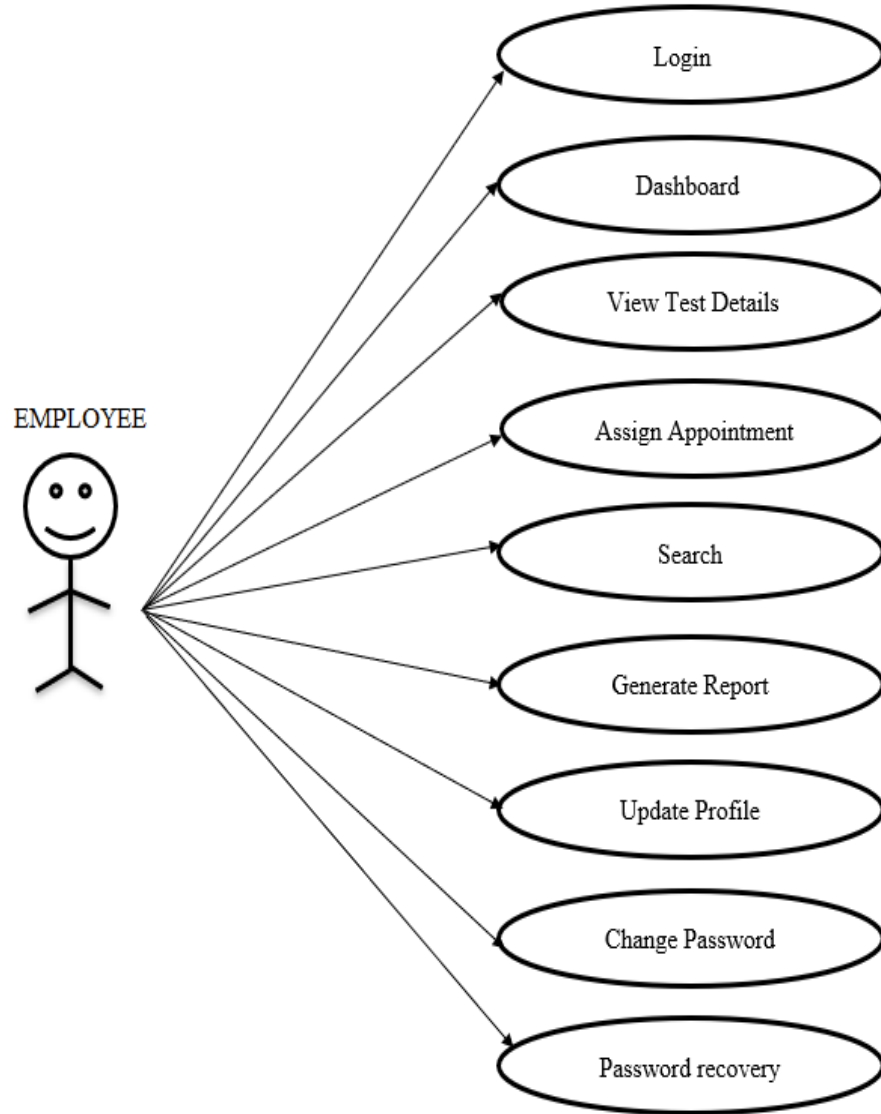

Fig:2.1 Use case diagram for Admin
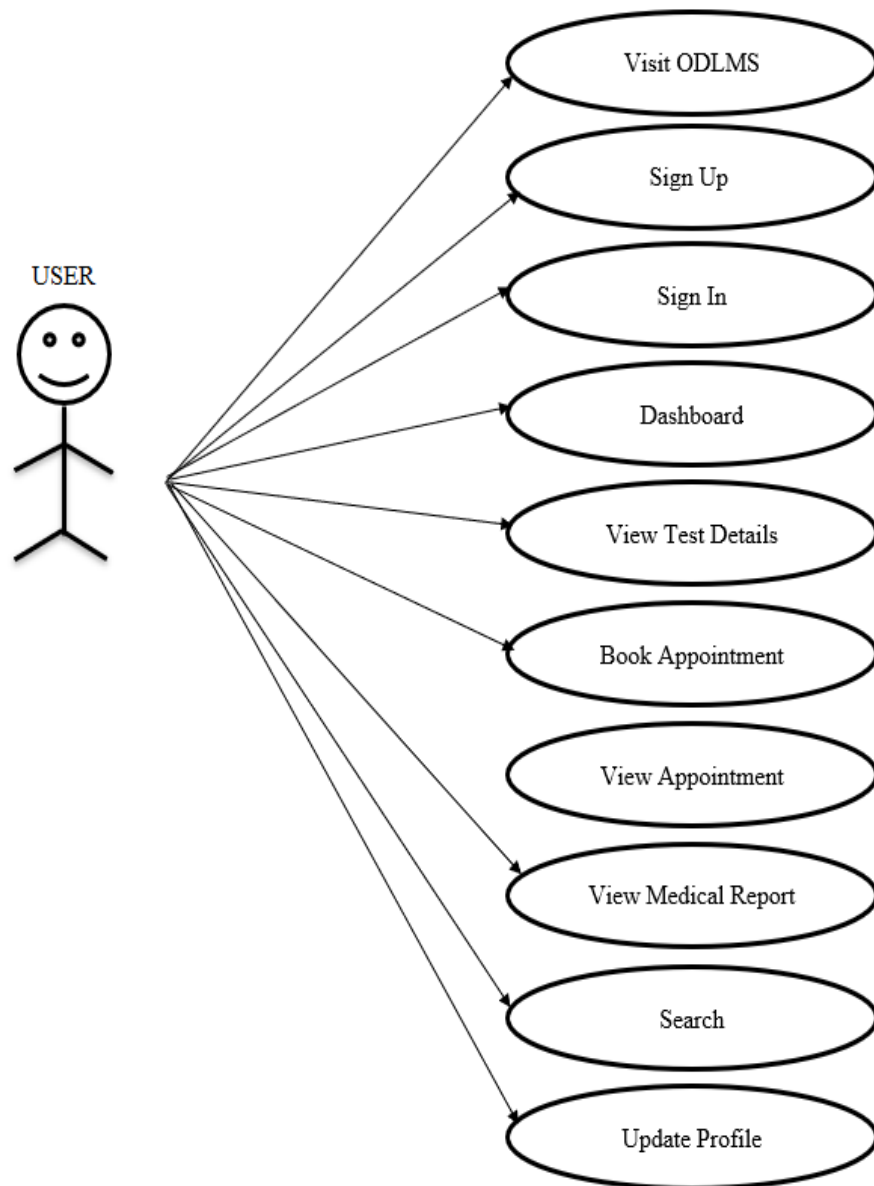
Fig:2.2 Use case diagram for Employee

Fig:2.3 Use case diagram for User

An use case diagram is the simplest way of representing the user interaction with the system that shows the relationship between the user,admin and employee and different use cases in which the user ,admin and employee is involved.In the above use case diagrams we have shown the interactions of user,admin and employee with online diagnostic lab management and we have represented the different cases for admin,user and employee

2.3.2 Data Flow Diagram
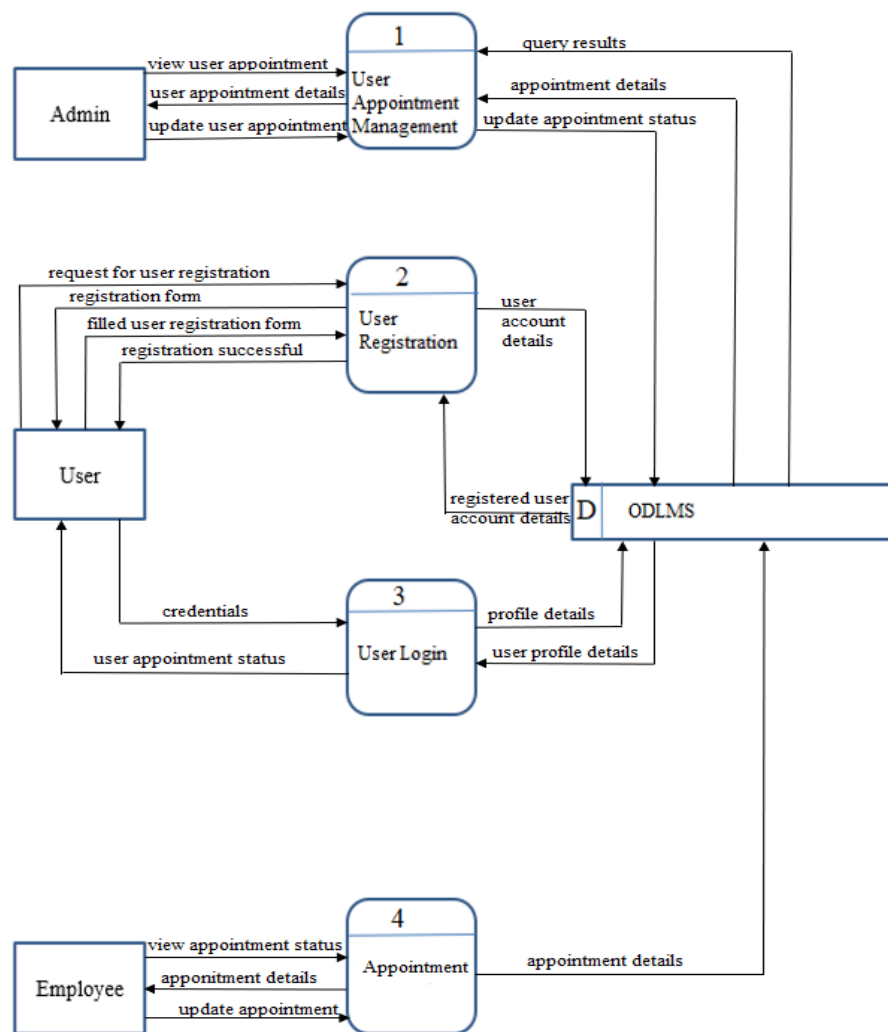
Fig:2.4 Data Flow Diagram

A data flow diagram (DFD) is a graphical or visual representation using a standardized set of symbols and notations to describe a business's operations through data movement. They are often elements of a formal methodology such as Structured Systems Analysis and Design Method (SSADM).

In Online diagnostic lab management the user after registering can view tests ,test price,test description.And then book appointment for particular test.And then check the appointment status.Admin can manage the tests and employees,by adding or removing.employee can change the status of the appointment and can upload report.

CHAPTER – 3

SYSTEM DESIGN

3.1 E-R Diagram
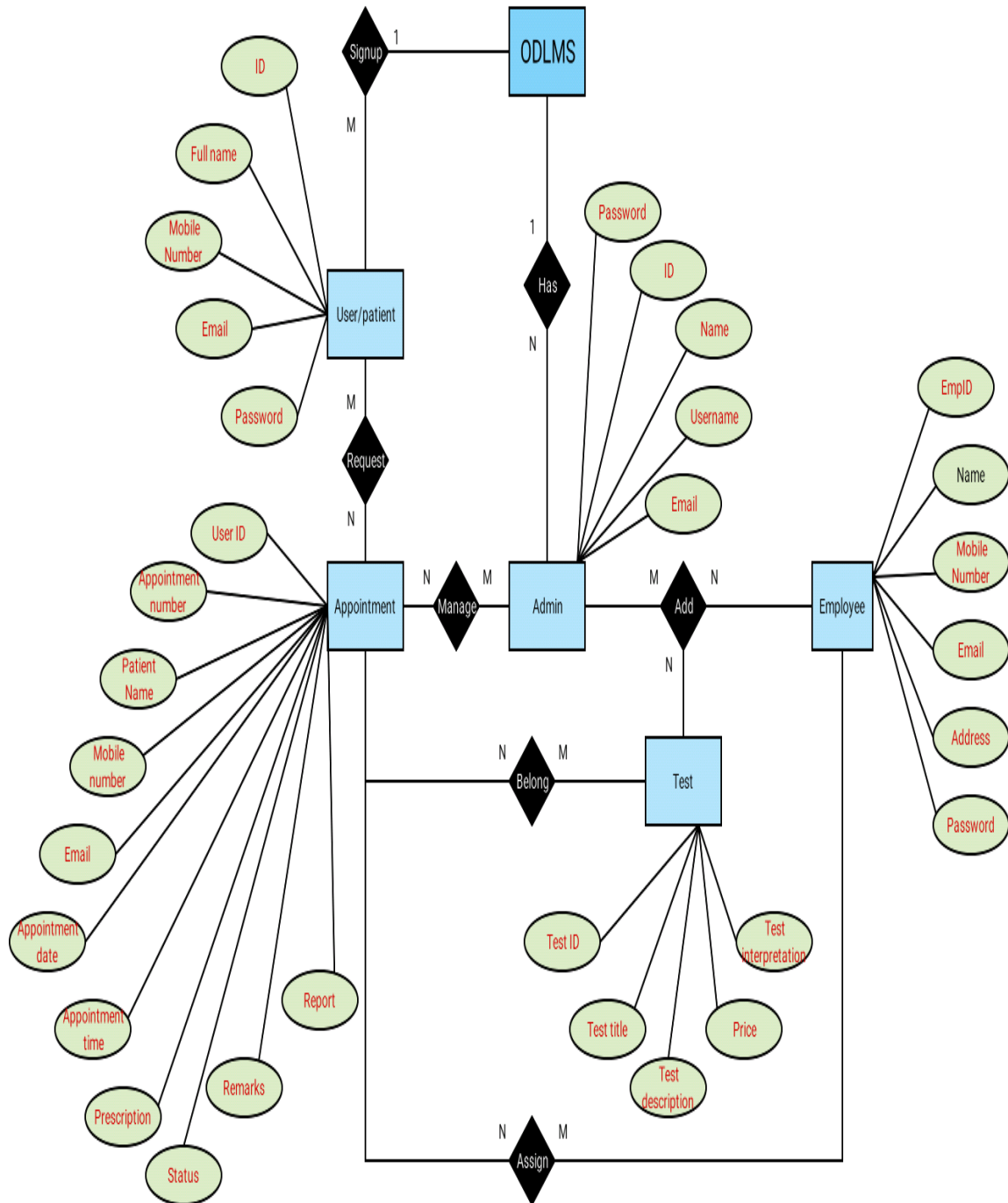
Fig:3.1 Database Entity Relation Diagram

ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. It is simple and easy to understand with a minimum of trainin. **Entities** are represented by labeled rectangles. The label is the name of the entity. Entity names should be singular nouns. **Relationships** are represented by a solid line connecting two entities. The name of the relationship is written above the line. Relationship names should be verbs Attributes, when included, are listed inside the entity rectangle. **Attributes** which are identifiers are underlined. Attribute names should be singular nouns. Cardinality or cardinality ratio means to denote the number of entities to which another entity can be linked through a certain relation set.

For Online Diagnostic Lab Management System, the entities are Admin, User, ,Employee,Test,Appointment,For Admin,Employee and User– login id, password ,name and mobile number are the attributes.For Appointment User id ,Appointment number,patient number,mobile number,appointment date,appointment time,status,report are the attributes.For the Test entity test id,test name ,test description,test price are the attributes.

tbladmin

Id	AdminName	UserName	MobileNumber	Email	Password	AdminRegdate

tbluser

Id	FullName	MobileNumber	Email	Password	RegDate

tblappointment

UserId	AptNumber	PatientName	MobileNumber	Email	AptDate	AptTime	Status	Report

tblemployee

Id	EmpID	Name	Mobilenumber	Email	Address	Password	JoiningDate

tbltest

Id	testTitle	Testdescription	TestInterpretation	Price	UpdateDate

tbltestrequest

Id	AppointmentNumber	TestId	MobileNumber	PostingDate

tbltracking

Id	AppointmentNumber	Remark	Status	Ordercancelledbyuser	UpdationDate

Fig:3.2 Schema Diagram

A schema diagram is a diagram which contains entities and the attributes that will define that schema. A schema diagram only shows us the database design. It does not show the actual data of the database. Schema can be a single table or it can have more than one table which is related. In Online diagnostic lab management –admin, user, employee, appointment, test, testrequest, tracking are the tables. Admin_login_id is the primary key for the admin table,id is the primary key for the user table,empid for the employee id,id and testtitle for the test table.

3.2 MySql Server

SQL (Structured Query Language) is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). In comparison to older read/write APIs like ISAM or VSAM, SQL offers two main advantages: first, it introduced the concept of accessing many records with one single command; and second, it eliminates the need to specify how to reach a record, e.g. with or without an index. Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language, data manipulation language, and data control language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative language (4GL), it also includes procedural elements. SQL was initially developed at IBM by Donald D. Chamberlin and Raymond F. Boyce in the early 1970s. This version, initially called SEQUEL (Structured English Query Language), was designed to manipulate and retrieve data stored in IBM's original quasirelational database management system, System R, which a group at IBM San Jose Research Laboratory had developed during the 1970s.

The SQL language is subdivided into several language elements, including:

- Clauses, which are constituent components of statements and queries. (In some cases, these are optional.)

- Expressions, which can produce either scalar values, or tables consisting of columns and rows of data

- Predicates, which specify conditions that can be evaluated to SQL three-valued logic (3VL-true/false/unknown) or Boolean truth values and are used to limit the effects of statements and queries, or to change program flow.

- Queries, which retrieve the data based on specific criteria. This is an important element of SQL.

3.3 Normalization

Normalization is the process of efficiently organizing data in a database. There are two goals of the normalization process: eliminating redundant data (for example, storing the same data in more than one table) and ensuring data dependencies make sense (only storing related data in a table). Both of these are worthy goals as they reduce the amount of space a database consumes and ensure that data is logically stored. There are several benefits for using Normalization in Database.

Benefits:

- Eliminate data redundancy

- Improve performance

- Query optimization

- Faster update due to less number of columns in one table Index improvement

Third Normal Form (3NF):

Third normal form (3NF) goes one large step further:

- Meet all the requirements of the second normal form.

- Remove columns that is not dependent upon the primary key

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CHAPTER – 4
IMPLEMENTATION AND RESULTS

4.1 Algorithm

Index:

   1. Display options of user, employee and admin login.

   2. Link corresponding pages to them.

User:

   1.Dispaly the option for login

   2.If user not register then user can register by the register option

Register:

   1. Connect to database.

   2. Read users' name, email, phone number, password, address.

   3. Check if any of the field is null.

   4. If any of the field is null then,

   5. Display warning message.

   6. Else insert the values into the corresponding table and show successfully registered

Employee login:

   1. Connect to database.

   2. Read admin name and password using post method.

   3. If the entered values are correct then,

   4. Redirect to admin operation.

   5. Else show error message.

Admin login:

   1. Connect to database.

   2. Read admin name and password using post method.

   3. If the entered values are correct then,

   4. Redirect to admin operation.

   5. Else show error message.

User operation:

   1. Sign up, sign in, view test details, book appointment, view appointment history, view medical report.

   2. View profile, update profile

Employee operation:

   1. Sign up, sign in, view test details, assign appointment, generate report, search

   2. View profile, update profile

Admin operation:

1. Login, add/update test, add/update employee, manage appointment, upload report

2. View registered users, search, generate report

3. View profile, update profile

4.2.1 Snapshots
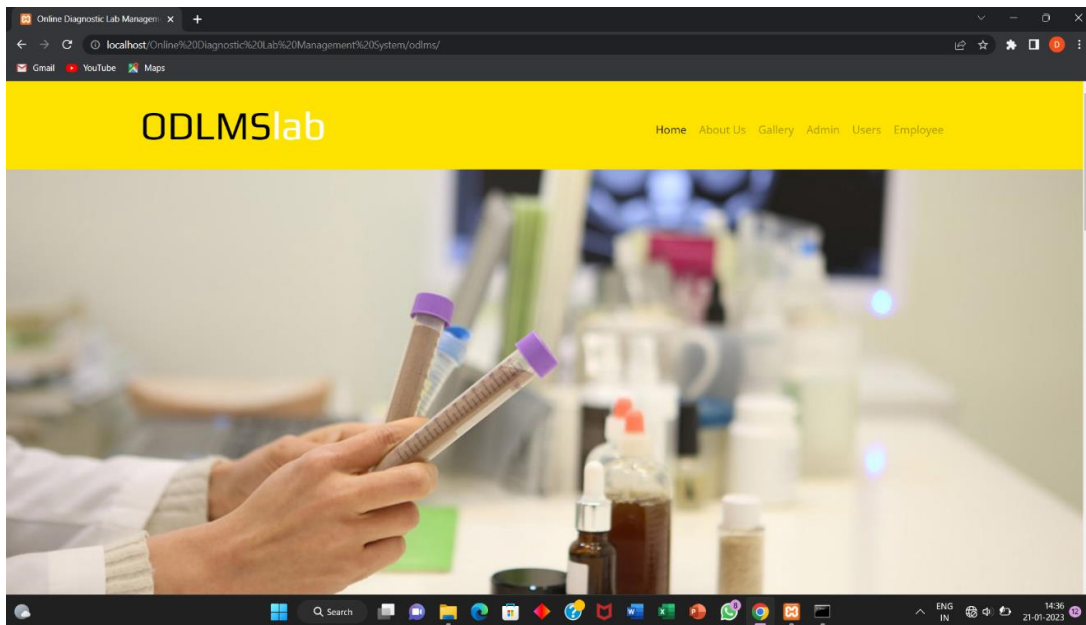
Fig:4.1 Home page
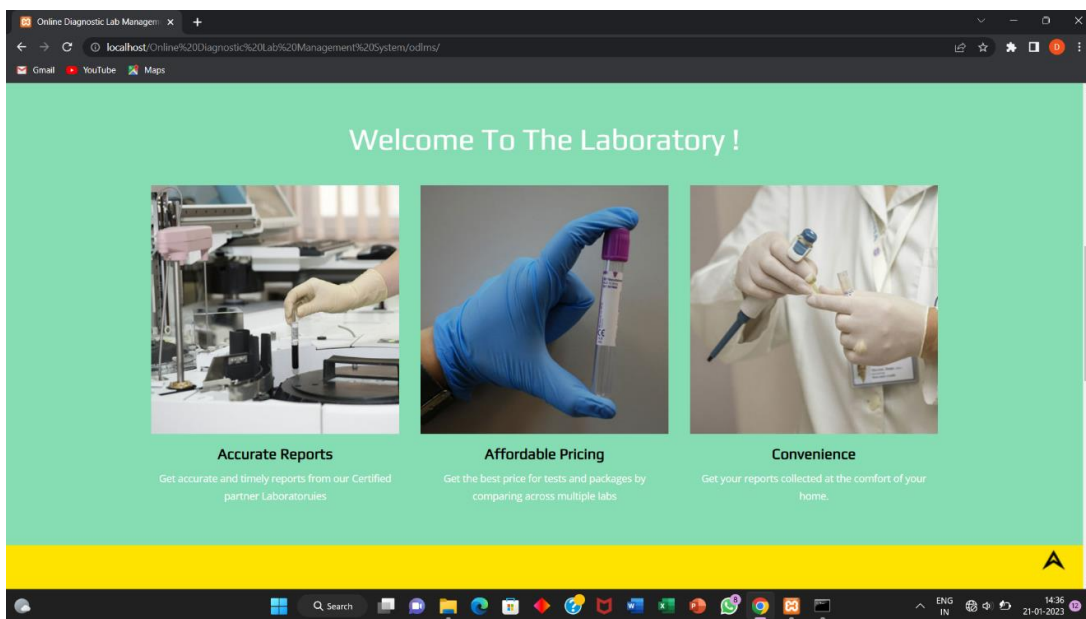
Fig 4.2 About us
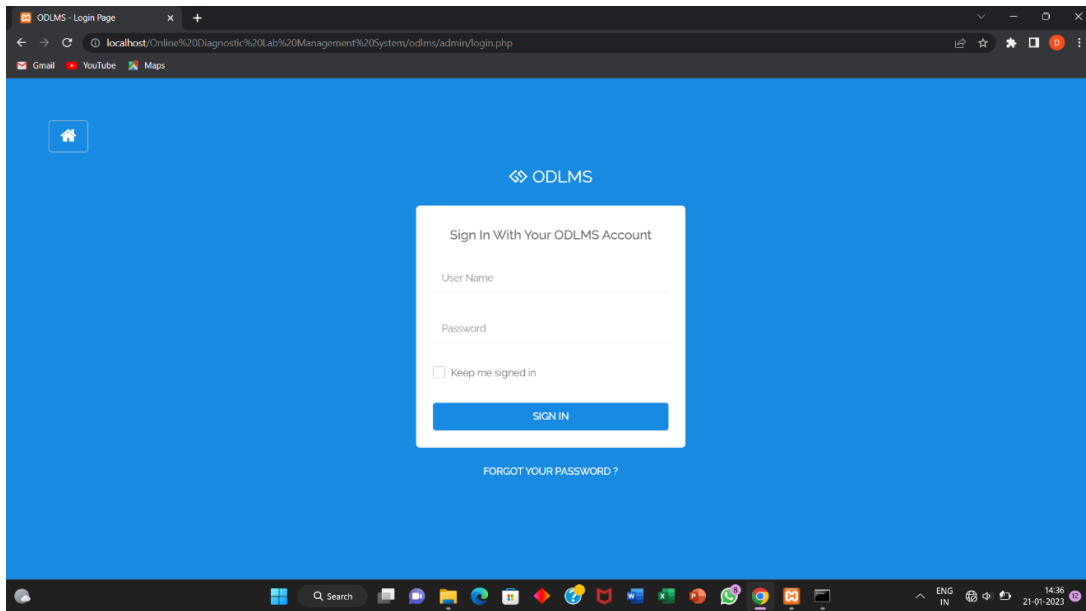
Fig:4.3 Admin Login Page

Fig:4.4 Admin Dashboard

Fig:4.5 Employee Registration Page

Fig:4.5 Test Add Page

Fig:4.7 Employee Login Page
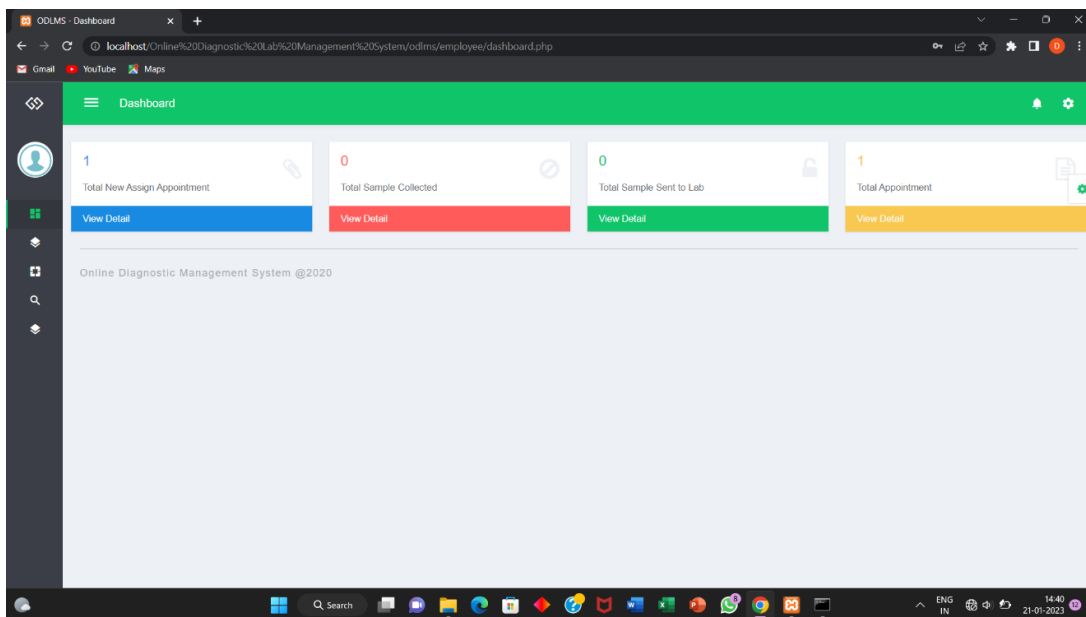
Fig:4.8 Employee Dashboard
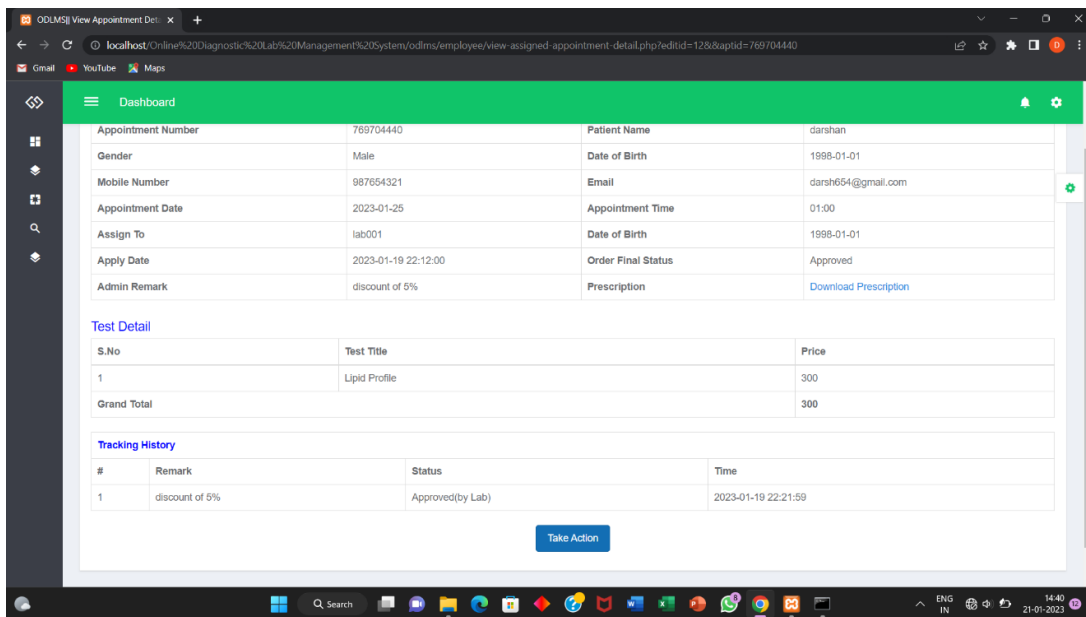
Fig:4.9 Employee View User's Appointment
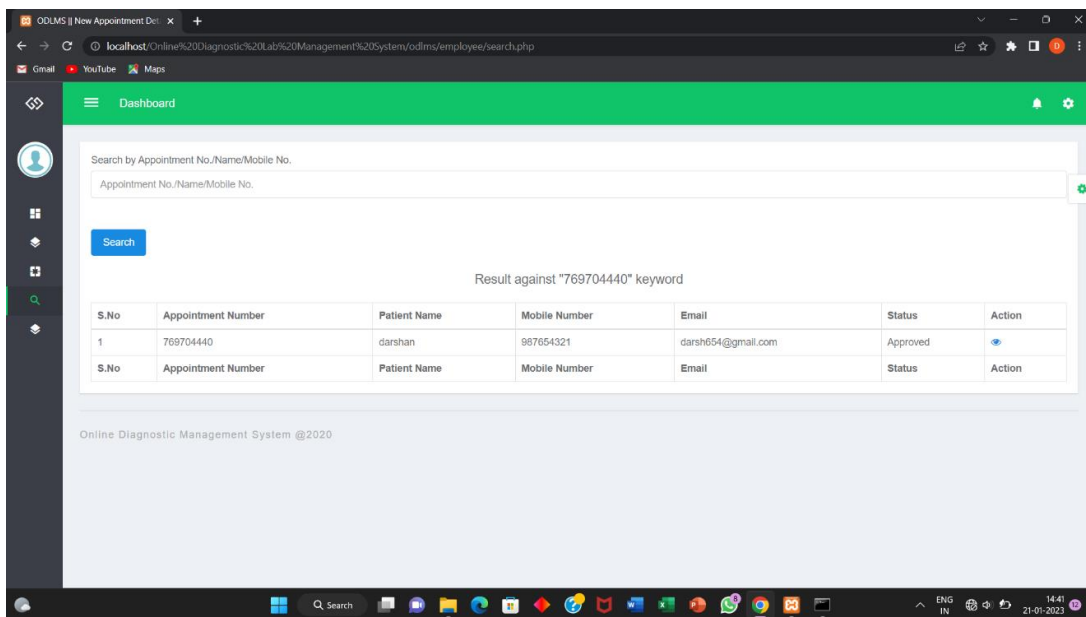
Fig:4.10 Search for the particular Appointment
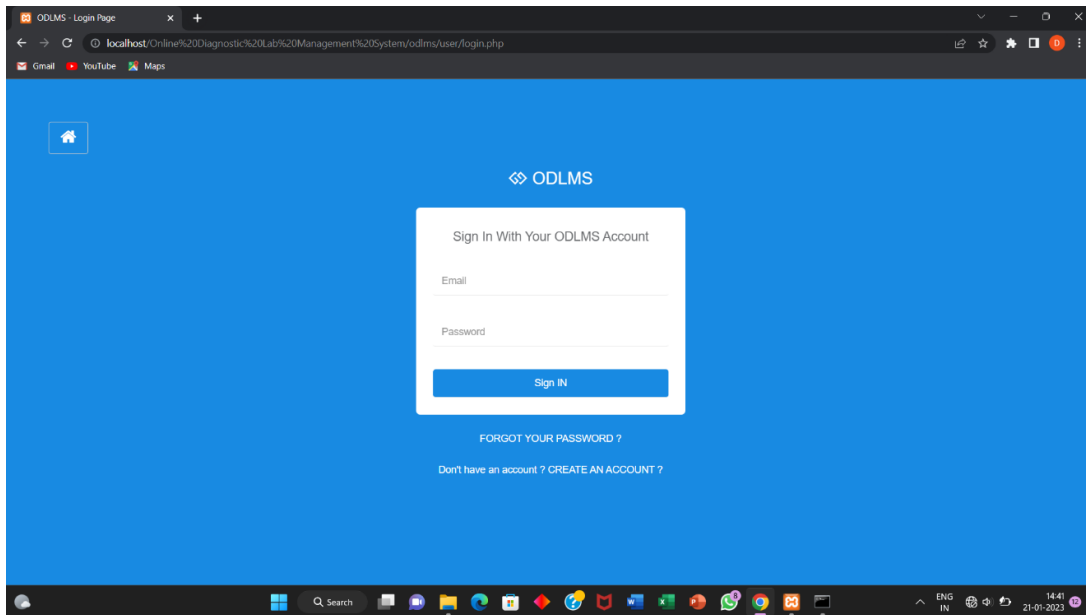
Fig:4.11 User Login Page
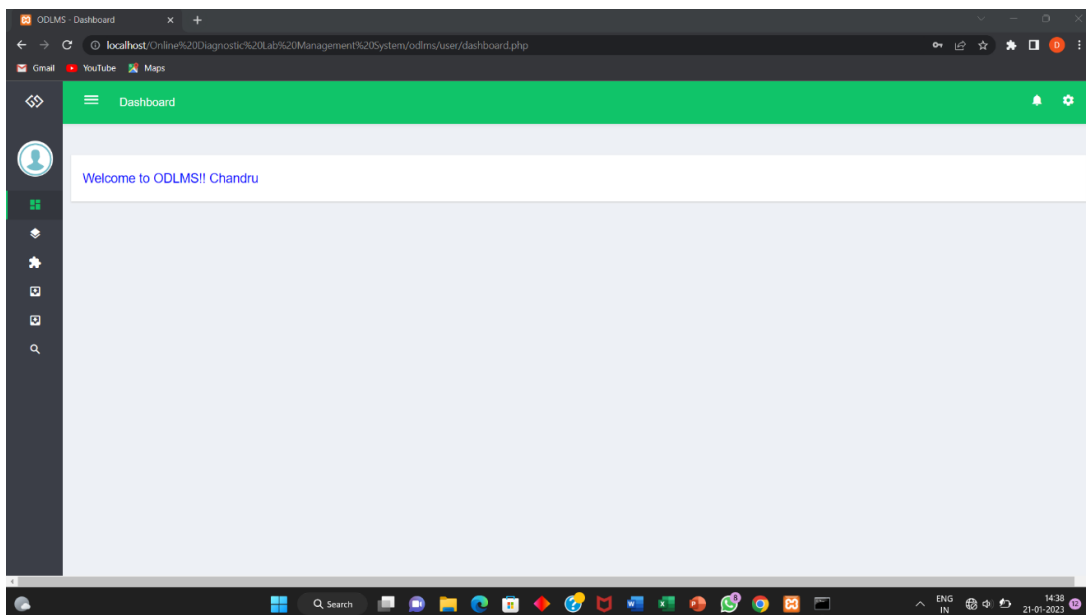
Fig:4.12 User Dashboard
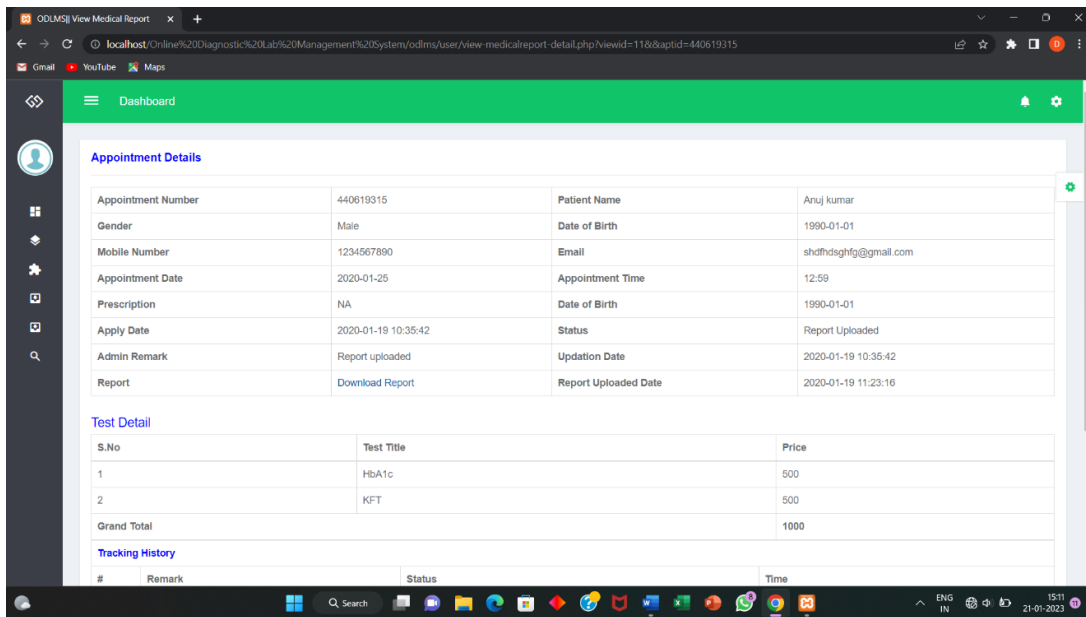
Fig:4.13 User Appointment Register Page

Fig:4.14 Appointment History
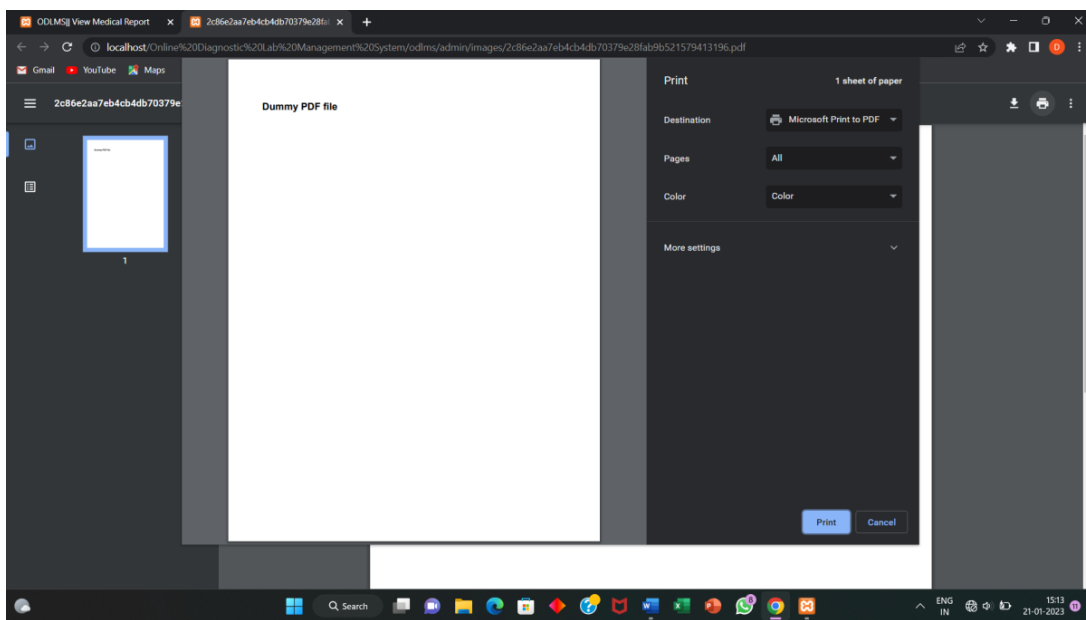
Fig:4.15 Appointment Status

Fig:4.16 Download Report

CONCLUSION AND FUTURE ENHANCEMENT

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 test is done and test report is generated patient can download the report by logged in to the portal. This system can be implemented in diagnostic labs and clinics. System security, data security and reliability are the striking features. It gives appropriate access to the authorized users depending on their permissions

Future Enhacement

The System has adequate scope for modification in future if it is necessary.

1. In future we will add the features of online payment method
2. Once appointment is confirm ,diagnostic center send the technician to patient address to collect the blood sample.

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