A PROJECT REPORT

ON CLINICAL LABORATORY MANAGEMENT SYSTEM.

Submitted to

Dibrugarh University

In the partial fulfillment of the requirements for the
6st Semester BVOC IT

year: 2020-21

Under the Supervision of: Submitted by: Bishal Gosai

                                                          Tanuj Robidas

Mr. Panchanan Saikia

Assistant Professor,

Department of Information Technology

Nazira College,

Nazira.

Contents of Report:

CERTIFICATE FROM THE EXAMINER

(TO WHOM IT MAY CONCERN)

This is to certify that the project report entitled *"Clinical Laboratory Management System"* submitted to Dibrugarh University for in partial fulfillment of the requirement for the B.VOC IT 6st semester is evaluated by me on _____

……………………………………

Signature of the Examiner

Name: ....

Date: ……………………….

NAZIRA COLLEGE

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SIVASAGAR

<u>ACKNOWLEDGEMENT</u>

First of all, we are very much grateful to **Dr Raju Phukan Principal,** for providing us with the necessary facilities and help to carry out the development of our project conveniently.

With great pleasure we express our deep sense of gratitude to my beloved guide **Mr Panchanan Saikia, Assistant Professor, Department of Information Technology, Nazira College** for the providing us facilities, valuable guidance and constant supervision for successful competition of the project work in on time.

Last but not least, we extend our sincere thanks to all other faculty members of our college for their support and encouragement

CERTIFICATE FROM THE GUIDE

This is to certify that the project entitled "*CLINICAL LABORATORY MANAGEMENT SYSTEM*" submitted to Nazira Collage B.Voc IT in partial fulfillment of the requirement for the 6th semester BACHELOR OF VOCATIONAL IN IT(INFORMATION TECHNOLOGY) is a work carried out by *Bishal Gosai,Tanuj Robidas*, under my guidance.

Project Guide:

(Signature of the guide)

Mr. Panchanan Saikia,

Assistant Professor, Department

of Information Technology,

Nazira College, Nazira

NAZIRA COLLEGE

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SIVASAGAR

DECLARATION

We hereby declare that the project work entitled "*CLINICAL LABORATORY MANAGEMENT SYSTEM*" submitted to

Nazira College B.Voc IT in partial fulfillment of the requirements for 6th   semester BACHELOR OF VOCATIONAL IN IT (INFORMATION TECHNOLOGY) is an authentic and original work carried out by us under the guidance of_____

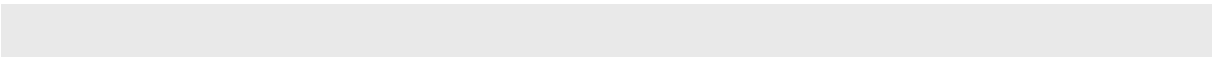Student name

Name: Bishal Gosai,

 Roll No: 55

 Name: Tanuj Robidas

Roll No: 53

B.Voc IT 6th Semester

ABSTRACT:

The purpose of Clinical Laboratory Management System is to automate the existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with. Clinical Laboratory Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information. The aim is to automate its existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically, the project describes how to manage for good performance and better services for the clients.

INTRODUCTION:

The "Clinical Laboratory Management System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Clinical Laboratory Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. Every organization, whether big or small, has challenges to overcome and managing the information of Clinic, Tests, Medical Bills, . Every Clinical Laboratory Management System has different Clinic needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executives who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

Objective of Project on Clinic Management System:

The main objective of the Project on Clinic Management System is to manage the details of Clinic, Patient, Tests, . It manages all the information about Clinic, Medical Bills, Clinic.

The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Clinic, Medical Bills, Patient. It tracks all the details about the Patient, Tests.

Functionalities provided by Clinic Management System are as follows:

- Provides the searching facilities based on various factors. Such as Clinic, Patient, Tests,

- Clinic Management System also manage the Medical Bills details online for Tests details, details, Clinic.

- It tracks all the information of Medical Bills, Tests etc.

- Shows the information and description of the Clinic, Patient.

- To increase efficiency of managing the Clinic.

- It deals with monitoring the information and transactions of Tests.

- Manage the information of Clinic.

- Editing, adding and updating of Records is improved which results in proper resource management of Clinic data.

Scope of the project Clinic:

Clinical Laboratory Management System It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works relative to Clinic Management System. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly.

• Our project aims at Business process automation, i.e. we have tried to computerize various processes of Clinic Management System.

• In computer system the person has to fill the various forms number of copies of the forms can be easily generated at a time.

• In computer system, it is not necessary to create the manifest but we can directly print it, which saves our time.

• To assist the staff in capturing the effort spent on their respective working areas.
• To utilize resources in an efficient manner by increasing their productivity through automation.

• The system generates types of information that can be used for various purposes.

• It satisfy the user requirement.

• Be easy to understand by the user and operator

• Be easy to operate.

• Have a good user interface

• Be expandable

• Delivered on schedule within the budget.

Modules of Clinic Management System:

Clinic Management Module: Used for managing the Clinic details.

Medicines Module : Used for managing the details.

Medical Bills Module : Used for managing the details of Medical Bills Medicines Doctor.

Patient Module : Used for managing the Patient details.

Tests Module : Used for managing the Tests information.

Login Module : Used for managing the login details.

Users Module : Used for managing the users of the system.

Software & Hardware Requirements

Software Specifications:-

Web Technology : PHP

Database: MySQL

Web Server: XAMPP

Web Browser: Chrome

Languages Used: HTML,

Materialize CSS, JAVASCRIPT, PHP

OS: Windows 10

Development Tools: Notepad++, Visual Studio Code

Hardware Specifications:-

Processor: Run on any CPU which clock speed minimum 2.5GHz.

RAM: 1GB or above

Hard-Disk: 250GB or above

What is an Entity Relationship Diagram (ERD)?

An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is an object, a component of data. An entity set is a collection of similar entities. These entities can have attributes that define its properties.

Component of ER Diagram
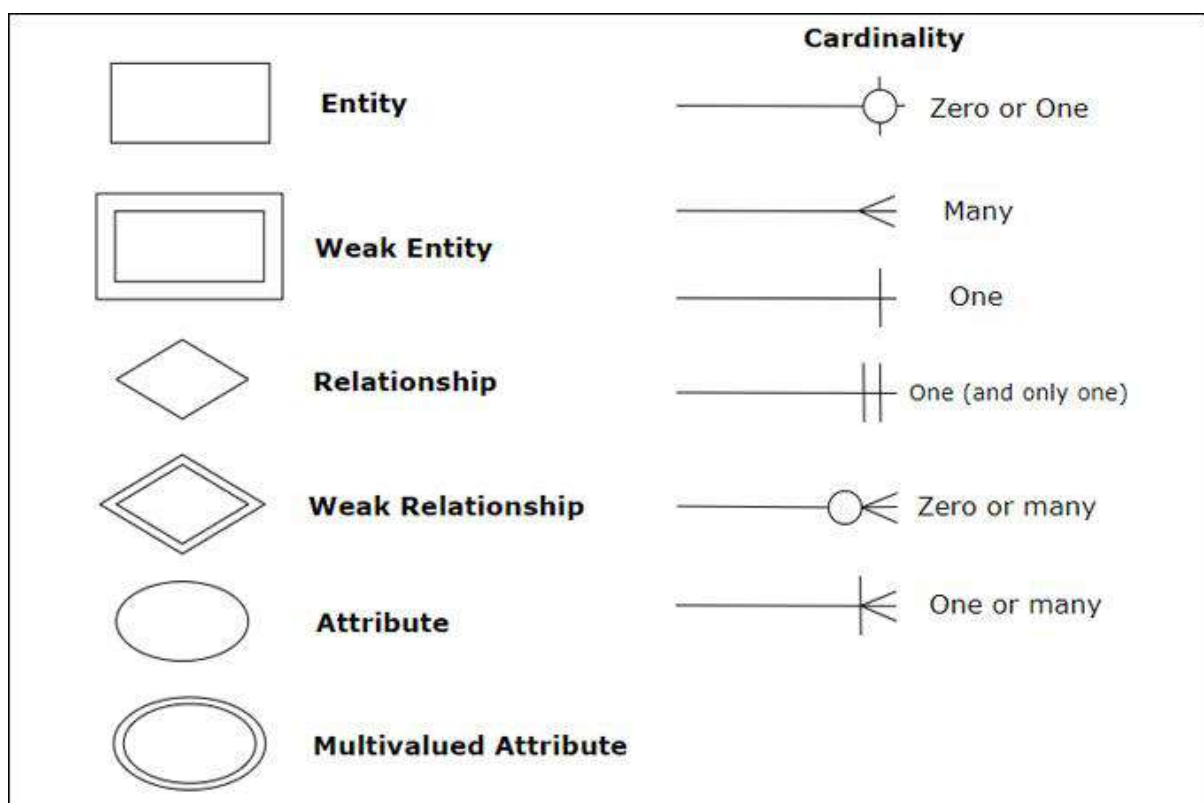
What is DFD?

A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. Data flowcharts can range from simple, even hand-drawn process overviews, to in-depth, multi-level DFDs that dig progressively deeper into how the data is handled. They can be used to analyze an existing system or model a new one. Like all the best diagrams and charts, a DFD can often visually "say" things that would be hard to explain in words, and they work for both technical and nontechnical audiences, from developer to CEO. That's why DFDs remain so popular after all these years. While they work well for data flow software and systems, they are less applicable nowadays to visualizing interactive, real-time or database-oriented software or systems.

Components of DFD

DFDs are constructed using four major components

1. external entries
2. data stores
3. processes and
4. data flows

External entities represent the source of data as input to the system. They are also the destinationof system data. External entities can be called data stores outsidethe system. These are represented by squares.

Data stores represent stores ofdata within the system, for example, computer files or databases. Anopen-ended box represents a data, which implies store data at rest ora temporary repository of data.

Processes represent activities inwhich data is manipulated by being stored or retrieved or transferredin some way. In other words, we can say that process transforms theinput data into output data. Circles stand for a process thatconverts data into information.

Data flow represents the movementof data from one component to the other. An arrow ($\rightarrow$) identifiesdata flow, i.e. data in motion. It is a pipeline through whichinformation flows. Data flows are generally shown as one-way only.Data flows between external entities are shown as dotted lines(------›).

What is Software Requirement Specification (SRS)?

A System Requirements Specification (SRS) (also known as a Software Requirements Specification) is a document or set of documentation that describes the features and behavior of a system or software application. It includes a variety of elements that attempts to define the intended functionality required by the customer to satisfy their different users. Completeness of specifications is difficult to achieve and even more difficult to verify. Having guidelines about what different things an SRS should specify will help in completely specifying the requirements. The basic issues an SRS must address are:

Components of an ER diagram-

* Functionality
* Performance
* Design constraints imposed on an implementation
* External interfaces

Functional requirements specify the expected behavior of the system—which outputs should be produced from the given inputs. They describe the relationship between the input and output of the system. For each functional requirement, a detailed description of all the data inputs and their source, the units of measure, and the range of valid inputs must be specified.

All the operations to be performed on the input data to obtain the output should be specified. This includes specifying the validity checks on the input and output data, parameters affected by the operation, and equations or other logical operations that must be used to transform the inputs into corresponding outputs. For example, if there is a formula for computing the output, it shouldbe specified.

An important part of the specification is the system behavior in abnormal situations, like invalid input (which can occur in many ways) or error during computation. The functional requirement must clearly state what the system should do if such situations occur. Specifically, it should specify the behavior of the system for invalid inputs and invalid outputs. Furthermore, behavior for situations where the input is valid but the normal operation cannot be performed should also be specified. An example of this situation is a reservation system, where a reservation cannot be made even for a valid request if there is no availability. In short, the system behavior for all foreseen inputs and all foreseen system states should be specified.

The performance requirements part of an SRS specifies the performance constraints on the software system. All the requirements relating to the performance characteristics of the system must be clearly specified. There are two types of performance requirements: static and dynamic. Static requirements are those that do not impose constraint on the execution characteristics of the system. These include requirements like the number of terminals to be supported, the number of simultaneous users to be supported, and the number of files that the system has to process and their sizes. These are also called capacity requirements of the system.

Dynamic requirements specify constraints on the execution behavior of the system. These typically include response time and throughput constraints on the system. Response time is the

expected time for the completion of an operation under specified circumstances. Throughput is the expected number of operations that can be performed in a unit time. For example, the SRS may specify the number of transactions that must be processed per unit time, or what the response time for a particular command should be. Acceptable ranges of the different performance parameters should be specified, as well as acceptable performance for both normal and peak workload conditions.
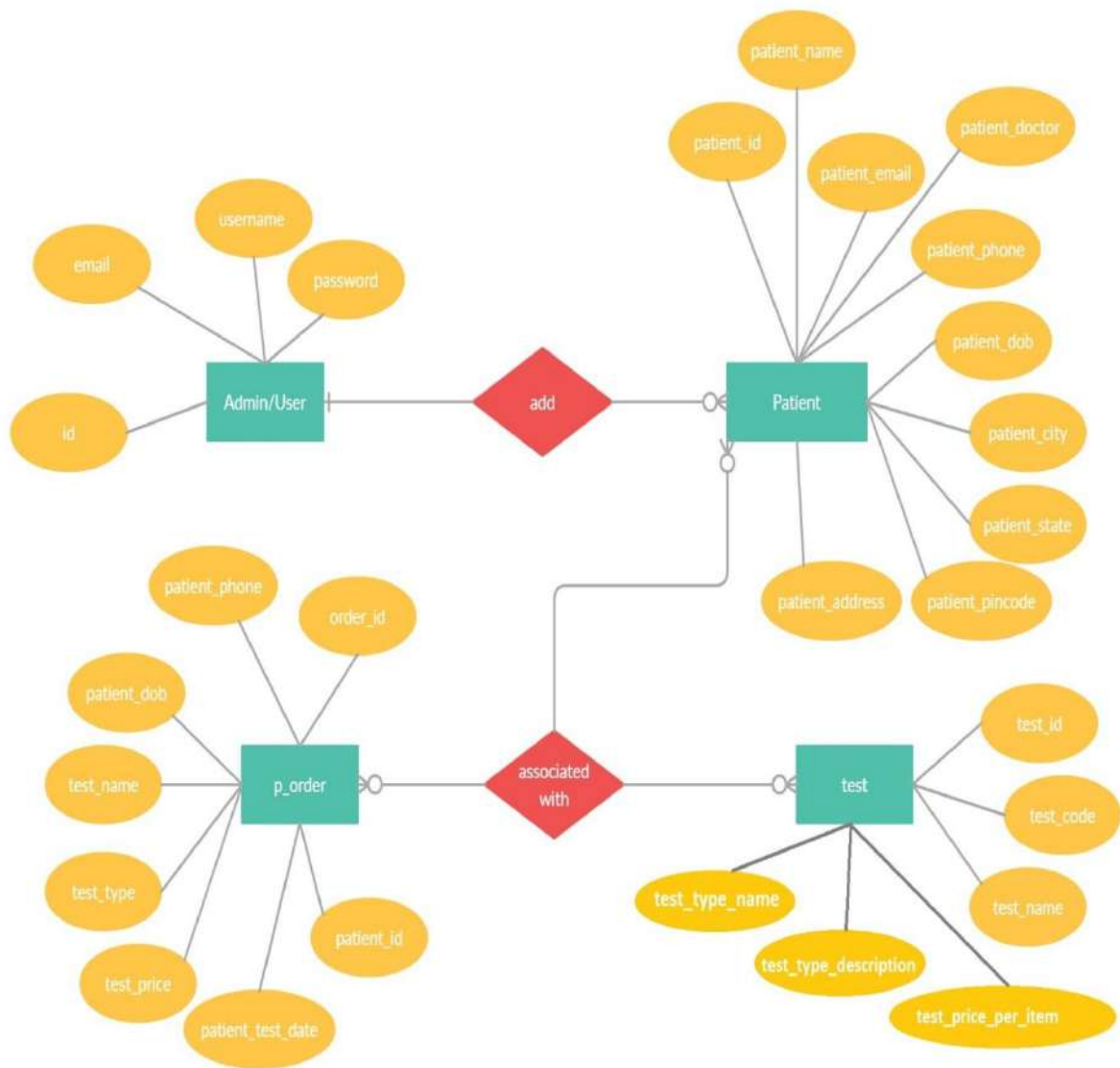
There are a number of factors in the client's environment that may restrict the choices of a designer leading to design constraints. Such factors include standards that must be followed, resource limits, operating environment, reliability and security requirements, and policies that may have an impact on the design of the system. An SRS should identify and specify all such constraints. Some examples of these are:

Standards Compliance**:** This specifies the requirements for the standards the system must follow. The standards may include the report format and accounting procedures. There may be audit requirements which may require logging of operations.

Hardware Limitations**:** The software may have to operate on some existing or predetermined hardware, thus imposing restrictions on the design. Hardware limitations can include the type of machines to be used, operating system available on the system, languages supported, and limits on primary and secondary storage. Reliability and Fault Tolerance: Fault tolerance requirements can place a major constraint on how the system is to be designed, as they make the system more complex and expensive. Recovery requirements are often an integral part here, detailing what the system should do if some failure occurs to ensure certain properties.

Security: Security requirements are becoming increasingly important. These requirements place restrictions on the use of certain commands, control access to data, provide different kinds of access requirements for different people, require the use of passwords and cryptography techniques, and maintain a log of activities in the system. They may also require proper assessment of security threats, proper programming techniques, and use of tools to detect flaws like buffer overflow.
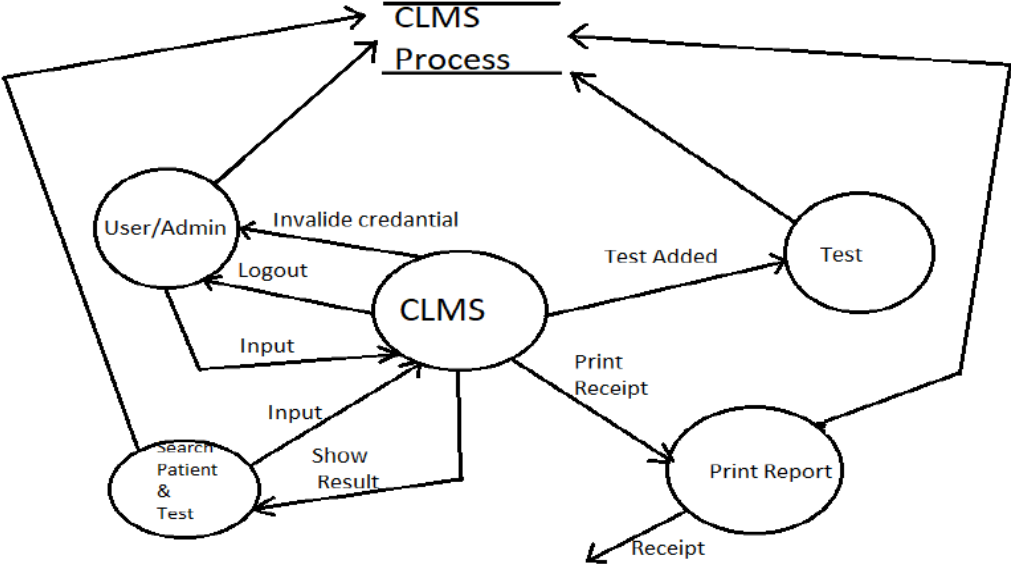
ER Diagram

Data Flow Diagram (0 Level)
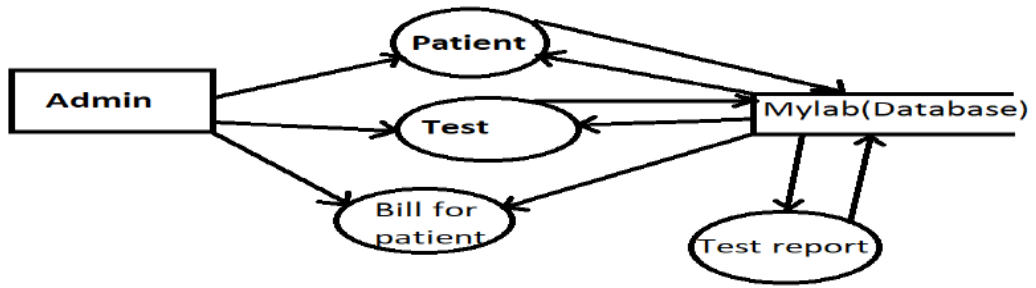
Data Flow diagram(1 Level)

List of Data Table

Coding of the project

Index.php Coding

```php
<?php
include "includes/header.php";
?>
   <body style="background-image:url('../img/blood test.jpg'); background-size:cover ">
   <div class="row" style="margin-top: 100px">
     <div class="col l6 offset-l3 m8 offset-m2 s12">
        <div class="card-panel center grey lighten-2" style="margin-bottom: 0px">
        <ul class="tabs grey lighten-2">
          <li class="tab">
            <a href="#login" class="black-text">Login</a>
            </li>
            <li class="tab">
              <a href="#signup" class="black-text">Sign Up</a>
            </li>
        </ul>
        </div>

     </div>

     <div class="col l6 offset-l3 m8 offset-m2 s12" id="login">
         <div class="card-panel center" style="margin-top: 1px">
         <h5>Login to continue</h5>
         <?php
           if(isset($_SESSION['message']))
           {
             echo $_SESSION['message'];
             unset($_SESSION['message']);
           }
           ?>
           <?php
                include "includes/db.php";
   if(isset($_POST['login'])){

     $username = mysqli_real_escape_string($conn, $_POST['username']);
     $password =  mysqli_real_escape_string($conn, $_POST['password']);
     $_SESSION["username"]=$username;
     $query1 = "SELECT * FROM user WHERE username = '$username'";
     $result1 = mysqli_query($conn, $query1);


   while($row1 = mysqli_fetch_assoc($result1)){
      $a_username = $row1['username'];
      $a_password = $row1['password'];

   }
   $num1 = mysqli_num_rows($result1);
   if($num1)
   {
     if(password_verify($password,$a_password)){
            header("Location: dashboard.php");
   }
   else
   {

     header("Location: login.php");
      $_SESSION['message']="Sorry,Credentials don't match.";
      }
   }
    else
    {
   header("Location: login.php");
    $_SESSION['message']="Sorry,Credentials don't match.";
    }
  }
?>
```
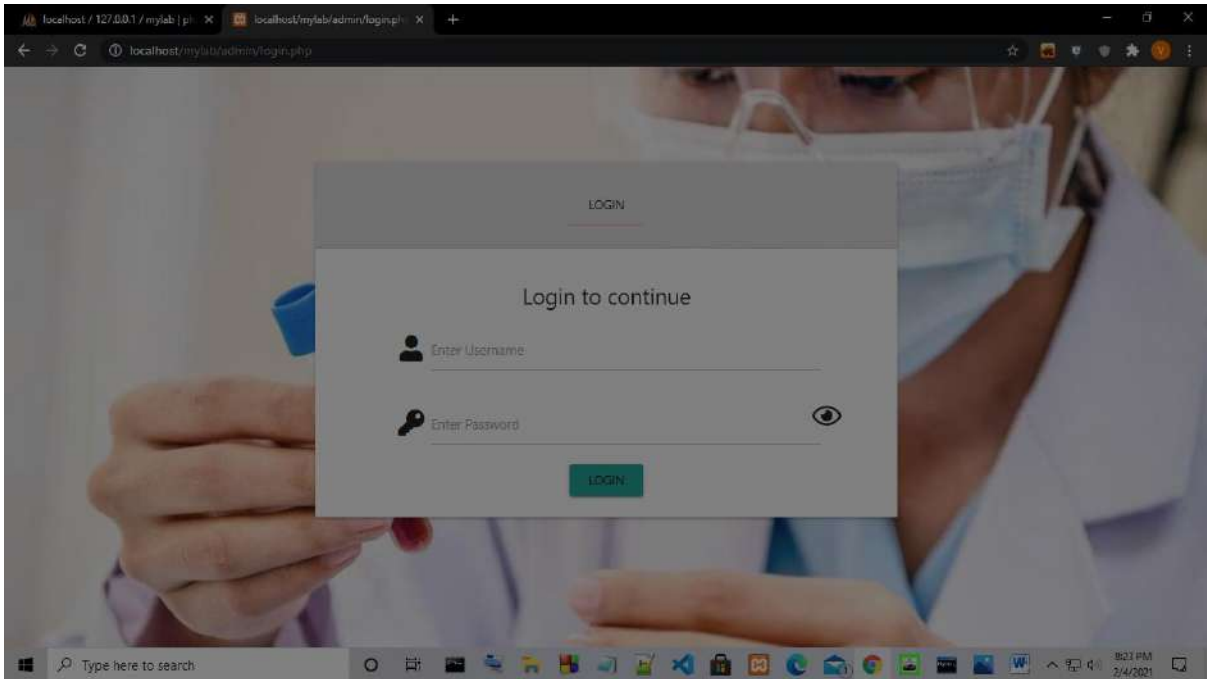
Database connection coding

```php
<?php
$dbservername="localhost";
$dbuser="root";
$dbpass="";
$dbname="mylab";
$conn=mysqli_connect($dbservername,$dbuser,$dbpass,$dbname);
?>
```
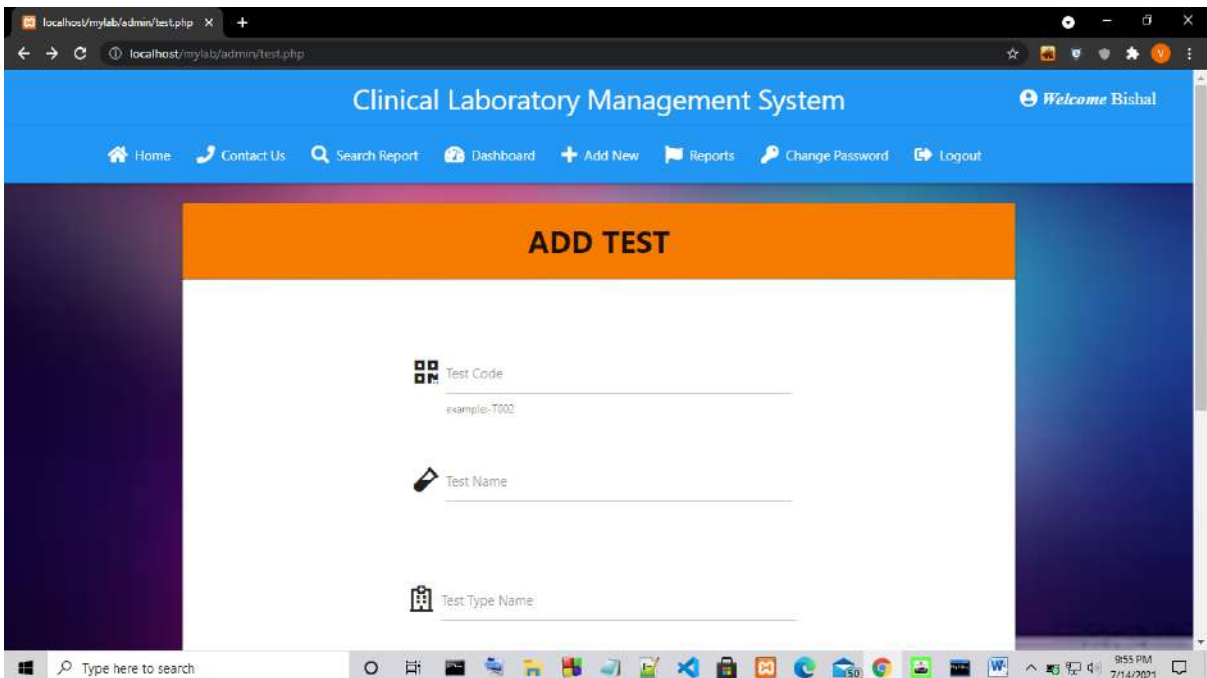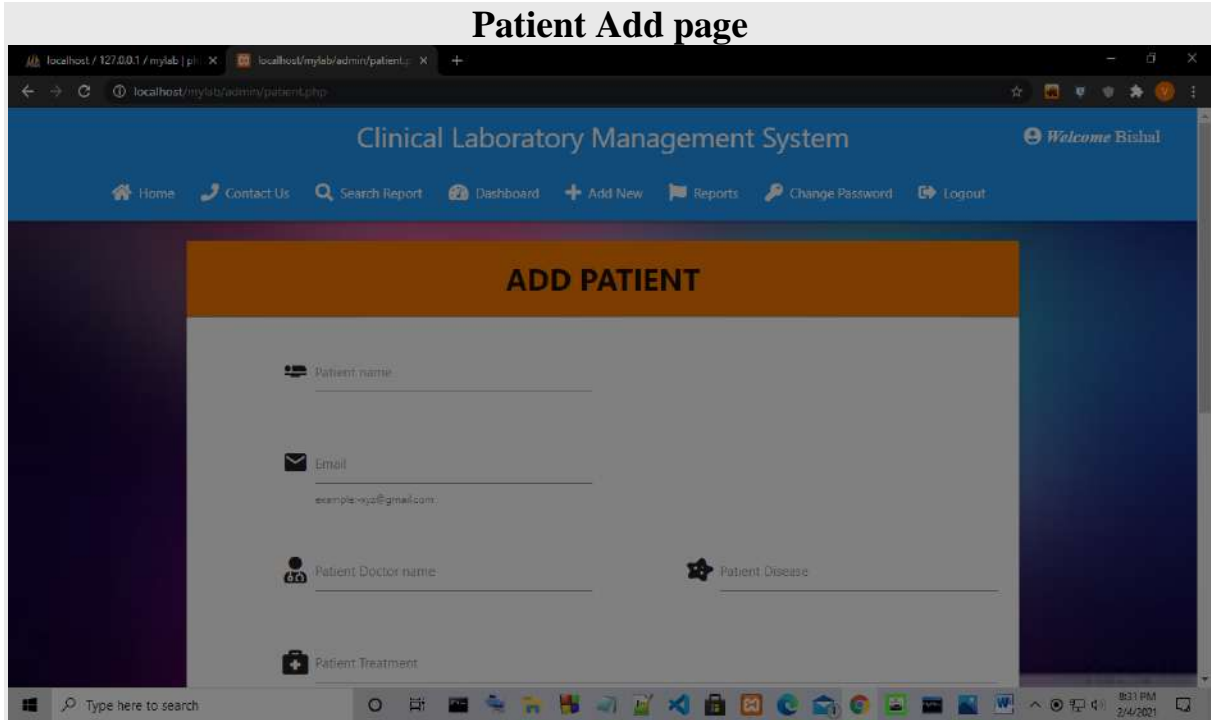
Screen shot of the project

login page

Test Add Page

Patient Add page

Clinical Laboratory Management System

Welcome Bishal

Home   Contact Us   Search Report   Dashboard   Add New   Reports   Change Password   Logout

ADD PATIENT

Patient name

Email

example-xyz@gmail.com

Patient Doctor name

Patient Disease

Patient Treatment

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https://www.w3schools.com/html/default.asp

[2] W3schools.com. For CSS, CSS color, CSS border. Online you can get here by go to this link https://www.w3schools.com/css/default.asp

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A PROJECT REPORT

ON

STUDENT MANAGEMENT SYSTEM

Submitted to Dibrugarh

University

In the partial fulfillment of the requirements for the 6th Semester

2021

Under the Supervision of: *Submitted by: Guddu Dey*

Jintu Dutta

Mr. Panchanan SaikiaAssistant

Professor,

Department of Information

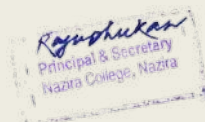*TechnologyNazira College, Nazira*

NAZIRA COLLEGE

NAZIRA

SIVASAGAR

CERTIFICATE FROM THE GUIDE

This is to certify that the project entitled *"STUDENT MANAGEMENT SYSTEM"* submitted to **NAZIRA COLLEGE** in partial fulfillment of the requirement for the **BVOC IT 6th Semester Examination** is a work carried out by Guddu Dey and Jintu Dutta under my guidance.

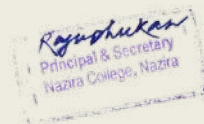**Student's Name: GUDDU DEY**

           Jintu Dutta

Project Guide:

(Signature of the guide)

Mr. PanchananSaikia, AssistantProfessor,

Department of Information Technology,

Nazira College, Nazira

CERTIFICATE FROM THE EXAMINER

(TO WHOM IT MAY CONCERN)

This is to certify that the project report entitled *"student management system"* submitted to **Nazira College** for in partial fulfillment of the requirement for the BVOC IT 6th semester is evaluated by me on _____

…………………………………

Signature of the Examiner

Name: ....

Date: …………………….

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<u>ACKNOWLEDGEMENT</u>

First of all, we are very much grateful to **Dr Raju Phukan Principal,** for providing us with the necessary facilities and help to carry out the development of our project conveniently.

With great pleasure we express our deep sense of gratitude to my beloved guide **Mr Panchanan Saikia, Assistant Professor, Department of Information Technology, Nazira College** for the providing us facilities, valuable guidance and constant supervision for successful competition of the project work in on time.

Last but not least, weextend our sincere thanks to all other faculty members of our college for their support and encouragement

DECLARATION

We hereby declare that the project work entitled "*STUDENT MANAGEMENT SYSTEM*" submitted to Nazira College B.Voc IT in partial fulfillment of the requirements for 6th semester BACHELOR OF VOCATIONAL IN IT(INFORMATION TECHNOLOGY) is an authentic and original work carried out by me under the guidance of

……………………….

We also declare the various contains incorporated in the project have not been submitted by in any form the award of any degree of other institution or university.

Signature of the students

NAME: GUDDU DEY,

JINTU DUTTA

B.Voc IT 6th Semester

Contents of Report:

- Abstract.
- Introduction.
- Objective of project.
- Scope of the project.
- Hardware And Software Specifiaction.
- ER Diagram.
- Screenshots.
- Conclusion.

ABSTRACT:

The project explains about the student management system. This project mainly explains the various actions related to student details. This project shows some ease in adding, editing and deleting the student details. It also provides a less time consuming process for viewing, adding, editing and deleting the details of the students.

The project includes

•

Admin Login

•

 Insert Student Details

•

 Update Student Details

•

 Delete Student Details

•

Displaying Student Information.

INTRODUCTION

Student Management System is software which is helpful for students as well as the school authorities. In the current system all the activities are done manually. It is very time consuming . The Student Management System deals with the various activities related to the students. are mainly 2 modules in this software

☐

Admin module

☐

Student Module.

In the Software admin can login. Admin has the power to add new student details and can edit and delete the student records. A student can show their details . All the student can see their details.

OBJECTIVE OF PROJECT ON STUDENT MANAGEMENT SYSTEM:

The main objective of the Project on Student Management System is to manage the details of Student . It manages all the information about student.
The project is totally built at administrative end and thus only the administrator is to access the information of student. The purpose of the project is to build an application program to reduce the manual work for managing the student information. It tracks all the details about the student.

SCOPE OF THE PROJECT:

Student Management System It may help to show   correct details of student, In a very short time. It will help to see the all details of student.

•Our project aims to make a good student management system application for easily show the student information, i.e. we have tried to computerize various processes of student Management System.

•In computer system the student has to enter the roll number and standard to show their details easily.

• Be easy to access the student details by the admin.

• Be easy to operate.

•Have a good user interface

•Be expandable.

Hardware/software specification

Hardware specification:

Processor : Intel dual core

RAM   : 4GB

HARD DISK   :1TB

Software Specifications:-

- *Web Technology : PHP*
- *Database: MySQL*
- *Web Server: XAMPP*
- *Web Browser: Chrome*
- *Languages Used: HTML,CSS,JAVASCRIPT,PHP*
- *OS: Windows 10*
- *Development Tools: Notepad++, Sublime Text Editor*

ER DIAGRAM :

ID

ADMIN

USERNAME

PASSWORD

MANAG

ID

P CON

NAME

STUDENT

CITY

IMAGE

ROLL NO

STANDARD

LIST OF DATA TABLE:

Index.php Coding

```html
<!DOCTYPE html>
<html>
<head>
<title>Student Management System</title>
</head>
<body background="book green.jpg" style="background-size: cover;">
    <h2 align="center" style="margin-right: 20px;"><a href="login.php">ADMIN LOGIN</a></h2>
        <h1 align="center">WELCOME TO </h1>
    <h1 align="center">STUDENT MANAGEMENT SYSTEM</h1>
    <form method="post" action="index.php">
<table style="width: 30%;" align="center" border="1">
            <tr>
            <td colspan="2" align="center">Student Information</td>
            </tr>
            <tr><td align="left">Choose Standard</td>
                <td><select name="std" required>
                            <option value="1">1st</option>
                            <option value="2">2nd</option>
                            <option value="3">3rd</option>
                            <option value="4">4th</option>
                            <option value="5">5th</option>
                            <option value="6">6th</option>
                            <option value="7">7th</option>
                            <option value="8">8th</option>
                            <option value="9">9th</option>
                    </select>
                    </td>
            </tr>
            <tr><td align="left">Enter Roll No.</td>
                <td><input type="text" name="rollno" required></td>
```
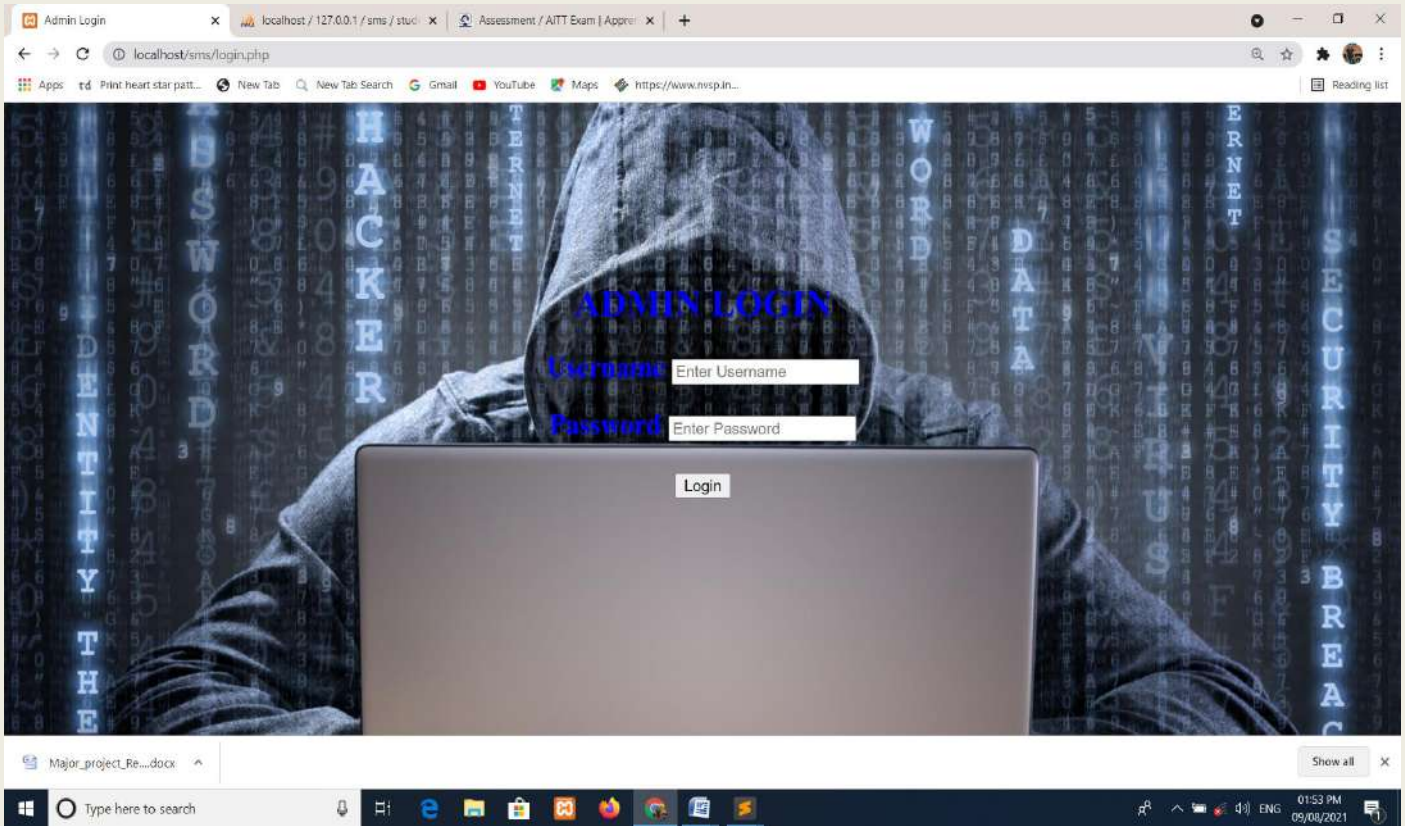
```html
                    </tr>

                    <tr>

                        <td colspan="2" align="center"><input type="submit" name="submit"
value="Show Info"></td>

                    </tr>

            </table>

            </form>



</body>
</html>
<?php


if (isset($_POST['submit']))
 {

        $standard=$_POST['std'];

        $rollno=$_POST['rollno'];


        include('dbcon.php');

        include ('function.php');


        showdetils($standard,$rollno);




 }


?>
```

Database Connection Coding:

```php
<?php
$con = mysqli_connect('localhost','root','','sms');
    if($con==false)
    {
        echo "Connection is not done";
    }
?>
```

Screenshot Of Student Information Page:

Screenshot Of Login Page:

Screenshot Of Insert, Update And Delete Student Page:

References/ **Bibliography**

[1]W3schools.com. For HTML, HTML tables. Online you can get here by go to this link
https://www.w3schools.com/html/default.asp

[2] *W3schools.com. For CSS, CSS color, CSS border. Online you can get here by go to this link https://www.w3schools.com/css/default.asp*
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3. "Software Engineering: A practitioner's approach" by Rogers Pressman.