A

Report On

**“Knowledge Enhancement Portal”**

**Under the subject**

**‘Web Technology’**

**Submitted by**

|  |  |  |
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**Under the guidance of**

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**Certificate**

This is to certify that,

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From **Pimpri Chinchwad College of Engineering, Pune** have completed project of final yearhaving title **Knowledge Enhancement Portal** during 2021-22 in a group consisting of **2** persons under the guidance of **Prof. Rahul Pitale.**

Place: **Pune**

Date:

**Guide Head of Department**

**Prof. Rahul Pitale Dr. K. Rajeswari**

**Abstract**

The need and importance of Information Technology (IT) has been established in all walks of professions and everyone has experienced that one of the most important components of IT is computer. The role of computer and digital equipment is well accepted in decision making, automation of work and in communication. Therefore, it has become essential for everyone irrespective of their core discipline to acquire basic knowledge and skills to develop insight not only into its potential and application but also to utilize and manage basic IT infrastructure and resources effectively. Through this Capstone Project, we have acquired knowledge and skills related to developing a software project by following various different phases. Following is a report on the project developed under the title Knowledge Enhancement Portal. The report consists of brief introduction of the web application developed. It also consists of database design, UML’s, testing details, etc., The portal that we have developed will help different stakeholders of education system namely students, librarian, administrator. The portal consists different features for librarian to manage library options. For administrator the portal provides two modules viz. student profile management and examination seating arrangement, in which they can perform their respective functions. And for students portal provides feature to view their own profile and edit the profile. The portal also provide change password module where each stakeholder can change their own passwords.

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**Chapter 1: Introduction**

* 1. **Introduction & Objectives**

**Introduction**

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs and habits. Knowledge is a familiarity, awareness, or understanding of someone or something, such as facts, information, descriptions, or skills, which is acquired through experience or education by perceiving, discovering, or learning. The mostly known and simplest location to acquire knowledge are Schools, Colleges, Educational Institutes, Universities, etc., Students acquire knowledge by getting education. So, Education is backbone for development of the society.

Students get knowledge through institutes. While taking knowledge they face various issues. Along with the students, faculties too face various issues. Under this project we have considered various issues faced by them such as student data management, examination seating arrangement, library management where they need to manage everything manually. We have developed a web application which will solve all those issues faced by educational institutes regarding data management.

The main focus of our system is to develop examination seating arrangement system which will be used by our institute for managing halls at the time of exam. In this module we have included block assignment, report generation, attendance management, question paper management, etc. This will prove helpful to our institute at the time of exams.

**Objectives**

1. To develop Web Application to solve problems in education system.
2. To develop Examination Seating Arrangement System.
3. To develop Student Management System.
4. To develop Library Management System.

**1.2 Existing System & Problems**

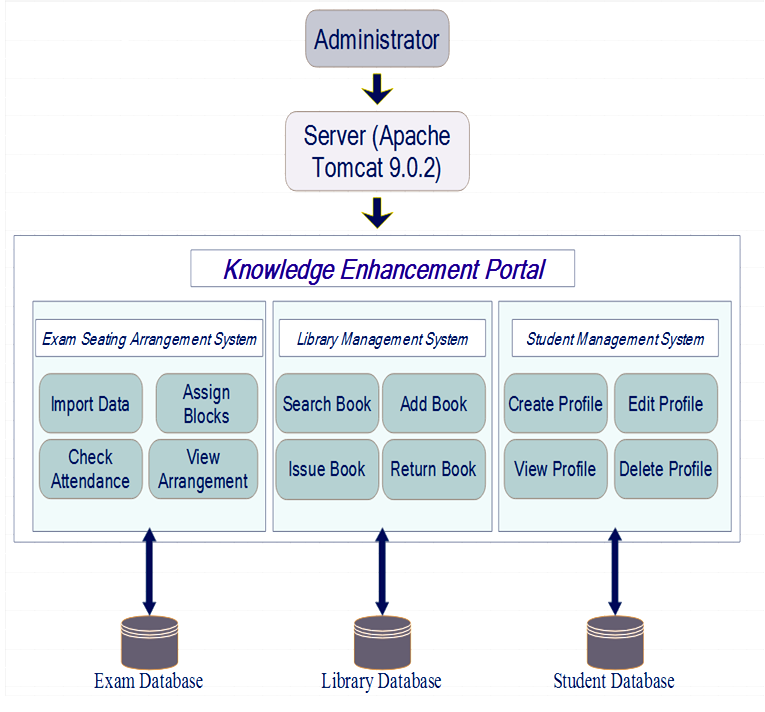
The system consists of different modules such as managing student profile and examination seating arrangement system for the administrator. The system provides separate login to librarian where he/she can perform library functions. The system also provides view profile and update profile feature to students. Although there are separate system for all these modules, there is no existing system which contains all modules together. For Examination Arrangement Module we studied Examination Arrangement Module of our college. There were some problems in that system,

1. There is duplication of data of students in database.
2. The number of students assigned to block are greater than size of block.
3. Search Student and Subject options are not available.
4. There is no option of creating timetable.
5. No navigation buttons when report is generated.
6. Report is opened in same tab so admin has to use browser navigation buttons.
7. All other modules available are independent modules there is no system which consists all of them together.

**1.3 Proposed System**

The proposed system will solve problems in existing system. It will also provide various additional options along with the Examination Seating Arrangement System. The technology used to develop this application is jsp. The additional functionalities of new system,

1. Duplication of student data in database is removed.
2. Search Student and Subject facility is provided.
3. The maximum number of students allocated to a block will be less than or equal to size of block.
4. Timetable will get created on uploading csv file.
5. Navigation buttons are present on each page.
6. The report will be opened in new tab so admin can directly print that page, while the page which has triggered event will remain opened in same tab so no need to use browser navigation buttons.
7. It consists of library management system
8. It also consists of student management system.
9. It provides advanced options such as change password.
10. It will also help student to view their profile and update own profile.
11. All the modules which were developed previously we developed that modules adding some features with providing ease in GUI, and integrated all modules together.

****

**Figure 1.1- System Architecture**

* 1. **Advantages of Proposed System**

1. It provides richer GUI.
2. It provides advanced additional functionalities than in existing system.
3. It provides ease of access of data.
4. It prevents duplication of data.
5. It provides faster operations as it is developed in jsp language rather than the old one which one was developed in php.
6. It generates report efficiently and provides direct printing facility.

**Chapter 2- Scope of Project**

**2.1 Scope of Project**

The project is to develop a Knowledge Enhancement Portal which will contain various modules such as Student Management System, Library Management System, Examination Seating Arrangement System, etc., The project will help administrator to manage the student details and manage the examination details at the time of exams, librarian to manage the library details and students to view and edit their own profile.

**2.1.1 Deliverables:**

The deliverables which will be delivered with final project are,

1. Web Application
2. knowledge database
3. Test Cases Report
4. UML diagram’s
5. Planning Report
6. Final Report
7. Gantt chart for plan, code and execution

**2.1.2 Justification for the project:**

The project was decided to develop considering the issues of the components of the education system. The project was to be developed for administrator, librarian and student. The librarian has to manage library details in the registers, admin had to manage student details in registers and assign exam blocks at the time of exam manually, student has to visit student’s section to visit his/her profile and give different applications for updating their profiles. Considering all those issues system was intended to solve these problems.

**2.1.3 Constraints:**

The project requires constant modification every year when new student have become part of the institute and old students which are not part of the system needs to be removed. While uploading the CSV file for exam seating arrangement the file needs to at the specified location otherwise it will provide file not found error, because different browsers have different configurations, some of them are unable to read the absolute path of the file.

**2.1.4 Assumptions:**

The repeaters should be in working conditions. The students should be able to use system it is quite easy to manage system for them as the system is user friendly. The admin has to delete the student data, exam timetable, reset blocks and supervisor and delete the exam details and add new exam details before start of the new exam.

**2.2 Requirements Specification**

The project will be used by librarian, administrator and students which are the components of the educational institute. The administrator has to manually allocate the blocks and manage other exam details during the exams. He/ She has to manually manage student date in the registers. The librarian has to manually manage library details in the form of registers. When student want to view his data and wants certain modification in data then he/she has to visit student section and perform further tasks. This system is intended to solve all these issues.

**2.2.1 Platform:**

The system can be used from any device as well as any browser with any configuration. Specifically, the website should be accessed from windows system and google chrome browser.

**2.2.2 Scheduling:**

The schedule by which project is developed in mentioned in chapter 4.

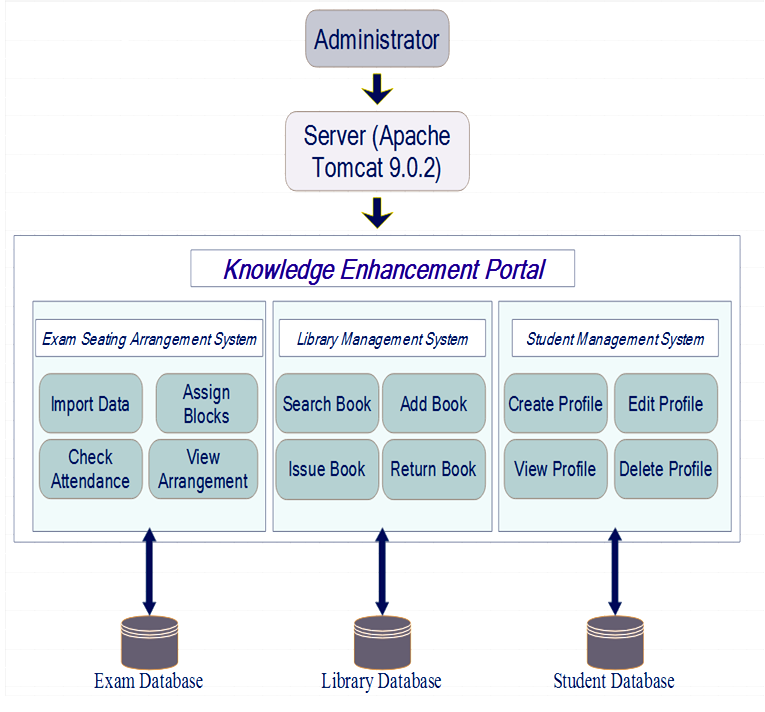
**2.2.3 Technical Process:**

Front- end development- HTML, CSS, JSP

Back-end development- JSP, MySQL

**Chapter 3 – Details of Design**

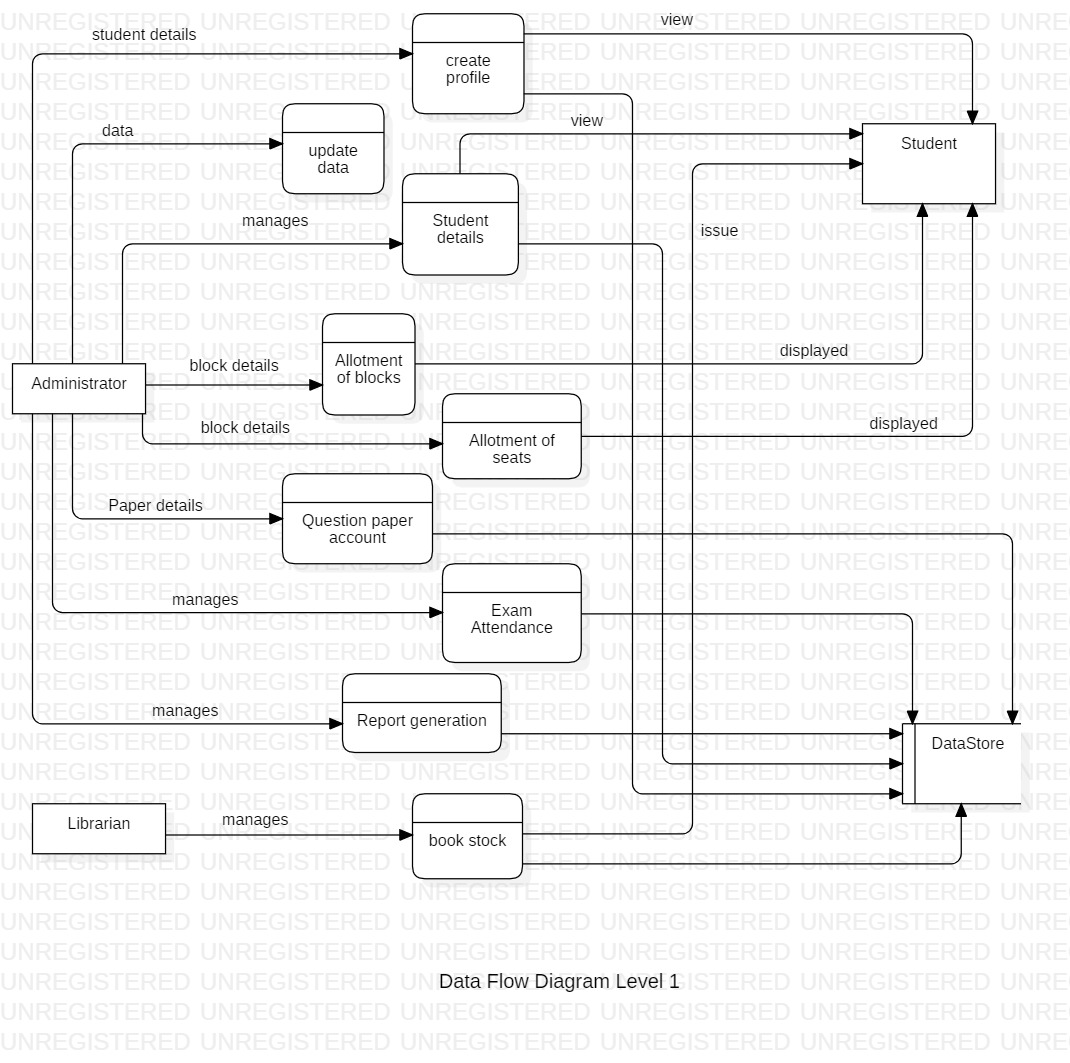
**3.1 System Architecture**

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**Figure 3.1- System Architecture**

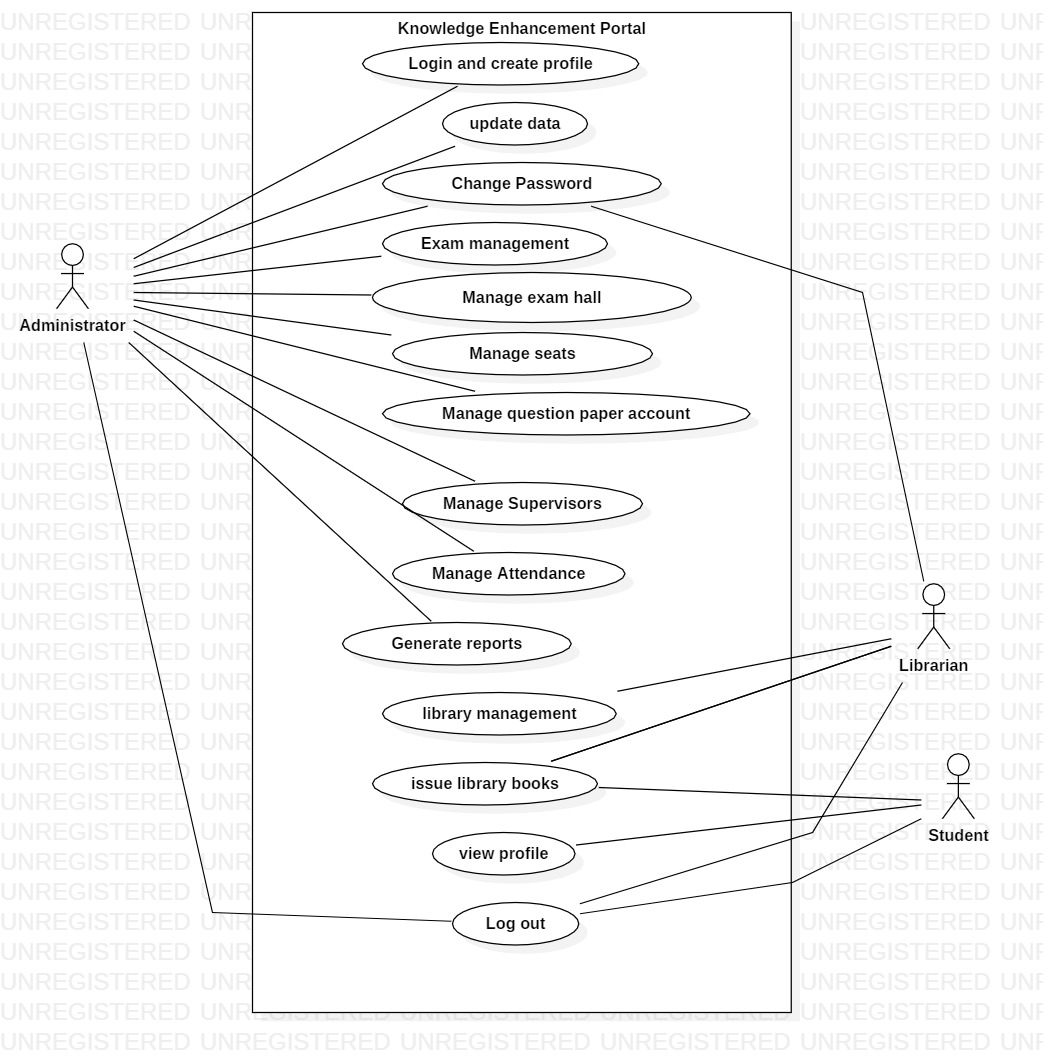
**3.2 UML’s**

**3.2.1 Data Flow Diagram Level 1**

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**Figure 3.2- Data Flow Diagram Level 1**

**3.2.2 Use- Case Diagram**

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**Figure 3.3 - Use- Case Diagram**

**3.3 Modules**

As per above diagrams we have developed a Knowledge Enhancement Portal which will help students and faculties in education system.

The Knowledge Enhancement Portal consists of various modules which are as follow:

1. **Examination Hall Seating Arrangement**

The administrator has to manually manage the examination hall during the exams which is quite difficult. To handle this issue, we have developed this module. This module contains submodules which are,

1. **Exam details management:**

This module provides facility to manage exam details such as staff details, block details, details of the exam, student details during exam.

1. **Insertion of student and timetable data using csv file:**

This module helps in uploading student data and timetable which is provided by MSBTE to the institutes for organizing the exams. This data further can be manipulated to assign blocks to students.

1. **Assignment of Blocks:**

This module provides facility to assign students to blocks as well as assign supervisors to block based on date and time of exam.

1. **Attendance Management:**

This module will provide facility to mark attendance during exam and also provides facility to check attendance during exam. This module will also help to assign a special code to student e.g. 401 for absent, 403 for copycase, etc.,

1. **Question Paper Account Management:**

This module provides facility to manage question paper account, edit the question paper account. It also provides facility to print question paper account which consists of papers given to RAC, total received papers, students appeared for exam, remaining papers, etc.,

1. **Report Generation:**

It provides facility to generate various reports as per formats provided by MSBTE. These reports are,

1. Master Seating Arrangement
2. Block-wise Supervisor Appointment
3. Seating Chart
4. Appendix- B
5. Format 10 Attendance Report
6. Format 8
7. Packing Slip
8. **Library Management**

The Librarian has to manually manage the library details in the registers which is very difficult and time-consuming process and also requires lot of manual efforts. So, considering this we have tried our best and developed Library Management System which will assist Librarian in managing library. This module contains various submodule which are,

1. **Adding new book to library:**

This module provided facility to add new book to the library. Here librarian can add details of book such as book name, book author, book id, etc., This module will not allow a book to be added with same id so librarian has to give unique to id each book.

1. **Deleting book:**

This module provides help to delete book from the books database which consists of books present in the library, based on the book id.

1. **Issuing books:**

This module provides facility to maintain book issuing details. It provides facility to store student details such as student roll number, student name, student class, etc.,

1. **Return books:**

This module provides facility to store the details of the book when it is returned by the student.

1. **Search book:**

This module provides facility to search book details based on the id of the book.

1. **Student Management**

The admin has to manually manage the student details in the registers which is very difficult and time-consuming process and also requires lot of manual efforts. So, considering this we have tried our best and developed Student Management System which will assist admin in managing student details. This module contains various submodule which are,

1. **Create Student profile:**

This module provides facility to create new student profile and manage student details such as Enrollment number, roll number, student name, branch, year, password, address, date of birth, gender, etc.,

1. **Deleting Student profile:**

This module provides facility to delete student profile based on student enrollment number or roll number.

1. **Update Student profile:**

This module provides facility to update student details. The updated details will be saved to the database.

1. **Search Student Profile:**

This module provides facility to search any student based on his/her enrollment number or roll number.

1. **Student Module:**

When student wants to see his/her personal details he/she has to go to students section for the details, which requires time and unwanted time is wasted. We have developed a separate login for student i.e. separate module for student which will help them to view their profile. This module consists of various submodules which are,

1. **View Profile:**

This module provides facility to students to view their own profile when they will login to the system with enrollment number and password.

1. **Deleting Student profile:**

This module provides facility to student to update his/her own profile. He cannot update other student’s profile as the enrollment number and roll number fields are made read only so they are not updatable.

1. **Login Module**

This module consists of different login options for students, admin, library. First the user has to select the role. The value assigned to librarian role is 1. The system then checks the username and password for library role in the users database where username and password of librarian is stored. Login is successful if match is found else login is unsuccessful. For the admin role the value assigned is 2. The system then checks the username and password in users database for the admin access is granted if match is found or not. For students we have provided login facility based on enrollment number and password.

1. **Change Password:**

We have also provided facility to change password to librarian, admin, student. When librarian has login to the system he/she is provided with the change password module, where he/she has to enter his old password, new password and confirm new password. When the old password is matched the system will match new password and confirm new password if all are valid the system will update password for librarian. Admin can change the password in the same way. For student when student edits his/her profile he/she can also change his/her own password.

Above are the various modules that are implemented in as part of Knowledge Enhancement Portal. We have implemented these modules using JSP language and developed this Web Portal. We have used MYSQL server for creating databases. Various database tables have been created they are mentioned in 5.3.

We have provided facility of registering new student only to the admin so that the students which are not part of college will not be able to use this portal. This will increase security of the Web Portal and will prevent the college data from the unauthorized users. The Knowledge Enhancement Portal will save everyone’s time and will allow to achieve the aim of modern learning.

**3.4 Database Design**

**Following are the tables with their schema present in the database named knowledge,**

|  |  |
| --- | --- |
| **Table Name: student** | |
| Enrollment | Int (10) primary key |
| roll\_no | Int (10) |
| stud\_name | Varchar (50) |
| stud\_dob | Varchar (50) |
| stud\_\_gender | Varchar (50) |
| stud\_email | Varchar (50) |
| stud\_mob | Varchar (50) |
| stud\_add | Varchar (50) |
| stud\_branch | Varchar (50) |
| stud\_year | Varchar (50) |
| stud\_pin | Varchar (50) |

**Table 3.1- Schema of Student Table**

|  |  |
| --- | --- |
| **Table Name: library** | |
| book\_id | Int (10) primary key |
| book\_name | Varchar (50) |
| book\_author | Varchar (50) |
| quantity | Int (10) |
| perquantity | Int (10) |

**Table 3.2- Schema of Library Table**

|  |  |
| --- | --- |
| **Table Name: library\_issue** | |
| book\_id | Int (10) Primary key |
| book\_name | Varchar (50) |
| book\_author | Varchar (50) |
| student\_name | Varchar (50) |
| Class | Varchar (50) |
| roll\_no | Varchar (50) |
| issue\_date | Varchar (50) |

**Table 3.3- Schema of library\_issue Table**

|  |  |
| --- | --- |
| **Table Name: library\_return** | |
| book\_id | Int (10) Primary key |
| book\_name | Varchar (50) |
| book\_author | Varchar (50) |
| student\_name | Varchar (50) |
| Class | Varchar (50) |
| roll\_no | Varchar (50) |
| return\_date | Varchar (50) |

**Table 3.4- Schema of library\_return Table**

|  |  |
| --- | --- |
| **Table Name: users** | |
| Role | Int (10) Primary key |
| Uname | Varchar (50) |
| Pass | Varchar (50) |

**Table 3.5- Schema of users Table**

|  |  |
| --- | --- |
| **Table Name: examtimetable** | |
| Id | Int (10) Primary key |
| Date | Varchar (50) |
| Time | Varchar (50) |
| subcode | Varchar (50) |
| subname | Varchar (50) |
| count | Int (10) |
| remcount | Int (10) |
| qpstatus | Varchar (50) |

**Table 3.6- Schema of examtimetable Table**

|  |  |
| --- | --- |
| **Table Name: examstudent** | |
| Id | Int (10) Primary key |
| Date | Varchar (50) |
| Time | Varchar (50) |
| subcode | Varchar (50) |
| subname | Varchar (50) |
| seatno | Int (10) |
| center | Int (10) |
| coucode | Varchar (50) |
| yearcode | Varchar (50) |
| mastercode | Varchar (50) |
| block | Varchar (50) |
| attendance | Varchar (50) |
| staffname | Varchar (50) |
| specialcode | Varchar (50) |

**Table 3.7- Schema of examstudent Table**

|  |  |
| --- | --- |
| **Table Name: examstaff** | |
| staff\_id | Int (10) Primary key |
| staff\_name | Varchar (50) |
| staff\_dept | Varchar (50) |
| staff\_design | Varchar (50) |
| staff\_role | Varchar (50) |
| status | Varchar (50) |

**Table 3.8- Schema of examstaff Table**

|  |  |
| --- | --- |
| **Table Name: examqp** | |
| Id | Int (10) Primary key |
| Date | Varchar (50) |
| Time | Varchar (50) |
| subcode | Varchar (50) |
| subname | Varchar (50) |
| numpack | Int (10) |

**Table 3.9- Schema of examqp Table**

|  |  |
| --- | --- |
| **Table Name: examdetails** | |
| Id | Int (10) Primary key |
| examcenter | Varchar (50) |
| centername | Varchar (50) |
| examyear | Varchar (50) |
| duration | Varchar (50) |
| session1 | Varchar (50) |
| sessiondur | Varchar (50) |
| chiefofficer | Varchar (50) |
| officer | Varchar (50) |
| controller | Varchar (50) |
| supervisor | Varchar (50) |

**Table 3.10- Schema of examdetails Table**

|  |  |
| --- | --- |
| **Table Name: examblocks** | |
| block\_id | Int (10) Primary key |
| block\_name | Varchar (50) |
| block\_size | Varchar (50) |
| break1 | Int (10) |
| break2 | Int (10) |
| break3 | Int (10) |
| break4 | Int (10) |
| allocated | Varchar (50) |
| staff | Varchar (50) |

**Table 3.11- Schema of examblocks Table**

**3.5 Sample Code**

**3.5.1 Student data insertion**

<% Class.forName("com.mysql.jdbc.Driver");

java.sql.Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/knowledge","root","root");

Statement st= con.createStatement();

if(mbno.length()==10)

{

if(enroll.length()==10)

{

int i=st.executeUpdate("insert into student values('"+enroll+"','"+roll+"','"+name+"','"+dob+"','"+gender+"','"+email+"','"+mbno+"','"+add+"','"+branch+"','"+year+"','"+pass+"')");

out.println("<h1>Student Profile Created Successfully<h1><br/>");

out.println("Enrollment Number : "+enroll);

out.println("<br/>Roll Number: "+roll);

out.println("<br/>Student Name: "+name);

out.println("<br/>Student DOB: "+dob);

out.println("<br/>Student Gender: "+gender);

out.println("<br/>Student Email: "+email);

out.println("<br/>Student Mobile Number: "+mbno);

out.println("<br/>Student Address: "+add);

out.println("<br/>Student Branch: "+branch);

out.println("<br/>Student Year: "+year);

}

else

{

out.println("<h1 style=\"color:red;\">Invalid Enrollment Number</h1>");

}

}

else

{

out.println("<h1 style=\"color:red;\">Invalid Mobile Number</h1>");

}

%>

**3.5.2 Uploading CSV file**

<% try{

String file=request.getParameter("file");

String fName1 ="D:\\demo\\ExamSeattingArrangement\\"+file;

File f=new File(fName1);

String fName=f.getPath();

String thisLine;

FileInputStream fis = new FileInputStream(fName);

DataInputStream myInput = new DataInputStream(fis);

int i=0;

Class.forName("com.mysql.jdbc.Driver");

java.sql.Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/knowledge","root","root");

Statement st= con.createStatement();

ResultSet rs=st.executeQuery("select \* from examstudent");

if(rs.next())

{

out.println("<h1 style=\"color:red;\">Please delete the previous data</h1>");

}

else

{

while ((thisLine = myInput.readLine()) != null)

{

String strar[] = thisLine.split(",");

int p=st.executeUpdate("insert into examstudent values('"+strar[0]+"','"+strar[1]+"','"+strar[2]+"','"+strar[3]+"','"+strar[4]+"','"+strar[5]+"','"+strar[6]+"','"+strar[7]+"','"+strar[8]+"','"+strar[9]+"','none','present','none','none')");

i++;

}

out.println("<h1>File Uploaded Successfully</h1>");

}

}

catch(FileNotFoundException fe)

{

out.println("<h1>Enter Valid File Location</h1>");

}

catch(ArrayIndexOutOfBoundsException fe)

{

out.println("<h1>File Uploaded Successfully</h1>");

}

%>

* + 1. **Report Generation (Packing Slip)**

<%@ page import="java.io.\*"%>

<%@ page import ="java.sql.\*" %>

<%@ page import ="javax.sql.\*" %>

<%

String date=request.getParameter("date");

String time=request.getParameter("time");

String class1=request.getParameter("class1");

String coucode=class1.split(" ")[0];

String yearcode=class1.split(" ")[1];

String mastercode=class1.split(" ")[2];

Class.forName("com.mysql.jdbc.Driver");

java.sql.Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/knowledge","root","root");

Statement st= con.createStatement();

String subname,exam1,sess,ins;

String subname1,subabb,session1="";

int count=0;

ResultSet rs1=st.executeQuery("select \* from examdetails where id='1'");

if(rs1.next())

{

exam1=rs1.getString(4);

ins=rs1.getString(2);

sess=exam1.split(" ")[0];

if(sess.equals("Summer"))

{

session1="Afternoon";

}

else

{

session1="Morning";

}

ResultSet rs=st.executeQuery("select \* from examstudent where date='"+date+"' and time='"+time+"' and coucode='"+coucode+"' and yearcode='"+yearcode+"' and mastercode='"+mastercode+"'");

if(rs.next())

{

subname=rs.getString(5);

int sublen=subname.length();

int splitlength=sublen-5;

subname1=subname.substring(0, sublen-5);

subabb=subname.substring(sublen-4, sublen-1);

out.println("<br/>Institute(Examination Center) Center Code : <b> "+ins +"</b> <br/> <br/> ");

out.println("Date :<b>"+date+"</b> Session : <b> "+session1+"</b><br/><br/>");

out.println("Course / Sem / Year / Master : <b> "+class1+"</b><br/><br/>");

out.println("Subject Name : <b> "+subname1+"</b><br/><br/>");

out.println("Subject Code : <b> "+rs.getString(4)+"</b> Mark Sheet Number/s :<br/> <br/>");

ResultSet rs3=st.executeQuery("select \* from examstudent where date='"+date+"' and time='"+time+"' and coucode='"+coucode+"' and yearcode='"+yearcode+"' and mastercode='"+mastercode+"' and attendance='present' or attendance='copycase'");

while(rs3.next())

{ count++; }

out.println("Number of Answer books in this packet : <b> "+count+"</b><br/><br/>");

out.println("Date and Time of Sealing:Date :<b>"+date+"</b>Time : <b>"+"</b><br/> <br/> ");

out.println("<b><div class=\"abc1\">Signature of <br/>Sealing Officer</div> <div class=\"abc2\">Signature of <br/>Officer-In-Incharge </div></b>");

}

else

{ out.println("<h1 style=\"color:red;\">Please Select Valid data</h1>"); }

}

else

{ out.println("<h1 style=\"color:red;\">Please Enter Exam Data</h1>"); } %>

**Chapter 4 – Results and Applications**

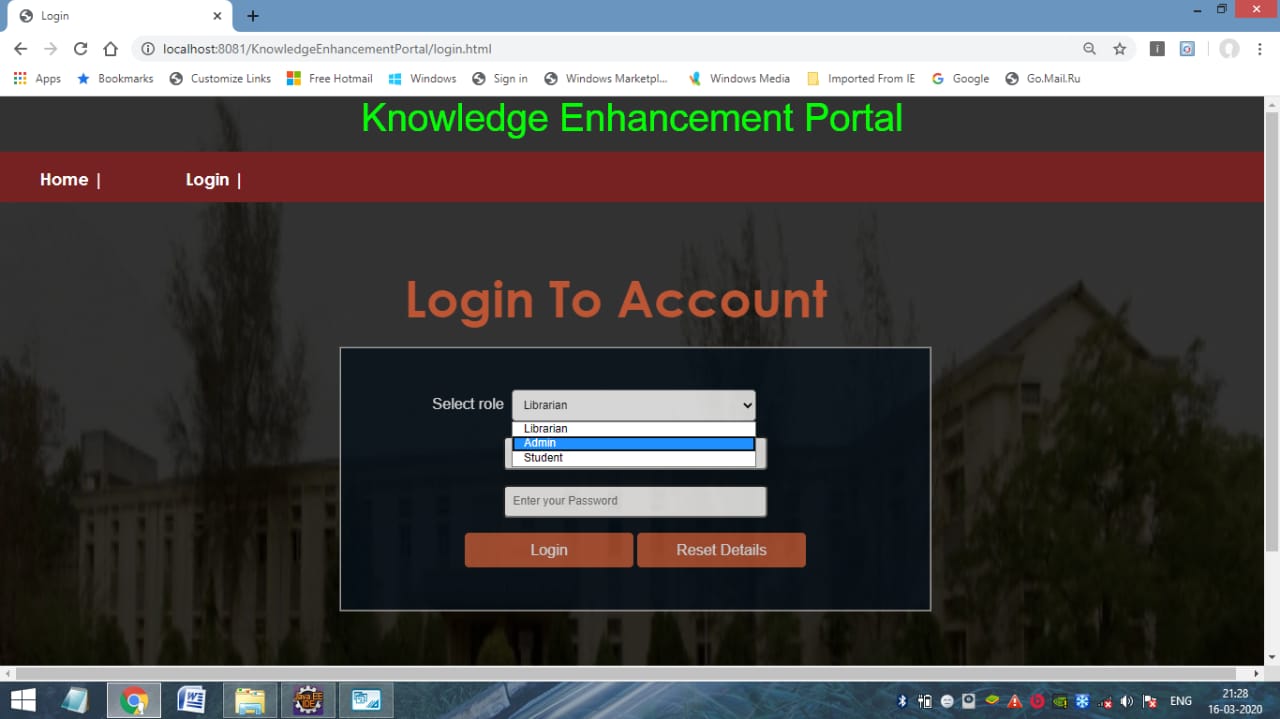
**4.1 Testing**

**Test Cases**

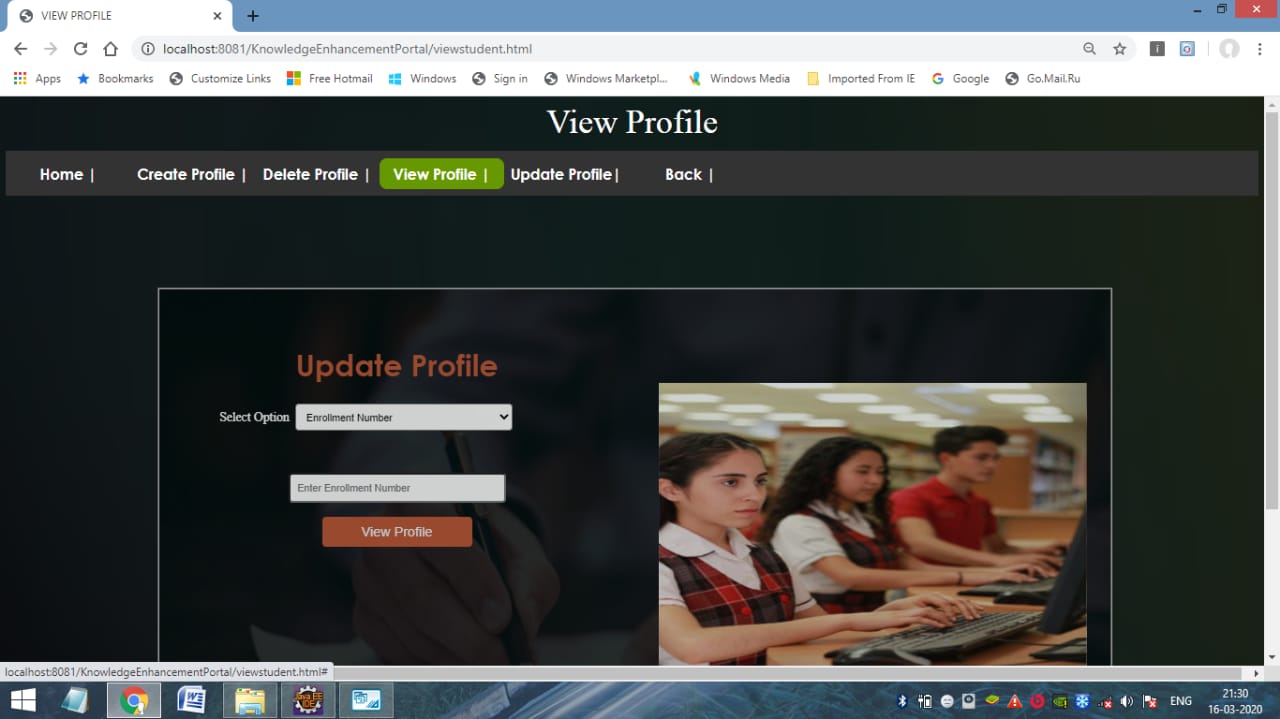
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr.No** | **Test Case ID** | **Objectives** | **Prerequisite** | **Steps** | **Input data** | **Expected result** | **Actual Result** | **Status** | | **Level** |
| ***LOGIN MODULE*** | | | | | | | | | | |
| 1 | Login\_1 | Validate home page | Server should be started and run project successfully | 1.Click on the image you to login for the module you desired | Click on any of the one from three images | The Login page for the module corresponding to the image clicked should be opened | The Login page for the module corresponding to the image clicked is opened | Pass | | System |
| 2 | Login\_2 | Validate Login as Librarian | Login page opened | 1.Select the role  2. Enter user name  3.Enter password  4.Click on Login option | Role=”Librarian”  User name=”gpklibrary”  Password=”library@12” | Library management system should be logged in | Library management system is logged in | Pass | | Unit |
| 3 | Login\_3 | Validate Login as Student | Login page opened | 1.Select the role  2. Enter user name  3.Enter password  4.Click on Login option | Role=” Student”  Enrollment=”1700100370”  Password=”Pratik@123” | Student page should be opened | Student page opened | Pass | | Unit |
| 4 | Login\_4 | Validate Login as admin | Login page opened | 1.Select the role  2. Enter user name  3.Enter password  4.Click on Login option | Role=” Admin”  User name=”gpkadmin”  Password=”admin@3422” | Exam Seating Arrangement module should be logged in | Exam Seating Arrangement module is logged in | Pass | | Unit |
| ***LIBRARY MANAGEMENT SYSTEM*** | | | | | | | | | | |
| 5 | Lib\_mgt\_1 | Validate issue book option | Library Management System should be open | 1.Enter required details  2.Click on Issue Book option | All required details | Book issued message should be displayed. Quantity that book should be decremented by 1. | Book issued message is displayed. Quantity that book isdecremented by 1. | Pass | | Unit |
| 6 | Lib\_mgt\_2 | Validate return book option | Library Management System should be open | 1.Enter all required details  2.Click on Return Book option | All required details | Book Returned message should be displayed. Quantity that book should be incremented by 1. | Book Returned messageis displayed. Quantity that book is incremented by 1. | Pass | | Unit |
| 7 | Lib\_mgt\_3 | Validate search book option | Library Management System should be open | 1.Enter the Book ID  2.Click on Search Book option | Book ID=”1” | The Book details of the corresponding ID should be displayed. | The Book details of the corresponding ID is displayed. | Pass | | Unit |
| 8 | Lib\_mgt\_4 | Validate add book option | Library Management System should be open | 1.Enter all required details  2.Click on Add Book option | All required details | Book added message should be displayed | Book added message is displayed | Pass | | Unit |
| 9 | Lib\_mgt\_5 | Validate remove book option | Library Management System should be open | 1.Enter Book ID 2.Enter Book Name  3.Click on Remove Book option | Book ID=”1”  Book Name=”ANSI C” | Book will be removed, and if book doesn’t exist the message should be displayed accordingly. | The book is removed and all the details related to the book are cleared. | Pass | | Unit |
| ***STUDENT MANAGEMENT SYSTEM*** | | | | | | | | | | |
| 10 | Std\_mgt\_1 | Validate Create Profile option | Student Management System should be open | 1.Enter All the required details  2.Click on Create Profile option | All required details | Student Profile should be created | Student Profile is created | Pass | | Unit |
| 11 | Std\_mgt\_2 | Validate Update Profile option | Student Management System should be open | 1.Enter All the required details  2.Click on Update Profile option | All required details | Details Updated Successfully message should be displayed and data should be updated in database | Details Updated Successfully message is data is updated in database | Pass | | Unit |
| 12 | Std\_mgt\_3 | Validate view profile option | Student Management System should be open | 1. Choose the option from Enrollment no or Roll no to view Profile  2. Enter the no as per the option chosen  3. 3.Click on View Profile option | Select option : Enrollment Number  Enrollment no=”1700100101” | The student profile of the Enrollment number entered should be displayed | The student profile of the Enrollment number entered is displayed | Pass | | Unit |
| 13 | Std\_mgt\_4 | Validate delete profile option | Student Management System should be open | 1.Enter All the required details  2.Click on Delete Profile option | All required details | Student no more exists message should be displayed | Student no more exists message is displayed | Pass | | Unit |
| ***EXAMINATION SEATING ARRANGEMENT*** | | | | | | | | | | |
| 14 | Exm\_mgt\_1 | Validate Prepare Examination option  [import timetable] | Exam Seating Arrangement module should be open | 1.Click the prepare Examination option  2.Select Import Main Examination Timetable option.  3.Choose the CSV file to be imported  4.Click on import option | CSV file=”timetable.csv” | The timetable should be imported and should be displayed when clicked on Display Main Timetable option | The timetable is imported and is being displayed when clicked on Display Main Timetable option | Pass | Unit | |
| 15 | Exm\_mgt\_2 | Validate Assign Block option  [Edit assigning of blocks] | Exam Seating Arrangement module should be open | 1.Select the check box for appropriate option.  2.Click on Submit Button | Select (check) the appropriate check box | The form should be opened for Assigning the blocks where you can edit the data and Assign the blocks | The form is opened for Assigning the blocks and blocks were Assigned | Pass | Unit | |
| 16 | Exm\_mgt\_4 | Validate Assign Block option  [Edit assigning of blocks] | Exam Seating Arrangement module should be open | 1.Enter all required details  2.Click Submit button | All required details | “Block size less than Selected Candidates ” message should be displayed | “Block size less than Selected Candidates ” message is displayed | Pass | Unit | |
| 17 | Exm\_mgt\_5 | Validate Master Seating Arrangement option | Exam Seating Arrangement module should be open | 1.Enter all required details  2.Click Submit button | All required details | New window must be opened displaying the report containing the details of the exam | New window is opened displaying the report containing the details of the exam | Pass | Unit | |
| 18 | Exm\_mgt\_6 | Validate Mark Absent option | Exam Seating Arrangement module should be open | 1.Enter all required details  2.Click Submit button | All required details | New window must be opened for marking the absent students | New window is opened for marking the absent students | Pass | Integration | |
| 19 | Exm\_mgt\_7 | Validate Check Attendance option | Exam Seating Arrangement module should be open | 1.Enter all required details  2.Click Submit button | All required details | Attendance report according to class  Should be displayed | Attendance report according to class  is displayed | Pass | Integration | |
| ***Student Profile Section*** | | | | | | | | | | |
| 20 | Stud\_prof\_1 | Validate whether student can view and edit his/her own profile | Logged in as student | 1. Click on View Profile  2. Click on Edit Profile  3. Click on Update My Profile | All required details | Student profile should be displayed and updated on click on buttons | Student profile displayed and updated successfully on click on buttons | Pass | System | |

**Table 4.1 – Test Cases**

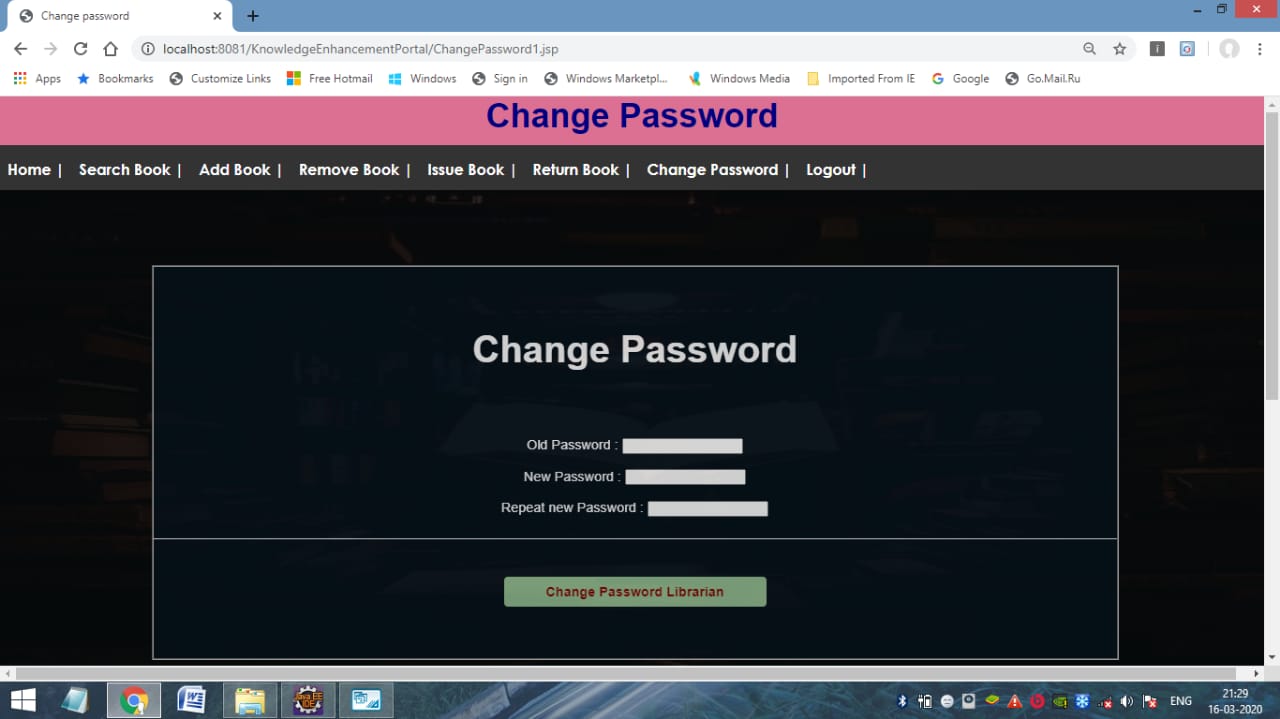
**4.2 Snapshots**

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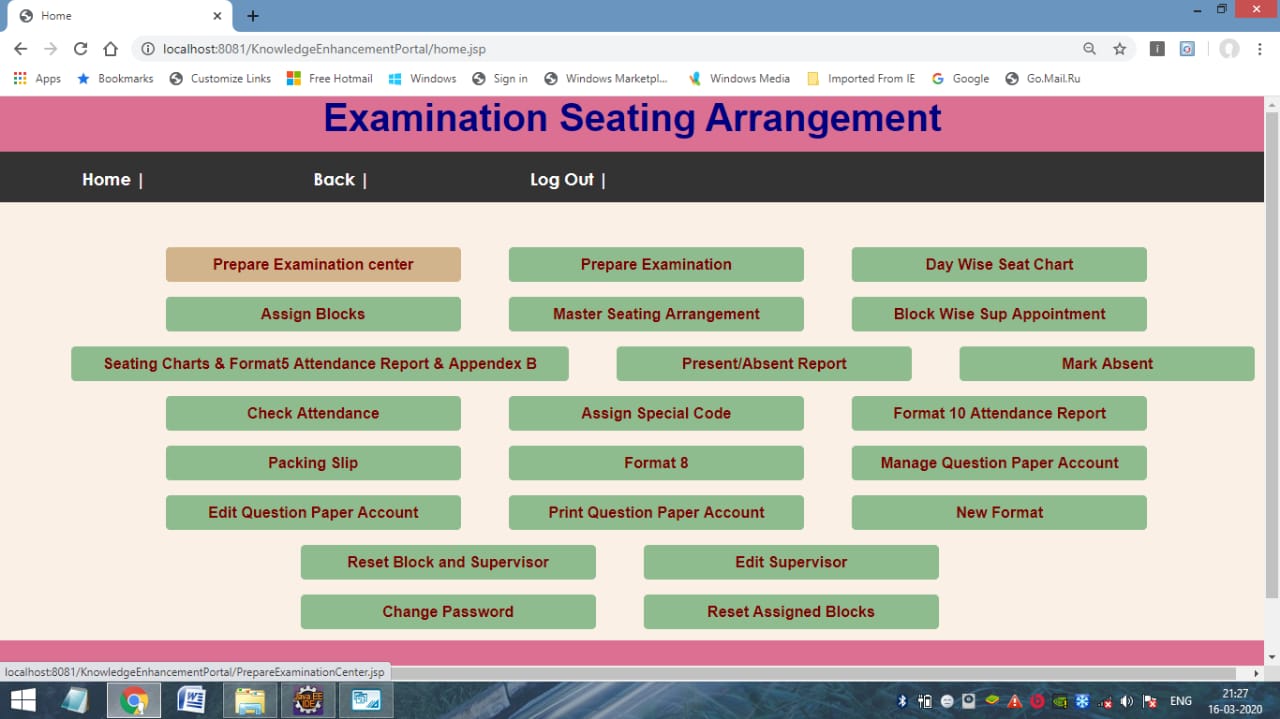
**Figure 4.1- Login Page**

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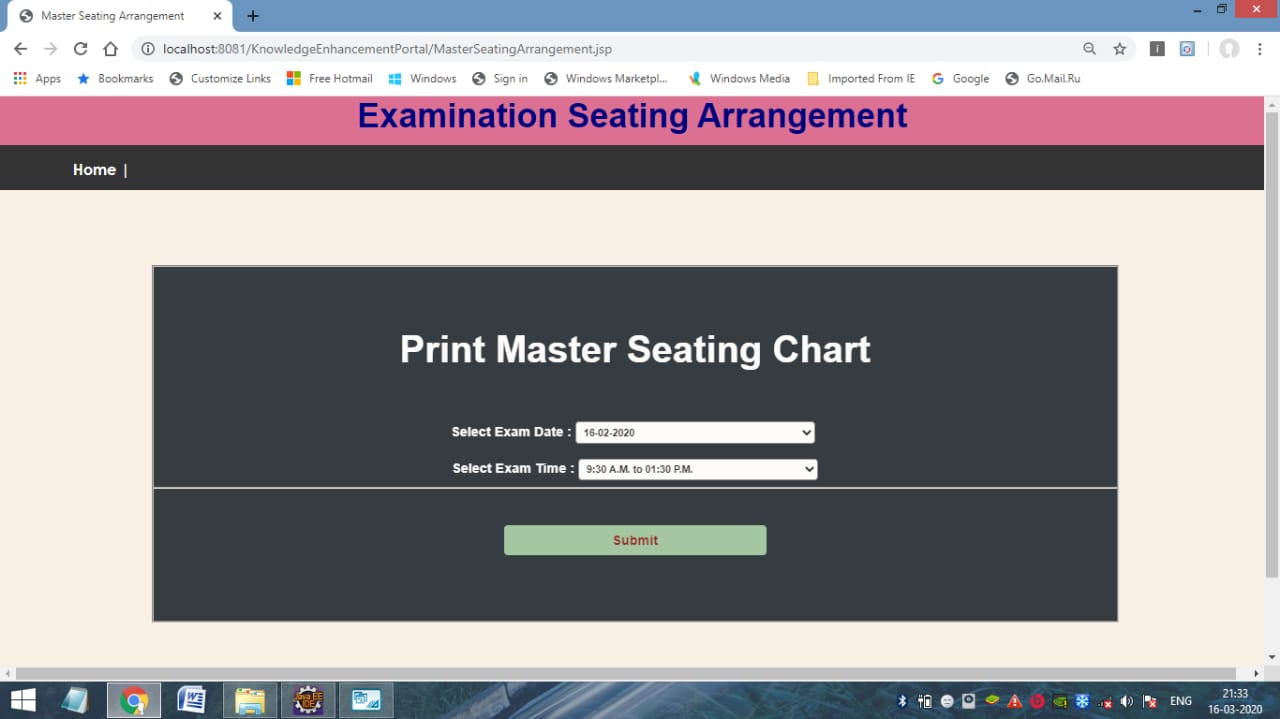
**Figure 4.2 – Student Management System**

****

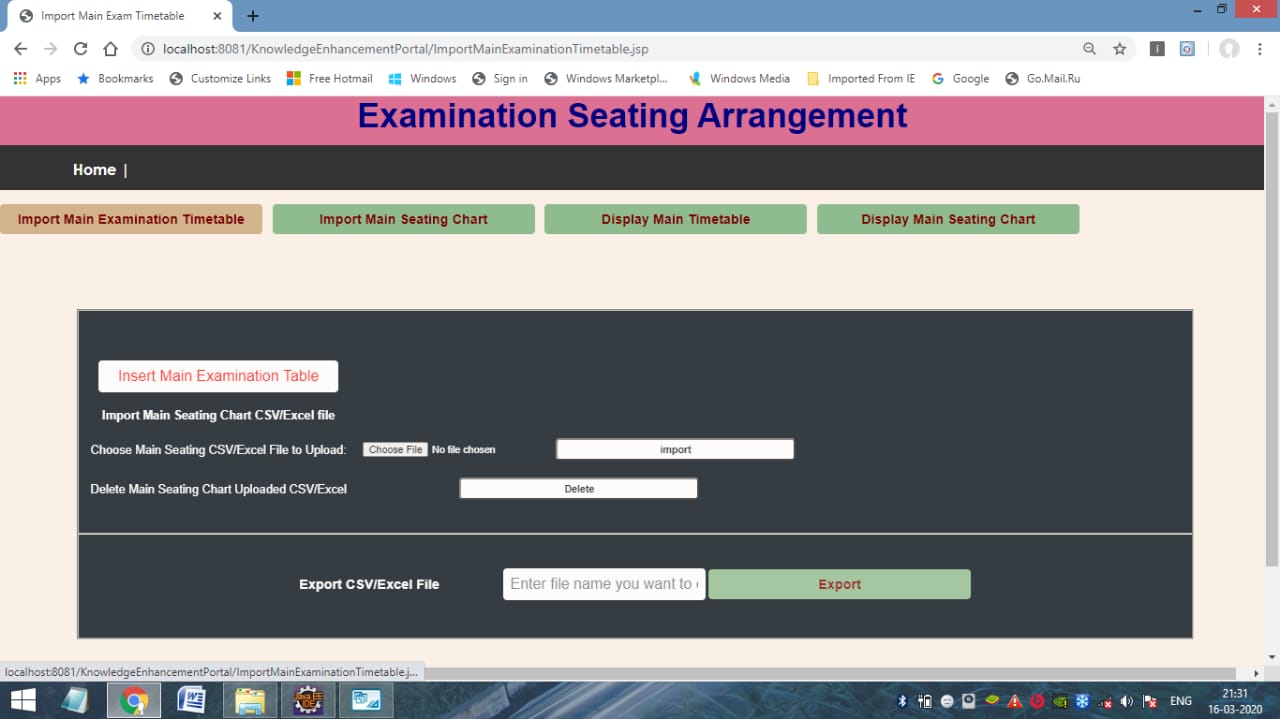
**Figure 4.3 – Change Password Page**

****

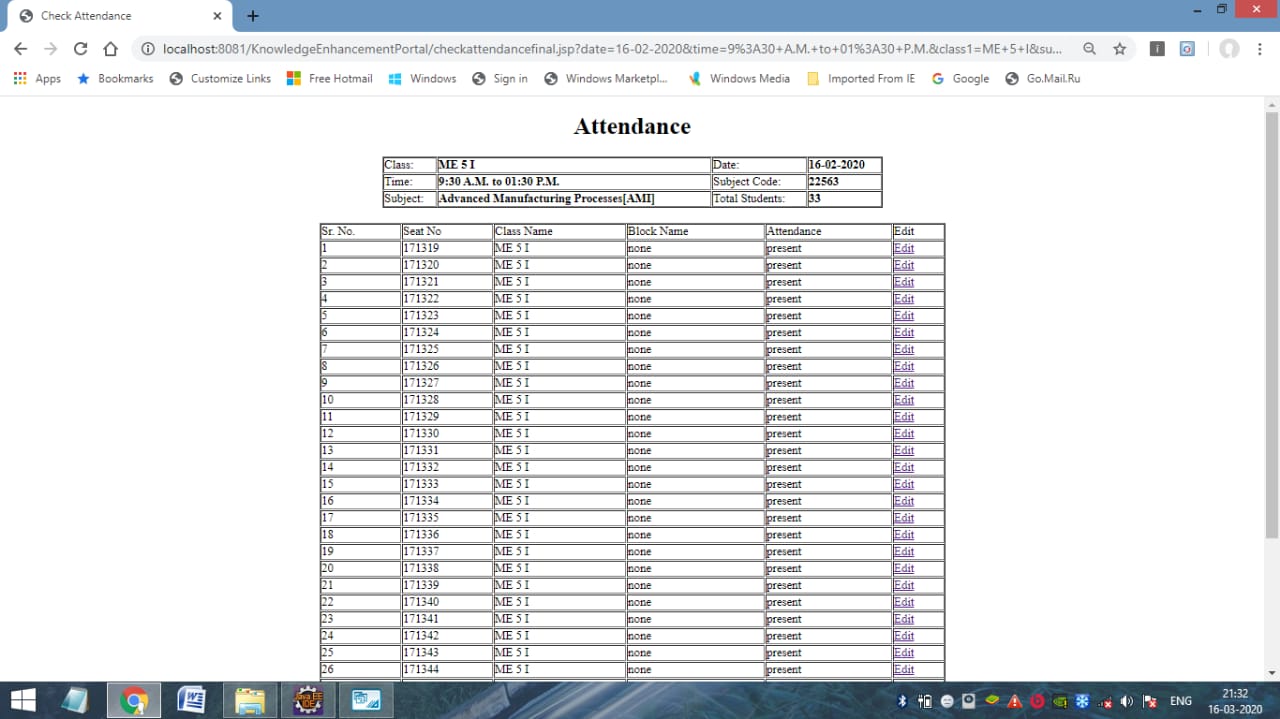
**Figure 4.4 – Home Page for Examination Seating Arrangement**

****

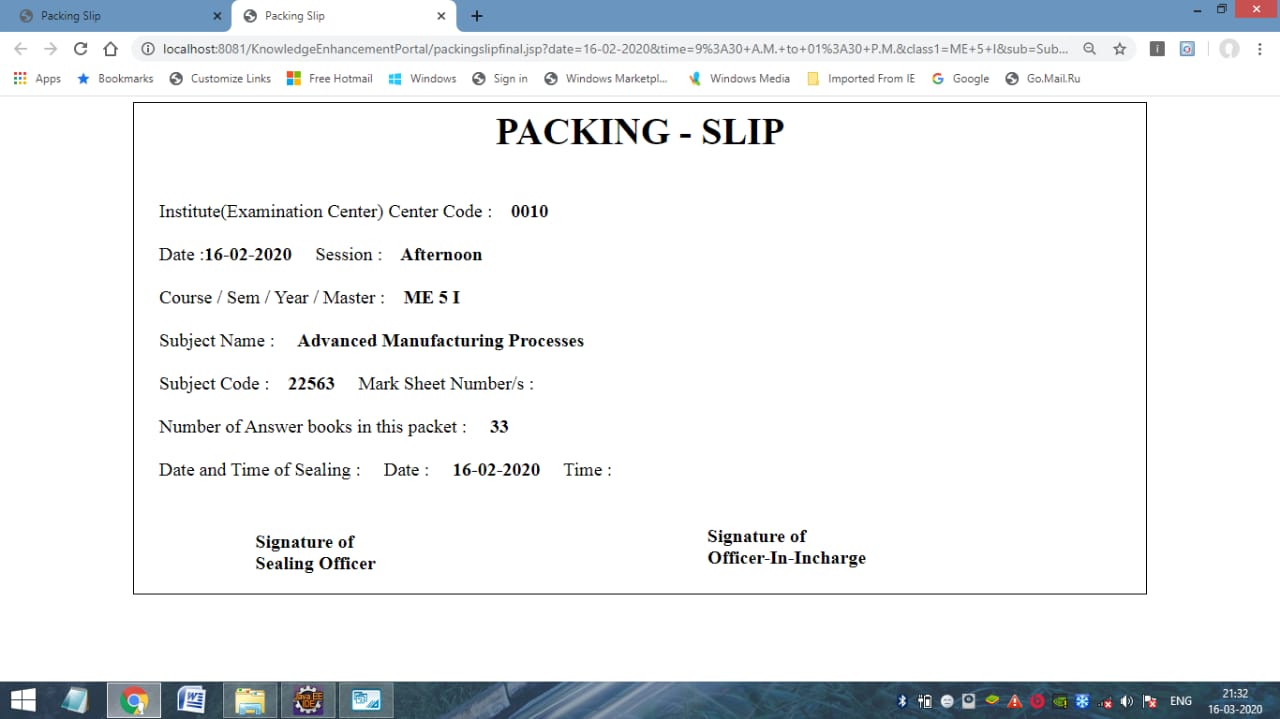
**Figure 4.5 – Print Master Seating Chart Page**

****

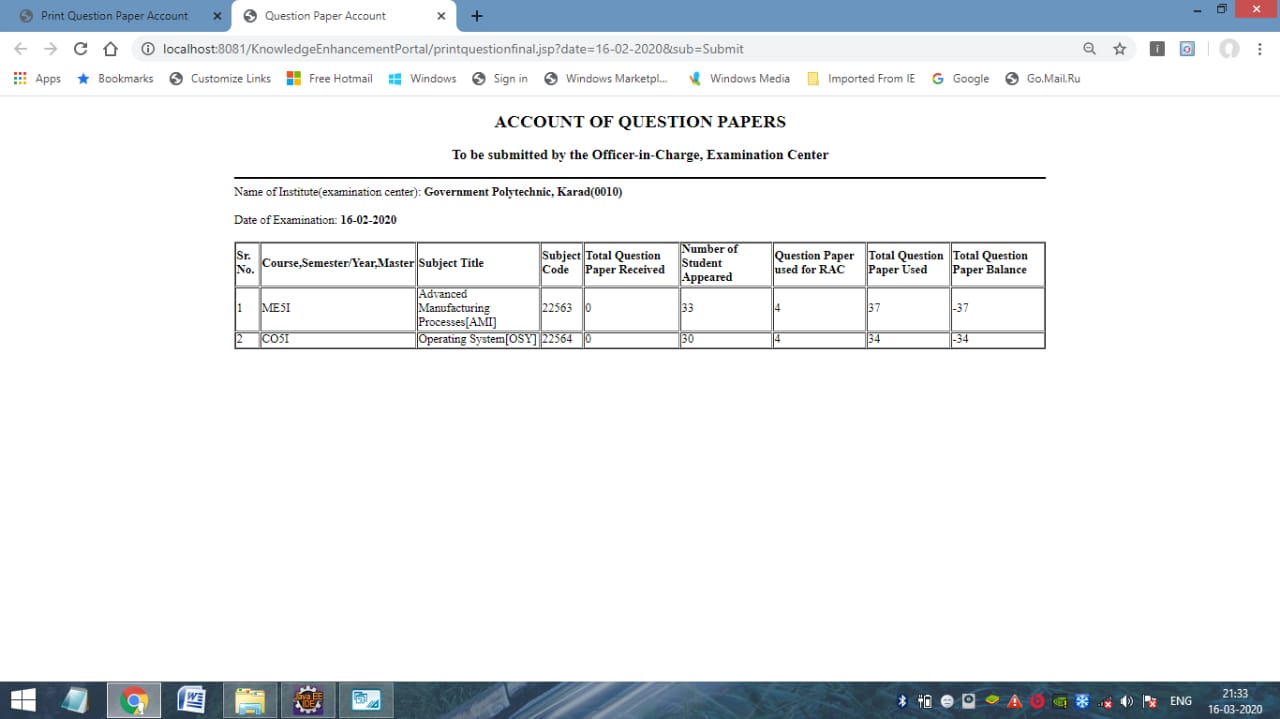
**Figure 4.6 – Importing Examination Timetable using CSV file**

****

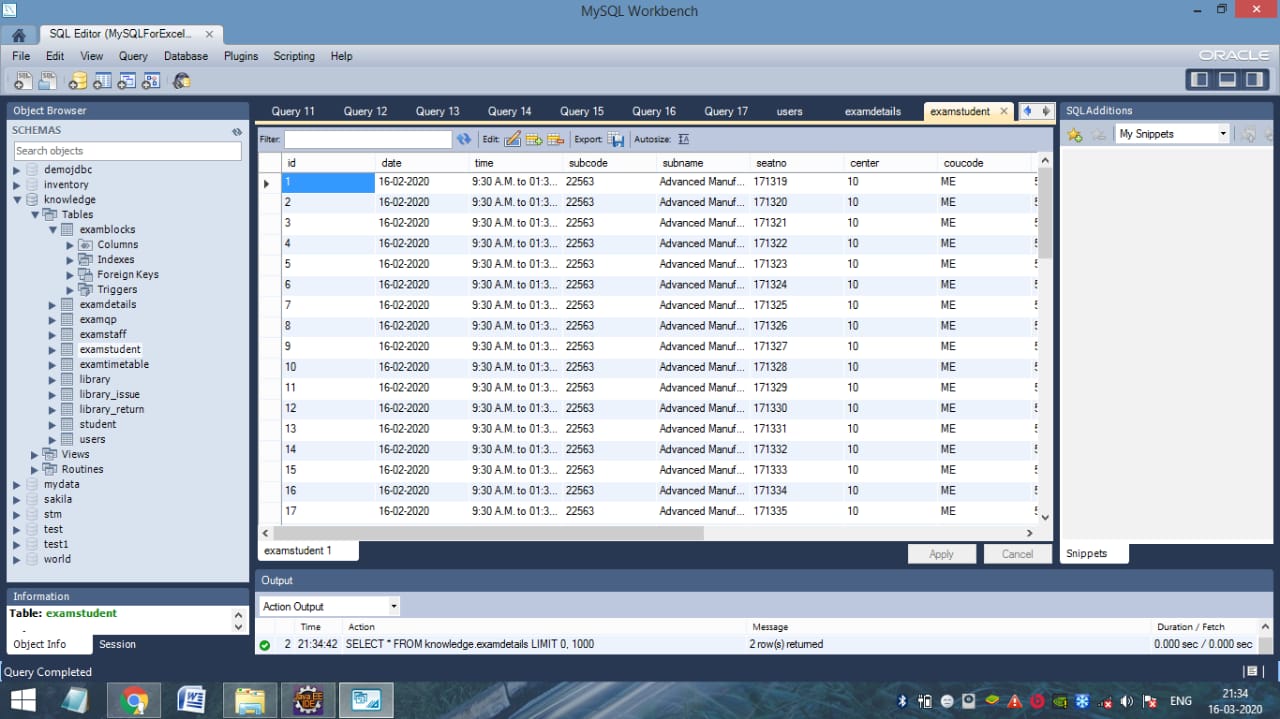
**Figure 4.7 – Attendance Report**

****

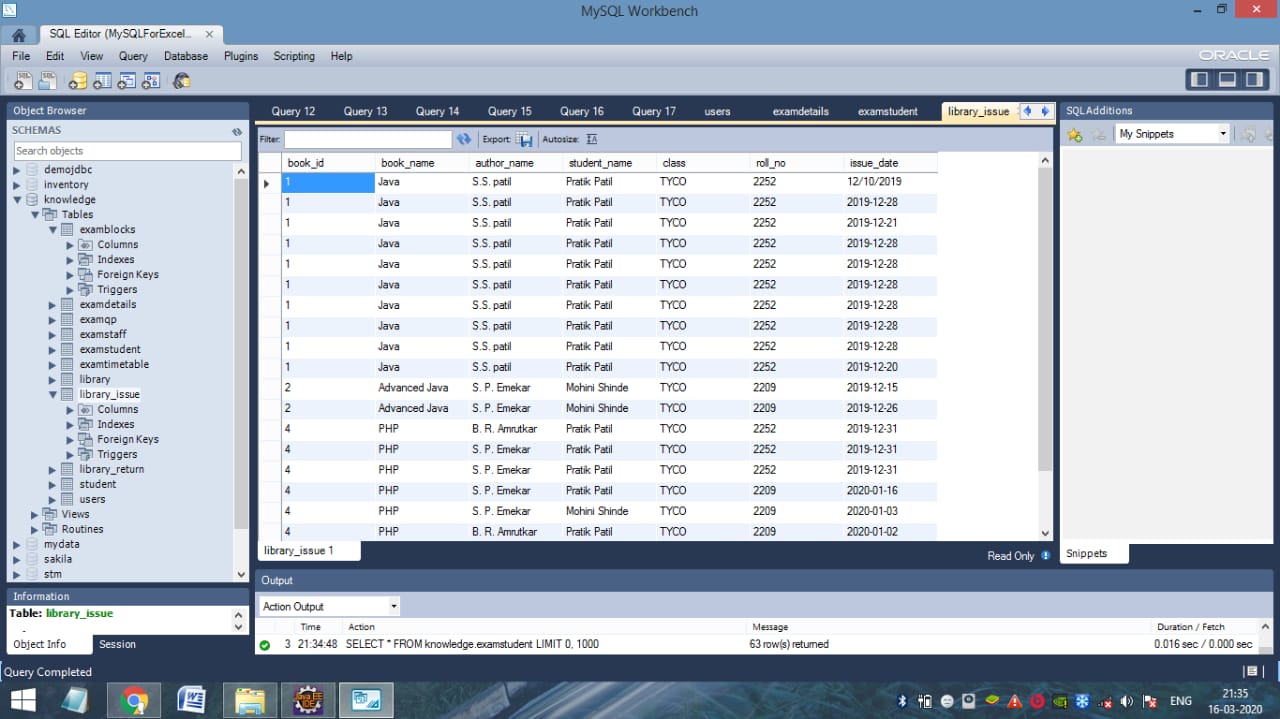
**Figure 4.8 – Packing Slip**

****

**Figure 4.9 – Question Paper Account**

****

**Figure 4.10 – Exam Student Table in database**

****

**Figure 4.11 – Library Issue Table in database**

**4.3 Applications**

* + 1. The project can be used by administrators in educational institutes for managing student data.
    2. The project can be used by administrators in educational institutes for managing library.
    3. The project can be used by administrator for managing examination seating arrangement at the time of the exams.
    4. The project can be used by educational institutes to achieve the motto of modern education for reducing efforts of components of education system.
    5. The project can be also used to solve problem of students for viewing and editing their own profile.

**Chapter 5 – Conclusion and Future Scope**

**5.1 Conclusion**

We conclude that this Knowledge Enhancement Portal will solve the problems of Stakeholders of education system. It will help them to handle their problems and will achieve the motto of Modern Education Techniques. We suggest different colleges to use this Portal for their betterment, so the issues they are facing in traditional education system will be eliminated.

**5.2 Future Scope**

1. We can add notice module where the faculties will be able to send notice directly to the students.
2. We can also add consumer option where student can order educational materials from consumer shop.
3. We can add the attendance module for faculties, where they can take attendance of students for every lecture and attendance will be stored in database. Here we can add option of create detain list and detain students will receive alert.
4. We can provide additional facilities for faculties.
5. We can fix repeaters in institutes so when student or faculties will enter the institute he/she will automatically get connected to this portal and they can use the system directly.
6. We can also add the chat module between faculties and students.

**Chapter 6 - References and Bibliography**

**6.1 References and Bibliography**

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