COLLEGE MANAGEMENT

A PROJECT SUBMITTED BY

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(REGD.NO:421206421015)

IN THE PARTIAL FULFILLMENT OF REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

MASTER OF SCIENCE

In

COMPUTER SCIENCE

UNDER THE GUIDANCE OF

ASSOCIATE PROF. DR K RAJA KUMAR

DEPARTMENT OF INFORMATION TECHNOLOGY AND COMPUTER APPLICATIONS

ANDHRA UNIVERSITY
VISAKHAPATNAM - 530003
(2021-2023)

DEPARTMENT OF INFORMATION TECHNOLOGY AND COMPUTER APPLICATIONS

ANDHRA UNIVERSITY

VISAKHAPATNAM-530003

CERTIFICATE

THIS IS CERTIFY THAT THE PROJECT REPORT ENTITLED **"COLLEGE MANAGEMENT",** IS THE BONAFIDE WORK CARRIED OUT BY **KAKI SYAMALA SAI JAYA MADHURI** WITH **REGD. NO : 421206421015,** A STUDENT OF MSC IN AU COLLEGE OF ENGINEERING (A), ANDHRA UNIVERSITY, VISAKHAPATNAM, DURING THE YEAR 2021-2023, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE.

ASSOCIATE PROF. DR K RAJA KUMAR

PROJECT GUIDE

DEPARTMENT OF IT & CA

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ACKNOWLEDGEMENT

I Would Like To Show My Greatest Appreciation To **ASSOCIATE PROF. DR K RAJA KUMAR,** Enough For His Tremendous Support And Help. Without His Encouragement And Guidance This Project Would Not Have Materialized.

I Would Like To Thank **Prof. K NAGESWARA RAO**, Head Of The Department, Information Technology And Computer Applications, AndhraUniversity College Of Engineering (A), For His Encouragement And Valuable Guidelines In Bringing Shape To The Dissertation.

I Am Sincerely Thankful To **Prof. G. Sasi Bhusana Rao , PRINCIPAL**, For The Valuable Support .

I Would Like To Thank Teaching Staff And Non-Teaching Staff Members of the Department Of Information Technology And Computer Applications, AndhraUniversity College Of Engineering (A), Visakhapatnam, For Their Constant Support In Successful Completion of My Study .

Finally, I Express My Indebtedness To My Beloved Parents And Friends Without Whose Blessings Encouragement I Would Not Have Completed My Work Fruitfully.

KAKI SYAMALA SAI JAYA MADHURI

(421206421015)

DECLARATION

I Declare That The Project Report Entitled, Malicious "**COLLEGE MANAGEMENT"** Has Been Done By Me In Partial Fulfillment Of Requirement For The Award Of Degree, Of **" Master Of Science "**, During The Academic Year 2019-21 Under The Guide Of **" ASSOCIATE PROF. DR K RAJA KUMAR",** Department Of Information Technology And Computer Applications, AU College Of Engineering (A), AndhraUniversity, Visakhapatnam. I, Here By Declare That This Project Work Has Not Been Submitted To Any Other Universities/Institutions For The Award Of Any Degree.

PLACE : VISAKHAPATNAM
DATE:

KAKI SYAMALA SAI JAYA MADHURI
(421206421015)

ABSTRACT

This project is based on COLLEGE MANAGEMENT SYSTEM, a web based application meat for helping institutions. It is a piece of software that helps run the college daily administrative and academic operations smoothly from afar. It manages the records of college and students easily like student details, placement information, various types of events on in the college, it also keeps track records of all the information regarding students those who are placed in the various Organizations.

Achieving this objective is difficult using a manual system like Excel as the information is scattered, can be redundant and collection relevant information may be very time-consuming. All these problems are solved using this project. Admin is the super user of this project. All the record stores in MYSQL database. The proposed software will also reduce the cumbersome paperwork, manual labor as well as communication cost.

Whenever we want, we can easily export the records stored in database to excel. Editing, Viewing, Removing records is easy. Students can access the site to fill their details, surveys and update their details any time through login. Only admin can register and login to the application, he will manage the application further.

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CHAPTER - 1:

PROJECT INTRODUCTION

1.1 INTRODUCTION -

The College management system is the ultimate solution to digitize and streamline the day - to - day operations of colleges and universities. From student details management to college details management and placement details to higher education details. The approach of software has several benefits. It has an email Id and password for all the process connected to the college.

The design and implementation of the system is to provide service in institute and colleges. The system is to provide comprehensive student information system and user interface is to replace the current paper records. Students and admin having different user interfaces, admin can access student home page also. Admin should add records of the events and operations of the college, he can edit details any time and can remove the records.

The data stored in the database can be downloaded in the form of excel sheets using a download button. All these will be available for future references too. Searching will become more efficient and faster in comparison to manual searching. Overall, it will reduce the cost and time of the college head in taking care of the college.

1.2 PROBLEM STATEMENT -

There is a problem with traditional college management system because it didn't have a systematic way to store information about students. When the staff or administrator wants to record the details of a student, they must fill out a paper form or manually enter in excel sheets. The data might be lost if there are a lot of problems at the same time.

There is a problem with manual entering of data in Excel sheets because, the burden of entering data will be on single person and data redundancy will be happen. Manually entering data in Excel takes long time if the data is too big. updating of data and inserting may takes time. But, with this system we can generate reports accurately we can update, insert, search, delete easily. Students will enter and update their details so there will be no burden on single person. This system is user-friendly.

1.3 MOTIVATION -

The motivation behind developing a college management application, is to store details of students, events and operations of college in an efficient way. The software facilitates the administrators to know the present status of the student of the college.

It will generate the reports of all the students of a particular section. Hence, we conclude that the present system (CMS for colleges) would help the user by saving time and effort by reducing the processing time and volume of errors. The efficiency of the work done would be improved and work satisfaction on the part of the users after computerization would on high.

So, the motivation for our project came from that it has been made for that purpose, and for trying hardly to achieve all the previous goals.

1.4 OBJECTIVE -

- The main objective of the project is to build a responsive website to manage the different college activities.
- To track student's details and performance.
- To make a virtual community between the members of educational process.
- College management system provides one attractive environment where you can manipulate data and information about students and staff easily.
- The core purpose of designing the application is to manage the task related to the college students/staff and to reduce time to searching of appropriate candidates in college view.

1.5 SCOPE -

Without a **college management system**, managing and maintaining the details of the student is a tedious job for any organization. Student information will be stored including their background information, educational qualifications and personal details.

This system is designed to be easy for people to use and efficient for a wide range of different tasks. These tasks may include things like registering new students, managing activities, managing placements, and all the other things that make the department of the college work well.

- In computer system the person must 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 us time.

- To assist the staff in capturing the effort spent on their respective working areas.
- It satisfies the user requirement.
- Be easy to understand by the user and operator.

1.6 EXISTING SYSTEM -

Some of the drawbacks which force us to plan this whole idea of developing an online college management system, initially college must maintain records of the events and students using excel sheets and they enter details manually, it is hard to use excel. If we want student details, then staff must enter the details of each student.

If we want to store the file uploads then, it will be hard to store using excel and retrieve whenever we want. Update and delete doesn't work efficiently in excel sheets.

Suppose if some student comes and asks for the profile changes after few days then the staff will open the file and search it manually for the student's name which will take time. In conclusion, this project can avoid these problems effectively and efficiently.

1.7 PROPOSED SYSTEM -

This is a web-related application that permits us to approach the entire knowledge regarding the college, students etc. This application is called as college management system. It offers an actual trip of the college campus. Here we would gain the recent knowledge regarding the college.

This general application planned for managing the student and college details. It also allows staff to upload relevant documents about the events and operations done in the college. The administrator would maintain the project by adding new records, updating existing, removing the records and exporting the data in the form of excel sheets.

To solve few problems with manual entry and in excel sheets, this new system has been created, that attempts to operate the whole procedure considering the database integration approach.

CHAPTER - 2:

SOFTWARE PROCESS

2.1 SOFTWARE DEVELOPMENT PROCESS MODELS -

Software Development life cycle (SDLC) is a spiritual model used in project management that defines the stages include in an information system development project, from an initial feasibility study to the maintenance of the completed application.

There are different software development life cycle models specify and design, which are followed during the software development phase. These models are also called "Software Development Process Models." Each process model follows a series of phase unique to its type to ensure success in the step of software development.

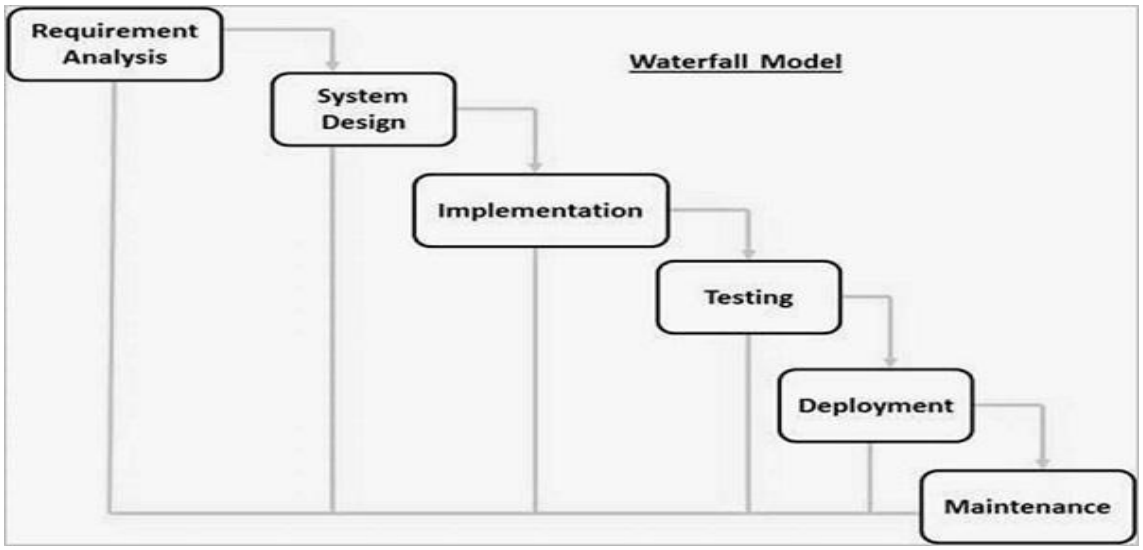
The Process Model for College management system we use Waterfall model,

2.1.1 Water Fall Model -

The waterfall model is a sequential design process, used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design, construction, testing, production./implementation and maintenance.

The waterfall development model originates in the manufacturing and construction industries: highly structured physical environments in which after-the-fact changes are prohibitively costly, if not impossible. Since no formal software development methodologies existed at the time, this hardware-oriented model was simply adapted for software development.

Diagram -



CHAPTER - 3:

SYSTEM REQUIREMENT ANALYSIS AND SPECIFICATION

3.1 REQUIREMENT SPECIFICATION-

Requirements specification is a crucial phase in the software development process where the software requirements are identified, analyzed, documented, and prioritized. This process helps to ensure that the software being developed meets the needs and expectations of its intended users and stakeholders. Requirements analysis typically involves gathering information about the needs and requirements of the users and stakeholders, defining the scope of the software, identifying the functional and non-functional requirements of the software, and documenting the requirements in a detailed and structured manner. The requirements analysis process can include various techniques, such as interviews, surveys, observations, and focus groups, to gather information about the requirements.

- Requirements analysis is the process of identifying and documenting the needs and expectations of the users and stakeholders for a software project.
- It also helps to ensure that the software development team has a clear understanding of what needs to be developed, tested, and delivered.
- This process helps to identify potential issues and risks that may impact the software development process, such as conflicting requirements or missing requirements.

3.2 FUNCTIONAL REQUIREMENTS -

Functional Requirement defines a function of a software system and how the system must behave when presented with specific inputs or conditions. These may include calculations, data manipulation and processing and other specific functionality.

In this system following are the functional requirements:

- The system allows authentication and authorization for the users.
- It will help in storing details of college and students.
- We can upload relevant files in the database.
- We can download the data inside the database in the form of excel sheets.
- Admin can able to manage the system like updating functionality.
- Students will be having different UI they can access only few things.
- Admin can access students as well as admin UI.

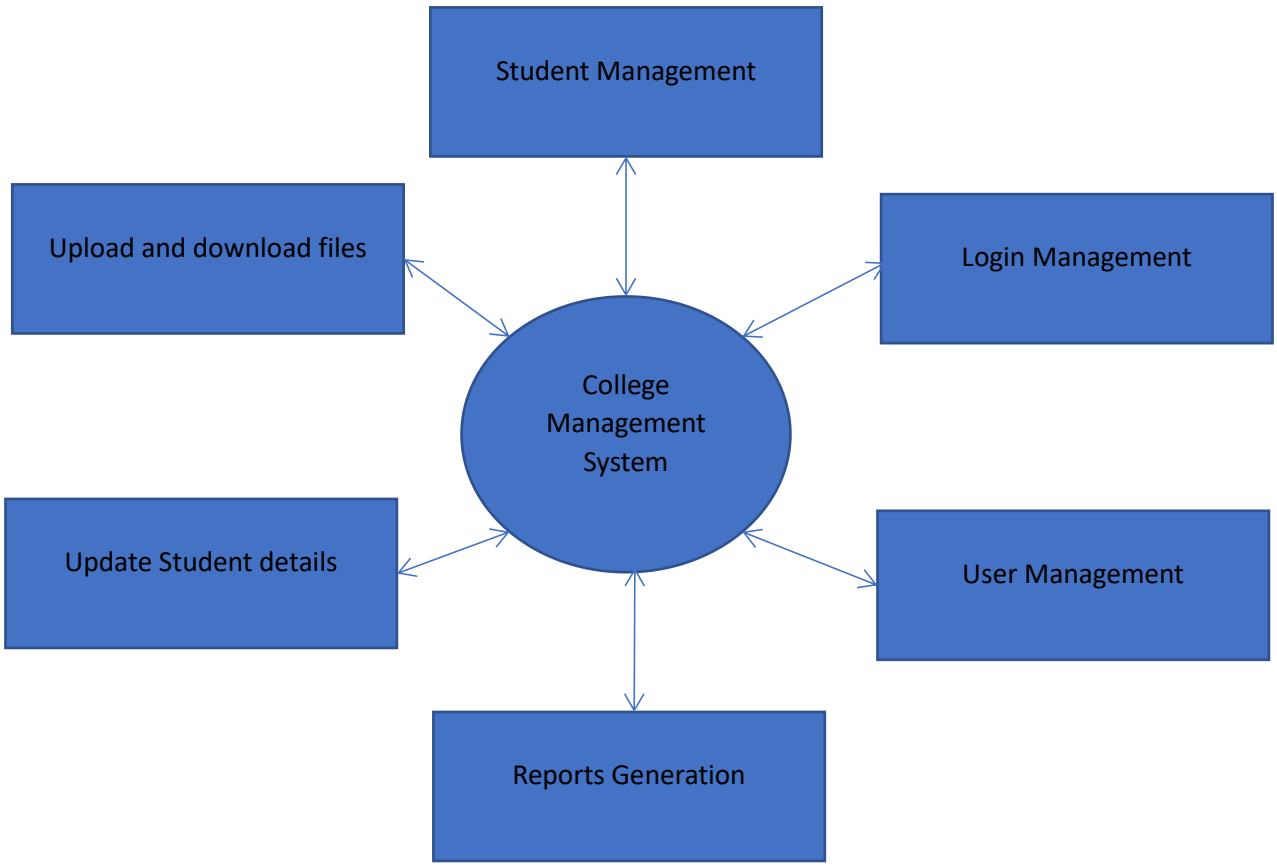
3.3 NON-FUNCTIONAL REQUIREMENTS -

It is a requirement specification that specifies criteria that can be used to judge the operations of a system rather than specific behavior. These requirements are also called quality attributes of a system as these include the majority those metrics that define the standard and quality for the system, some of the parameters coming under this includes Performance, Security etc.

- **Performance**: The system should be able to add, update, delete records quickly and accurately, with minimal delay or lag.
- **Accessibility**: The system should be accessible to users with different levels of physical ability, and be designed with usability best practices in mind.
- **Security**: The system should be secure, with appropriate measures in place to prevent unauthorized access or malicious attacks.
- **Usability**: The system should be intuitive and easy to use, with clear instructions and feedback for users.
- **Availability**: The system should be always available to users, with minimal downtime for maintenance or updates.

3.4 OTHER APPROACHES FOR ANALYSIS -

3.4.1 DATA FLOW DIAGRAM - Zero level Data flow diagram



3.4.2 ER DIAGRAM -

The ER (Entity Relationship) Diagram represents the model of college management system entity. The entity-relationship diagram of college management system shows all the visual instrument of database tables and the relations between Users, Activity, Placements, Demand ratio etc. It used structure data and to define the relationships between structured data groups of college management system functionality.

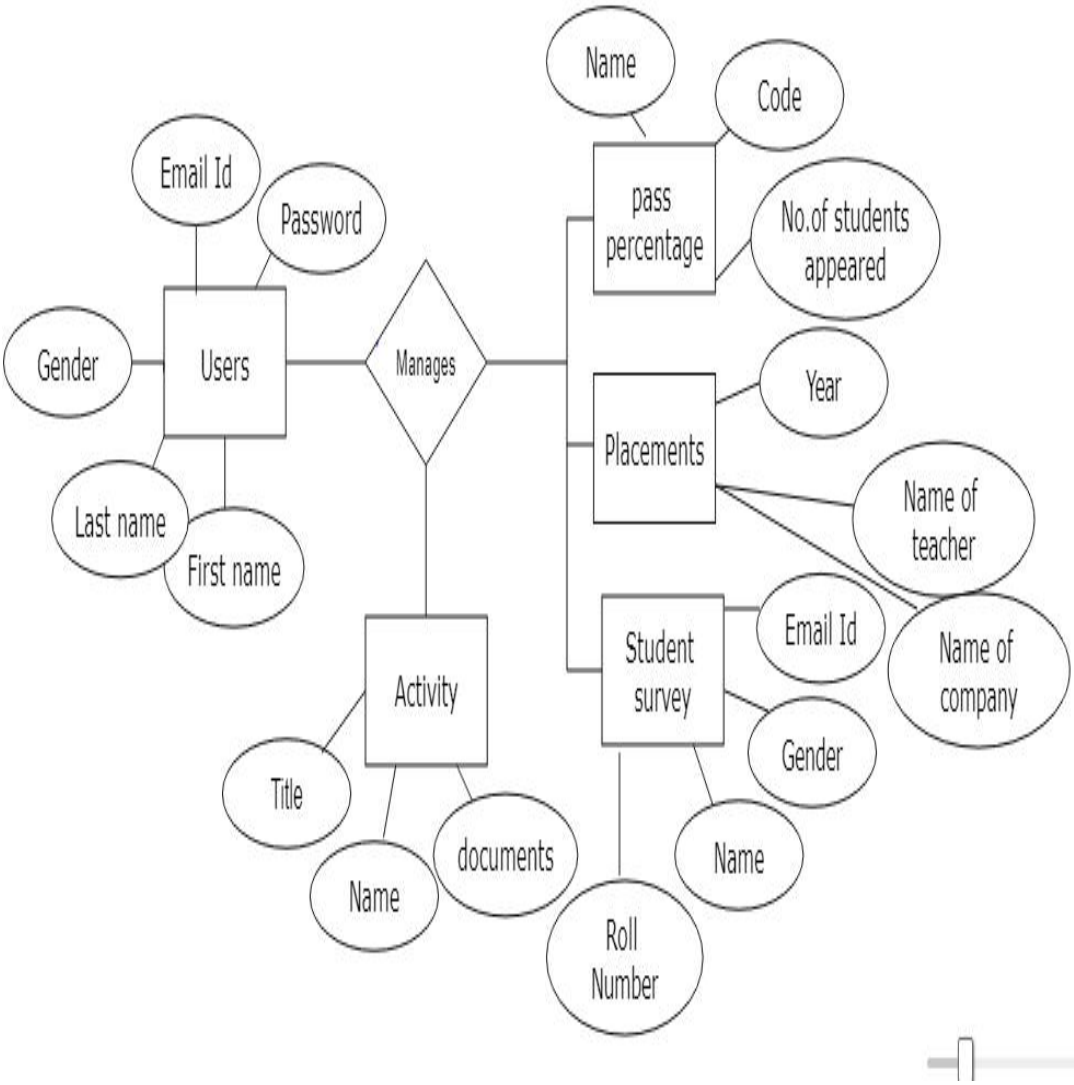
The main entities of the college management system are users, activity, demand ratio, placements etc.

College Management System entities and their attributes:

Users Entity: Attributes of users are Admin_Id, Admin_password, First_Name, Last_Name etc.

Activity Entity: Attributes of activity are Title, Name of activity, Name of participant, Duration, Year of collaboration.

Demand Ratio: Attributes of Demand ratio are Program code, program name, number of seats available etc.



CHAPTER - 4:

SYSTEM ARCHITECTURE

5.1 SYSTEM ARCHITECTURE -

System architecture refers to the design and structure of a computer system, including its hardware, software, and other components, as well as their interactions and relationships. A good system architecture is essential for building complex systems that are reliable, scalable, maintainable, and adaptable.

The system architecture for COLLEGE MANAGEMENT SYSTEM could include several components, such as:

Fig: System Architecture

User Interface: Finally, the user interface module would provide a graphical user interface (GUI) for the user to interact with the system.

Authentication: User first authenticated. Whether user is admin or not by credentials like email id and password.

Manipulate Records: Admin can manipulate records like adding records, updating, deleting and downloading.

Data Stored to Database: After admin changes the data then newly entered data is submitted to database.

Logout: After that admin can logout from the application.

4.2 SOFTWARE REQUIREMENTS -

These are the requirements which are not directly concerned with the specific function delivery by the system. They specify the criteria that can be used to judge the operation of a system rather than specific behaviors

The software requirements are:

Operating system : Windows 7/8/10

Coding Language : JavaScript

Tools : VS Code

Backend : NodeJS

Front End : React

4.3 HARDWARE REQUIREMENTS -

In this system following are the hardware requirements:

System : Intel I3 or higher.

Hard Disk : 120 GB.

Monitor : 15'' LED

Ram : 8 GB or higher

CHAPTER - 5:

PLANNING A SOFTWARE PROJECT

The basic goal of planning is to look into the future, identify the activities that need to be done to complete the project successfully, and plan the scheduling and resource allocation for these activities. Ideally, all future activities should be planned. A good plan is flexible enough to handle the unforeseen events that inevitably occur in a large project. Economic, political, and personnel factors should be taken into account for a realistic plan and thus for a successful project. The input to the planning activity is the requirements specification. A very detailed requirements document is not essential for planning, but for a good plan all the important requirements must be known. The output of this phase is the project plan, which is a document describing the different aspects of the plan. The project plan is instrumental in driving the development process through the remaining phases. The major issues the project plan addresses are:

1. Cost estimation
2. Quality assurance plans
3. Risk management

5.1 EFFORT ESTIMATION -

For a given set of requirements it is desirable to know how much it will cost to develop the software to satisfy the given requirements, and how much time development will take. These estimates are needed before development is initiated. The primary reason for cost and schedule estimation is to enable the client or developer to perform a cost-benefit analysis and for project monitoring and control. A more practical use of these estimates is in bidding for software projects, where the developers just give cost estimates to a potential client for the development contract.

Work effort is the labor required to complete an activity. Work effort is typically the amount of focused an uninterrupted labor time required to compute an activity

5.2 RISK MANAGEMENT -

Risk Management for college management involves identifying potential risks and implementing strategies to mitigate or eliminate them. Here are some key areas of risk and corresponding risk management practices for college management.

Academic Risks:

- Ensure curriculum quality and relevance.
- Regularly review and update academic policies and procedures.

Financial Risks:

- Maintain accurate financial records and implement sound financial management practices.
- Implement cost-control measures and efficient resource allocation.

Reputation Risks:

- Establish and communicate clear values, ethics, and code of conduct.

Technology Risks:

- Regularly update and patch software systems to address vulnerabilities.
- Develop data backup and recovery procedures.
- Provide training to staff and students on cybersecurity best practices.

CHAPTER - 6:

SYSTEM DESIGN

5.1 DESIGN CONCEPTS -

Modular Architecture :

Divide the System into modular components to promote scalability, maintainability, and re usability. Each module can handle specific functions such as student management, faculty management, course management.

User Roles and Permissions :

Implement a role-based access control system to manage user roles and permissions. Different users, such as administrators, faculty members, students, and parents, should have appropriate access levels based on their roles.

Centralized Database :

Maintain a centralized database to store and manage data related to students, faculty, Activities, Placements, Internships and Higher Education details. Ensure the db schema is well-designed to support efficient querying and data retrieval.

User Interface :

Create an intuitive and user-friendly interface for different user types. Design the interface to be responsive and accessible across multiple devices, including desktops, mobile devices.

Data Security and Privacy :

Implement Strong security measures to protect sensitive data, such as student records, grades, and financial information. Utilize encryption techniques, secure authentication and role-based access control to ensure data privacy

Scalability and Performance :

Design the system with scalability in mind to handle a growing number of students and staff. Ensure the system can handle peak loads and performance requirements by implementing appropriate caching mechanisms.

Backup and Disaster Recovery :

Implement regular data backups and disaster recovery mechanisms to protect against data loss. Have a robust backup strategy through mysql database.

5.2 FUNCTION ORIENTED DESIGN-

In a function-oriented design approach for a college management system, the system's functionalities are divided into separate functions or modules. Each function is responsible for performing a specific task or operation within the system. Here are some key functions that can be considered for a college management system:

Student Management: This function handles student-related tasks, such as student registration, enrollment, record management, and tracking academic progress. It includes features like student profile management, course selection, grade management, attendance tracking, and generating student reports.

Login Management: This function handles registration and login for users like Admin and students. Login will be role based, there are two roles student and admin. There will be two different UI for different users. By entering the login credentials user can be able to use the system functions.

User Management: This function handles all the users of the system. They are two users Admin and students. Admin will handle students. He can be able to manipulate students like insert, delete, and update.

Reports Generation: The main aim of the system is to generate reports as excel sheets. Students will update the data so that the data will be inserted into other tables. So when we download the report it will download in the form of excel.

5.3 OBJECT ORIENTED DESIGN -

Object-oriented design is an approach to software development that focuses on organizing the system’s around objects, which are instances of classes. In the context of a college management system, object-oriented design involves identifying and modeling the various entities, behaviors, and relationships within the system.

A College management system typically involves managing students, faculty, courses, departments, and administrative tasks. To design such a system, the following key concepts can be considered.

1. Classes : Classes represent the blueprint for objects and define their attributes(data) and behaviors(methods). In a college management system, examples of classes could include Student, Activity, Placements, Internships, and Admin.

2. Objects : Objects are instances of classes and hold specific data and behavior. For example, an object of the student class would represent an individual student with attributes like name, register number, and certificate courses etc.

3. Inheritance : Inheritance allows classes to inherit attributes and behaviors from other classes, creating a hierarchy. For instance, the Btech, Mtech, Msc/Mca classes could inherit common attributes and methods from base class like student which may include attributes such as name and information.

4. Encapsulation : Encapsulation is the practice of bundling data and related methods into a single unit called an object. It ensures that data is accessed and modified only through defined methods, providing control over data integrity. For example, the student class may have methods to store and update certificates, and files, encapsulating the relevant data and logic.

5. Polymorphism : Polymorphism enables objects of different classes to be treated as instances of a common superclass. It allows for flexibility and code reuse. In a college management system, polymorphism could be seen when handling different types of users(e.g., Btech, Msc/Mca and Mtech) using a common user superclass.

By employing object-oriented design principles and concepts, a college management system can be structured in a modular and scalable manner. It allows for easier maintenance, code reuse, and flexibility, making the system more adaptable to future changes and enhancements.

5.4 UML DIAGRAMS -

5.3.1 USE CASE DIAGRAM -

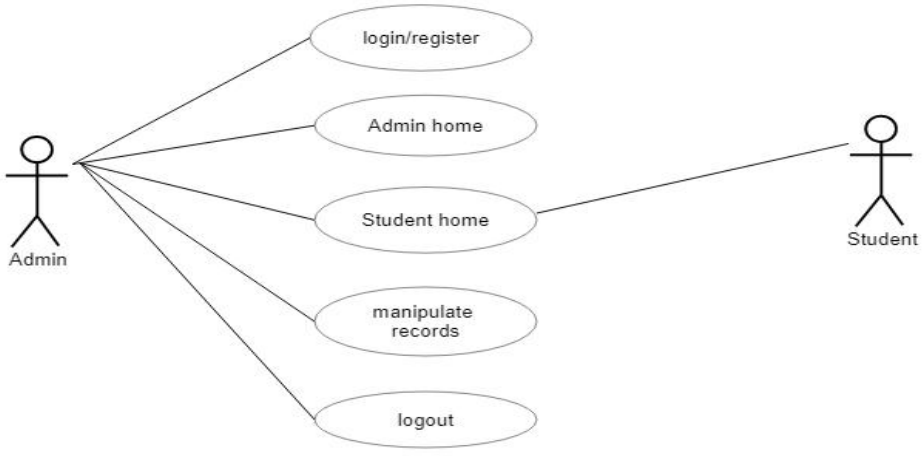
A use case diagram is a type of UML diagram that represents the interactions between actors and the system. Actors are external entities that interact with the system, while use cases are the actions or services that the system provides to the actors. The use case diagram is a dynamic representation of the system, meaning that it shows how the system behaves over time.

The purpose of a use case diagram is to provide a high-level view of the system's functionality and the interactions between actors and the system. Here are some of the key benefits of using a use case diagram:

1. It helps identify the user requirements by identifying the actors and the use cases they need to perform.

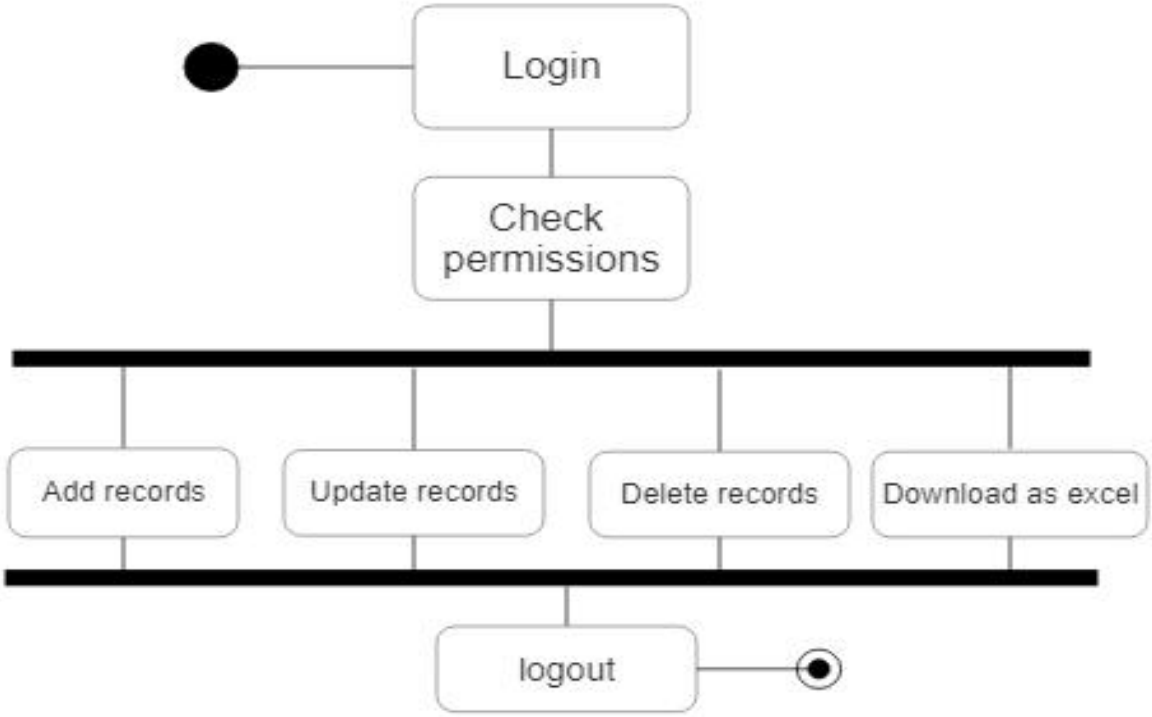
2. It helps identify the boundaries of the system by showing which actors are external to the system.

3. It can be used to develop test cases that validate the system's behavior.

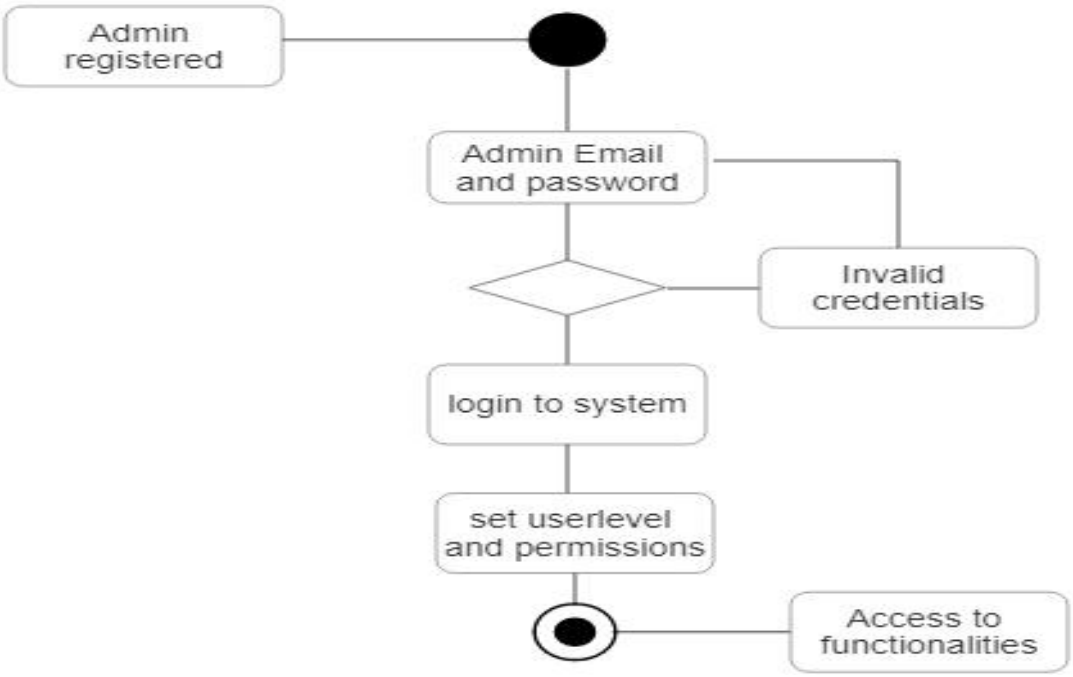


5.3.2 ACTIVITY DIAGRAM -

This is the Activity diagram of college management system which shows the flow between the activity of college, students, events, login. The main activity involved in this UML Activity diagram of college management system are as follows:



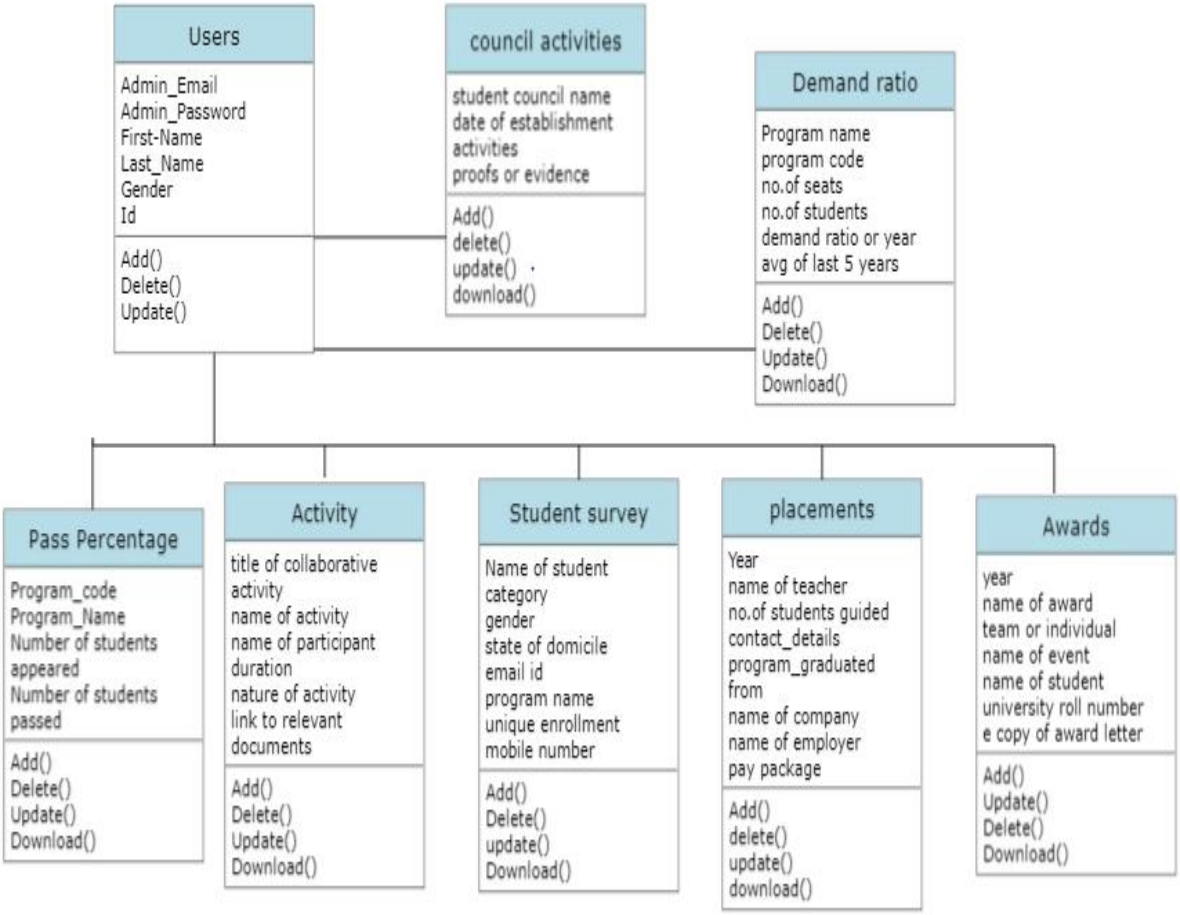
This is the login activity diagram of college management system, which shows the flows of login activity, where admin will be able to login using their E-mail and password. After login user can manage all the operations.



5.3.3 CLASS DIAGRAM -

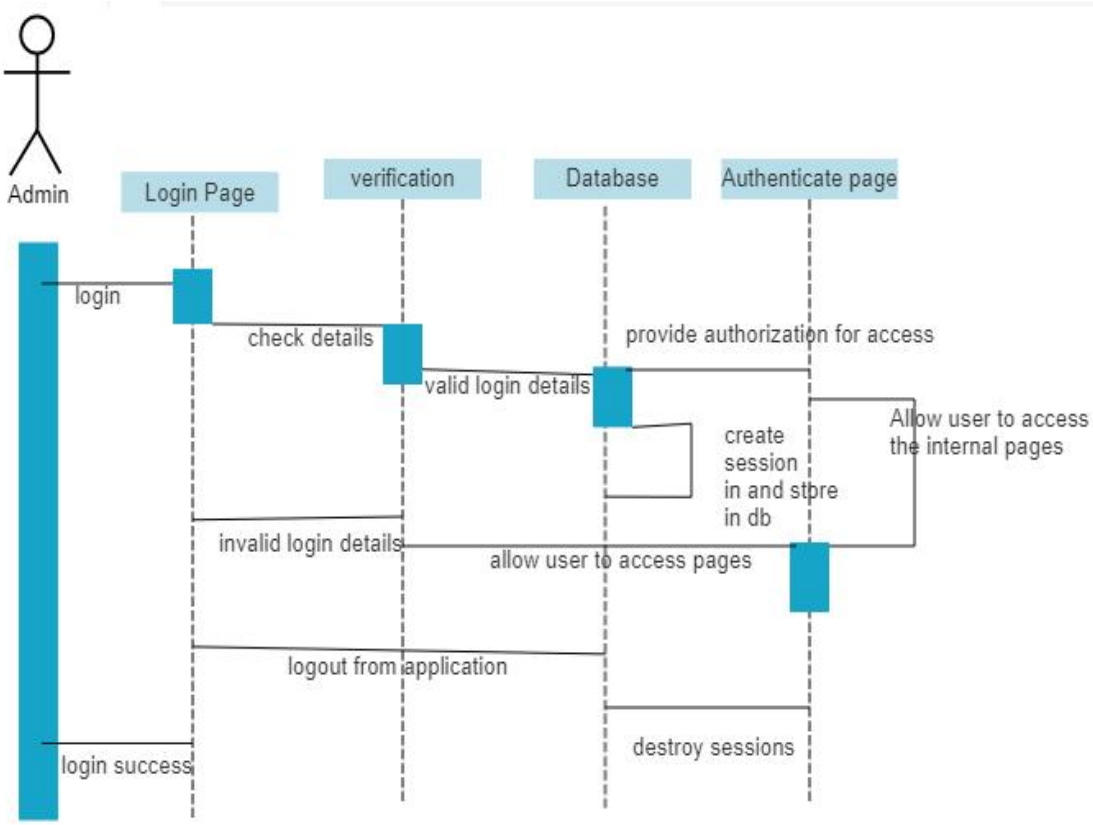
College management system class diagram describes the structure of a college management system classes, their attributes, operations (or methods), and the relationships among objects. The main classes of the college management system are users, activities, collaborative activities, placements etc.

- Users class: Manages all the operations of users.
- Higher Education class: Manages all the operations of Higher education.
- Placement class: Manages all the operations of placements.
- Collaborative Activities class**:** Manages all operations of Collaborative activities etc.



5.3.5 SEQUENCE DIAGRAM -

This is a Login sequence diagram of college management system, where admin will be able to login in their account using their credentials. After login user can manage all the operations on college tables and student tables. The diagram below helps demonstrate how the login page works in a college management system. The various objects in the users, activity, demand ratio etc. Page interacts over the course of the sequence, and user will not be able to access this page.


Admin
Login Page
verification
Database
Authenticate page
login
check details
provide authorization for access
valid login details
Allow user to access
the internal pages
create
session
in and store
in db
invalid login details
allow user to access pages
logout from application
destroy sessions
login success

CHAPTER - 6:

CODING AND UNIT TESTING

6.1 IMPLEMENTATION -

This application is developed to achieve a goal that Admin can be able to manage the details of college, student can get his/her required information including view their details, update their details when ever they want. Admin is fully authorized to update, read, delete and insert details of students, events in college, placements details and etc… at any time. This applications helps students to get their information online instead to visit the offices, it becomes easy to view and edit online instead to going to office and ask the management to update their details.

It will save paper work as the things work online through application. It will be very helpful to control and manipulate data and on just one query the required information will be on our screen. Instead to open files one by one and check manually things and wasting time.This application will saving time

Management system is a very important and essential part of any educational institute. The project defines the all management of College System. College management system means it controls all the management tasks and functions. It performs all functions which is require to any educational institute. Admin can view and change all record of the college.

Students can fill their course evaluation forms in the home page as surveys. Students and Admin can use the system through login first they have to authenticate then for admin the home page will be different and for student home page will be different.

Frontend is implemented using ReactJs a Scripting language in Visual Studio Code. Data is taken manually through front-end user interface.

Backend is implemented using NodeJs a framework in Visual Studio Code. Data is stored MySql. User can login and retrieve their data using this.

Middleware is implemented by MySql database, all the data added by the users stored here users can retrieve when they want.

6.2 CODING INSPECTION -

API'S -

```
const app1 = require('./routes/BtechRouter');

const app2 = require('./routes/MtechRouter');

const app3 = require('./routes/MscORMca_Router');

const app4 = require('./routes/PlacementOutgoing_Router');

const app5 = require('./routes/CollaborativeActivities_Router');

const app6 = require('./routes/ValueAddedCourse_Router');

const app7 = require('./routes/DemadRatio_Router');

const app8 = require('./routes/AvgNumberOfDays_Router');

const app9 = require('./routes/Avgpasspercentage_Router');

const app10 = require('./routes/Awards_Router');

const app11 = require('./routes/Per_Students_Undertaking_Router');

const app12 = require('./routes/HigherEducation_Router');

const app13 = require('./routes/StudentComputerRatio_Router');

const app14 = require('./routes/CouncilActivity_Router');

const app15 = require('./routes/StudentSatisfactory_Router');

const app16 = require('./routes/login');

const excel = require('./routes/Excel');

const app = express();
```

```
app.use(morgan('dev'));

app.use(express.json());

app.use(cors());

app.use('/btech',app1);

app.use('/mtech',app2);

app.use('/mscormca',app3);

app.use('/placement',app4);

app.use('/activities',app5);

app.use('/',app6);

app.use('/demandratio',app7);

app.use('/avgnumberofdays',app8);

app.use('/avgpasspercentage',app9);

app.use('/awards',app10);

app.use('/internships',app11);

app.use('/highereducation',app12);

app.use('/computerratio',app13);

app.use('/councilactivities',app14);

app.use('/studentsatisfactory',app15);

app.use('/',app16);

app.use('/download',excel);
```

Pseudo Code for Creating a server:

```
const http = require('http');

Function handleRequest(request, response) {

response.writeHead(200, { 'Content-Type': 'text/plain'});

}

const server = http.createServer(handleRequest);

server.listen(3000, 'localhost', () =>{

console.log('Server is running on http://localhost:3000');

});
```

CHAPTER - 7:

TESTING

Once the project implementation is completed then testing will start. Testing is one of the main phases it is a process of executing a program with the intent of finding in errors and bugs. Debugging is the process of loading the exact cause of an error in removing that cause. Software testing is a critical element of software quality assurance and represents the ultimate review of specifications, design and code generation. These techniques provide systematic guidance for designing tests that : Exercise the internal logic of software components, and exercise the input and output domains of the programs to uncover the errors in program function, behavior and performance.

9.1 Types of Testing - There are many types of testing methodologies but we use few of them in this project.

Black box testing - we used Black box testing. We give different type of inputs and check the output without any internal code knowledge.

White box testing - In this testing, we check all the loops and structure. We give input according to the loops and structure and check the output.

Unit testing - In this testing, whenever a module is finished we check it individually, means all the functions are checked individually.

Interface testing - we check if all the interactions between these applications are executed properly or not. Errors are handled properly or not. If database returns any error message for any query by application then it be should catch and display these error messages appropriately to users.

Performance testing - we test our project on different internet connection speed. In load testing test if user wants to perform so many functionalities at the same time, large input data from users, simultaneous connection to DB, heavy load on specific pages etc.

9.2 Test cases -

we have gone for unit testing and integration testing. So, we have initially concentrated on unit testing and for that we spend some time whenever we developed any new functions. This has been done during coding time as well as after the design whenever we use them. After the completion of unit testing, we have moved to integration testing and we completed it in one day.

S.No	Test case description	Expected Result	Actual Result	Status
1	Enter email and password	Go to Admin/Student home page	Go to home page	pass
2	register	Go to login page	Go to login page	pass
3	Save,update,delete,view details	Operation should be performed	successful	pass
4	See user information	Only admin	successful	pass
5	logout	Go to main home page	Go to main home page	pass
6	Records search	Operation should be perform	successful	pass
7	Download as excel	Excel file should be downloaded	Successful download	pass
8	Update student details	Update new details	Successful updation	pass

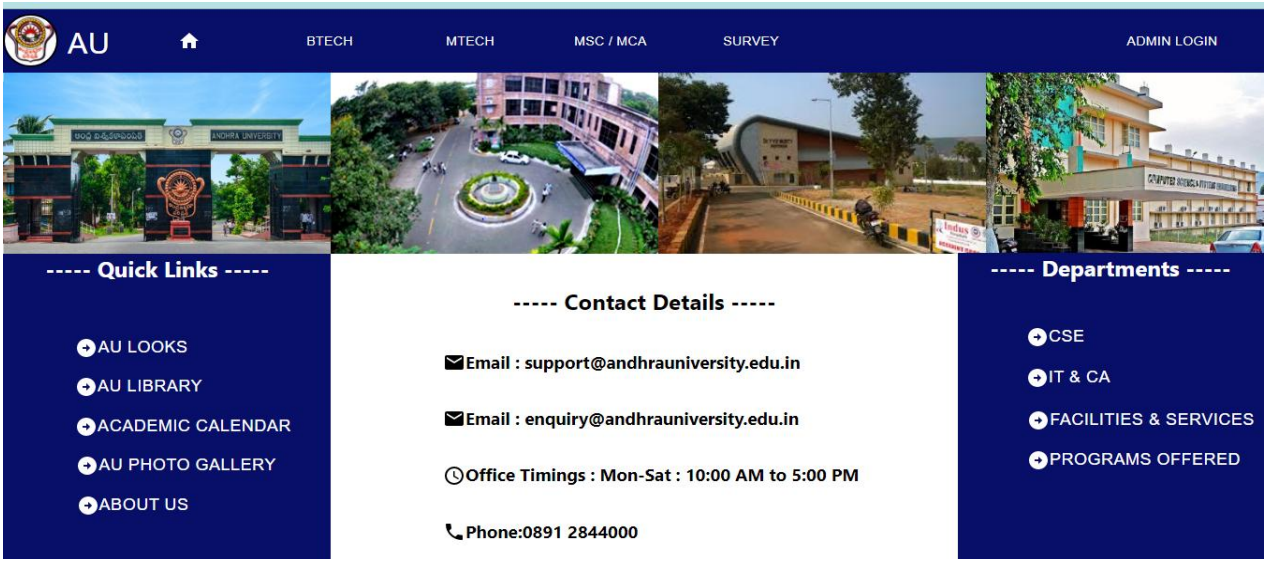
Sample Test Data and Result

S.No	Test case	Test data	Result
1	Enter email and password	Email-421206421015@andhrauniversity.edu.in Password - Auce@123	Successfully login
2	Enter email and password	Email - 421206421015@gmail.com Password - Auce@123	Invalid email or password
3	Register as Admin	First name, Last name, email, password, gender	Successfully registered
4	Register as Student	Fill form according to their group then automatically account will be created	Successfully registered

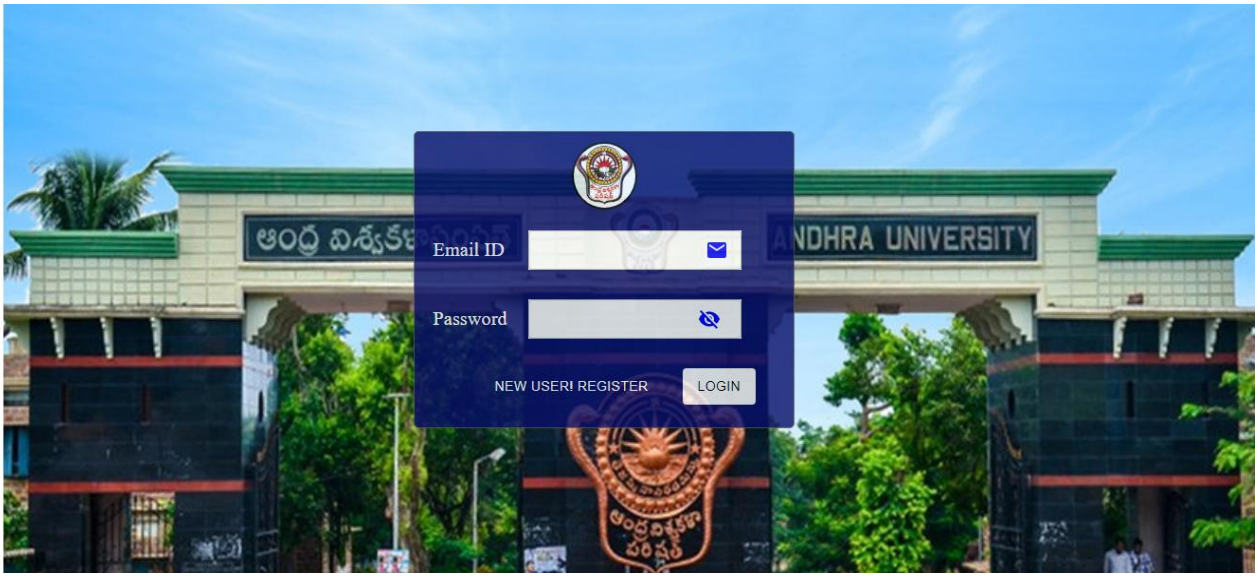
CHAPTER - 8:

SCREEN SHOTS

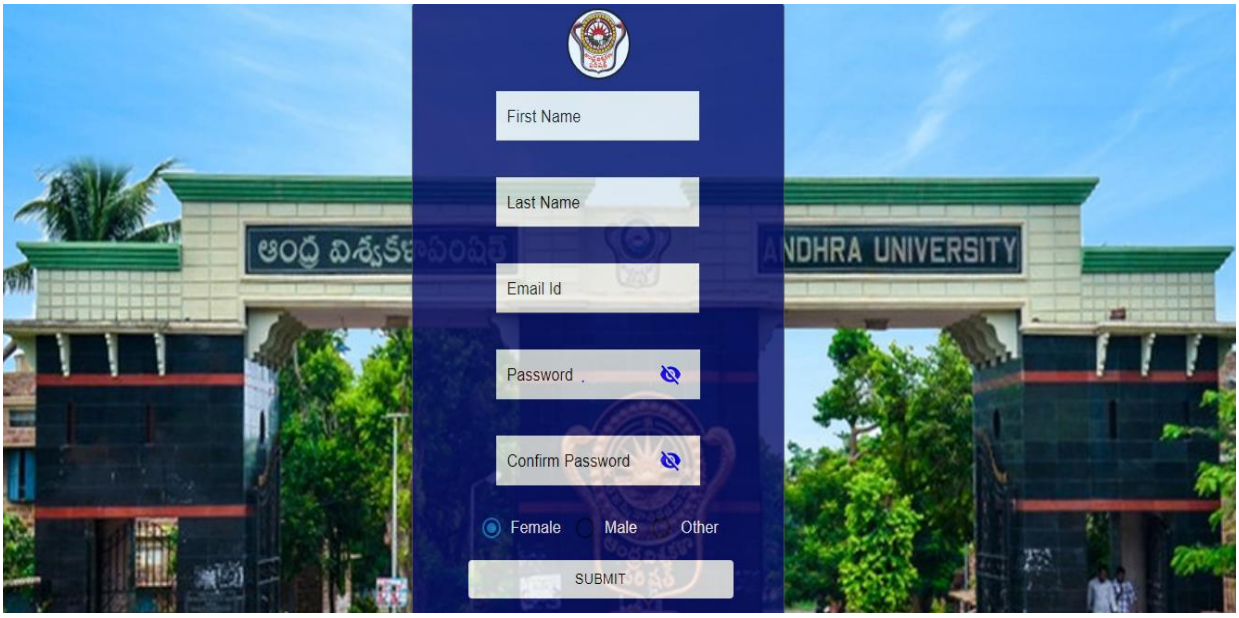
HOME PAGE: Common home page



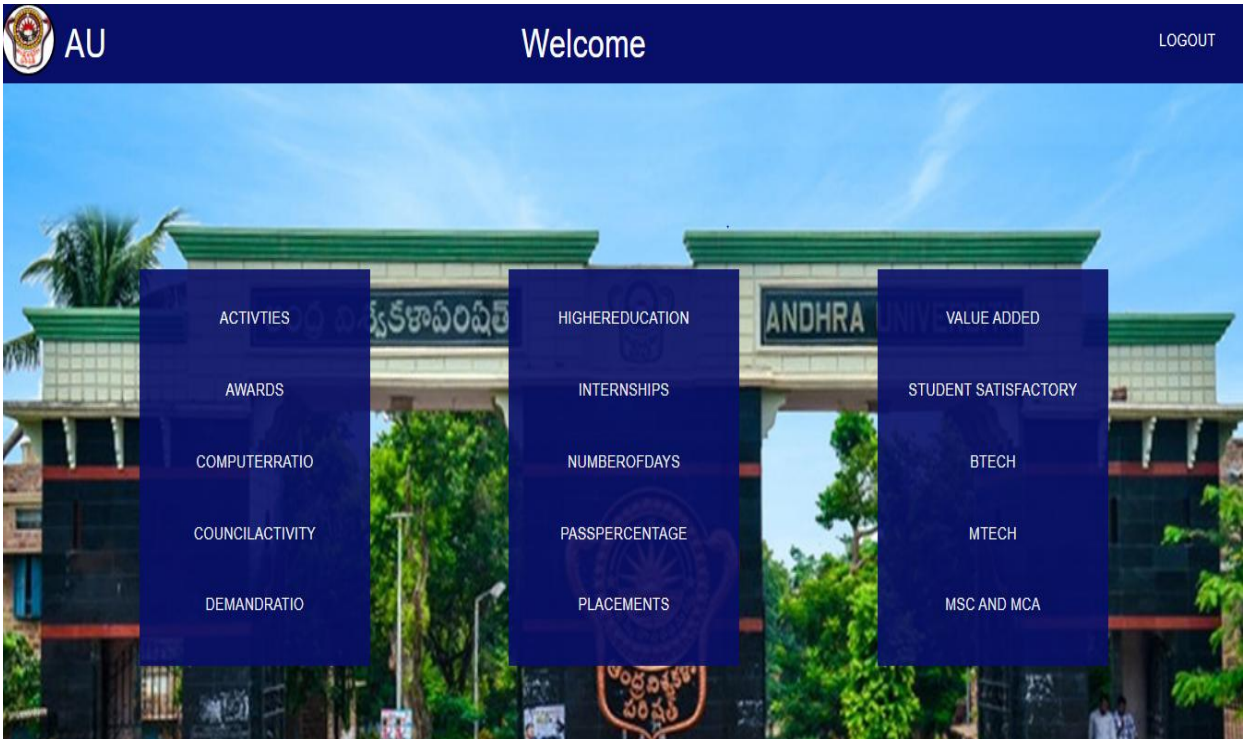
LOGIN PAGE: Admin and Students



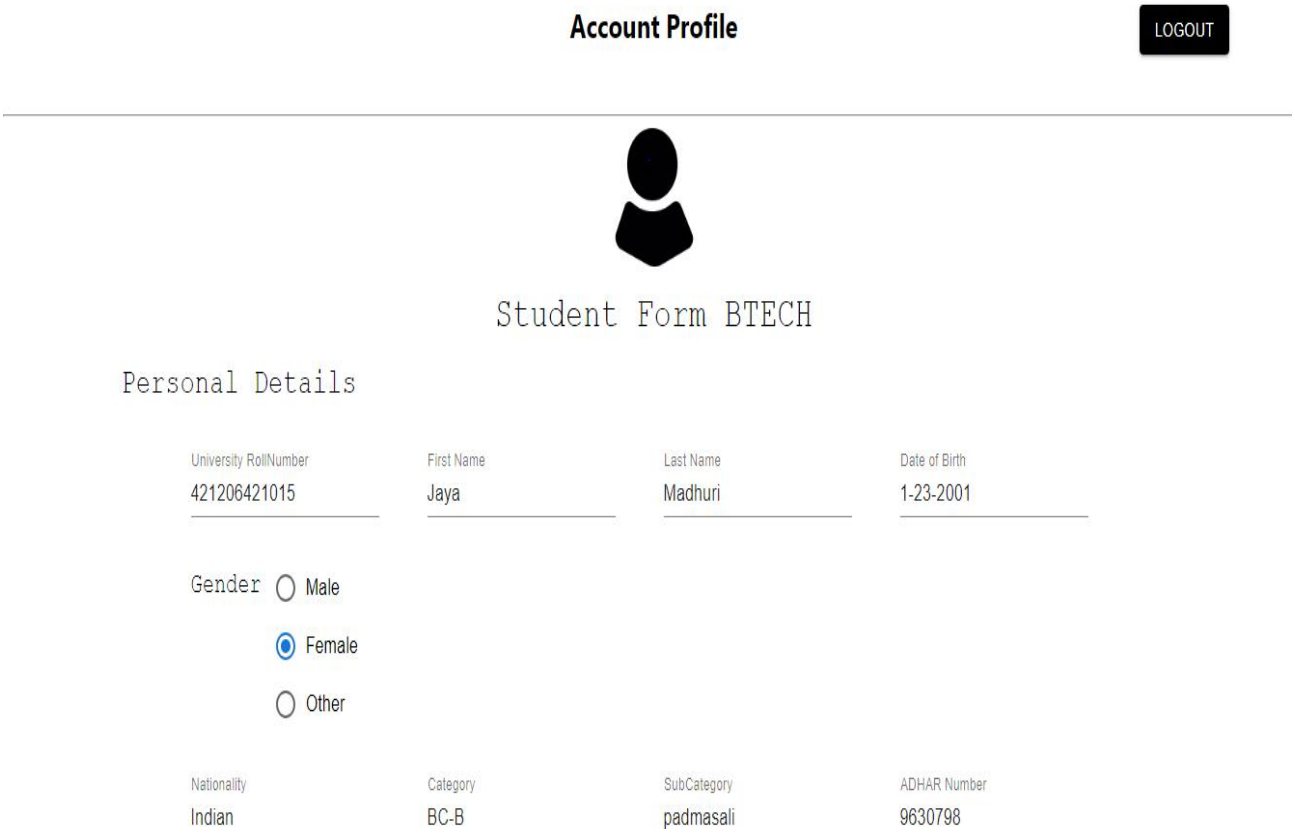
REGISTER PAGE: Admin register page



ADMIN HOME PAGE:



STUDENT HOME PAGE:



CHAPTER - 9:

CONCLUSION & FUTURE ENHANCEMENTS

Based on analysis, discussions and a review of previous chapters, the following have been established.

- The College management system application is a desktop application system with two main users Admin and Students. The system is placed on a centralized server accessible by all registered account holders by the administrator into the system(under particular user level) at all times.

- The System allows its data to be shared, so it's installed on a centralized server and run from client machines at any department. All the college details are stored in a centralized database.

- The system ensures strong security and confidentiality because of the tools, applications and methodologies that were employed during the design and development stages of the project. Email and password are always required to grant access.

During the development of the project certain functionality that I desired to include in the college management system but wasn't possible because of time constraints can be considered in future systems. Some of these functionalities are:

1. Result management system

2. Library management system with bar code support

3. Complaint management

4. Seating management

5. Certificate builder and many more…

Future researchers are encouraged to use this as a reference point

CHAPTER - 10:

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