COLLEGE INFORMATION SYSTEM

A MINI PROJECT REPORT

Submitted by

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to

the APJ Abdul Kalam Technological University

in partial fulfillment of requirements for the award of degree

of

Bachelor of Technology

in

Computer Science and Engineering

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

COLLEGE OF ENGINEERING

TRIKARIPUR

DECLARATION

We undersigned hereby declare that the project report College Information System, submitted for partial fulfillment of the requirements for the award of degree of Bachelor of Technology of the APJ Abdul Kalam Technological University, Kerala is a bonafide work done by us under supervision of **Mr.Sreeraj S**, Assistant Professor Department of CSE.

This submission represents our ideas in our own words and where ideas or words of others have been included, we have adequately and accurately cited and referenced the original sources.

We also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. We understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

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CERTIFICATE

This is to certify that the report entitled " **COLLEGE INFORMATION SYSTEM**" ,submitted by Musthaque Jazim KT, Sreepadh M, Yadukrishna Sajeev & Vimal Madhavan to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science is a bonafide record of the project work carried out by him/her under my guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

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ACKNOWLEDGEMENT

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ABSTRACT

Navigating a new college's information labyrinth can be overwhelming. Finding crucial details about departments, labs, faculty, and achievements often feels like a frustrating scavenger hunt with outdated brochures, scattered websites, and whispered rumors. Enter our solution: a user-friendly, centralized database website. Imagine seamless access to comprehensive, up-to-date information, all in one place. Effortlessly search for department layouts, lab facilities, faculty profiles, and student achievements. Make informed choices with transparent program profiles showcasing initiatives, success stories, and accomplishments. Access it anytime, anywhere, on any device with our mobile-optimized platform. This website empowers newcomers with the knowledge they need for a smooth transition and confident decisions. Start exploring today and unlock the potential for a successful college experience

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ABBREVIATION

1. **HTML** - Hypertext Markup Language
2. **CSS** - Cascading Style Sheets
3. **Python** - An Interpreted,Object-oriented,High-level Programming language with Dynamic semantics.
4. **FLASK** - A Micro Web Framework written in Python.
5. **JS** - Javascript
6. **WAMPServer** - WampServer is a Web development platform on Windows that allows you to create dynamic Web applications with Apache2, MySQL, PHP, MariaDB
7. **MySQL** - My Structured Query Language

CHAPTER 1

INTRODUCTION

Our college information system project is a web application that helps freshmen and parents understand the college's facilities and background. It provides all the information necessary to understand the students, faculty, and facilities offered by the college for students to develop their skills. Freshmen or parents won't need to wait for college volunteers to assist them with details about the college and its current achievements. Instead, all this information will be provided on our website conveniently, allowing them to access it at their own wish.

Most parents are very concerned about the college's facilities, lab facilities, student achievements, etc., more than the freshmen themselves. This problem can be instantly resolved by implementing this system.The system's functionality allows users to access any information regarding the college, students, and faculty. This information can be accessed by year and department. Additionally, the system helps students navigate themselves through their respective department or any other department using the provided map.

1.1 BACKGROUND

The campus information system's primary objective is to facilitate freshmen's transition from the comfortable academic routines to the newfound independence of college life. This digital portal seeks to serve as a one-stop shop for all the fresh information students require in order to feel ready and assured. The approach eliminates the need for them to rely exclusively on volunteers during a potentially burdensome admissions process by giving crucial information in an easily navigable and accessible format. This gives newcomers the freedom to independently research information about their new surroundings. speed, reducing uncertainty and anxiety as they start this thrilling new phase.

1.2 SCOPE

Easily accessible information via the internet would make the system more user-friendly for both freshmen and their parents, and it would be a more reliable source. The system provides accurate information as all the data is collected directly from the campus with the help of faculty in charge. This information can be easily updated within a specific timeframe, which in-trun strengthen the connection between the students and the system. Furthermore, programs can be conducted through each department's portal, allowing students to choose programs that fit their schedules. These programs can be strictly monitored during their active periods. To give freshmen a head start on their academic journey, our system prioritize a smoother transition by providing a clearer picture of the campus environment, facilities, and resources available to hone their professional skills. This comprehensive understanding of the college's offerings will help freshmen align their studies with their future goals.

1.3 OBJECTIVE

The main goal of the campus information system is to smooth the transition for freshmen from the familiar routines of high school to the new independence of college life.This digital platform aims to be a one-stop shop for all the information new students need to feel prepared and confident. By providing important details in a user-friendly and accessible format, the system replaces the need for them to rely solely on volunteers during a potentially overwhelming admissions process. This empowers freshmen to explore information about their new environment at their own pace, reducing confusion and stress as they embark on this exciting new chapter.

1.4 PROPOSED SYSTEM

The college information system provides a comfortable and reliable platform for students in their campus journey. It also helps them understand their campus environment. Students can freely access the website with a stable internet connection. The data provided in the portal can be updated necessarily by the admin only.

The home page provides gateways to each department. Within each department portal, we have provided further gateways to navigate to any information related to the department, such as student details, faculty details, laboratory facilities, and the department's infrastructure.

The students' gateway opens a portal that shows student details. Students can filter by year of study to find specific students. The faculty gateway opens a portal that shows all the faculty in the department. Clicking on a faculty member will display a small detail card about their career. The laboratory gateway opens a portal that shows the details of the laboratories present in the respective department and displays the number of computer systems and the operating systems they support. The map gateway opens a portal that shows a brief map of the department's infrastructure, helping new students explore the campus with ease.

CHAPTER 2

SOFTWARE REQUIREMENT SPECIFICATIONS

This chapter discusses the product overview, functionality, design, and implementation constraints and requirements. It discusses specific requirements i.e. software and hardware requirements. Admin, User, and driver modules are also explained.

2.1 PRODUCT OVERVIEW

Virtual information on student details, college facilities, faculties etc on the basis of department. Enables freshmen and their parents to get access of these data seamlessly. Can easily access the portal on your mobile phones. It eases the pressure on the college and freshman to be in a better and comfortable state more easily.

2.2 PRODUCT FUNCTIONALITY

User: Admin

Functions: The admin is the only user with the authority to manipulate any data uploaded to the portal. The admin has complete control over the portal and can add, delete, or modify any data within it. The admin can also implement new functionalities for the portal as needed.

User : Customer/Guests

Functions: Students and parents are the other users who can access the portal. These users do not have any role in editing the portal's information. They can only view the information provided in the portal without permission to change it.

2.3 DESIGN AND IMPLEMENTATION CONSTRAINTS

We provide an approach to reduce needless waste on college expenses and standards from new students and their parents. Many kids are confused about college; to help them, we have developed a portal that, with the help of our user-friendly web application, may make your college research easier. This platform, which was developed especially for prospective students and their families, provides a thorough rundown of what college is like. Get easy access to important data, such as student demographics, faculty biographies, specifics on cutting-edge lab facilities, and thorough infrastructure information. Our user-friendly layout and responsive design facilitate informed decision-making, guaranteeing a seamless and prosperous introduction to college life.

2.4 HARDWARE REQUIREMENTS

1. Computer: 2 GHz minimum, multi-core processor
2. Memory (RAM): 4Gb or higher.
3. Hard disk space: 400MB
4. Display: Video resolution works best at 1920 x 1080 or higher

2.5 SOFTWARE REQUIREMENTS

1. IDE: VS Code
2. Front-end: HTML, CSS, JS.
3. Back-end: MySQL, Flask.

2.6 FUNCTIONAL REQUIREMENTS

USER:

- View: user can see the login page and access the portal after logging in only.
- Register: admin will register students to the portal to ensure the data security.
- Login: user can log in to the portal with credentials given to them by the admin after registering them to the portal.

- View details: users can view all the available information published in the portal seamlessly.

ADMIN:

- Register each freshmen to the portal.
- Removing accounts of student after their course period.
- Updating all the changes in a given timeframe and providing any important notification if necessary.
- Providing access to any other user if necessary with proper timeframe for the registered accounts.

CHAPTER 3

MATERIALS AND METHODS

Design process is the process through which designers design interfaces in software or electronic devices with an emphasis on aesthetics or style termed user interface design. Here we use different design processes like data flow diagrams, activity diagrams, and Use case diagrams to implement our project its interface and working structure.

3.1 DESIGN PHASE

It is a visual representation of the system architecture. It shows the connections between the various components of the system and indicates what functions each component performs.

3.2 DATA FLOW DIAGRAM

The data flow diagram shown below illustrates the general structure of the system. It demonstrates how and what sorts of services the customer chooses, as well as the amount of admin engagement. It includes data inputs and outputs, data stores, and the various subprocesses the data moves through.

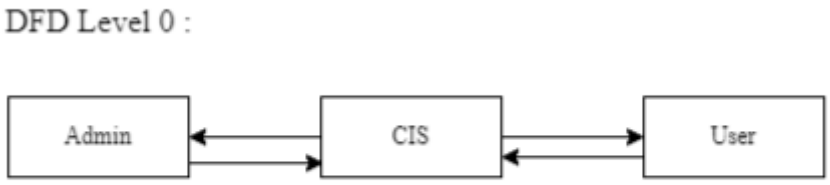

Fig 3.2.1: Data Flow Diagram

DFD Level 1:

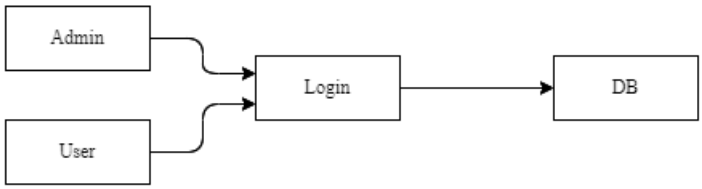

Fig 3.2.2: Data Flow Diagram

DFD Level 2.0:

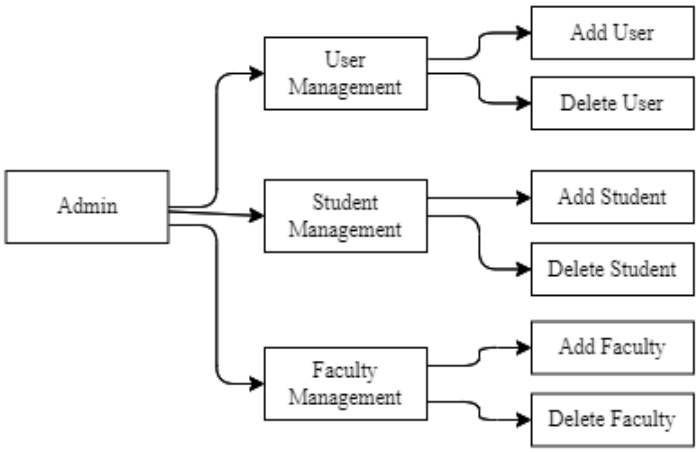

Fig 3.2.3: Data Flow Diagram

DFD Level 2.1:

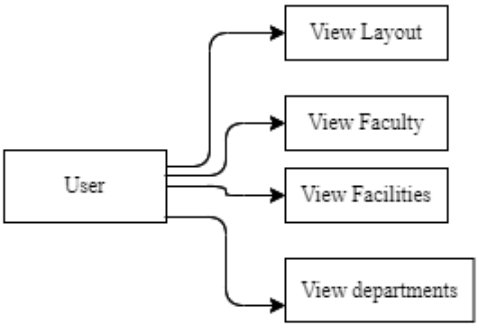

Fig 3.2.4: Data Flow Diagram

3.3 USE CASE DIAGRAM

It is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses. The actors are often shown as stick figures. While a use case itself might drill into a lot of detail about every possibility, a use case diagram can help provide a higher-level view of the system. It has been said before that use case diagrams are blueprints of our system.

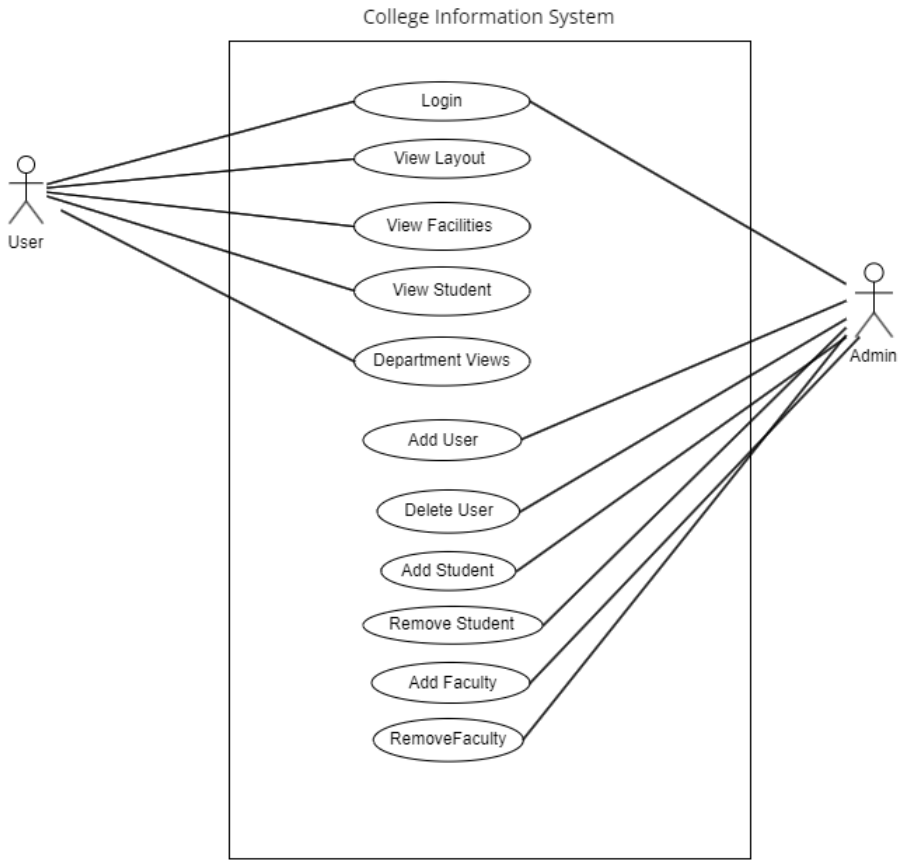

Fig 3.3: Use case Diagram

3.4 ARCHITECTURE DIAGRAM

An architectural diagram is a visual representation that maps out the physical implementation for components of the software system it shows the general structure of the software system and the associations, limitations and boundaries between each element.

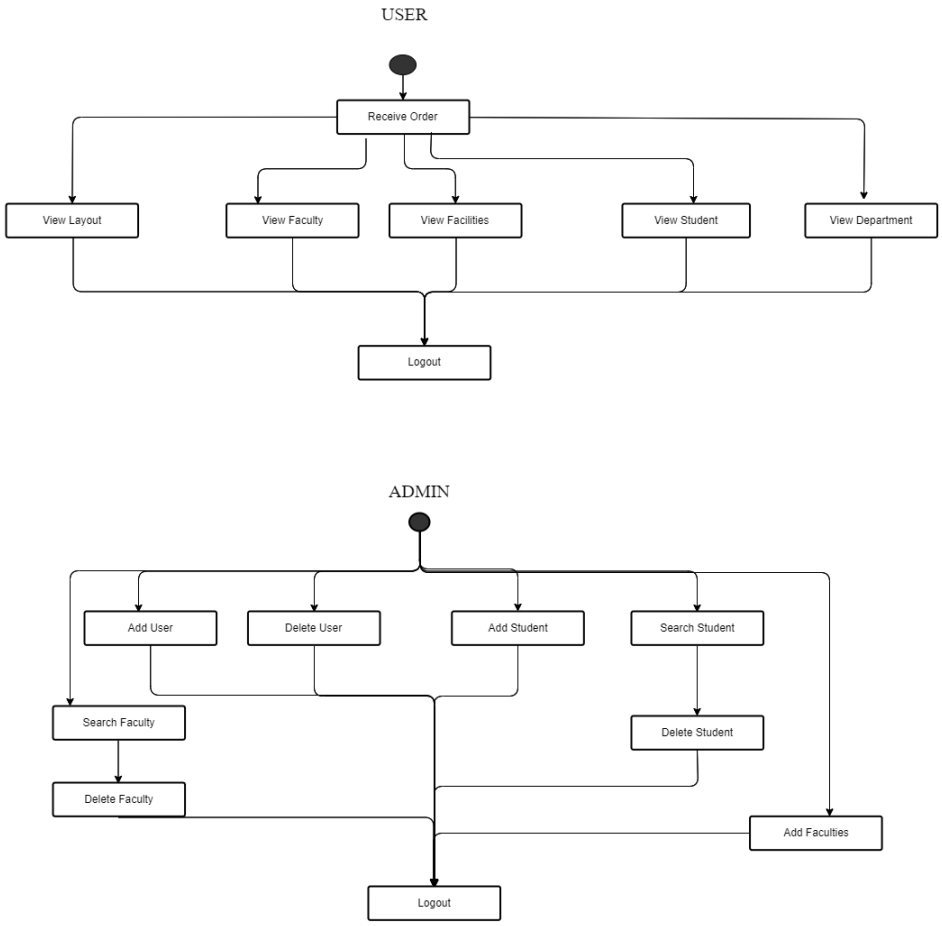

Fig 3.4: Architecture Diagram

3.5 DATABASE DESIGN

It is a collection of processes that facilitate the designing, development, implementation, and maintenance of data management systems. Properly designed databases are easy to maintain, improve data consistency, and are cost-effective in terms of disk storage space. The main objectives are to produce logical and physical design models of the given database system.

The logical model concentrates on the data requirements and the data to be stored independent of physical considerations. It does not concern itself with how the data will be stored or where it will be stored physically. The physical data design model involves translating the logical DB design of the database onto physical media using hardware resources and software systems such as database management systems (DBMS).

The main objectives behind database designing are to produce physical and logical design models of the proposed database system. To elaborate on this, the logical model is primarily concentrated on the requirements of data and the considerations must be made in terms of monolithic considerations, hence the stored physical data must be stored independent of the physical conditions. On the other hand, the physical database design model includes a translation of the logical design model of the database by keeping control of physical media using hardware resources and software systems such as Database Management System (DBMS).

Database design is a method of identifying the gaps and opportunities in designing a proper utilization method. It is the main component of a system that gives a blueprint of the data and its behavior inside the system. A proper database design is always kept on priority due to the user requirements being kept excessively high and following up with the constraint practices of designing a database might only stand as a chance to gain the requested efficiency. Moreover, we also learned separately about the different design models that portray the ideal database design along with the limitless discussion on their properties and how to make use of them. Furthermore, we learned how the life-cycle of a database decides the design of the database and how to put the concept of design into the life-cycle methods so that efficient and

highly sophisticated databases can be designed based on user requirements.

Admins

adminid	username	password

Users

userid	username	password

Students

uniID	name	batch	dept

Faculties

facultyID	name	department	doj	mailid	mobile	qualification	experience	intrest	designation

Fig 3.5: Database Design

CHAPTER 4

IMPLEMENTATION

Implementation is the stage in the project where the theoretical design is turned into a working system. The implementation phase constructs, installs and operates the new system. The most crucial stage in achieving a new successful system is that it will work efficiently and effectively. If a user want to use our portal he/she must be given with a previously registered to the portal by the admin and should be given the corresponding credentials. After logging in the user is directed to the dashboard of the portal where user can navigate to different information. If the credentials entered by the user does not match with the data in the database then the portal will show a “user not found” message or if the user trying isn’t registered yet to the portal then also the “user not found” message is displayed. Due to the data privacy and security the data published can only be accessed if the user logs into the portal with proper credentials.

Project Screenshot

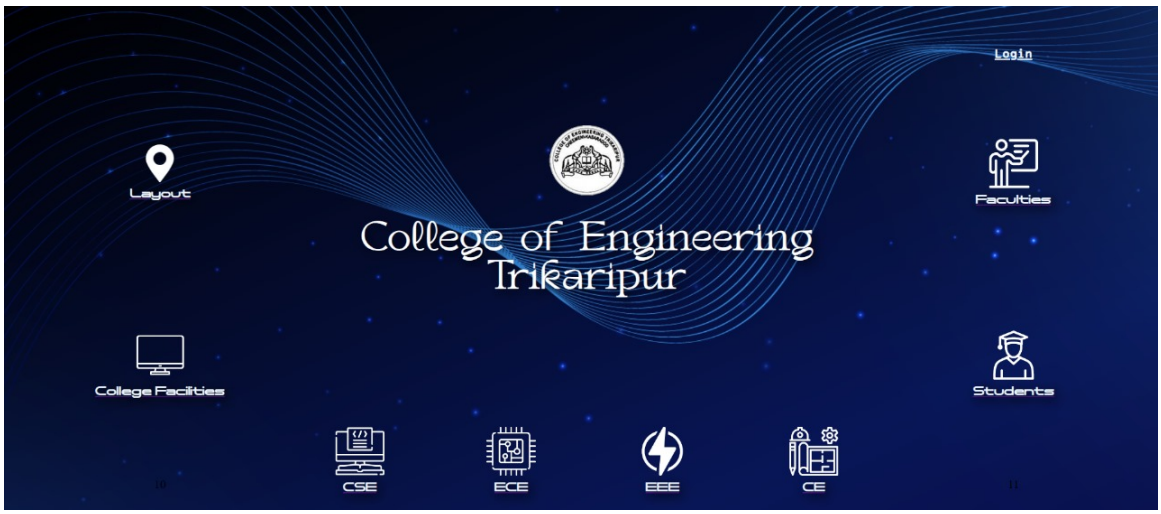

Fig 4.1 Home Page

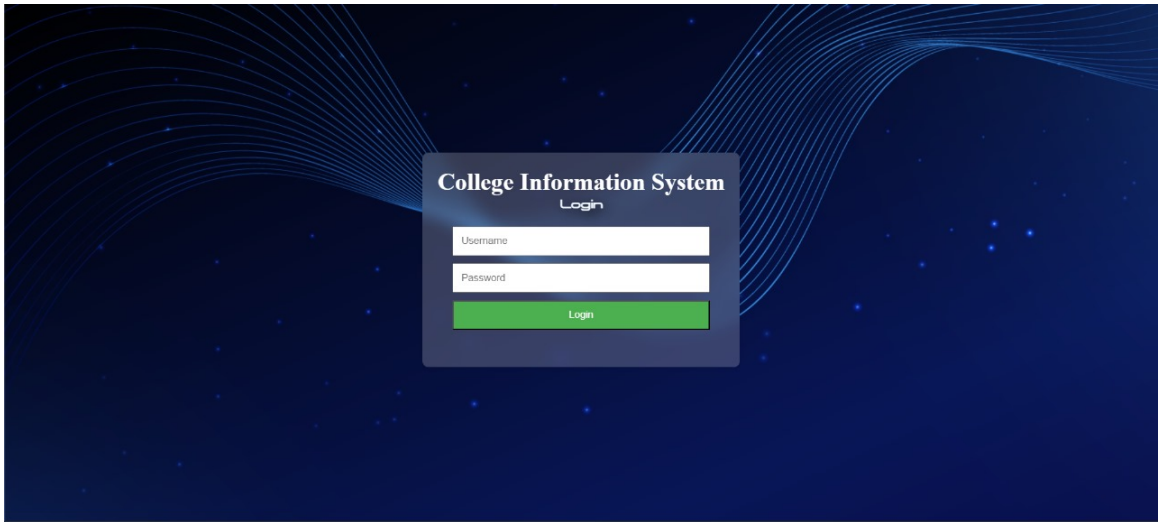

Fig 4.2 Login Page

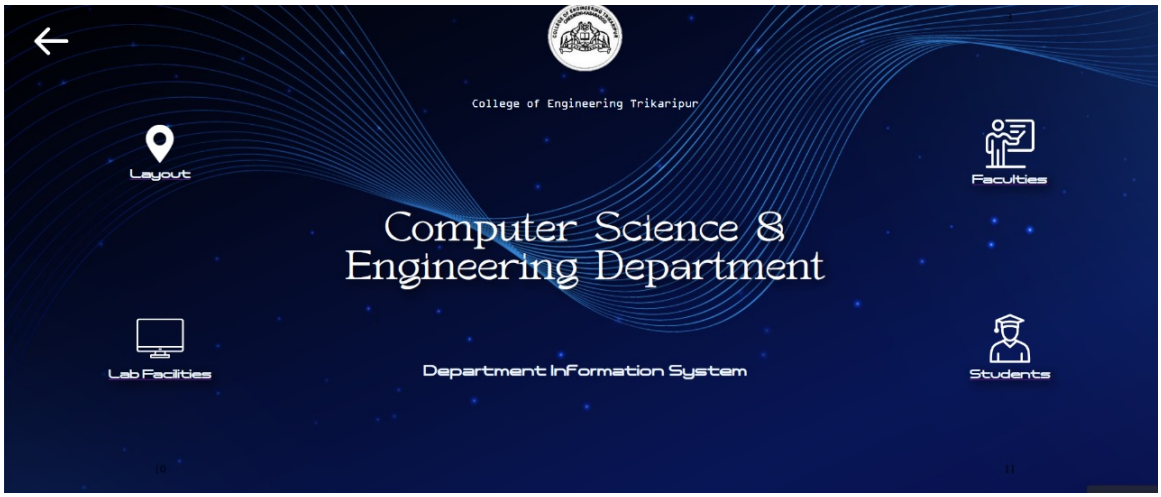

Fig 4.3 Department Page

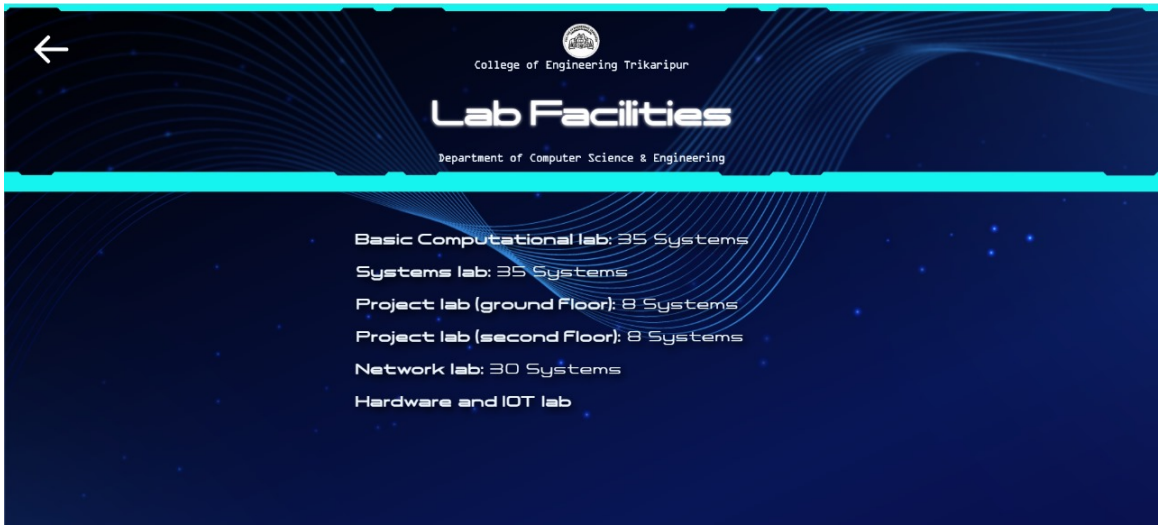

Fig 4.4 Lab Facilities Page

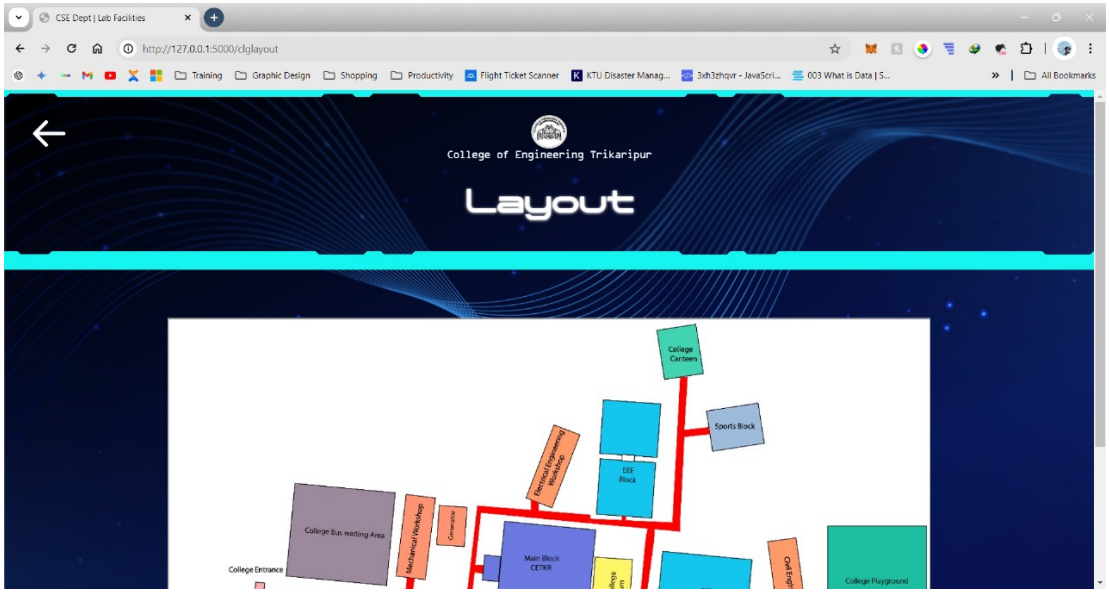

Fig 4.5 Layout Page

Fig 4.6 Faculty Page

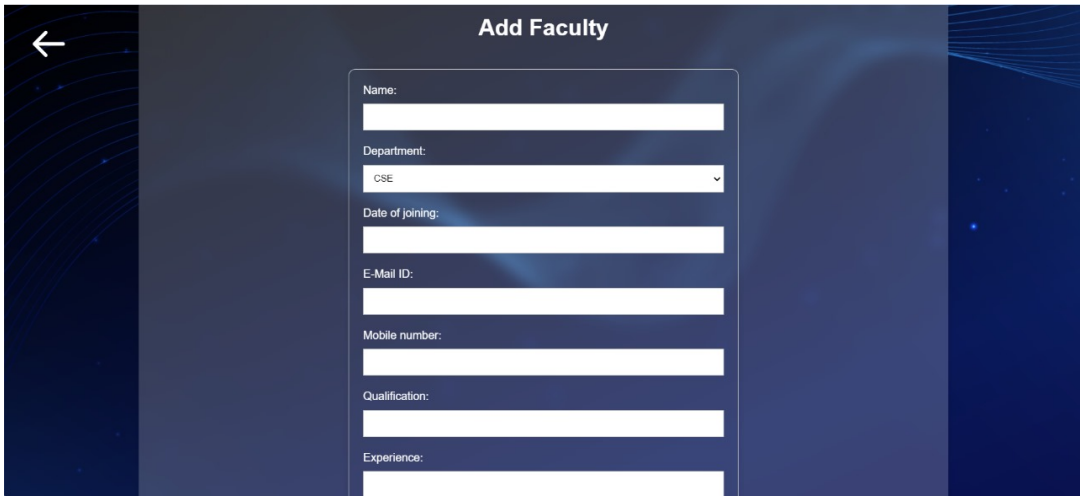

Fig 4.7 Add Faculty8 Page

Fig 4.8 Individual Faculty Card Modal

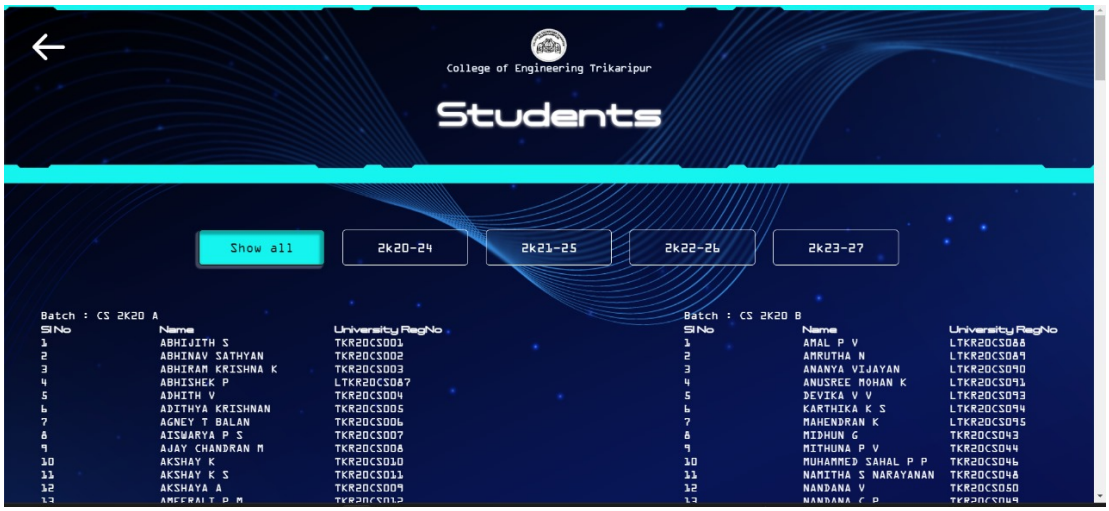

Fig 4.9 Students page

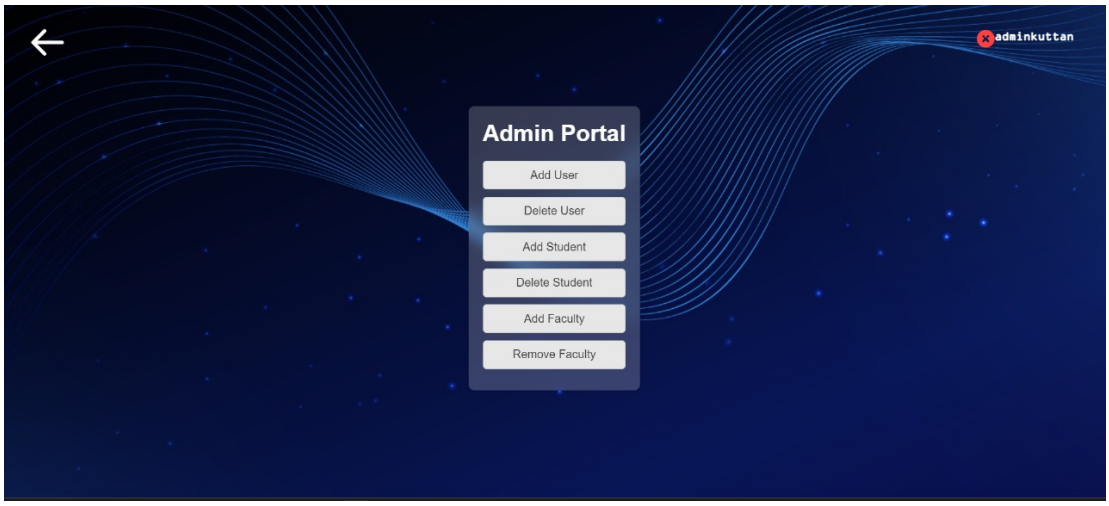

Fig 4.10 Admin Portal

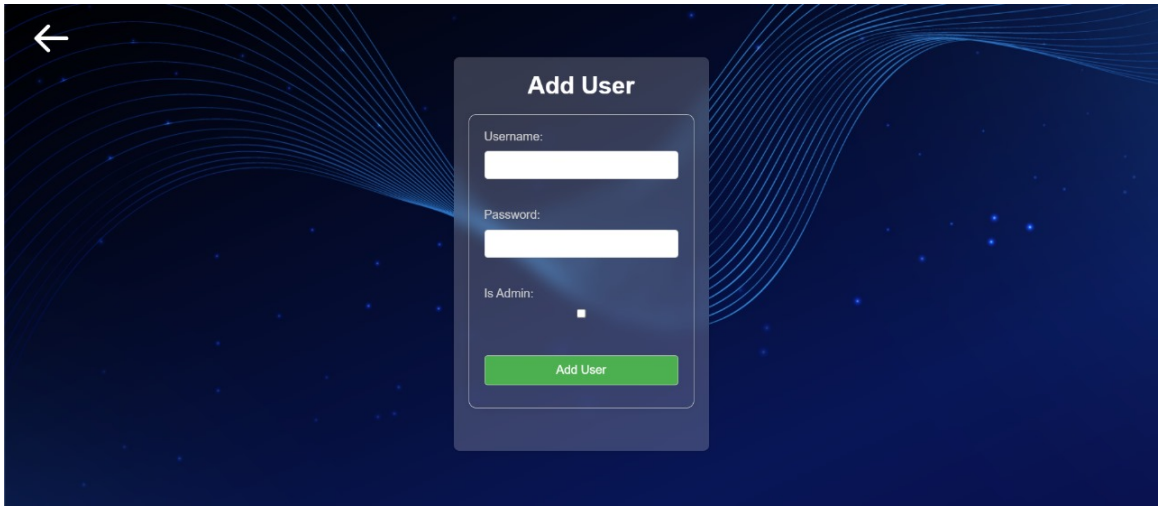

Fig 4.11 Add User Page

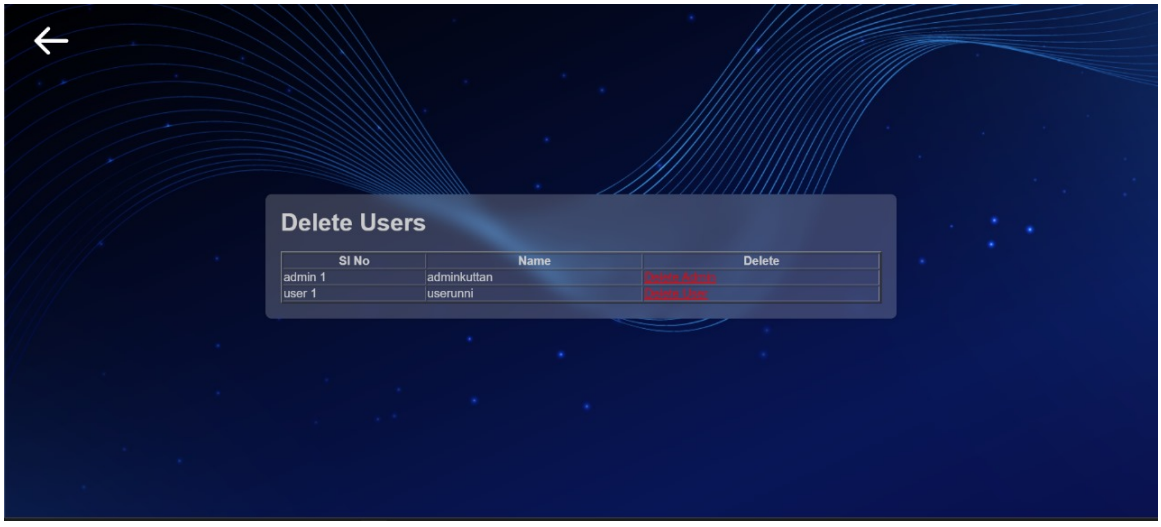

Fig 4.12 Delete User Page

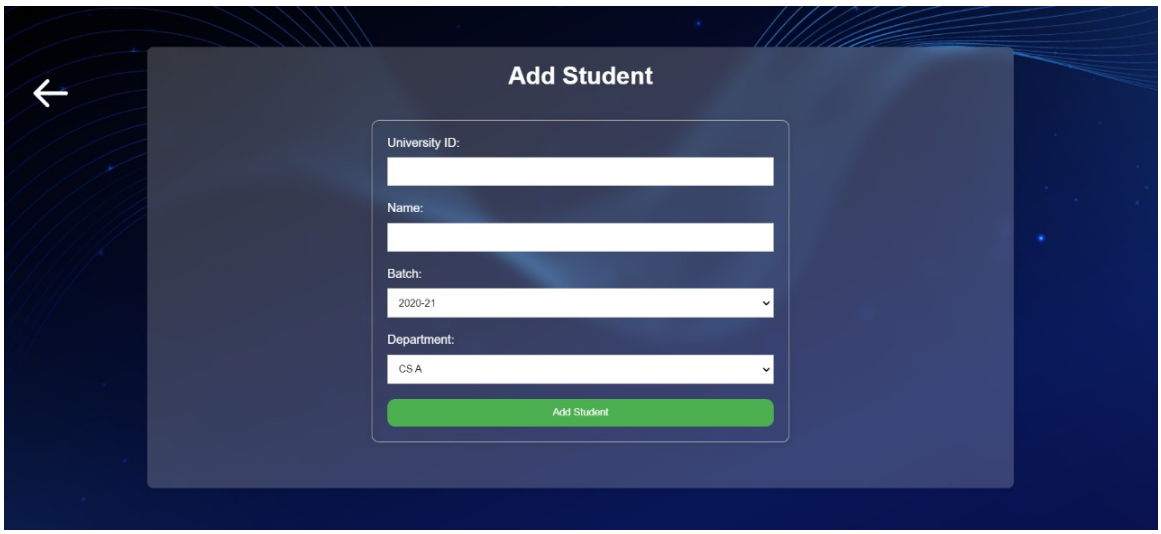

Fig 4.13 Add Student page

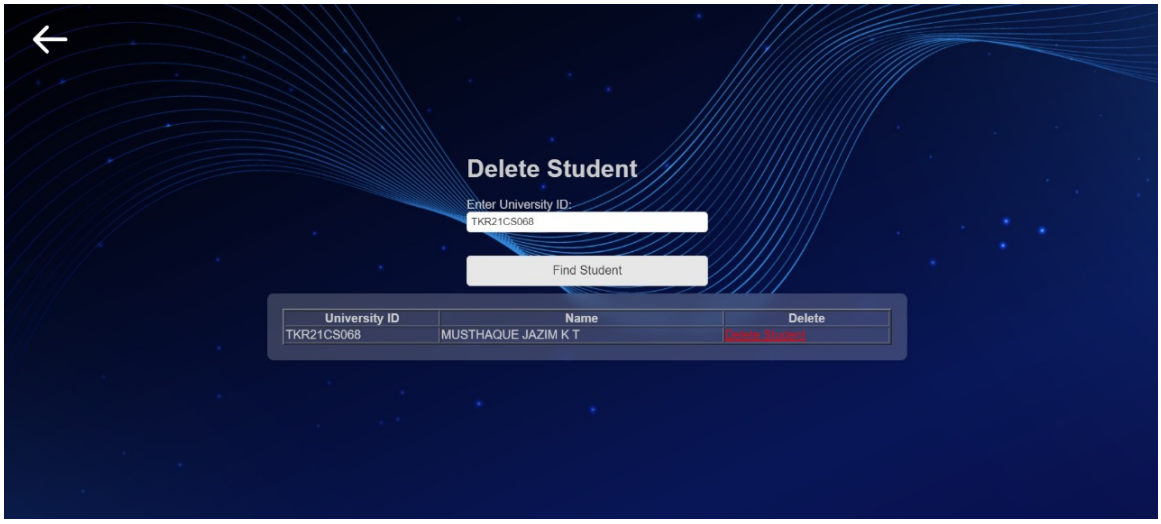

Fig 4.14 Delete Student page

CHAPTER 5

RESULTS AND DISCUSSION

In culmination of our efforts, we are proud to present a fully functional project management portal meticulously crafted to enhance user experience. The user interface, meticulously designed using HTML, CSS, and JavaScript, prioritizes clarity and ease of navigation, ensuring accessibility for a diverse range of users. The robust back-end, meticulously architected with MySQL and the Flask framework, empowers secure data management through dedicated tables for administrators, students, faculty, and general users. This meticulous organization facilitates efficient information retrieval through a centralized login system that grants access to a comprehensive and informative dashboard. Beyond achieving core functionality, we meticulously optimized the portal's performance, resulting in , seamless responsiveness across various devices. This project has the potential to revolutionize the orthodox method of volunteering throughout the period of the admission within the organization. Envisioning future advancements, we plan to meticulously refine the system by developing into a portal where multiple more specific functionalities can be implemented and convert it to a dynamic portal.

CHAPTER 6

CONCLUSION

The college information system is a simple and easy portal which serves as a comprehensive resource for freshmen and their families. The user can only log in if the user has been pre-registered by the admin. The credentials provided by the admin will give the user permission to access the portal and the information in it. Due to the privacy policy and data security the admin is the only user that can have the access to update any kind of information on the portal or adding/removal of the users can only be done by the admin. The portal shows gateways to each department so that each individual can select their respective choice and filter the information we are accessing. In each department portal we have gateways to access information on the department outline, faculties in the department and their details, laboratory facilities provided by the department and students and their achievements of the department. With the help of the portal freshmen and their families can get information the of their choice. This helps them a lot from avoiding any kind of confusion among the freshmen and their families about the college environment and the facilities the college provide. A map provides a visual representation of the department's layout, helping new students navigate their surroundings with ease is also included. Clicking on a faculty member reveals a concise profile highlighting their career achievements. Students can filter by year of study to locate specific classmates. The laboratory section details the department's labs, including the number of computer systems and their operating systems.

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