IET DAVV Student Portal

A Dissertation submitted
for the partial fulfillment of the degree of
**Bachelor of Engineering in
Information Technology
(Session 2022 -2023)**

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November 2022**

Dissertation Approval Sheet

The dissertation entitled **IET DAVV Student Portal** submitted by **Anuj Deshmukh, Sakshi Kaushal** is approved as partial fulfillment for the award of **Bachelor of Engineering in Information Technology** degree by **Devi Ahilya Vishwavidyalaya, Indore**.

Internal Examiner   **External Examiner**

Director
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Indore (M.P.)

Recommendation

The dissertation entitled **"IET DAVV Student Portal"** submitted by **Anuj Deshmukh, Sakshi Kaushal** is a satisfactory account of the bonafide work done under my supervision is recommended towards the partial fulfillment for the award of **Bachelor of Engineering in Information Technology** degree by **Devi Ahilya Vishwavidyalaya, Indore.**

Date: 22/11/2022

Mr. Shyam Maheshwari
Project Guide

Endorsed By :

Dr. Vrinda Tokekar
Head, Department of Information Technology

Candidate Declaration

We hereby declare that the work which is being presented in this project entitled **IET DAVV Student Portal** in partial fulfillment of degree of Bachelor of Engineering in (Name of the Branch) is an authentic record of our own work carried out under the supervision and guidance of **Mr. Shyam Maheshwari**, **Professor** in Department of **Information Technology**, Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Indore

We are fully responsible for the matter embodied in this project in case of any discrepancy found in the project and the project has not been submitted for the award of any other degree.

Date: 22/11/2022

Place: Indore

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ACKNOWLEDGEMENTS

ABSTRACT

The IET DAVV Student Portal will be of great assistance to the students, faculties, and administration department as it creates a bridge between these parties allowing them to set up a seamless communication. As the college website contains a plethora of insignificant information which might lead students to overlook the prime one, this portal aids them by only dispensing the foremost notices.

However, there are several parts to our project on which we have limited idea on how they would work on a large scale. The main purpose of this project was to aid students of IET DAVV with the help of an online portal, but this project can be expanded to the university level. We still got to learn a lot from our project.

Expected Outcome:
- IET DAVV will have its own portal where Administration, Exam Department and Teaching Department are integrated into a single place.
- Students have their own personal portal with their college email ID as login ID and password as set by them only.
- Students will only be notified about the information of their respective department, branch and year. As no trivial notices are given to the students they won't miss any important updates.
- Faculties can upload assignments, quizzes etc. for the respective students along with a due date. It also includes features of missing assignments and late submissions.

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Chapter-1 Introduction

1.1 Overview and issues involved

To ensure effective communication with students, the college needs to consistently operate where students interact, and increasingly, this is on digital platforms. We know that students are inundated with information. Therefore, it is critical that we have an effective, valuable, and commonplace way to share important information to support student life in and out of the classroom. A single sign-on portal will be a powerful and important tool for student success.

"Portal" is a web system that provides the function and features to authenticate and identify the users and provide them with an easy, intuitive, personalized, and user-customizable web interface for facilitating access to information and services that are of primary relevance and interest to the users.

The main objective of the student portal is to manage the details of courses, profiles, exams, and fees. It manages all the information about courses, students, and fees. The project is built at the administrative end and thus only the administrator is granted access. The purpose of the project is to build an application program to reduce the manual work for managing the courses, profiles, students, and exams

This project consist of four main components:

- **Announcement by Administration:** Administration department can post all the relevant information on the portal.
- **Classroom:** Faculties can assign work for the respective students and students can upload their work here. Faculties can also grade the students accordingly.
- **Results:** Students can view and download their results in pdf format.
- **Query forum:** Students can raise their queries to administration and the teaching department where it can be resolved.

1.2 Problem definition

- Many universities and colleges provide students with personalized student portals where they can log in and see relevant activities, notices, and announcements all in a single place.

- The fundamental goal of this portal is to ensure that students do not miss any crucial updates due to other irrelevant and unnecessary information provided by the college.

- As of now, IET DAVV does not have such a portal, students have to manually check all the notices from the college website, which contains announcements for all departments, branches, and years. So the students can easily miss important updates due to this other trivial information.

- So to solve this problem our aim is to make a portal for our college, which focuses on delivering a better experience for both college and students to communicate.

1.3 Proposed solution

- To facilitate students by a personal portal that is authenticated by username and password.

- All information regarding the student is present on the portal and will be kept updating.

- Previously, announcements uploaded on the website and sent on WhatsApp groups can be easily missed due to other trivial information. The portal helps students to focus only on important updates.

- To ensure two-way communication between students and administration/faculties. Students can easily raise queries with the help of this portal

- Provide all semester mark sheets of students at a single place along with current CGPA and backlog status. Students can download the mark sheet in PDF format.

Chapter-2 Literature Survey

2.1 Methodology

Our main goal is to facilitate students by a personal portal that is authenticated by username and password and ensure two-way communication between students and administration/faculties. Students can easily raise queries with the help of this portal.

We have also used MVC (Model View Controller) architecture. This Model consists of 3 components- Model, View and the Controller.

- **Model**: This is the first component of the MVC architecture. The model represents the shape of data and business logic. It maintains the data of the application. Model objects retrieve and store model state in a database

- **View**: View is the second component of the MVC architecture. The view represents a user interface. It displays data using a model to the user and also enables them to modify the data.

- **Controller**: Controller is the third component of the MVC architecture. The controller handles the user request. It renders the appropriate view with the model data as a response.
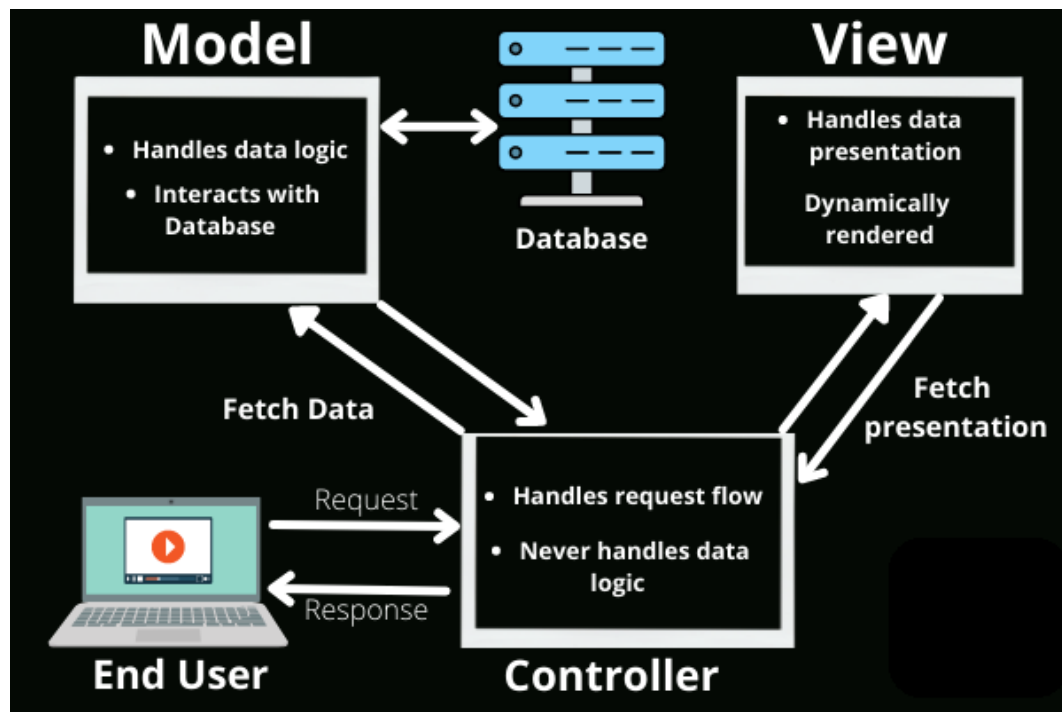

Fig. 2.1 Django MVC Architecture

2.2 Existing Solutions

There are some existing websites and portals which provides all the college related information to students, but either they are of limited functionalities or they have third-party app involvement associated with them

List of some website and portals are are as follows:

1. **Medi-caps University:** This University is facilitated by a student portal with an authentication system and provides relevant college information to students. It displays announcements like the declaration of results, updated class Time Table, exam schedules, syllabus of the current semester, due fee notification, etc. The student portal ensures that the students do not miss any important information.

   Drawbacks: In this portal, all the information is posted here including the trivial one, thus students might miss some important one. Also this portal was created using a third-party platform AccSoft 2.0.

2. **MITS-Gwalior University:** This University uses a third-party tool "Moodle" as their Student Portal. Students' login credentials are created by the university itself. It provides features by which faculties can upload assignments and conduct quizzes and tests here. Any important information or notice can be announced here by the Class Representative. Moodle also provides an access feature such that only particular students have access to some information that is decided by the faculty. An attendance feature is also provided for online sessions and classes.

   Drawbacks: As this university uses Moodle which is only made for classroom interaction purposes, there is no effective communication between administration and students. Because of this students have to visit the college website regularly for administration related information.

3. **Google Classroom:** Google Classroom is a free blended third party learning platform developed by Google for educational institutions that aims to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. Many institutes across the globe use Google Classroom services to conduct quizzes, tests and distribute assignments. It does have a feature to make announcements for the class. Despite these

features, it is difficult for students to get all the announcements at one place because students have to manually join classrooms created by faculties individually, which creates a stockpile of classrooms for the students resulting in confusion and chances to miss announcements.

Drawbacks: Google classroom requires subscription which is authorized only to those faculties which have authentic institution email-id, thus visiting faculties face difficulties to interact virtually with the students in a classroom like environment.

4. **Moodle:** A third party learning platform Moodle, is designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments. The main advantage of moodle is that it is available for desktops, mobiles and browsers. Moodle comes with a plethora of features such as All-in-one calendars, notifications, timed tests, track progress, multilingual capabilities and much more.

Drawbacks: Moodle shows all the classes which were created by the institute, thus students get confused due to multiple irrelevant classrooms.

Chapter-3 Analysis

3.1 Software Requirements

- Browser: Google Chrome / Mozilla Firefox / Microsoft Edge / Opera Browser / Safari Browser
- OS: Windows 7 or above / Mac OS X 10.9 or above
-

3.2 Hardware Requirements

- Laptop / PC
- Intel i3 processor(1GHZ+) or equivalent
- Intel HD3000 graphics or comparable
- 4GB RAM (recommended)
- Sufficient disk space to install a web browser.

3.3 Analysis Diagrams

3.3.1 Use Case Model

Use case diagrams are usually referred to as behavior diagrams used to describe a set of actions (use cases) that some system or systems (subject) should or can perform in collaboration with one or more external users of the system (actors).

Here the actors will be Administration, Faculty, and Student, who wants to perform actions like Login, post announcement, post assignments, upload results, raise queries, download results, upload assignments etc.
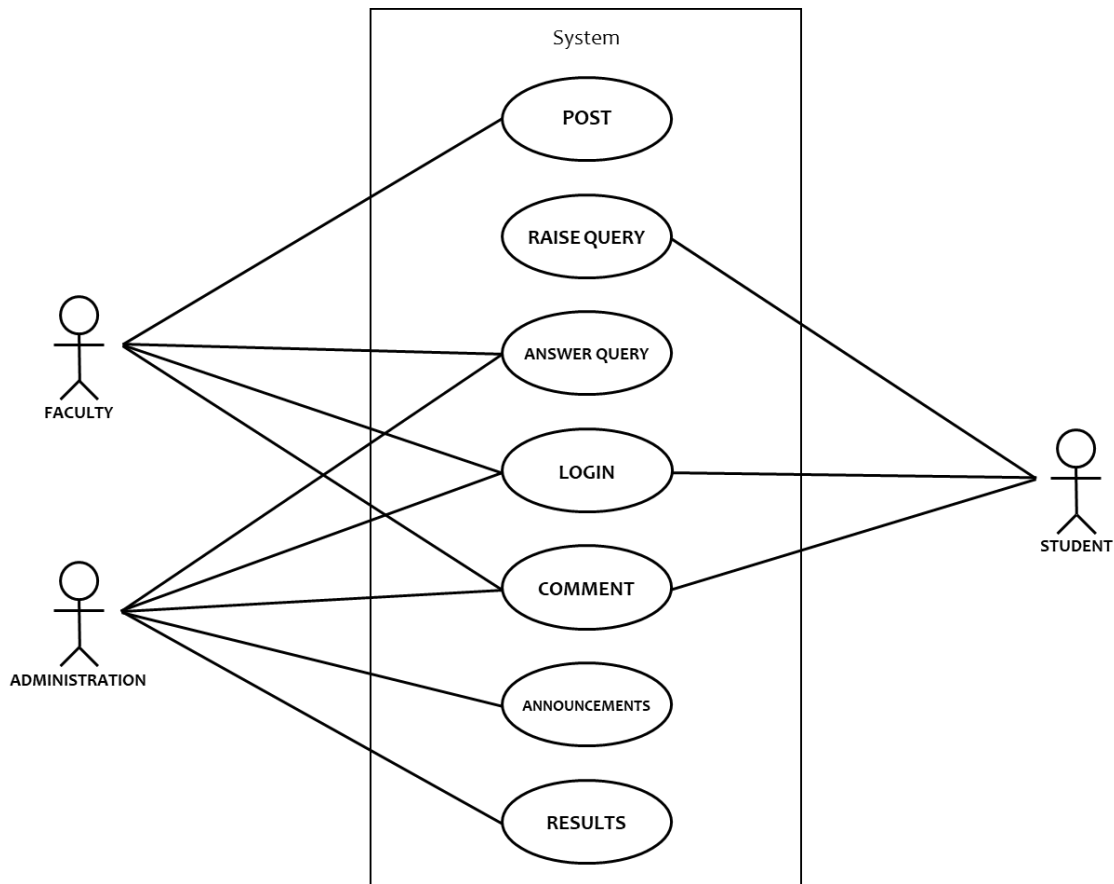
Fig 3.3.1 Use Case Diagram

3.3.2 Use Case Description

This project mainly consist of five basic features they are-

1. Login: This use case describes how a user logs into the portal.

This use case starts when an actor wishes to log into the portal.

- The system requests that the actor enter his/her name and password.

- The actor enters his/her name and password.

- The system validates the entered name and password and logs the actor into the system.

If the use case was successful, the actor is now logged into the system. If not, the system state is unchanged.

2. Announcement by Administration: This use case is authorized to admin only, here admin can attach all the news and announcements which are relevant for the students. The admin can post,

delete or modify any information and students can browse all the information uploaded by the admin.

The admin must log in the portal in order to begin this use case. If this use case is successful then the announcement or any update done by administration will be added to the system, else the system will remain unchanged.

3. Assignments: This use case is connected to two actors: Student and Faculty.

- Faculty can upload the assignments.
- Students can browse and submit the assignments.

The Faculty and Student must be logged into the portal in order to begin this use case. If this use case is successful then the assignments will be added to the classroom. Students can submit the assignment. Else the system will remain unchanged.

4. Results: This use case is also connected to two actors: Student and Admin.

- Admin posts the results.
- Students can browse and download the results.

The Admin and Student must be logged into the system. After this use case is successful, then results will be uploaded to the portal. They will be able to view and download it. Else the system will remain unchanged.

5. Query forum: This use case allows the Student to raise their queries.

The Student must be logged into the system. After this use case is successful, then the student's query is visible to faculty/administration. Else the system will remain unchanged.
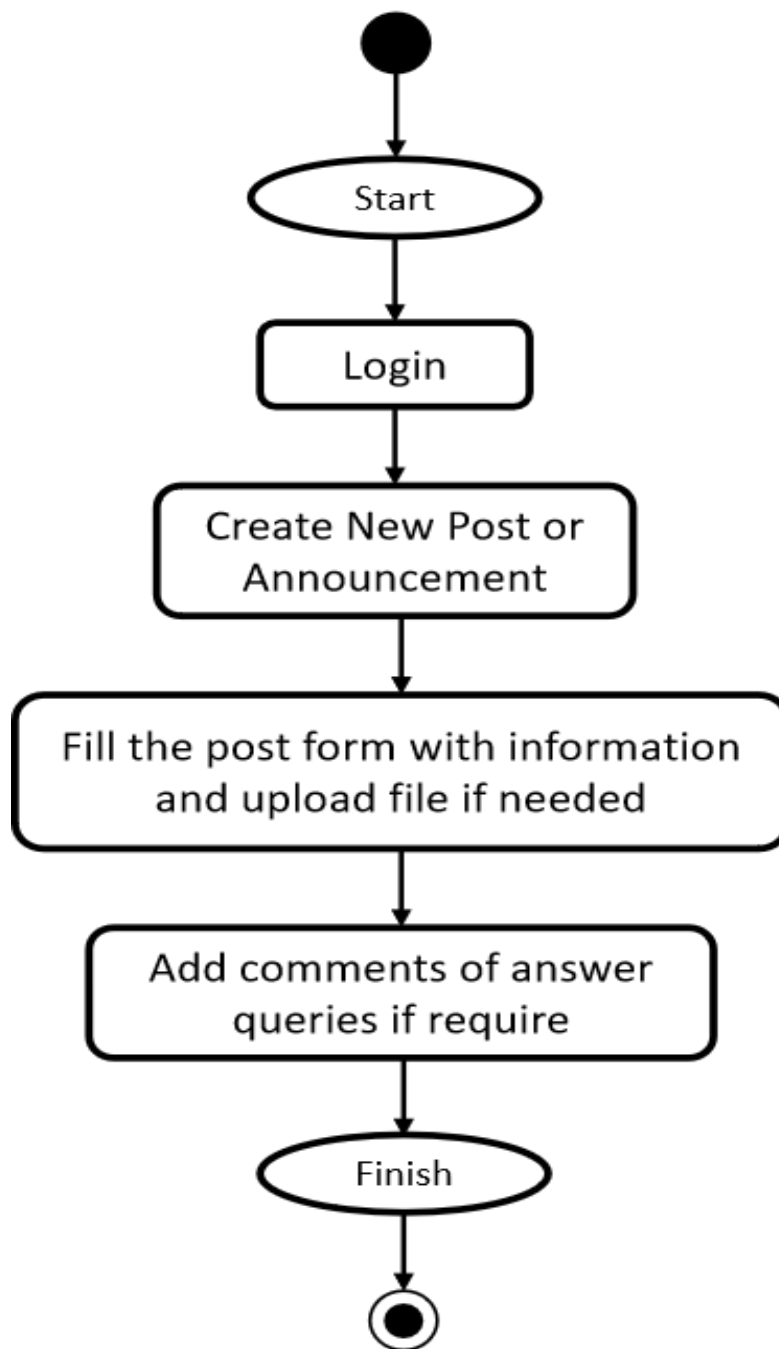
3.4 Flow Diagram
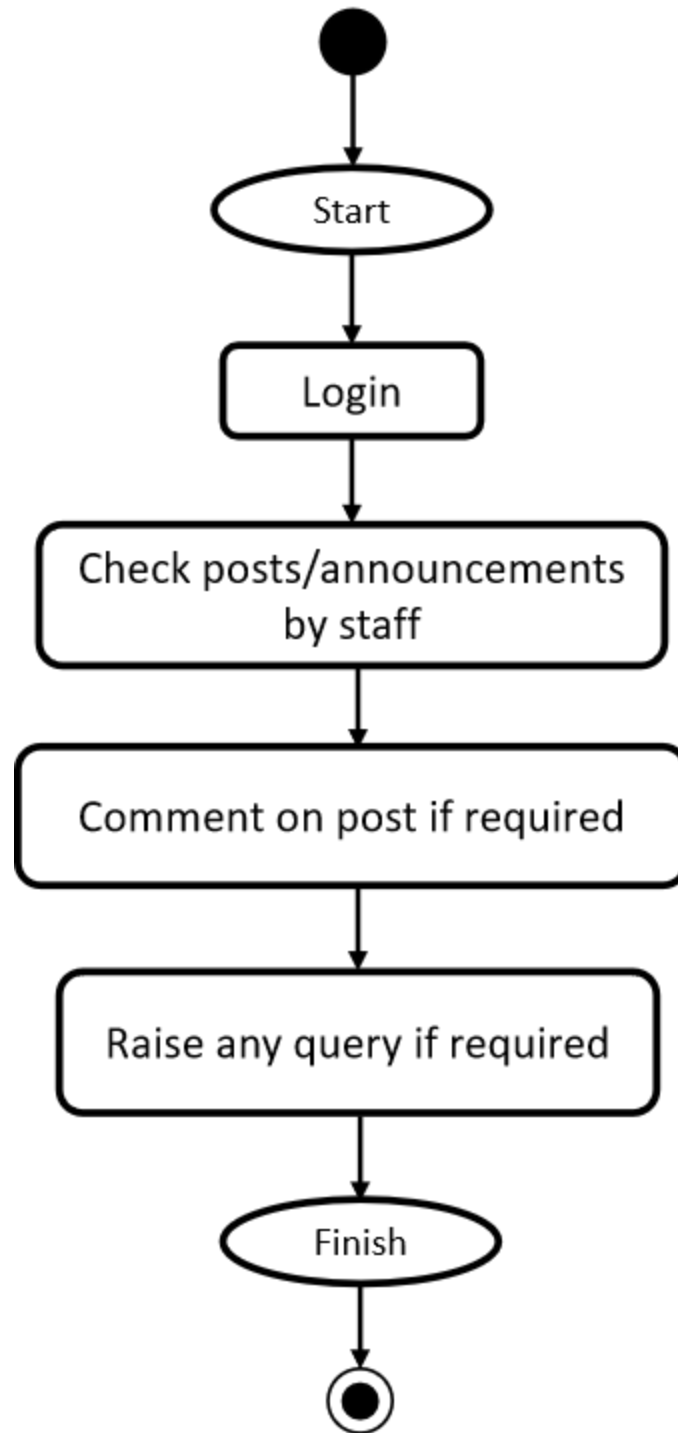

Fig 3.4.1 Admin Flow Diagram

Fig 3.4.2 Students Flow Diagram

Chapter – 4 Implementation and Testing

4.1   Database Design

Entity	Attribute
User	Username, first_name, last_name, email, password, is_staff, is_superuser
Post	Author, Title, Description, Branch, Year, File, Created, Updated
Comments	Author, Post, body, created, updated
Query	Author, Title, Description, upvotes, created, updated
Answer	Author, Query, body, created, updated

Table 4.1: Entity and Attributes Table
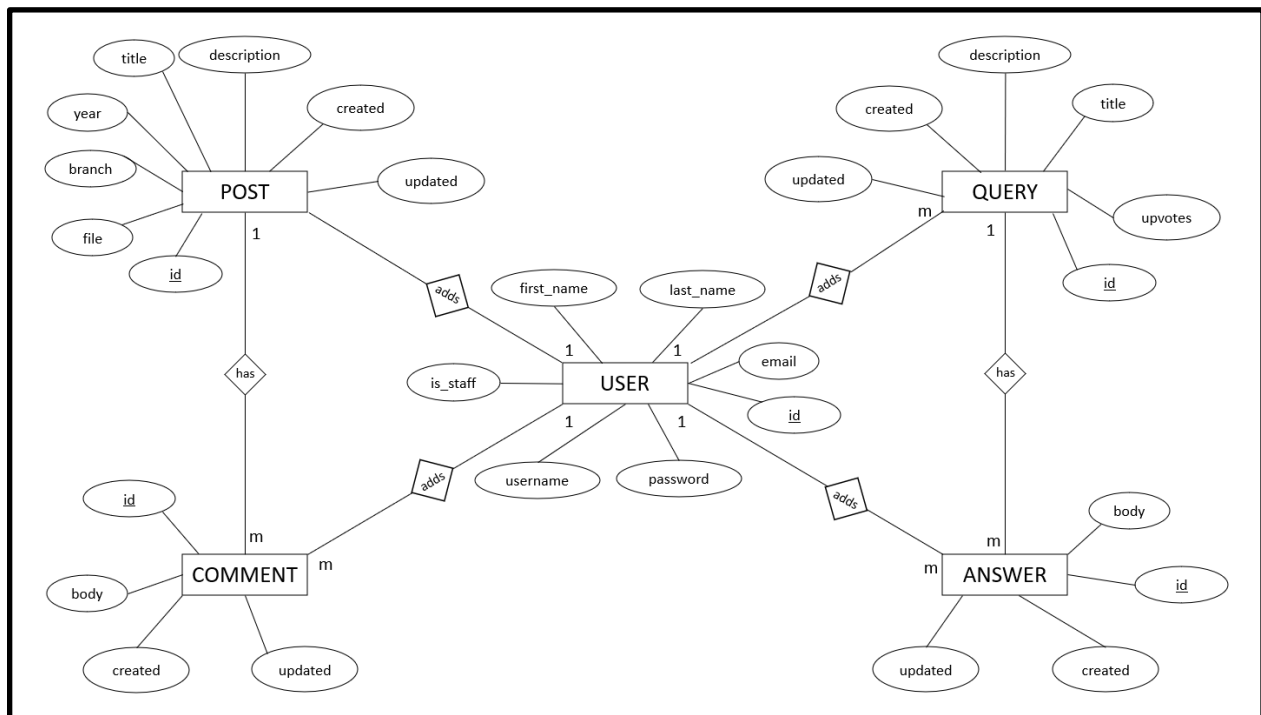

Figure 4.1: ER: Diagram

4.2 Test Cases

4.2.1 Test 01

We have Google authorization with only ietdavv.edu.in domain enabled.

This snapshot gives us the information of the login access of the student with google authentication.
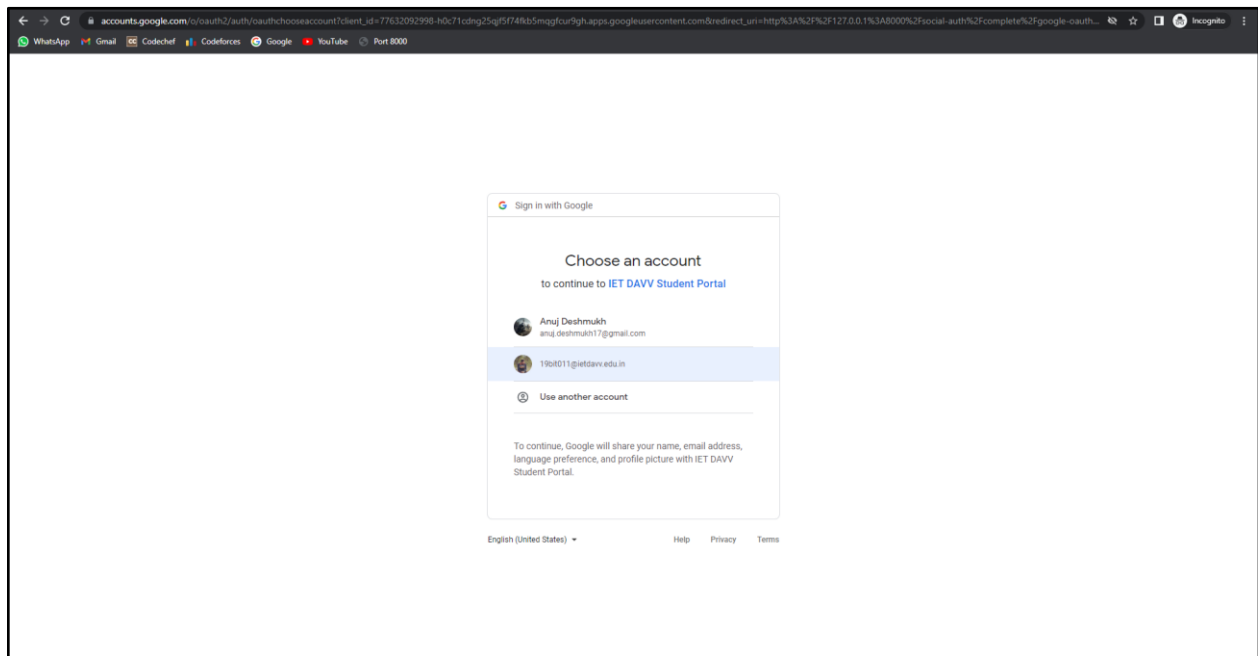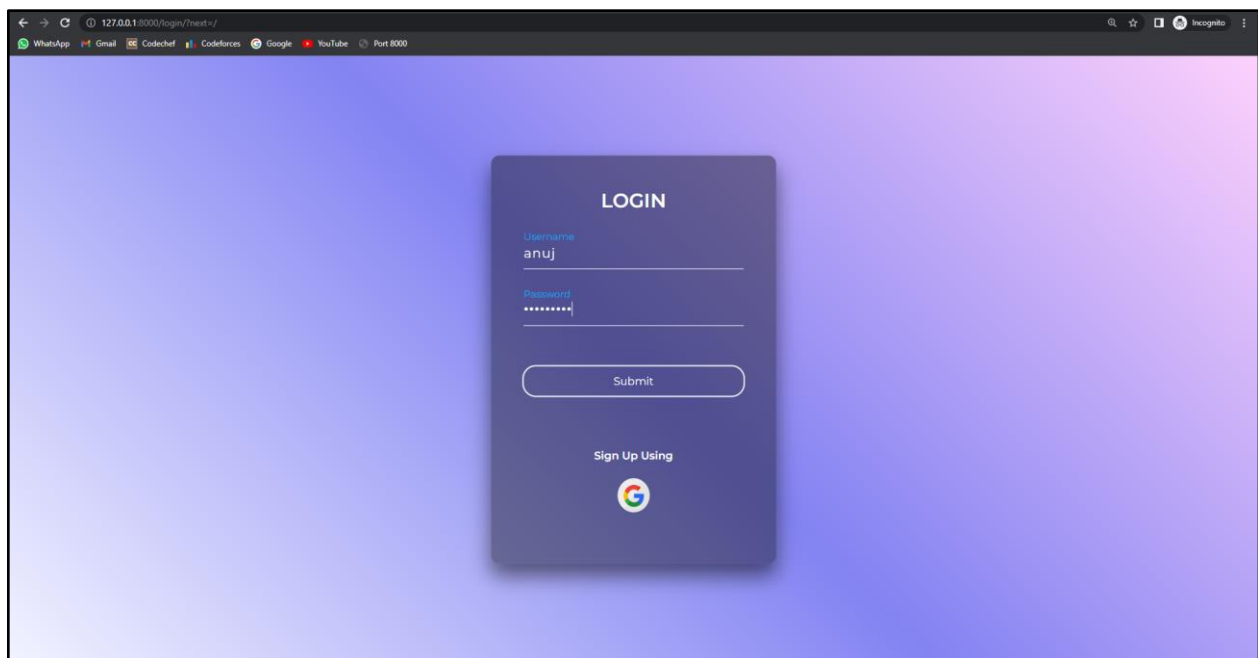

This snapshot shows the successful login with google authentication. This is the homepage of our website which shows all the functionalities that were accessed by the student after the successful login. Functionalities like students can see all the posts, can add queries, comments and can logout.
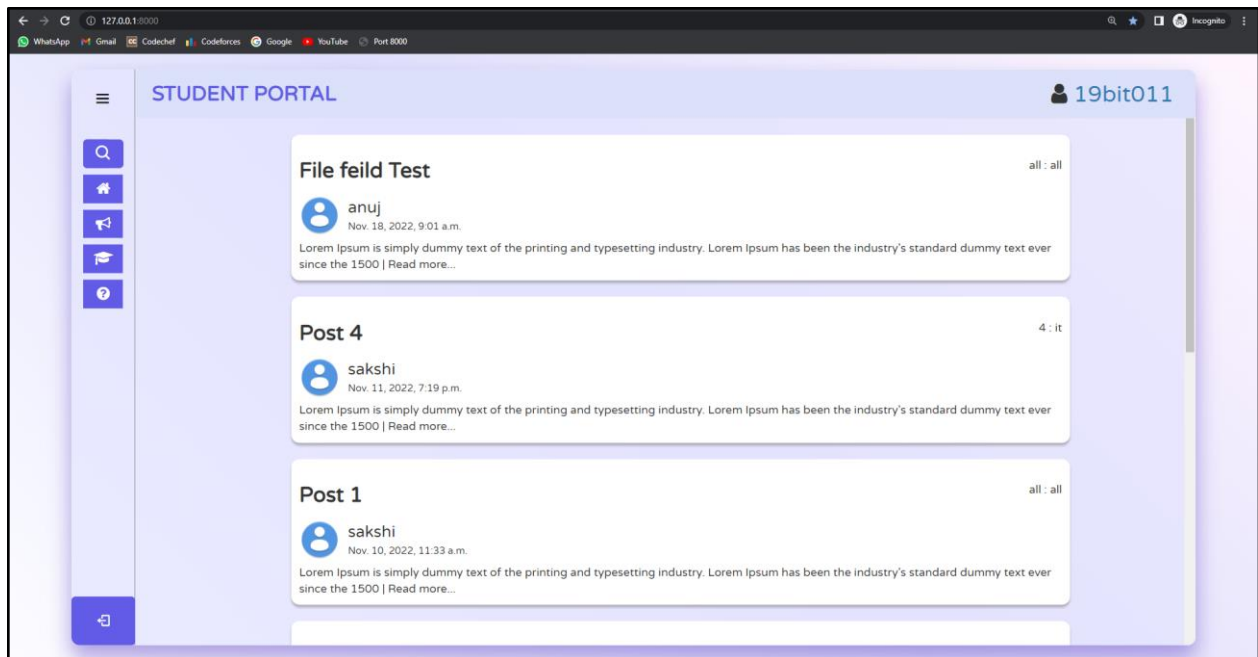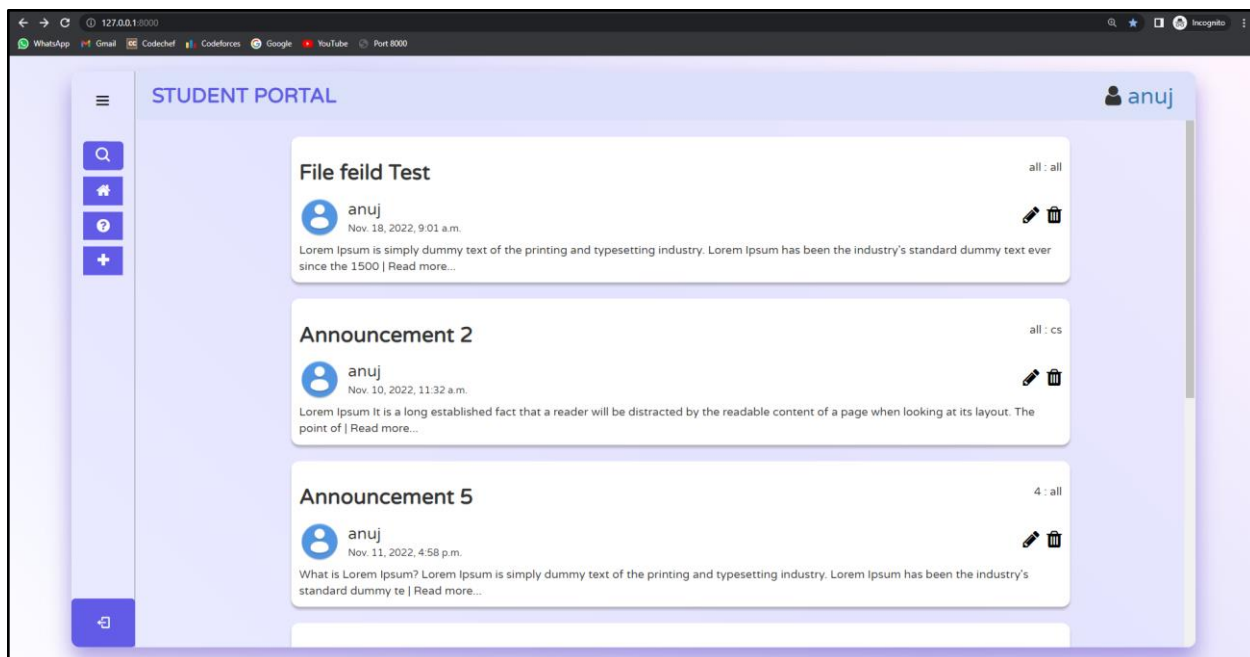
4.2.2 Test 02

Successful login by the staff after entering the authenticated username and password.

This snapshot shows that the faculty is successfully logged in and can have access to all the functionalities, that is can add posts, can answers to the queries asked by the students, and can reply to the comments.
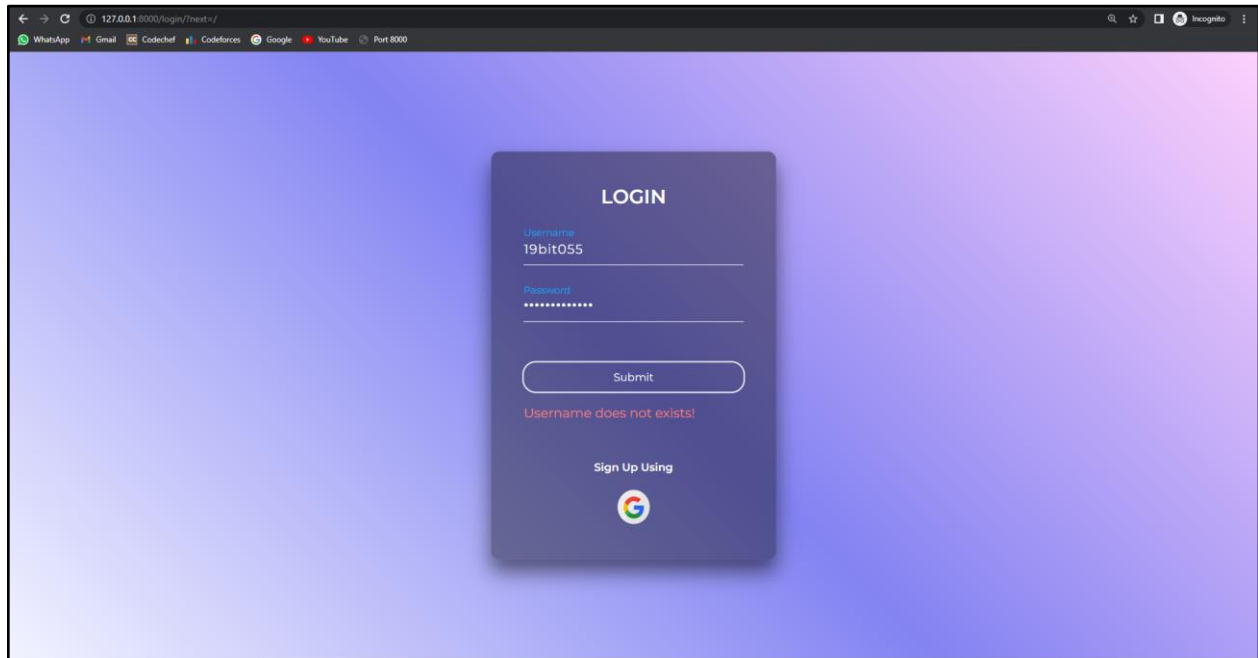
4.2.3 Test 03

This snapshot shows the unsuccessful attempt taken by staff by entering the wrong password.
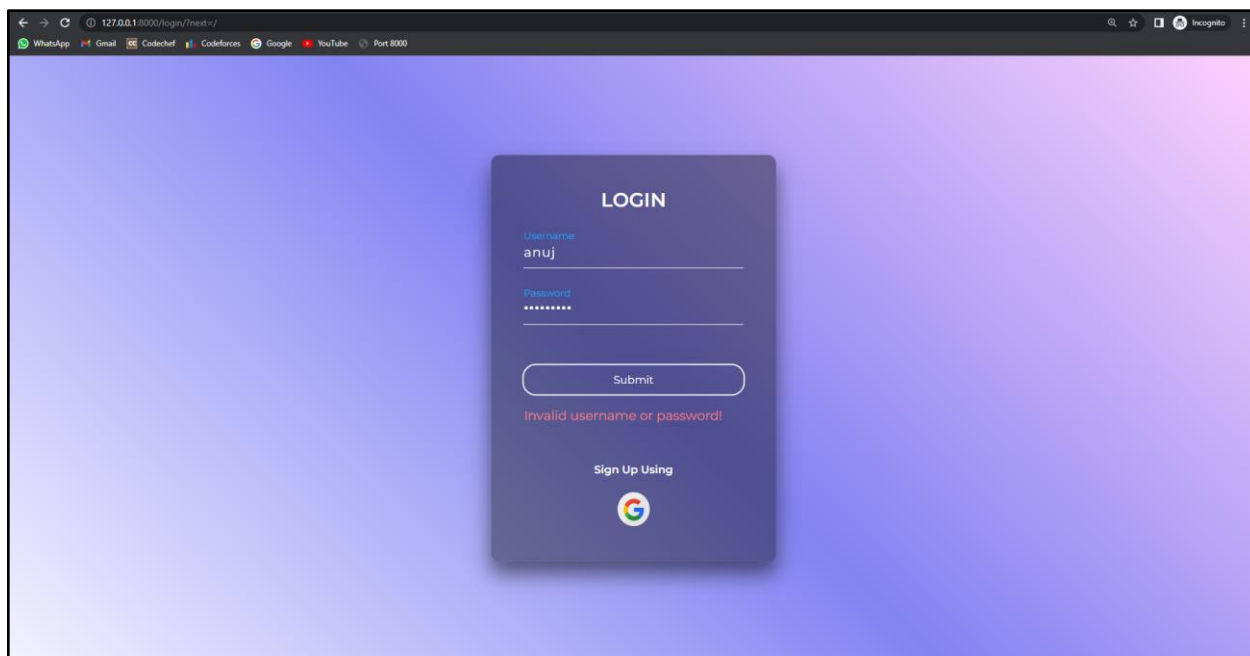
This snapshot also shows the unsuccessful login by entering the wrong username.

Which does not allow them to redirect to the homepage, hence won't be able to access the functionalities.

Chapter – 5 Conclusion

24The IET DAVV Student Portal will be of great assistance to the students, faculties, and administration department as it creates a bridge between these parties allowing them to set up a seamless communication. As the college website contains a plethora of insignificant information which might lead students to overlook the prime one, this portal aids them by only dispensing the foremost notices.

However, there are several parts to our project on which we have limited idea on how they would work on a large scale. The main purpose of this project was to aid students of IET DAVV with the help of an online portal, but this project can be expanded to the university level. We still got to learn a lot from our project.

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[4] https://moodle.org/

[5] https://docs.moodle.org/400/en/About_Moodle

Appendix

IET: Institute of Engineering and technology

SRS: Software Requirement Specification

SQL: Structured Query Language

DBMS: Database Management System

HTML: Hypertext Markup Language

GUI: Graphical User Interface

TCP/IP: Transmission Control Protocol/Internet Protocol

OS: Operating System