Design/Practical Experience
Department of Civil Engineering
Final Report

Academic Year: 2022-23
Semester: 2nd

Date of Submission of Report: 29 April 2023

1. **Name of the Student:** Jeevan Singh
2. **Roll Number:** B20CI019
3. **Title of the Project:** Scalable Web Apps for various purposes
4. **Project Category:** 3
5. **Targeted Deliverables:**
6. **Work Done:** Please find below the Term Paper
7. **Concluding Remarks:**
8. **References:** Please find below
9. **Declaration:** I declare that no part of this report is copied from other sources. All the references are properly cited in this report.

Jeevan Singh
_____
Signature of the Student   **Signature of the Supervisor**

_____
This section is mandatory to be filled for the End Term Report by the supervisor. The section is to be omitted for the mid-term report.

<u>Supervisor's Recommendation for the Evaluation</u>

Please tick any one of the following
1. The work done is satisfactory, and sufficient time has been spent by the student. The submission by the student should be evaluated in this term.
2. The work is not complete. Continuity Grade should be given to the student. The student would need to be evaluated in the next semester for the same Design Project with me.
3. The work is not satisfactory. There is no need for evaluation. The students should look for another Design Credit Project for the next semester.
4. [Other Comment, if 1-3 are not valid]   _____

Signature of the Supervisor

Design Credit Project

Report on

"Scalable Web Apps for various purposes"

Indian Institute of Technology

Jodhpur, India.

Guided By:

Dr. Sumit Kalra

Assistant Professor

Computer Science & Engineering

IIT Jodhpur

Submitted By:-

Jeevan Singh (B20CI019)

1.   Introduction

1.1 Purpose of this document

The purpose of this document is to provide a detailed project description of the application called IITJShare. It is a Python-Django-MySql website for managing and sharing project files that are used by teachers and students. The teacher creates a course and students upload projects and files under that project. There is a facility for conversation between teachers and students to discuss projects.

1.2 Definitions and Acronyms

Keywords	Definitions
IITJShare	The name of the project is "IITJShare"
Django	A framework which follows the model-view-template architectural pattern
CSS	A style sheet language used for describing the presentation of a document written in a markup language like HTML
Dropzone.js	JavaScript library that provides an open-source drag and drop file upload facility in this project
SMTP	SMTP(Simple Mail Transfer Protocol) is a protocol used for sending email messages between servers on the internet.
MySql	A relational database management system in the project
PyCharm	An integrated development environment used in computer programming, specifically for the Python language
Git	A version control system that will be used in this project
Github	Source code manager used in this project
Railway	A cloud-based platform that provides a platform as a service for deploying, and managing web applications

1. 3 References

1. https://www.djangoproject.com/
2. https://github.com/
3. https://www.mysql.com/
4. https://www.dropzone.dev/
5. https://www.jetbrains.com/pycharm/
6. https://www.geeksforgeeks.org/simple-mail-transfer-protocol-smtp/
7. https://www.jetbrains.com/pycharm/

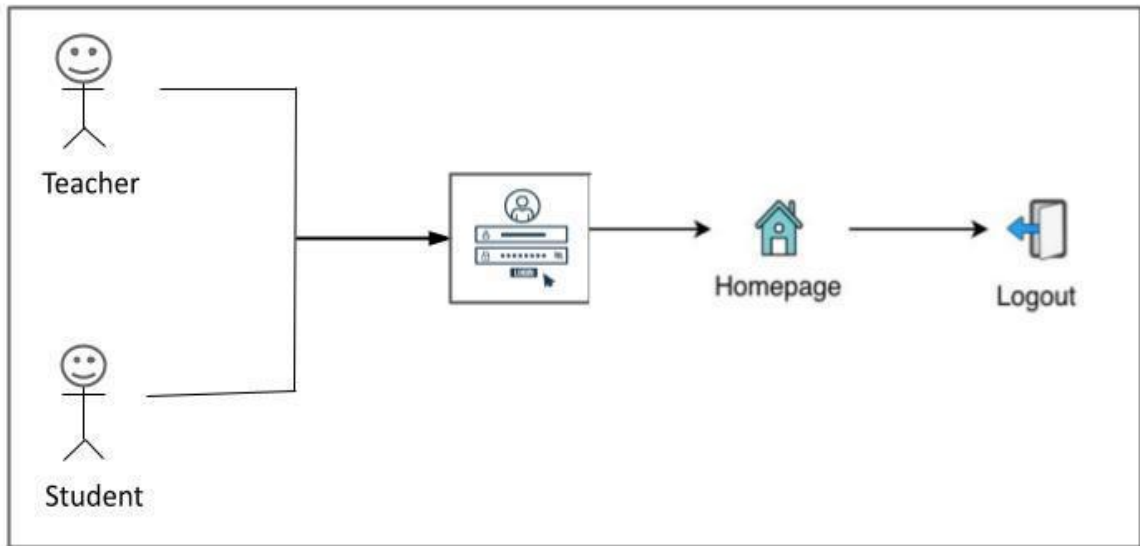## 2. Background and Objective :

Background

In today's Internet world, efficient project management and seamless communication are crucial for the success of an Organisation. With the advent of technology, web-based project management and collaboration tools have become increasingly popular, offering Organisations the ability to streamline their workflows, increase productivity, and improve communication. The need for project management tools arises from the fact that projects involve numerous tasks, team members, and stakeholders, and require careful planning, execution, and monitoring to ensure timely delivery and desired outcomes. However, managing projects using traditional methods such as email, phone calls, and spreadsheets can be cumbersome, time-consuming, and error-prone, leading to project delays and poor-quality results. This application provides the platform to manage projects involving multiple members and required sharing of large files with smooth communication between members.
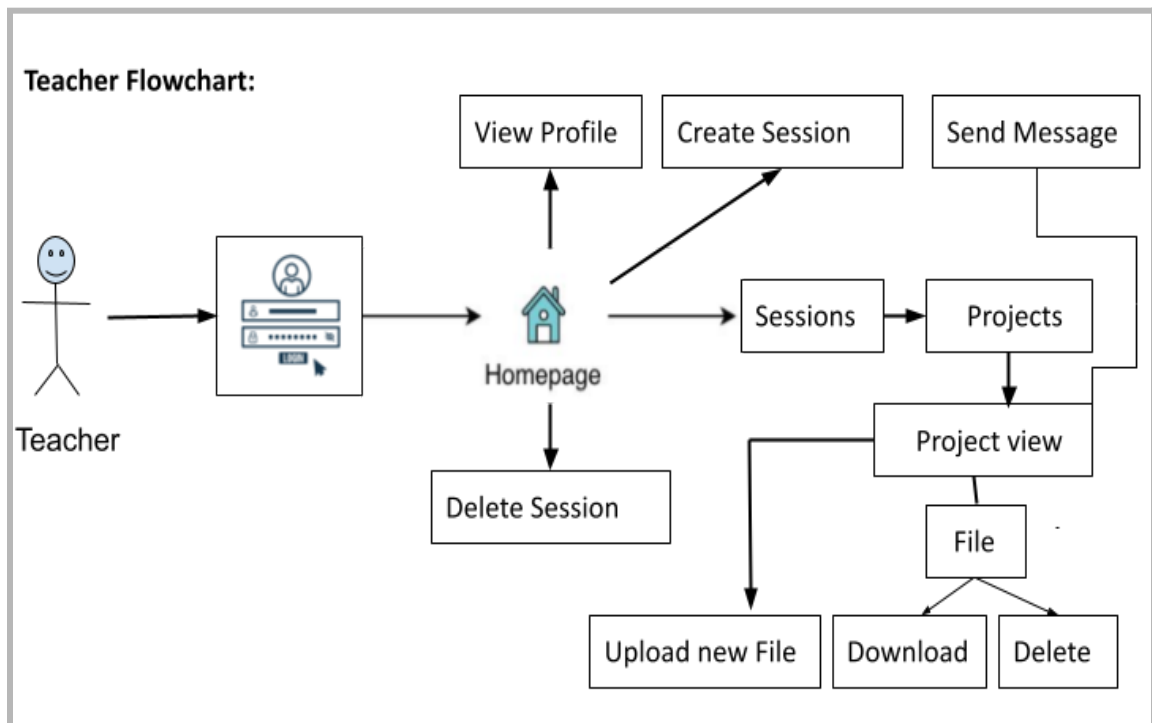
Objective

The objective of creating such a system is to help an organization to manage the projects within their organization. In the case of IIT Jodhpur, this system can be used to manage the design credit, courses, and lab projects which involve multiple students working on the same project. It provides a separate interface for professors and students to share files with others. The teacher creates a course and students upload projects and files under that project. There is a facility for conversation between teachers and students to discuss projects. The organization's authority can create different types of users and can manage and update them with time.
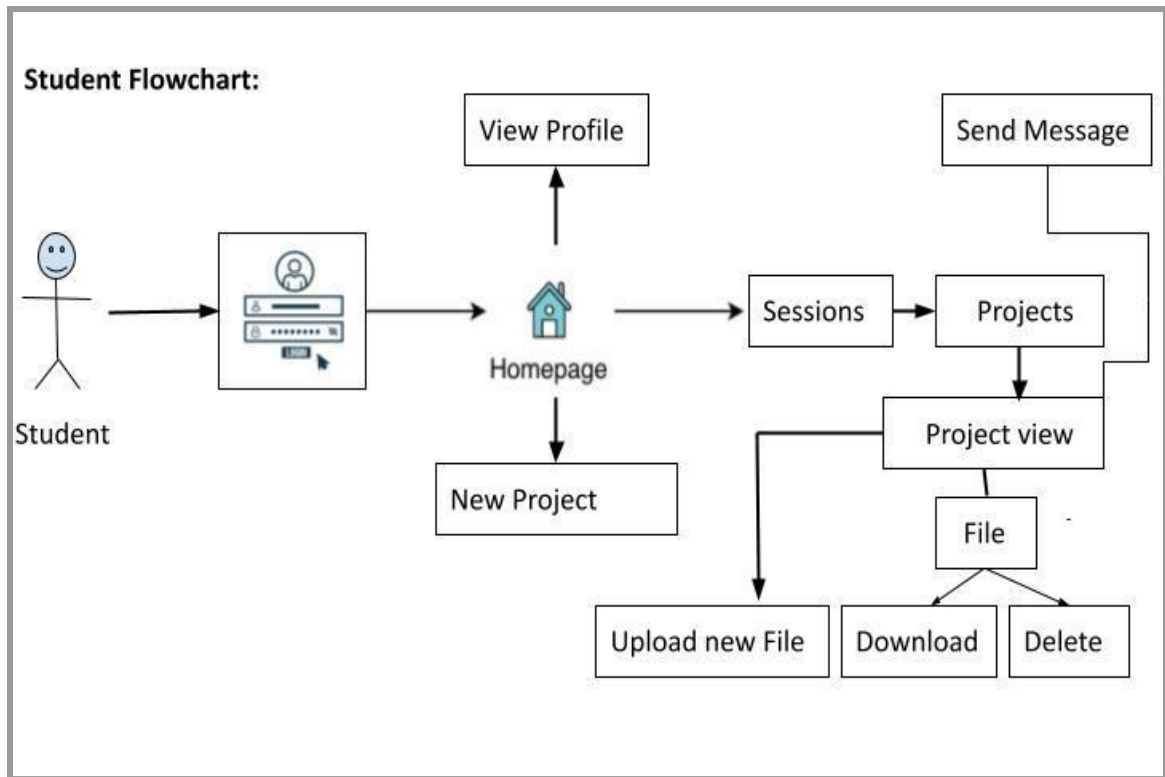
3. Use Case Diagrams

a) Overall Flow:

b) Teacher Flow chart :

c) Student Flow chart

Student Flowchart:

4. Project Links

Source Code	https://github.com/jeevan126/sampleapp/
URL	https://web-production-fb83.up.railway.app/

5. Design

By clearly defining and analyzing the project requirements, decided on the software infrastructure needed for the development. The following software has been used for the development :

- **Django framework using PyCharm:** Django is a high-level web framework that provides developers with a wide range of tools and libraries to build robust and scalable web applications. Django is based on MVT (Model-View-Template) architecture. MVT is a software design pattern for developing a web application. with its robust features, security, and scalability, making it a good choice for developing this application. PyCharm is an integrated development environment used for programming in Python. It provides code analysis, a graphical debugger, an integrated unit tester, integration with version control systems, and supports web development with Django.

- **MySQL Database:** MySQL is a widely used relational database management system that is compatible with Django. In this system, MySQL is used to manage the user information. Due to its features like Reliability, Compatibility, and scalability MySQL is preferred as a database.

- **GitHub:** GitHub is a popular web-based hosting service for version control and collaboration that is used in this project. It provides version control, Collaboration, Code review, and Continuous Integration/Continuous Deployment (CI/CD) facilities which makes it the first choice for developers to build projects.

- **Railway:** Railway is a cloud platform that provides a serverless hosting environment for web applications, which can be used to deploy web projects. We use railway platform to deploy this website because of its features like the ease of deployment, scalability, reliability, and integration with the database.

7. References

[1] https://docs.djangoproject.com/en/4.2/

[2] https://tutorial.djangogirls.org/en/

[3] https://getbootstrap.com/

[4] https://github.com/django/django

[5] https://stackoverflow.com/

[6] https://www.javatpoint.com/how-to-connect-mysql-to-django

[7] https://docs.github.com/en/

[8] https://blitzjs.com/docs/deploy-railway

[9] https://zetcode.com/python/smtplib/

[10]https://simpleisbetterthancomplex.com/tutorial/2018/01/18/how-to-implement-multiple-user-types-with-django.html