CS699: Software Lab
PROJECT REPORT

MY PG (Meet Your Project Guide)

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November 2022

Introduction

We have identified a major problem that all the IIT Bombay students face, i.e. finding the right guide for projects, seminars as well as RnD. The project guides also have a hard time to get the ideal students relevant to their requirements.

Hence, with our project, "Meet Your Project Guide", we have tried to solve the aforementioned problems by developing a web based platform where the guides can publish details about their projects and student can apply to them. Furthermore, the guides can shortlist the students if they fulfill their requirements.

Problem Statement

Currently, the following problems are faced -

- Professors have to put details about projects/seminars in excel sheets which is very inconvenient and inefficient.

- Professors have a hard time finding appropriate students to undertake for their projects, as they have to filter and screen the students individually and have to ask about the skill set of students by manual communication through email etc, which wastes their time.

- The students struggle to find a project which suits their skills and has to contact their seniors and other sources to get more information about the requirements of the project, including level of expertise, tech stack etc.

- After shortlisting projects, students have to contact professors and meet them to know about available positions and eligibility.

The Solution (Course of action)

We aim to solve the aforementioned problems by developing a platform, which will make this tedious process much easier.

- On the platform, the project guides can post all details about their projects like descriptions, skills required as well as the level of expertise required, prerequisites etc.

- The students will create a profile listing all their academic and technical details including their level of expertise and fields of interest as well as their contact details.

- The students can go through all the available projects and directly apply to the projects which are suitable to them, using the platform.

- The project guides can easily shortlist and select the students based on their academic scores and matching skill set. The professors can give precedence to specific characteristics and skills.

- The students can see the shortlisting status for all their applications and plan their course of action accordingly.

Platform Features (Documentation of functionalities)

1. Landing page which allows the user to choose their role.

2. Separate sign in pages for faculty and student (using LDAP ID only).

   (a) Implemented "forgot password" feature in the sign in screen which sends a new password to the user's email ID.
   (b) Faculty sign up page, where they can enter their academic division.
   (c) Student's sign up page, which prompts the student to enter details such as Skills, Semester-wise CPI, Academic Division etc.

3. "Faculty dashboard", where they have the option to create a new project and review received applications for all their projects.

   (a) "Create project" page, which allows the faculty to enter details like Title, Stream, Description, Number of students required and Requisites.
   (b) "Review applications" page, where the faculty member can view and shortlist the applications received in a project wise manner.

4. "Student dashboard", where the student has the option to view and apply to all the projects as well as view the shortlisting status of their applications.

   (a) "View all projects" page, where the student can view the details about all the projects and click on the apply button to submit their Statement of Purpose (SOP) and apply to the project of their interest and suitable skill set.
   (b) "Your applications" page where the student can see all the projects they have applied to and also their shortlisting status for them.

5. "Developers" page which includes the contact details about the developers of the project.

Tech Stack used

- Git + GitHub - Version control

- Heroku - Deployment

- VS Code - IDE for development

- HTML + CSS + Javascript - Frontend

- Bootstrap - CSS Framework

- Flask (Python) - Backend

- PostgreSQL - Database

- Overleaf - Latex for Project Report

Meet Your Project Guide - FlowChart
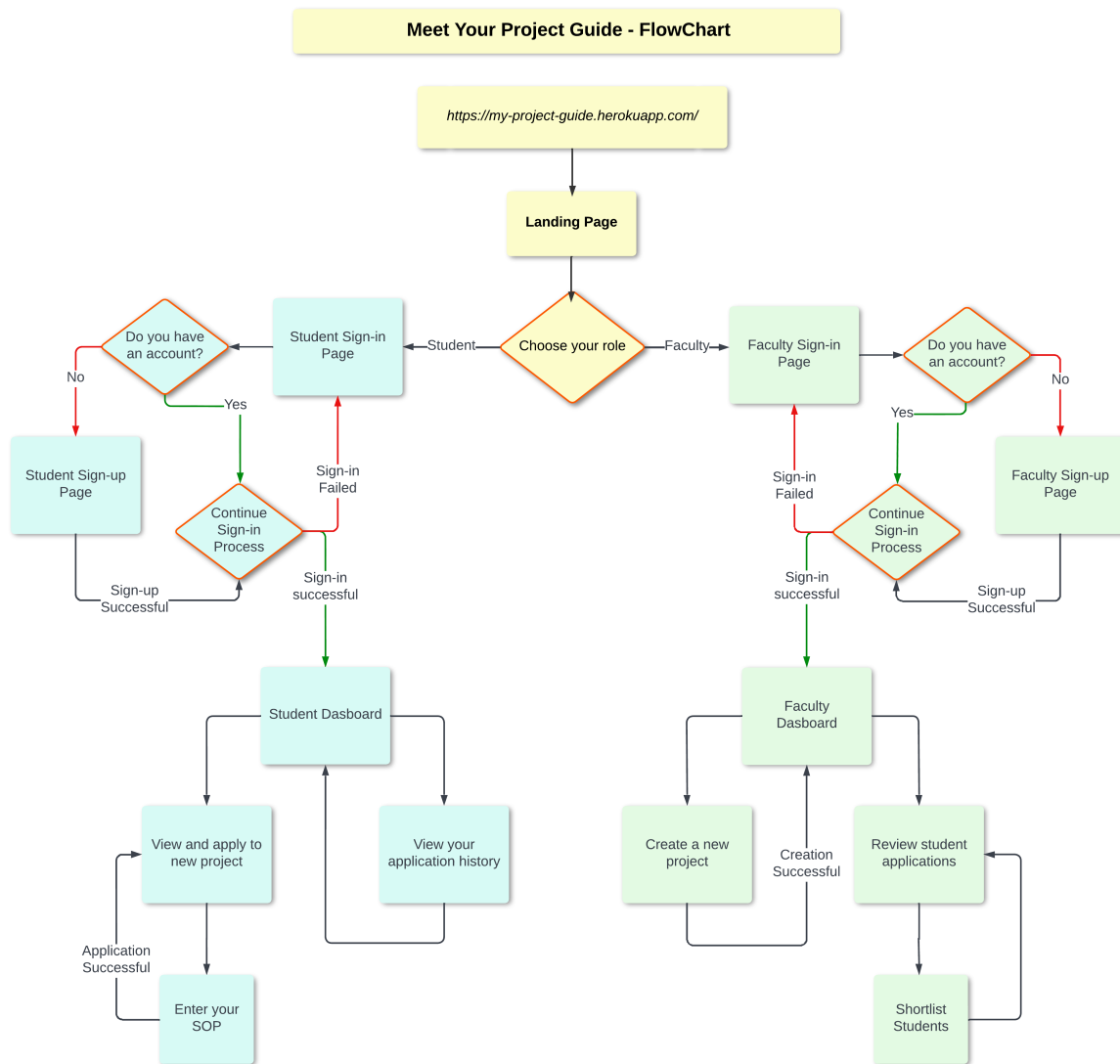
Possible future work pending

To increase the functionality of the platform even further, we can implement a discussion section where the students can ask and answer queries about projects.

Compilation and Running instructions

1. pip3 install requirements.txt - To install dependencies for running the application

2. python3 app.py - To launch the web application

(Since the database is uploaded online, running database locally is not required)
We have also deployed the website on Heroku to access remotely.

Directory structure and Files description

```
SL-Project
├── Procfile
├── __pycache__
│   └── database.cpython-310.pyc
├── app.py
├── database.py
├── requirements.txt
├── static
│   ├── css
│   │   ├── devs.css
│   │   ├── facdashboard.css
│   │   ├── forget.css
│   │   ├── index.css
│   │   ├── nav.css
│   │   ├── signinfac.css
│   │   ├── signinstud.css
│   │   ├── signupfac.css
│   │   ├── signupstud.css
│   │   └── studashboard.css
│   ├── favicon.ico
│   └── img
│       ├── devs.gif
│       ├── mypg-logo.png
│       ├── professor.gif
│       ├── student.gif
│       └── whitebg1.webp
└── templates
    ├── devs.html
    ├── facdashboard.html
    ├── forget.html
    ├── index.html
    ├── nav.html
    ├── signinfac.html
    ├── signinstud.html
    ├── signupfac.html
    ├── signupstud.html
    └── studashboard.html
```

1. app.py - Used to Build, Configure, Deploy the Application

2. database.py - Manages the configuration of the Database tables.

3. templates/*.html - Stores all the HTML pages of the platform

4. static/css/*.css - Stores the CSS configurations of the HTML pages.

5. static/img/*.* - Stores the image assets.

6. requirements.txt - Information about dependencies of app.py

*Individual functions details are present as docstrings in python files

Links

1. Deployment - https://my-project-guide.herokuapp.com/

2. Github link - https://github.com/SL-Project-MY-PG/SL-Project