TAMU INTERN REVIEWS

CSCE 685 DIRECTED STUDIES REPORT
Prof. Duncan M. (Hank) Walker

Submitted by:
Manisha Bachu, UIN 832000623
Harika Gumudavally, UIN 931002165

Introduction

The TAMU Internship and Co-Op Experience Portal project aims to create a platform that enables Texas A&M University students to share their internship and co-op experiences, as well as their interview experiences with various companies. The platform will allow users to filter their search based on the year, major, and industry of the jobs they are interested in.

Features

Users can publish their experiences, including salary information, with the option to remain anonymous or share contact details.
- Readers can contact the post creator for referrals.
- The platform is a customized blend of LinkedIn and Glassdoor, designed for the Texas A&M network.
- Search results can be filtered based on year, major, and industry.
- Users can manage their published content, including updating or deleting posts.

Target Audience

Texas A&M University students who have completed or are currently participating in internships and co-op programs.

Impact

- Centralized platform for students to connect and share their experiences.
- Opportunity for students to learn from each other's experiences and make informed career decisions.
- Fosters collaboration and support within the Texas A&M community.
- Increased visibility and accessibility to internship and co-op experiences for Texas A&M students.
- Improved decision-making for students navigating their career paths.
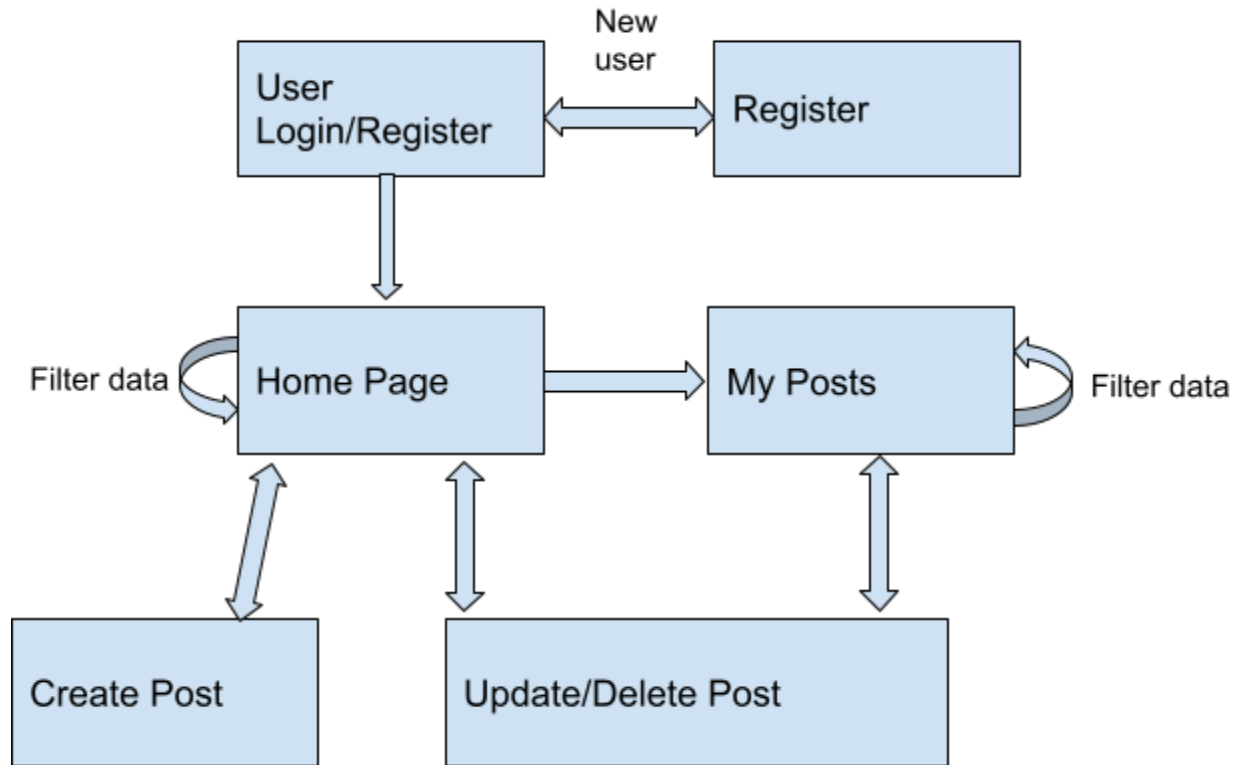- Builds a stronger sense of community among Texas A&M students.

Tech Stack

Framework: Django
Database: SQLite
UI: HTML, Bootstrap 5, Font Awesome Icons

Design

Flow diagram:

Database design:

There are two tables that capture user data and post data. Posts table contains all the data and can be related to user based on email address.

Posts table:

Email	Id	Company	Title	Review	Rating	Role	Semester	Duration	Salary	Year	Industry	Created	Modified

AUTH_USER_TABLE

| ID	PASSWORD	LAST_LOGIN	IS_SUPERUSER	USERNAME	LAST_NAME	EMAIL	IS_STAFF	IS_ACTIVE	DATE_JOINED	FIRST_NAME

Software Development Process

For the completion of the intern reviews project, we followed following sequence of tasks:

1. **Requirement Analysis**: We carefully examined the project's requirements, pinpointed its major components, and created a list of activities that needed to be completed.
2. **Database Schema and Design**: In accordance with the project features,we created the tables in SQLite database.
3. **Design Layouts**: Then, we designed the layout for the home page and display of the posts in a card layout in order for the UI to be easily readable. For easy navigation, we added buttons in the nav bar to redirect the user to my posts and create post page. We also designed update, delete features to be part of card display. User Registration and Login screens designs were also designed to be simple.
4. **Framework:** Django framework is used to develop the application which uses MVT - Model View Template pattern. We leveraged the administration design provided by django to set up the user registration functionality and display
5. **Backend Development**: We created the application's backend code, which included CRUD operations (create, read, update, and delete) with the Posts table.
6. **Filters Development**: Added filters to the home page and developed the backend code to enable filter functionality. Users could filter their search based on the year, major, and industry of jobs.
7. **Anonymity** : Record the preference during post creation process. Based on this preference we can decide whether show the user's details or not
8. **Testing and Validation**: We added additional validation conditions to avoid use of non Texas A&M user emails and incorrect data in the posts. We have tested all happy flows and edge cases which might cause the system to break.
9. **Git Setup**: Created a repository on github and pushed the code to track the features and collaborate with each other.
10. **Documentation**: For summarization of functionality, we have prepared document outlining the design, process and added screenshots of each page of application.
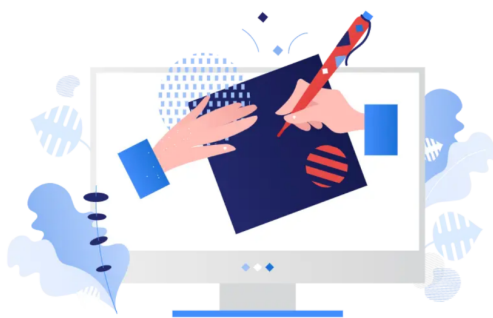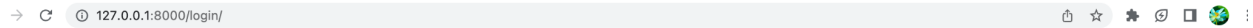
User Flows

When a user clicks on the website, they'll be redirected to Sign Up/Login screen.

1. **Sign Up/ Login Page**:
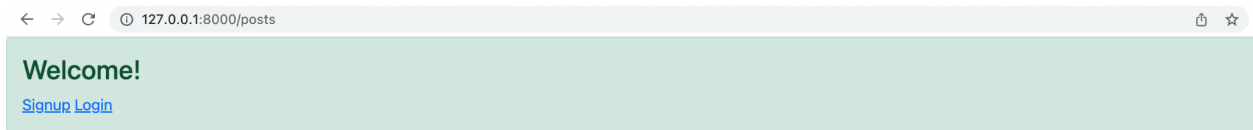
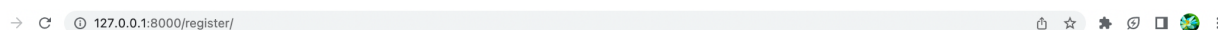2. **Login Page**: If user clicks on Login, they will be redirected to Login screen

3. **User Registration Page**: If it is a new user, users can click on Sign Up to create a new account.

4. **Home Page**: Once user logs in, they'll be routed to Home page. Home page consists of list of all the posts in list of card layouts containing all information from user.

5. **My Posts Page**: My posts on navigation bar routes to new page consisting of list all the posts created by the logged in user.

6. **Filter posts**: On the Home page and My Posts pages, users will be able to filter the resultant posts by specifying different types of criteria. Examples: Title, role, industry will search for presence of given value in the post.

Additionally, rating or company name or semester can be selected from drop down to filter the data respectively by each attribute.

As below, by selecting only rating values of 2 and 3, and semester as Summer, I can see the post which satisfies both the filter conditions.

7. **Create Post page**: New Post button on the navigation bar redirects user to a new page with a form where all the information can be entered.

8. **Update Post page**: The created posts can be updated by the user using the pencil icon on the posts from My posts page or the Home page. This access is only available to user that created the post.

9. **Delete Post:** To delete a post, delete button is provided in addition to update. This access is also given to the user that created the post. On clicking the delete button, a pop up is displayed for confirmation. This button is displayed on My Posts page and Home page.
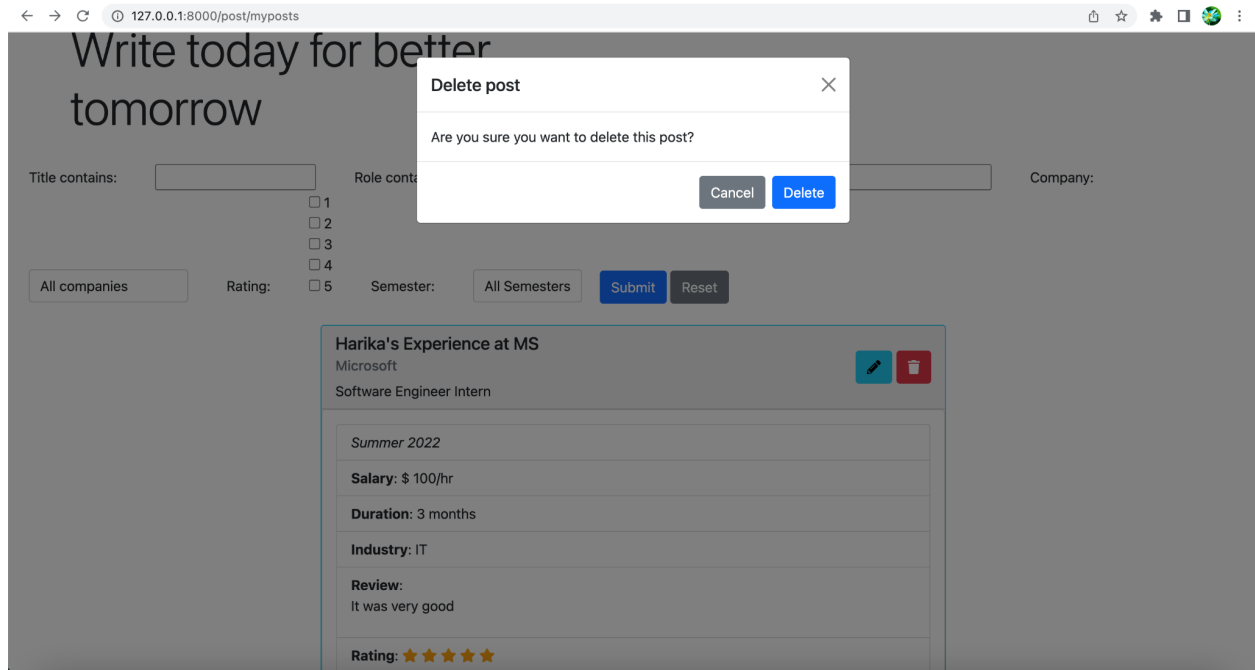
10. **Logout Page:** When user clicks on logout button on navigation bar, a separate page is displayed where user can create another account or sign in again.

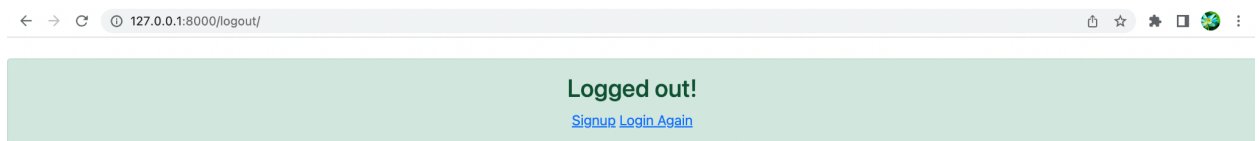Another flow of the InternReviews Portal is admin user flow. The admin credentials are Username: tamu and Password: tamu123.

1. **Admin portal**: When admin user logs in, they will have access to edit, delete the posts. They can also control user access and permissions. The admin console includes ability to grant additional access to users, change the authentication and authorization schemes for user login scheme.
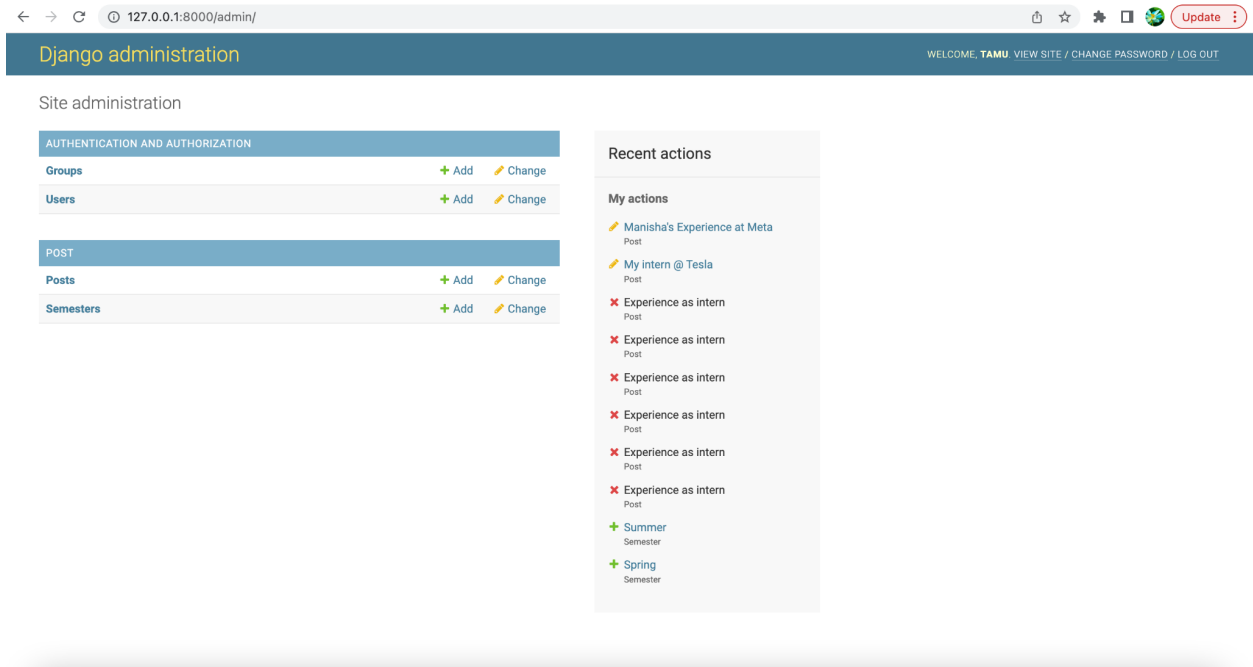
Test cases

We performed *manual testing* for following scenarios:
1. Verify that a user can register with valid information.
2. Verify that an error message is displayed when attempting to register with invalid information.
3. Verify that the system prevents registration with an existing email address or username.
4. Verify that the system enforces password complexity requirements.
5. Verify that the registration form has required fields that must be filled out.
6. Verify that the user is redirected to the correct page after successful registration.
7. Verify that user with only a valid tamu email address is able to register

Sign-in Test Cases:
1. Verify that a user can sign in with valid credentials.
2. Verify that an error message is displayed when attempting to sign in with invalid credentials.
3. Verify that the system handles incorrect password attempts, for example, by locking the account after a certain number of failed attempts.
4. Verify that the user is redirected to the correct page after successful sign-in.

Post Test Cases:
Create Post Test Cases:
1. Verify that a new review post can be created with valid information.

Edit Post Test Cases:

1. Verify that an existing blog post can be edited only by the user who created the post
2. Verify that an existing blog post can be edited with valid changes to the information.

Delete Post Test Cases:
1. Verify that an existing blog post can be deleted only by the user who created the post
2. Verify that an confirmation window appears before the post is deleted.

View Post Test Cases:
1. Verify that all existing review posts can be viewed on a list page.
2. Verify that the review post displays the correct information.
3. Verify that the review post view page displays the correct date and time when the review post was modified.

My Posts Test Cases:
1. Verify that my posts link exists on Navigation bar.
2. Verify that the list displays all the active posts for the user loggedin.

Usability Test Cases:
1. Verify that the website is easy to navigate and understand.
2. Verify that the website is responsive and works correctly on different devices and browsers.

Performance Test Cases:
1. Verify that the website loads quickly and efficiently.
2. Verify that the website remains responsive under concurrent user access.
3. Verify that the website does not experience downtime or errors under heavy load.

Future Scope

- Integration with Texas A&M NetID Authentication system with 2-factor authentication
- Compatibility with different browsers and devices
- Improved scalability to support multiple concurrent users without performance issues

Source code URL: https://github.com/harika-g/internReviews