

# AI for Agent Recruiting

## Design Document



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## Abstract:

This design document describes the model of the web application. This Document will describe exactly how the web application will be used, referencing diagrams such as Entity Relationships and a high-level design diagram to portray how the web application functionality will be accessed such as a sequence diagram.

## Introduction:

The Job Recruitment Web Application is a platform for job seekers and employers to connect. Job seekers can create and update a dashboard, and search and apply for jobs, while recruiters can post, view, update, and delete job listings, manage job applications, and predict employee attrition. The application will be developed using ReactJS, a JavaScript library for building user interfaces, and Python using the Flask web framework.

This design document outlines the proposed design for a job recruitment web application using React framework.

The application will have a user-friendly interface with easy navigation, and responsive design and will be optimized for both desktop and mobile devices.

The application will be built using the latest web technologies, such as HTML, CSS, JavaScript, and React framework. The goal of this project is to create an efficient and easy-to-use platform for job seekers and employers to connect while providing a seamless and responsive experience.

## Features:

- Job seeker profile creation.
- Job search and application.
- Recruiter has access to CRUD job listing.
- User authentication and authorization.

## User Flow:

1. Job seekers will first create or update a dashboard, including their resume and personal information.
2. Job seekers can then search for job listings, filter by location and job title, and apply to jobs.
3. Employers can post job listings, including job titles, locations, and description.
4. Employers manage job applications.
5. Users will have the ability to log in and log out of the application.
6. Recruiter can manage the application, including reviewing job listings and user profiles.

## Technical Requirements:

- ReactJS for front-end development.
- Python and Flask or Django for back-end development.
- Firebase for database management.
- Firebase for user authentication.
- Machine Learning.

# Entity Relationship

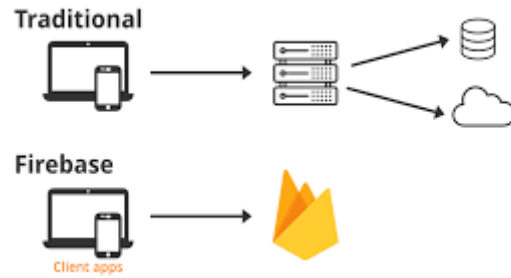


Figure 1: Architecture of the front-end application.

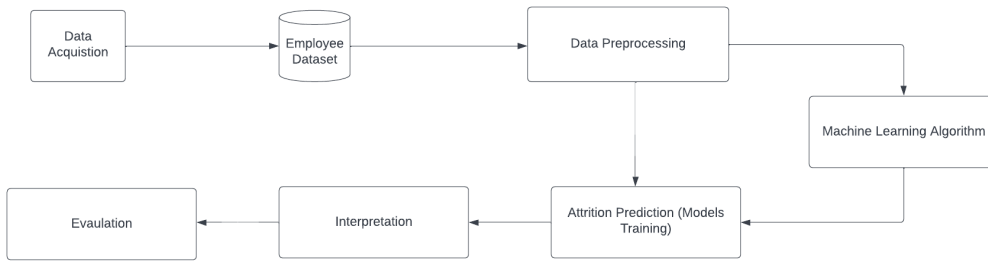


Figure 2: Architecture of the churn model.

# Sequence Diagrams

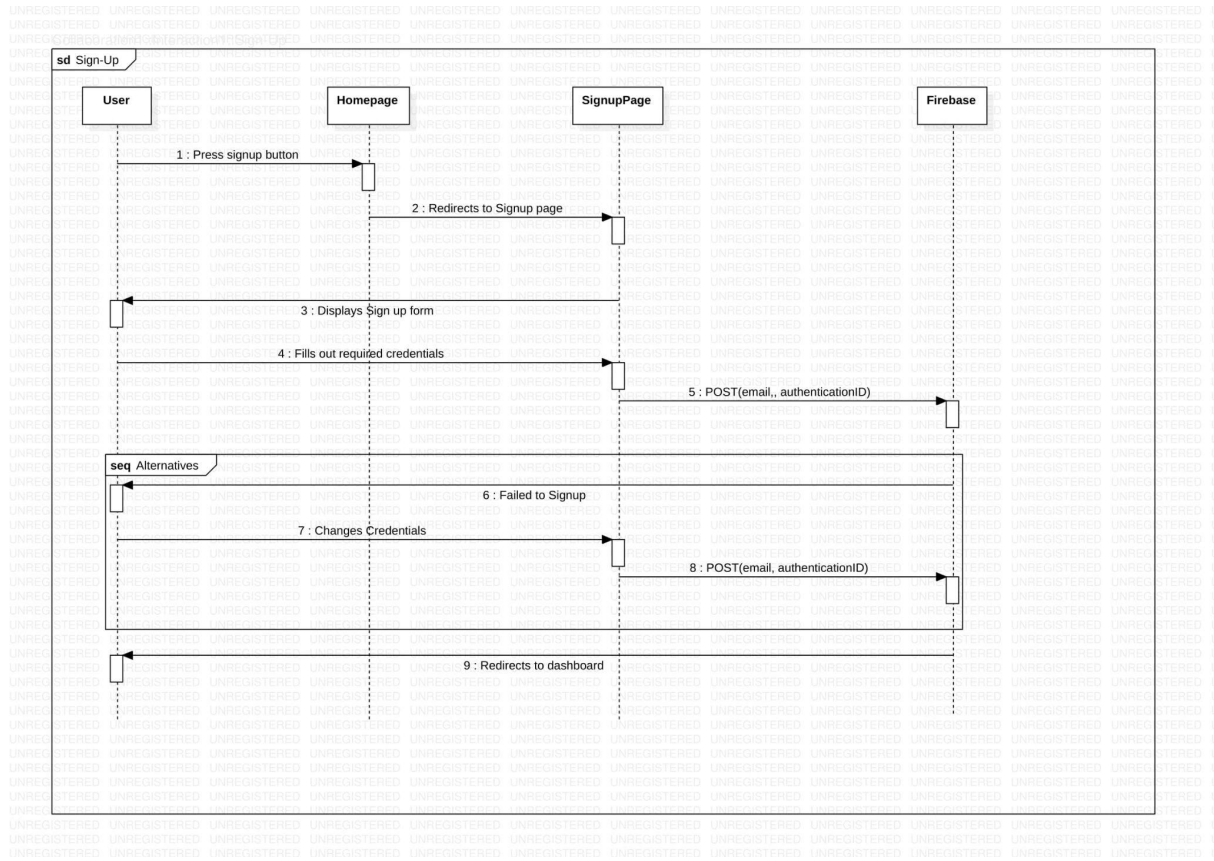


Figure 3: Sign-Up Sequence Diagram

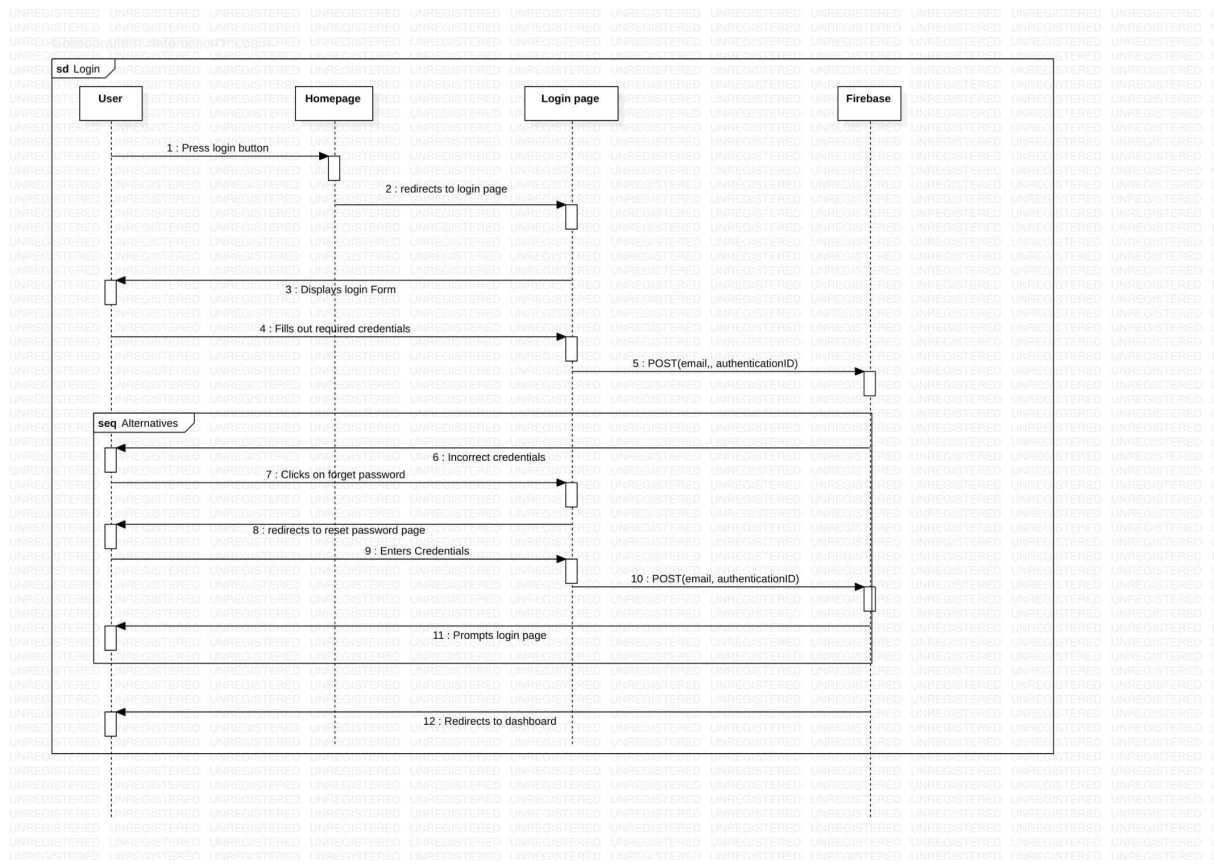


Figure 4: Login Sequence Diagram

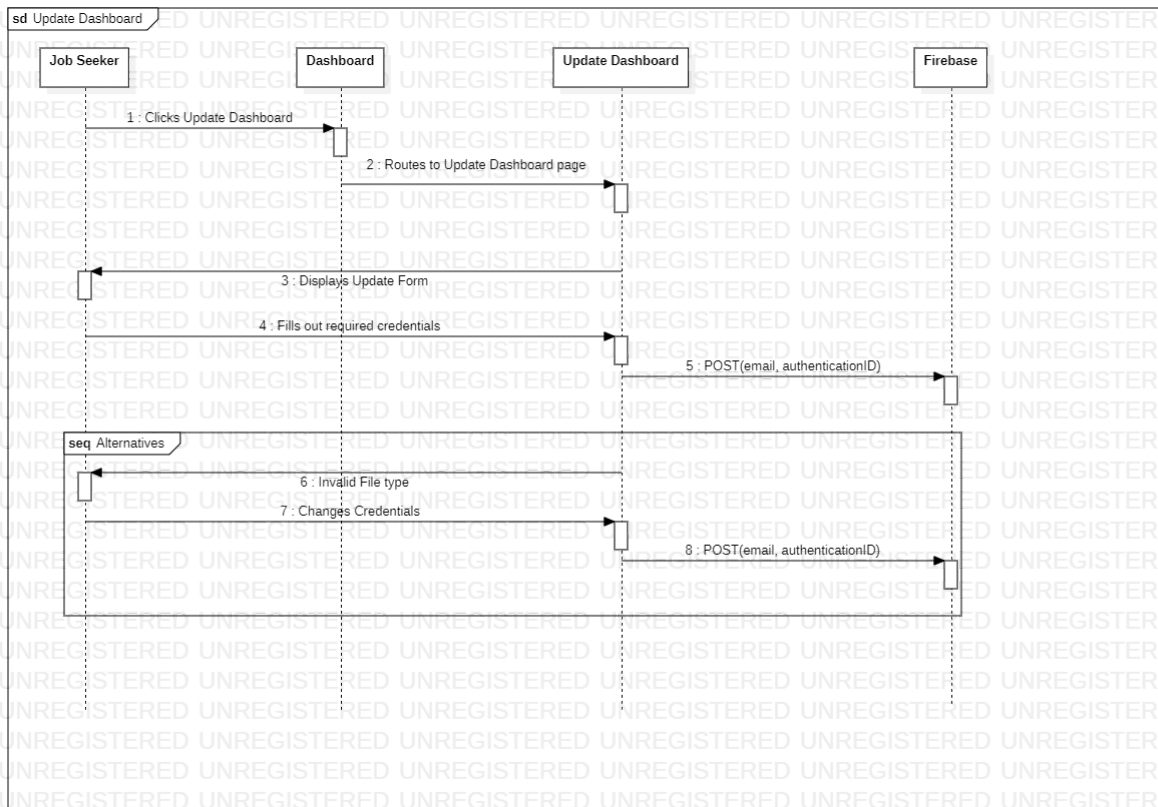


Figure 5: Update Profile Sequence Diagram



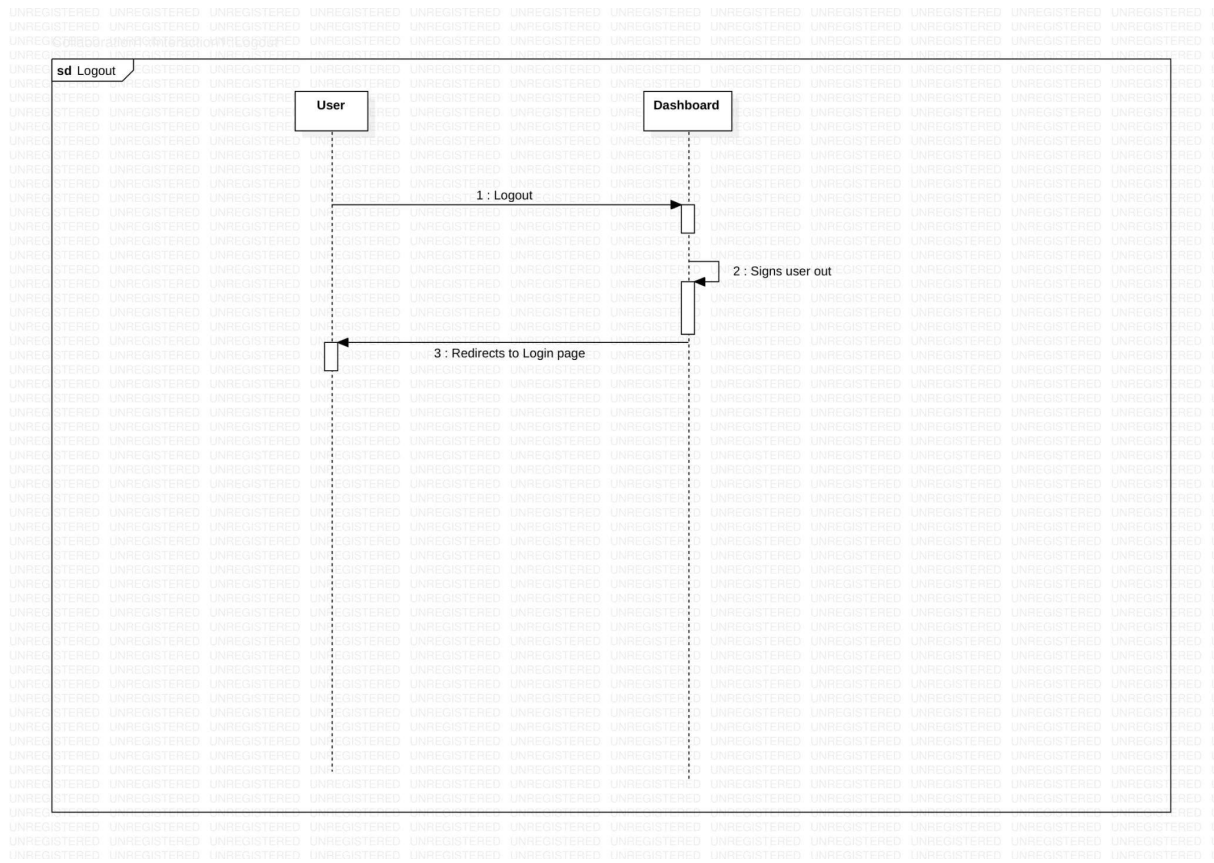


Figure 6: Logout Sequence Diagram

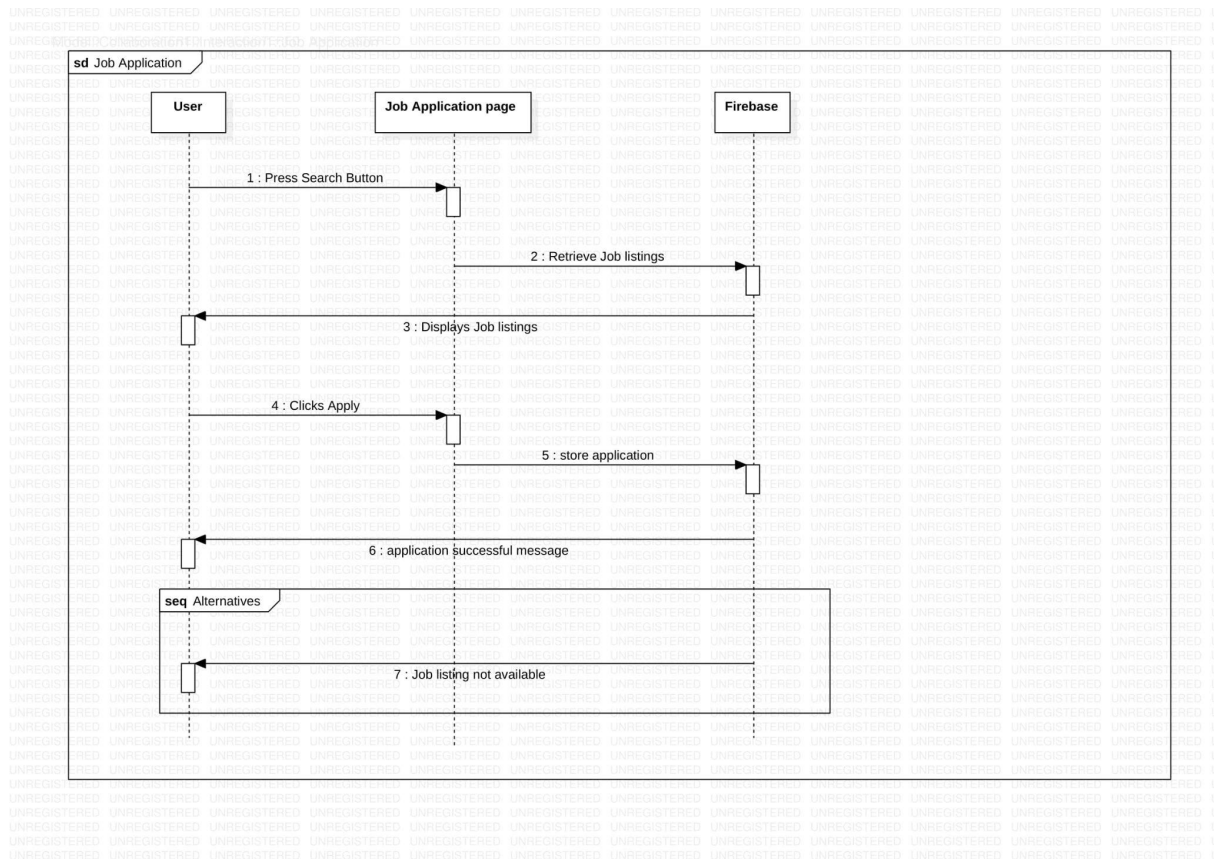


Figure 7: Job Application Sequence Diagram

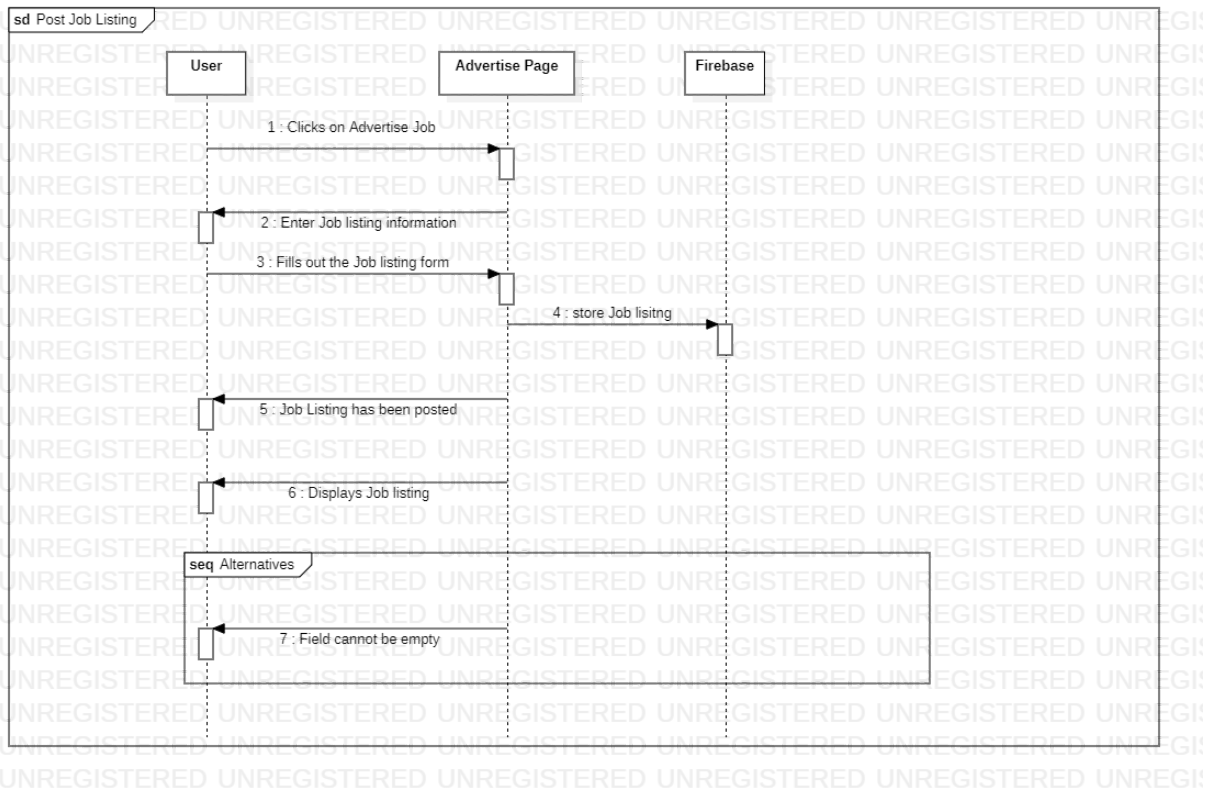


Figure 8: Advertise Job Listing Sequence Diagram

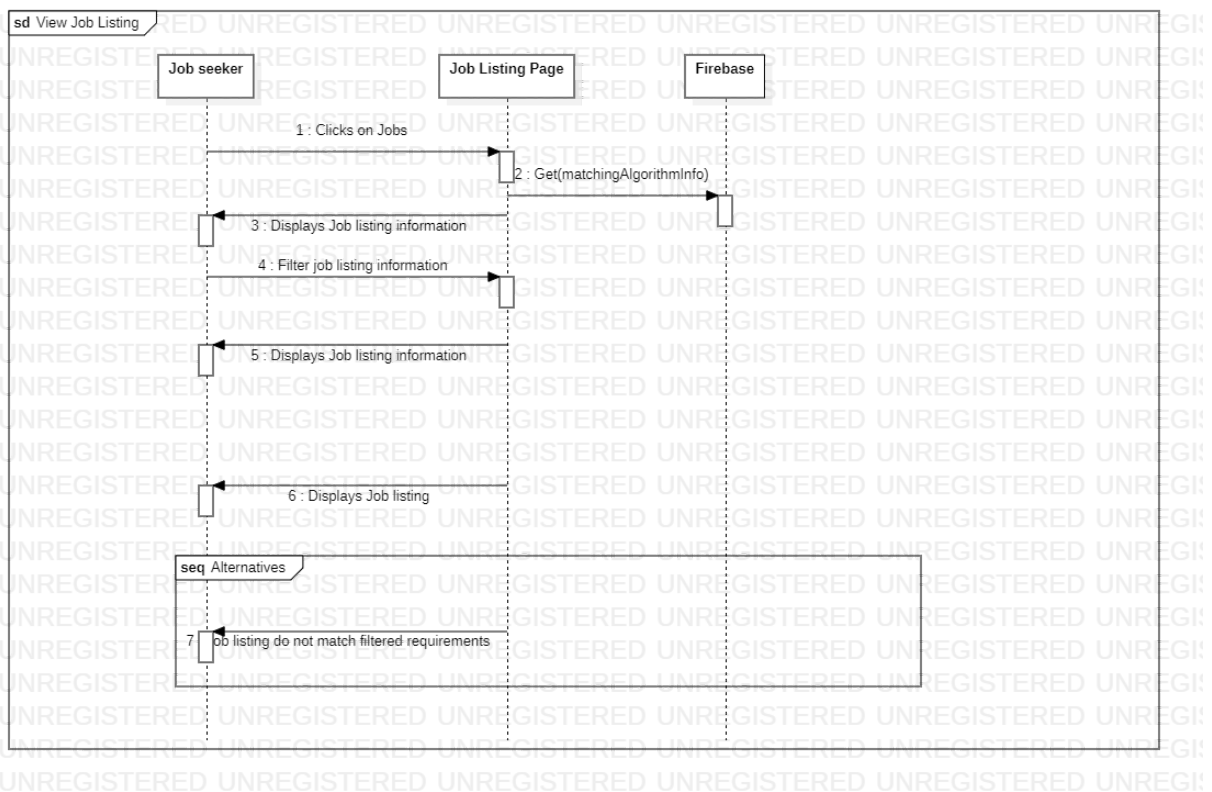


Figure 8: View Job Listing Sequence Diagram

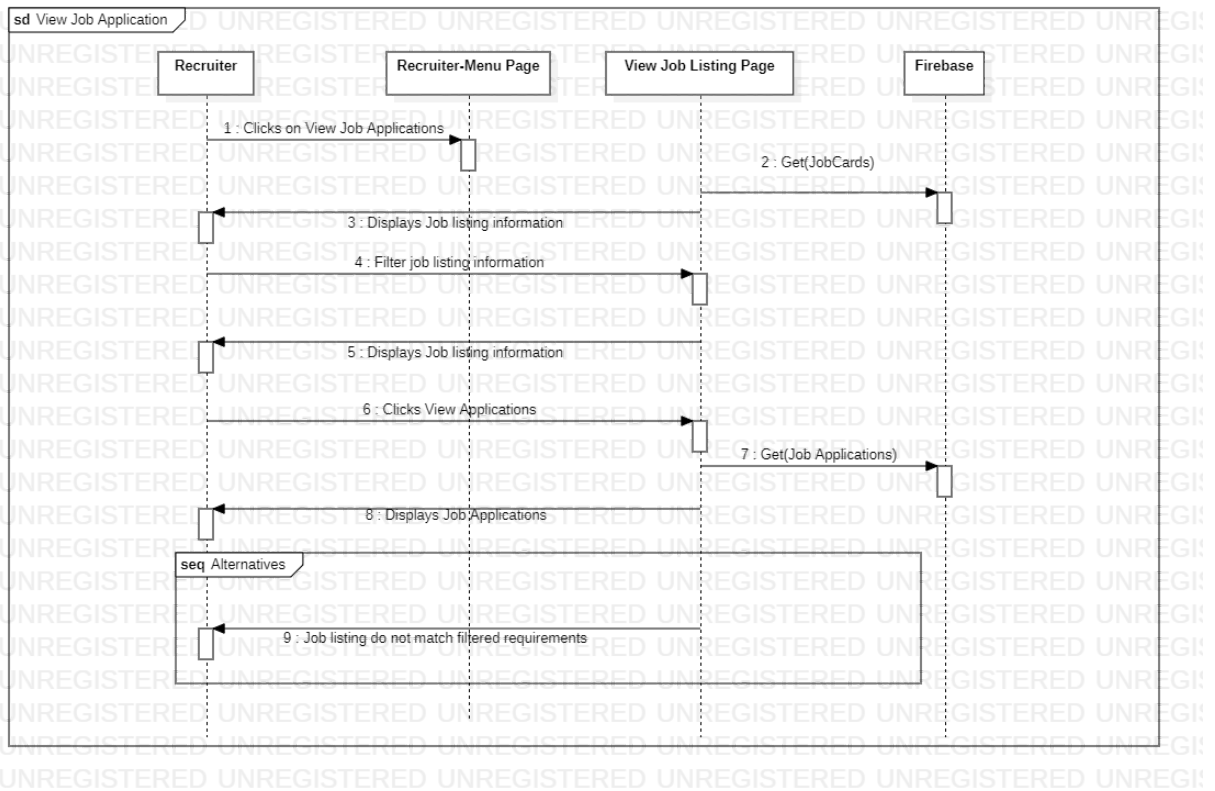


Figure 9: View Job applications

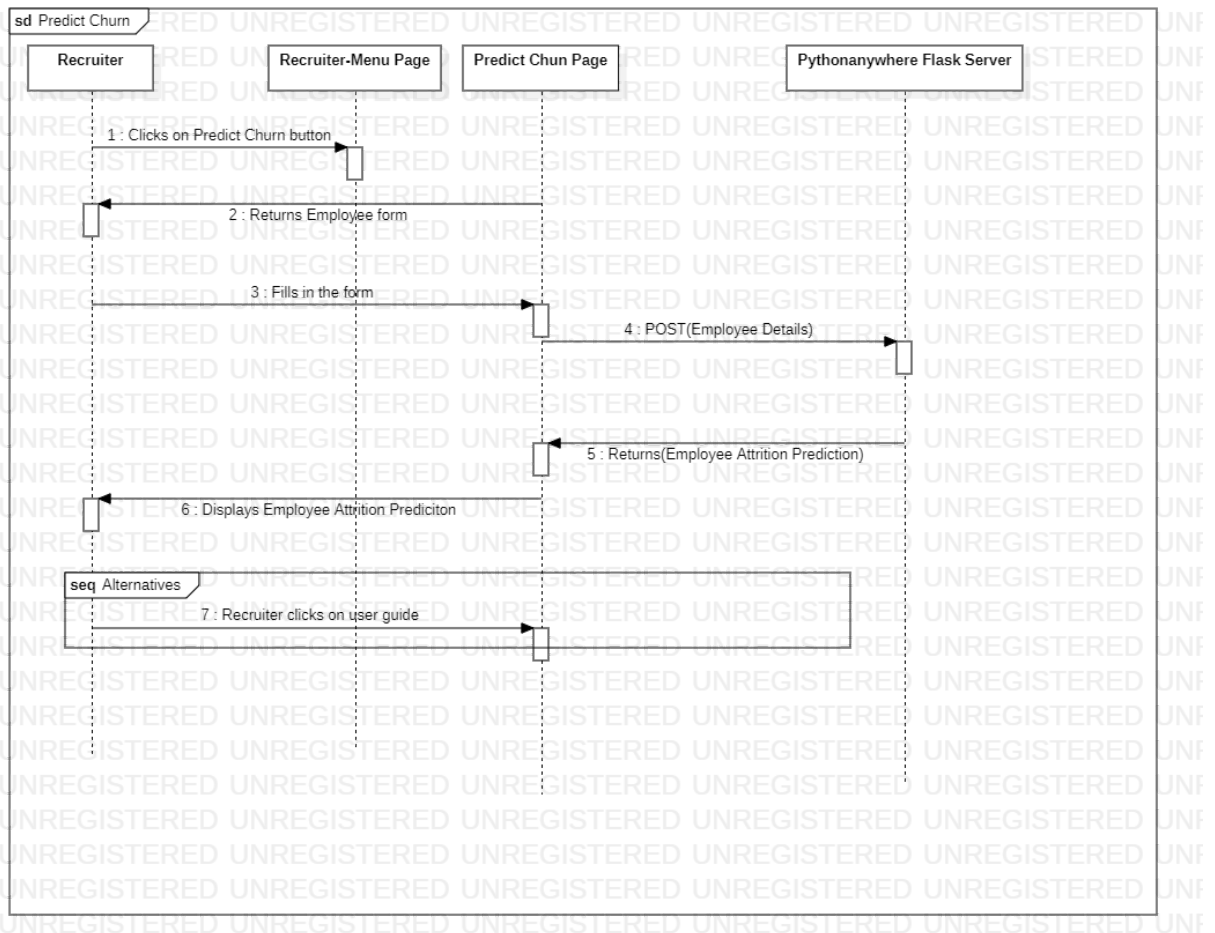


Figure 10: Predict Churn

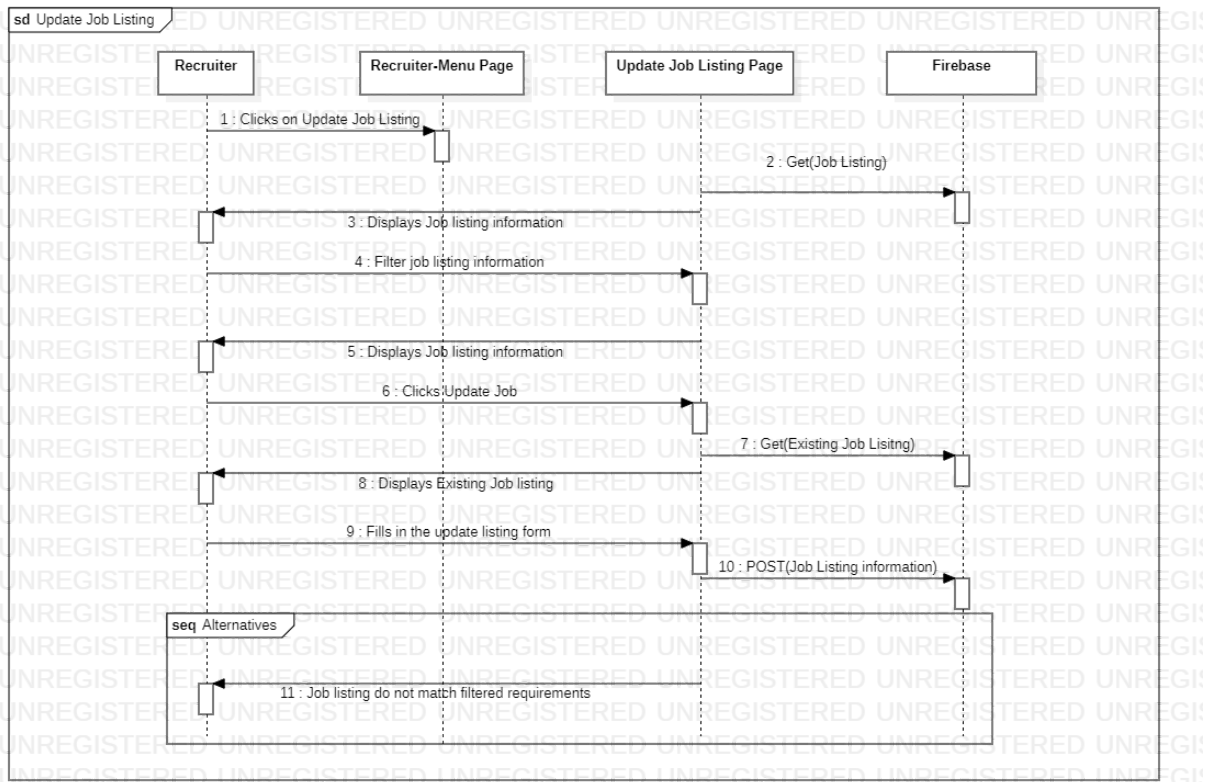


Figure 11: Update Job Listing

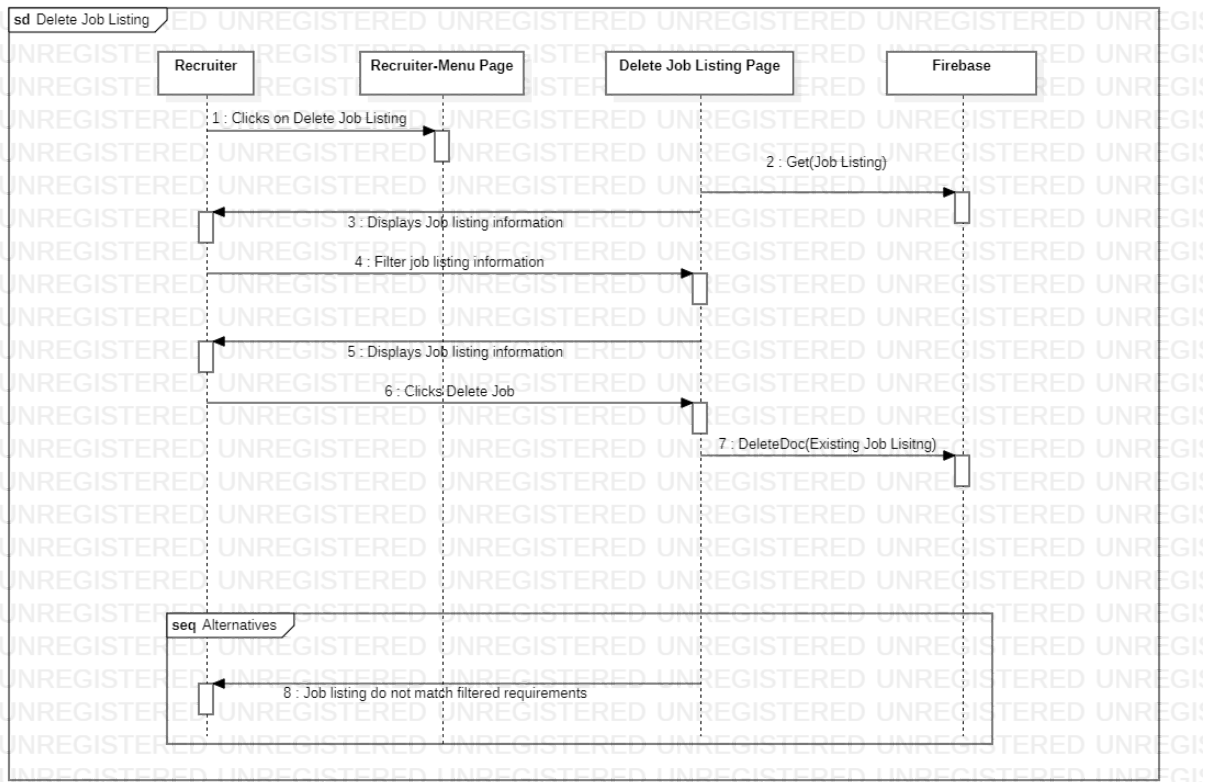


Figure 12: Delete Job

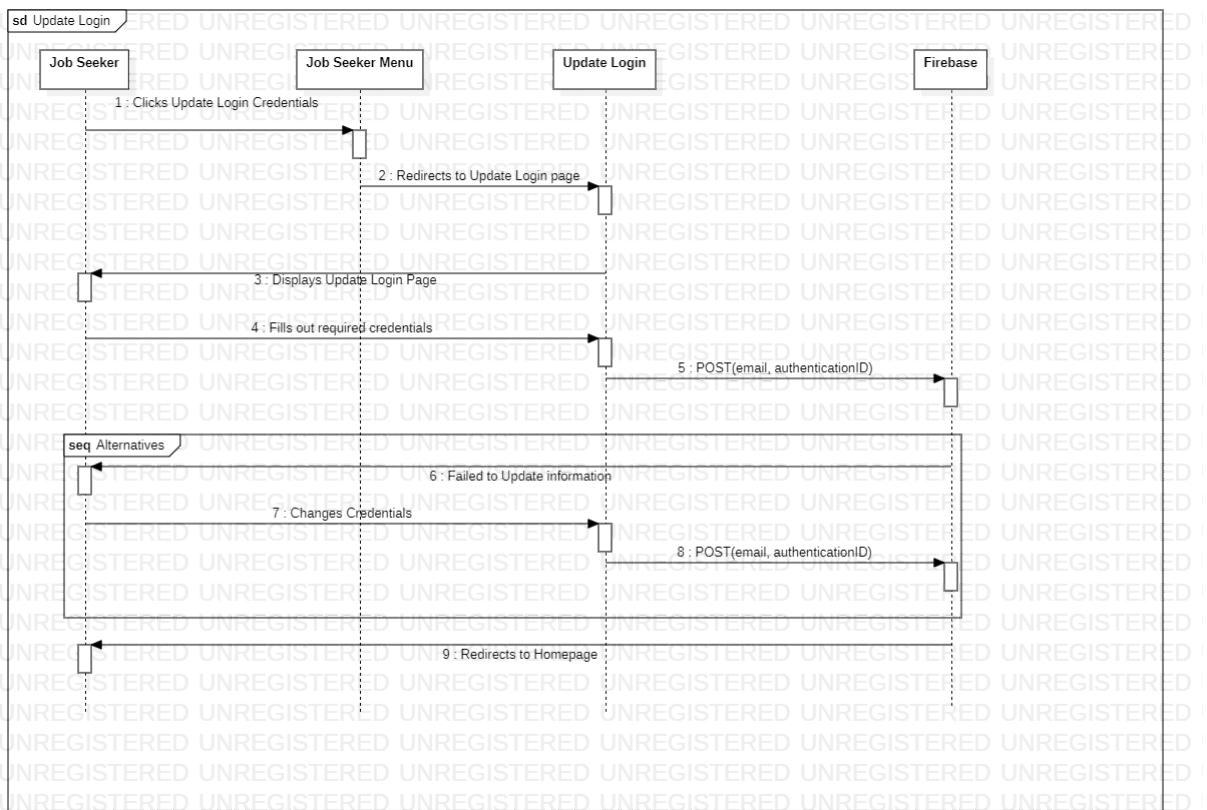


Figure 13: Update Login



# Web Application Design

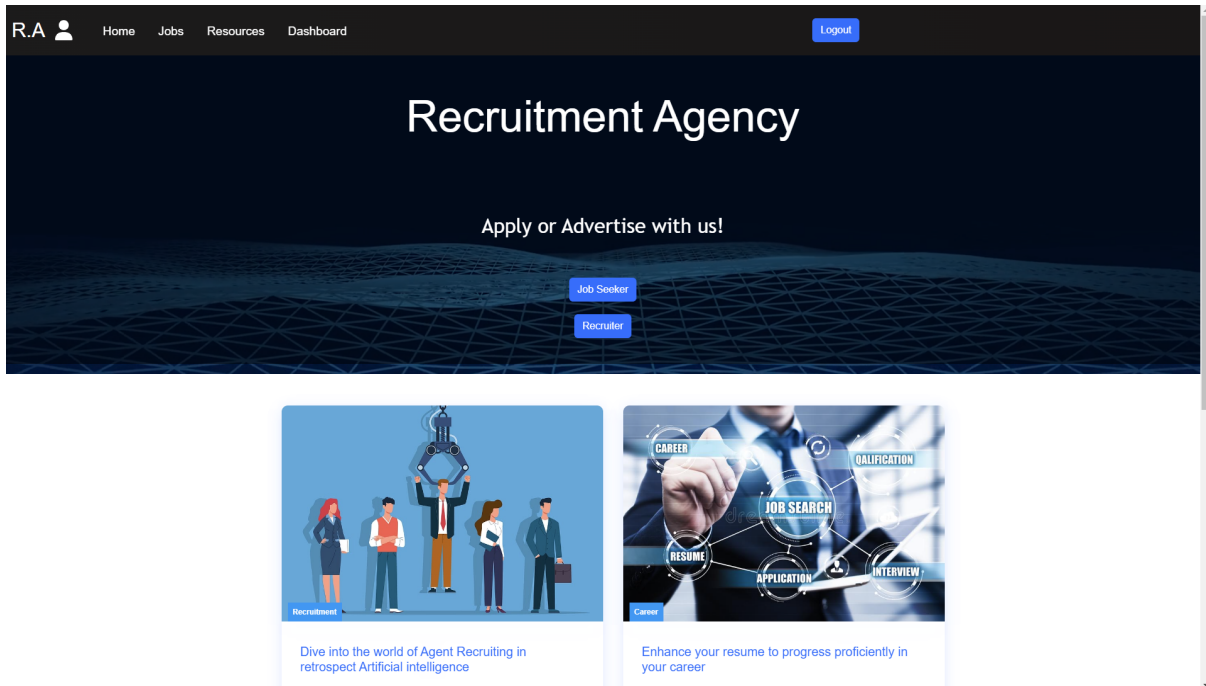


Figure 14:: Homepage

This is the main homepage for users. They can click on either role of a Job seeker or Recruiter and will be directed to the login page. There is also a sign-up for new users to create an account.



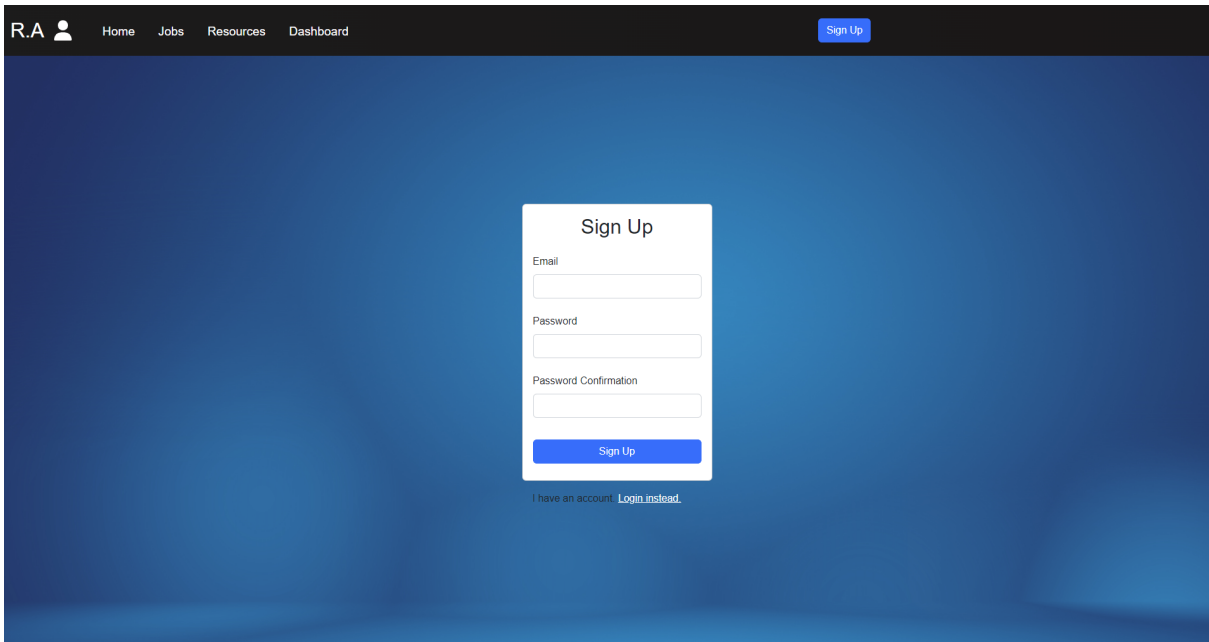


Figure 15: Sign Up Page.

This is the signup page, where users can enter their credentials to create a new user.

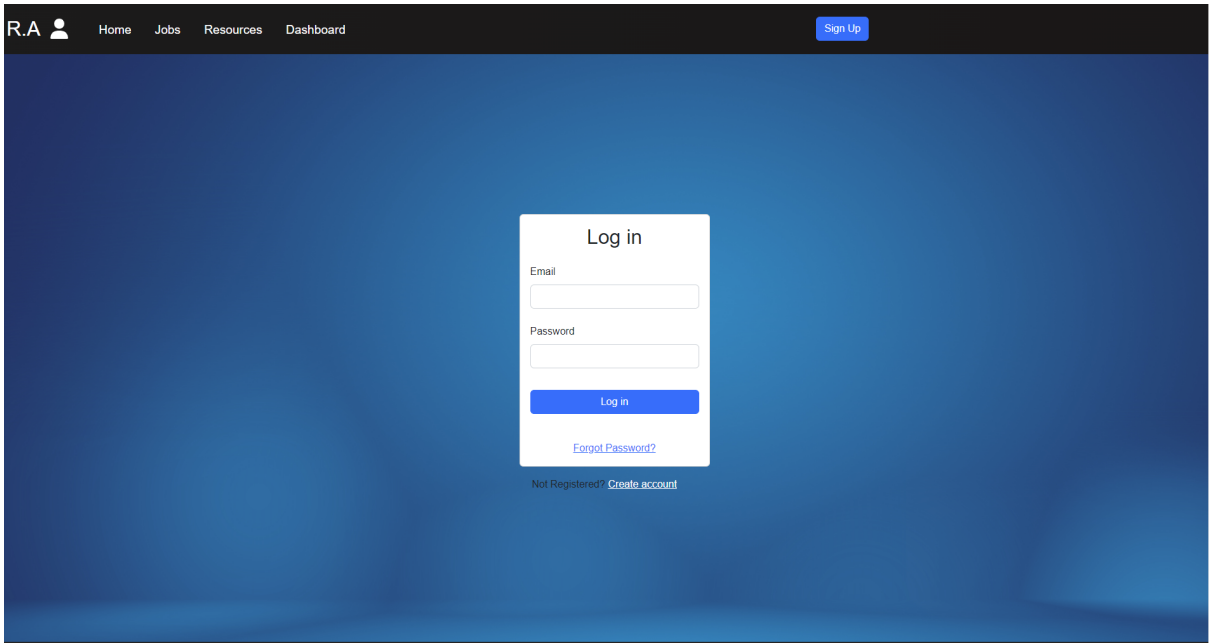


Figure 16: Login page.

This is the Login page, where users can enter their email and password from their previously created account to log in

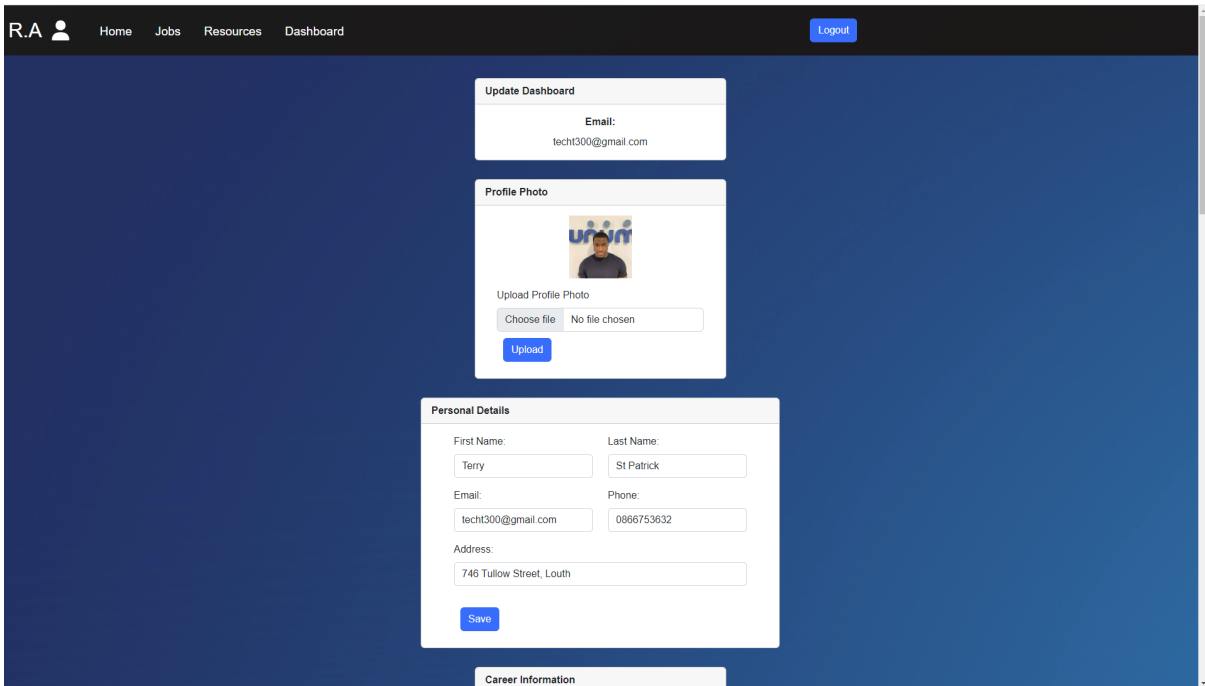


Figure 17: Update Dashboard Page.

This is a dashboard where users can update their credentials or log out of their session.

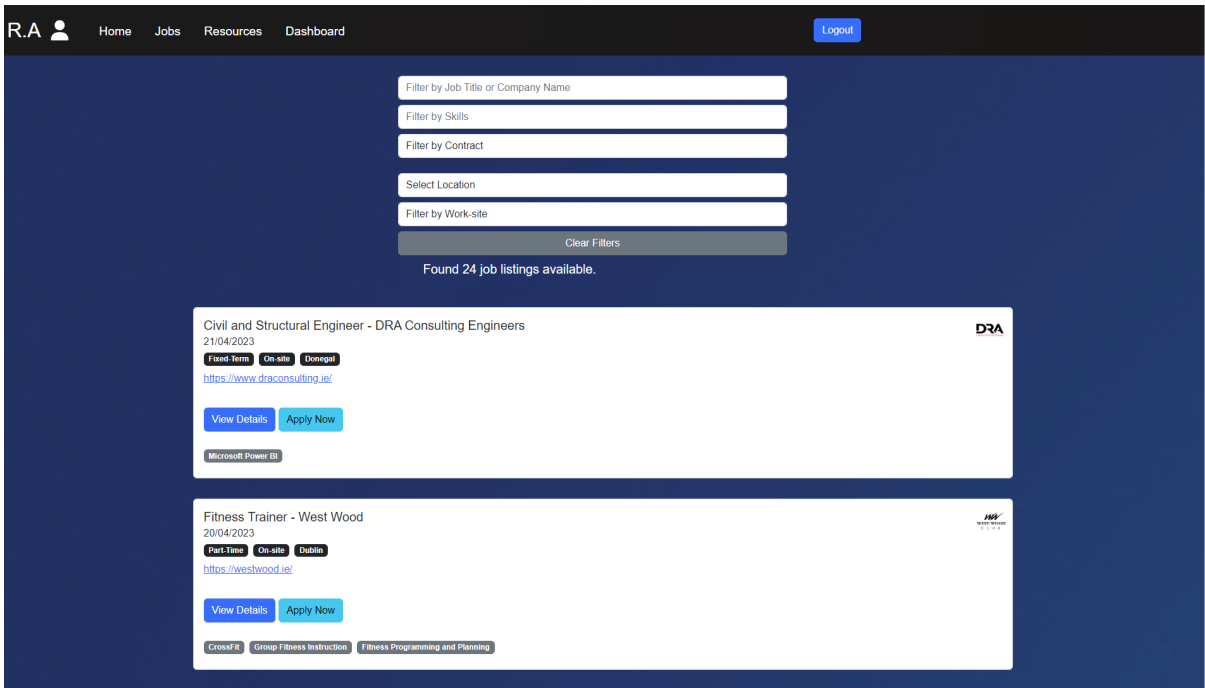


Figure 18: Employee Section Page.

This is the Jobs section where job seekers can view, search, filter through, and apply for the available jobs listed.

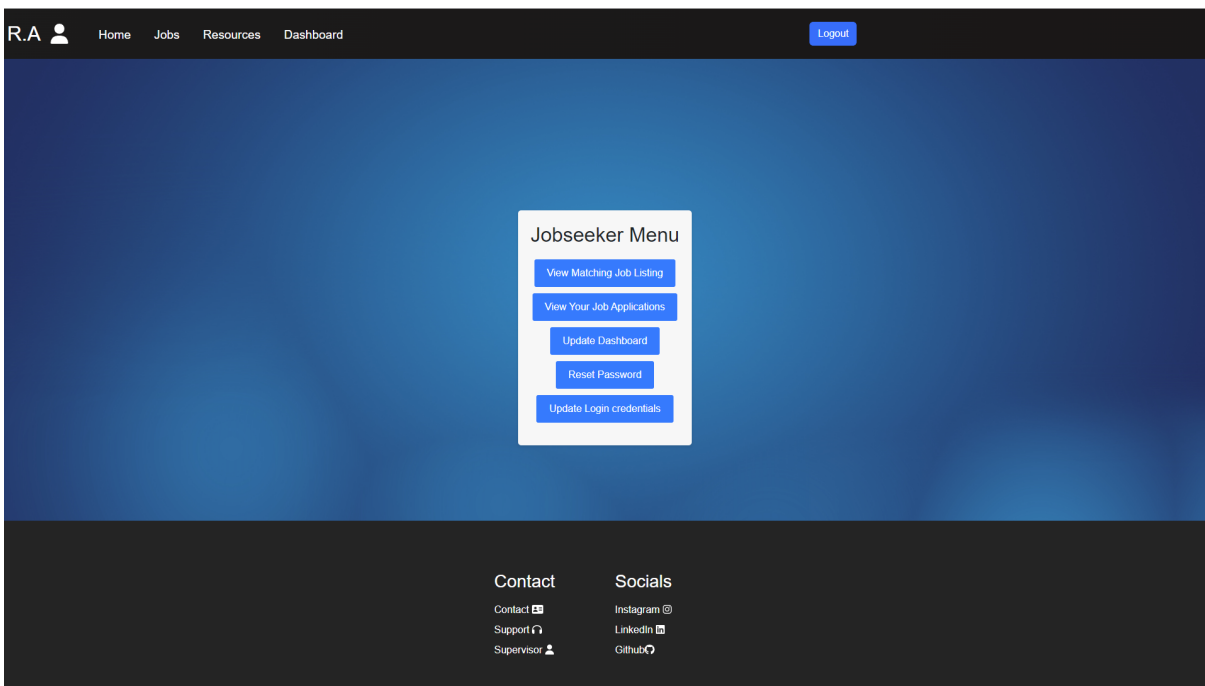


Figure 19: Job Seeker Menu

This is the job seekers menu for a user to navigate through the different functionality of the web applications.

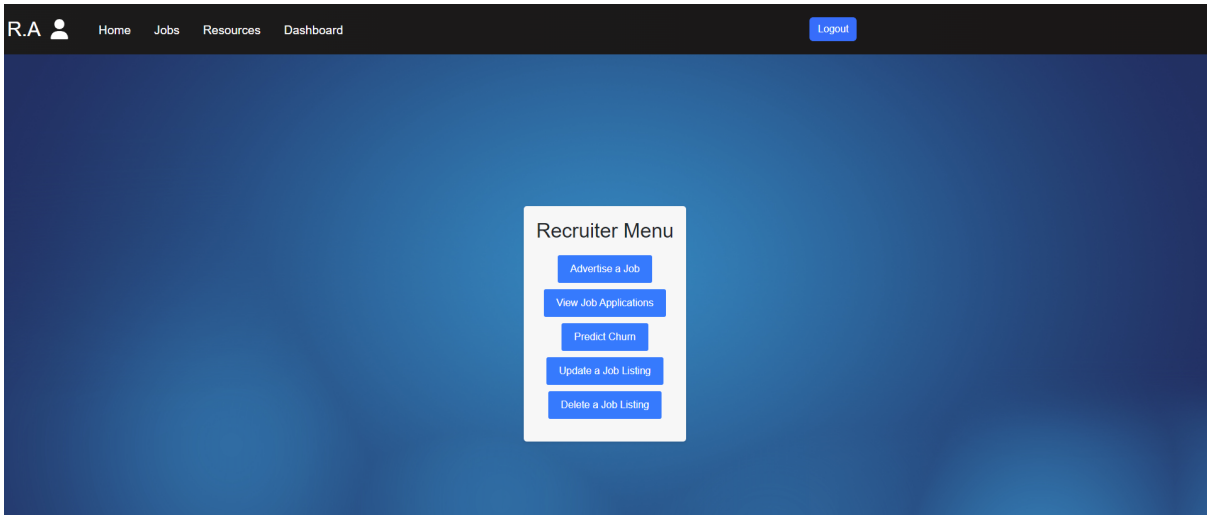


Figure 20: Recruiter Menu

This is the Recruiter menu for a user to navigate through the different functionality of the web applications.

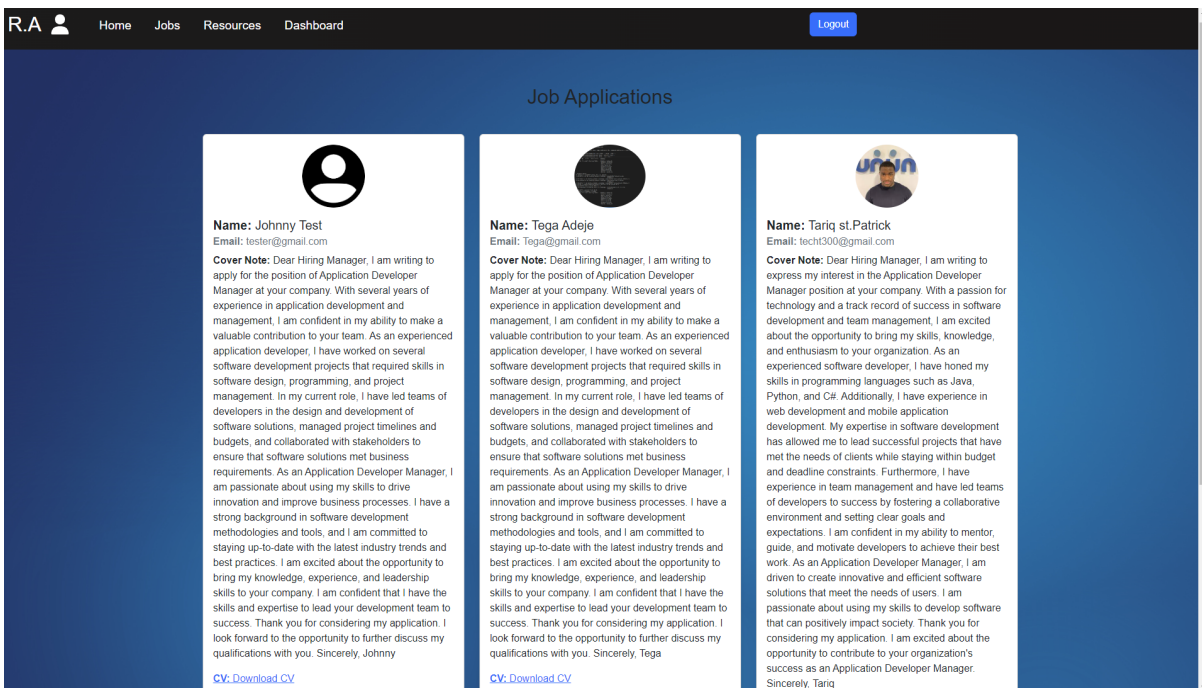


Figure 21: View Application page

This is a page where the recruiter can view the job application for a particular job listing.

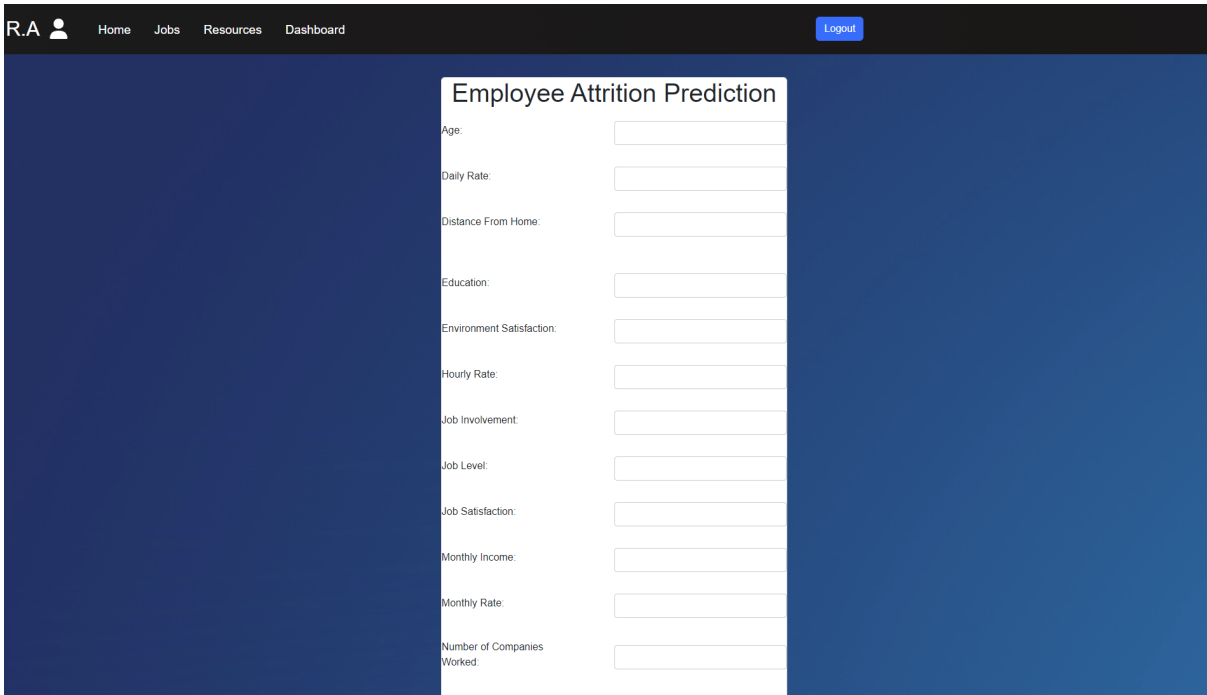


Figure 22: Predict Churn page

This is the page where a recruiter can predict employee attrition.

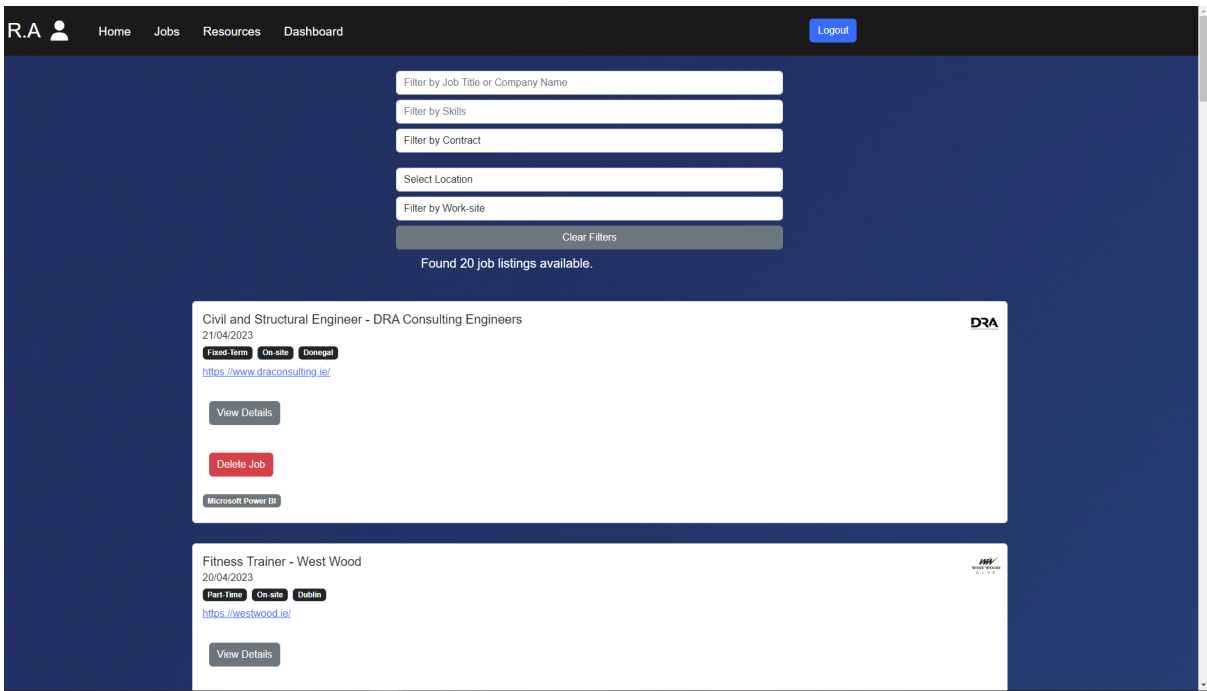


Figure 23: Delete Job page

This is a page where the recruiter can delete a job listing.

The screenshot shows a web interface with a dark blue header containing the user profile 'R.A.', navigation links 'Home', 'Jobs', 'Resources', 'Dashboard', and a 'Logout' button. The main content area features a white form titled 'Advertise with us' with a small icon. The form contains the following fields and controls:

- Company Name:** A text input field.
- Company Logo:** A file upload button labeled 'Choose file' and a status indicator 'No file chosen'.
- Contract:** A dropdown menu with 'Select Contract' as the current selection.
- Work-site:** A dropdown menu with 'Select Work-site' as the current selection.
- Job description:** A large text area with 'Job Description' as a placeholder.
- Enter a date:** A date input field with a calendar icon and a placeholder 'dd/mm/yyyy'.
- Job title:** A text input field with 'Job title' as a placeholder.
- Location:** A dropdown menu with 'Select Location' as the current selection.
- Skills:** A text input field with 'Filter by Skills' as a placeholder.
- Enter Job Application link:** A text input field with 'http://example.com' as a placeholder.

Figure 24 : Advertise

This is a page where the recruiter can create a job listing.

The screenshot shows a web interface with a dark blue header containing the user profile 'R.A.', navigation links 'Home', 'Jobs', 'Resources', 'Dashboard', and a 'Logout' button. The main content area features a white filter section with the following options:

- Filter by Job Title or Company Name
- Filter by Skills
- Filter by Contract
- Select Location
- Filter by Work-site
- Clear Filters

Below the filters, it displays a message: 'Found 20 job listings available.' Two job listings are shown:

- Civil and Structural Engineer - DRA Consulting Engineers:** Posted on 21/04/2023. Location: Donegal. Contract: Fixed-Term. URL: <https://www.draconsulting.ie/>. Buttons: View Details, Update Job. Skills: Microsoft Power BI.
- Fitness Trainer - West Wood:** Posted on 20/04/2023. Location: Dublin. Contract: Part-Time. URL: <https://westwood.ie/>. Buttons: View Details, Update Job. Skills: CrossFit, Group Fitness Instruction, Fitness Programming and Planning.

Figure 25: Update Job

This is a page where the recruiter can update a job listing.

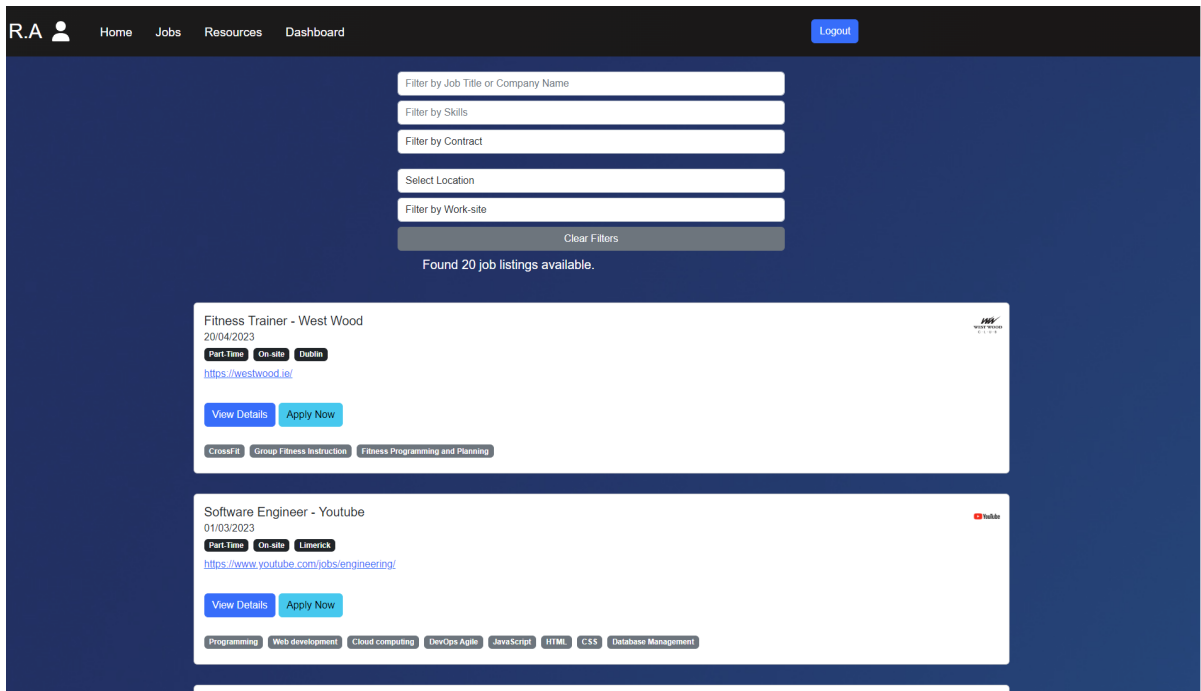


Figure 26: View Matching Job

This is a page where the job seeker can view the job listing that matches their career information.

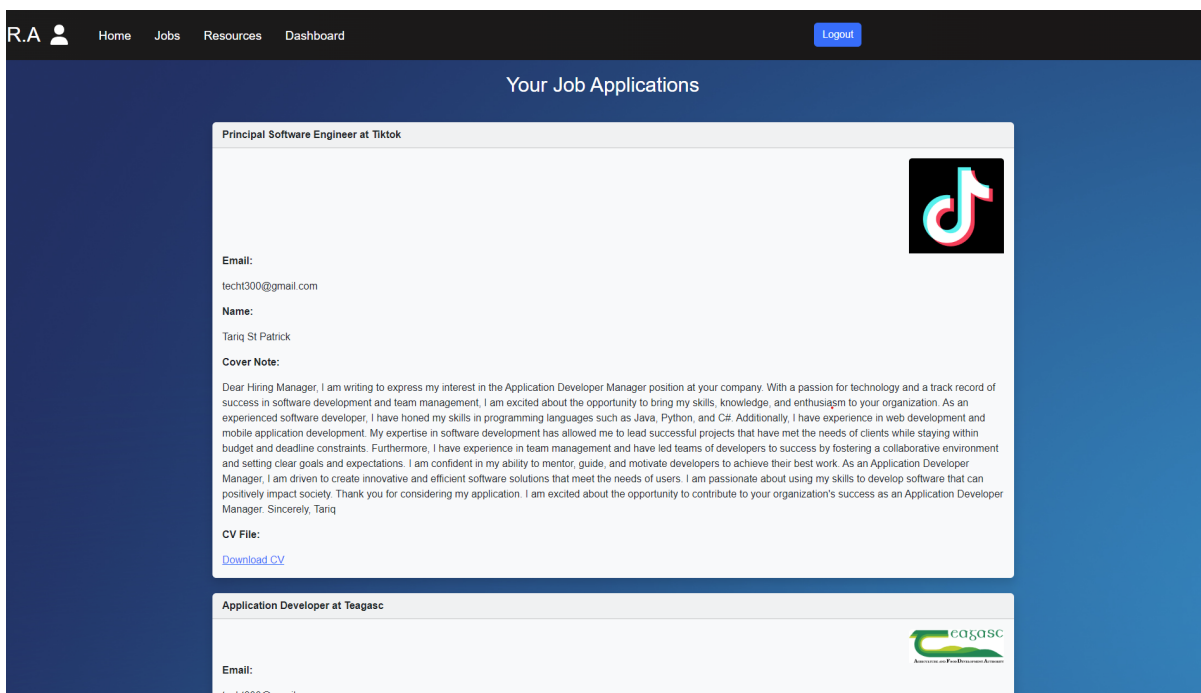


Figure 27: View Job Applications

This is a page where job seekers can view their job applications for job listings that they applied for.



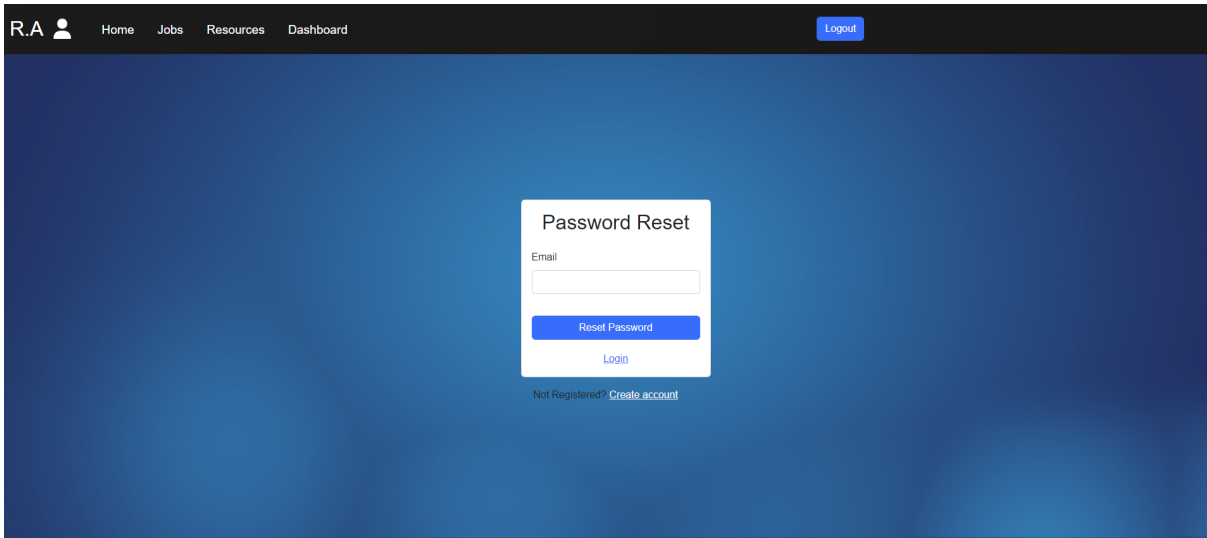


Figure 28: Reset Password

This is a page where users can reset their password.

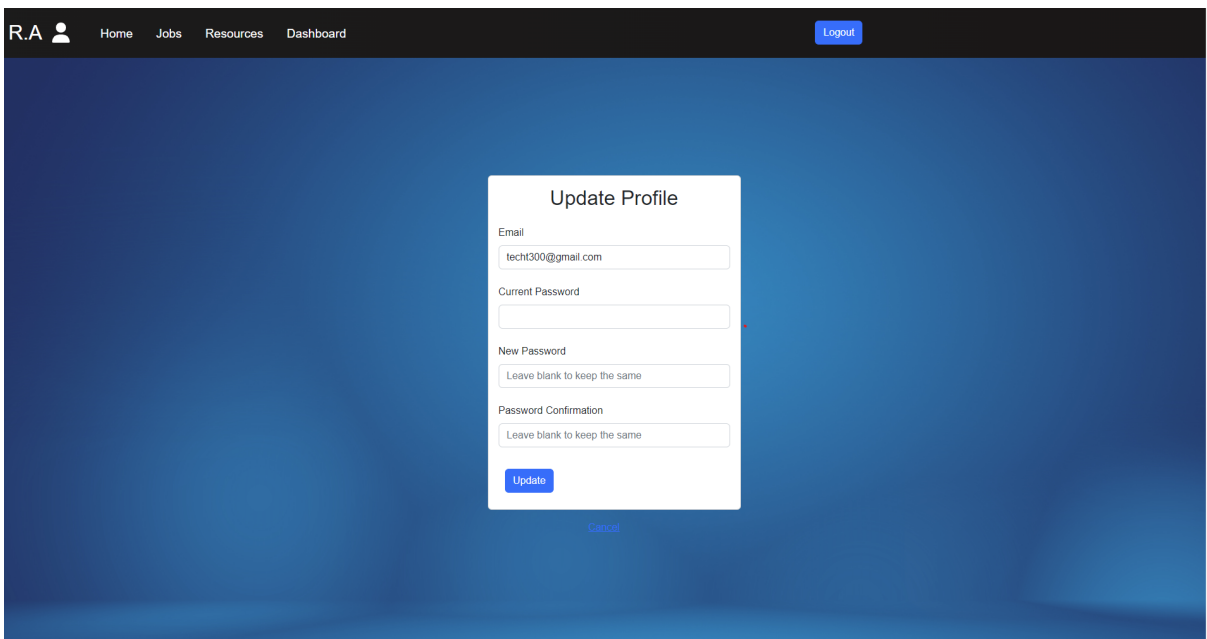


Figure 29: Reset Password

This is a page where users can update their login credentials.

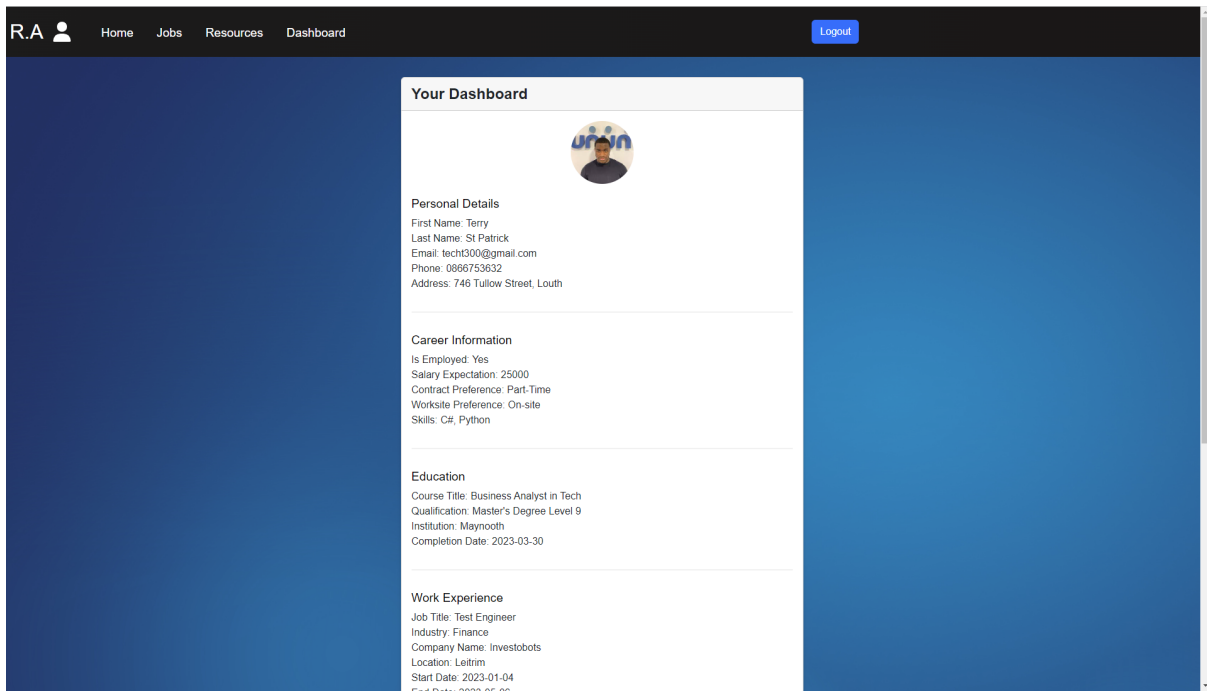


Figure 30: Dashboard

This is a page where users can view their profile/dashboard information

# Technologies

These are the current technologies being used for the architectural components of this web application

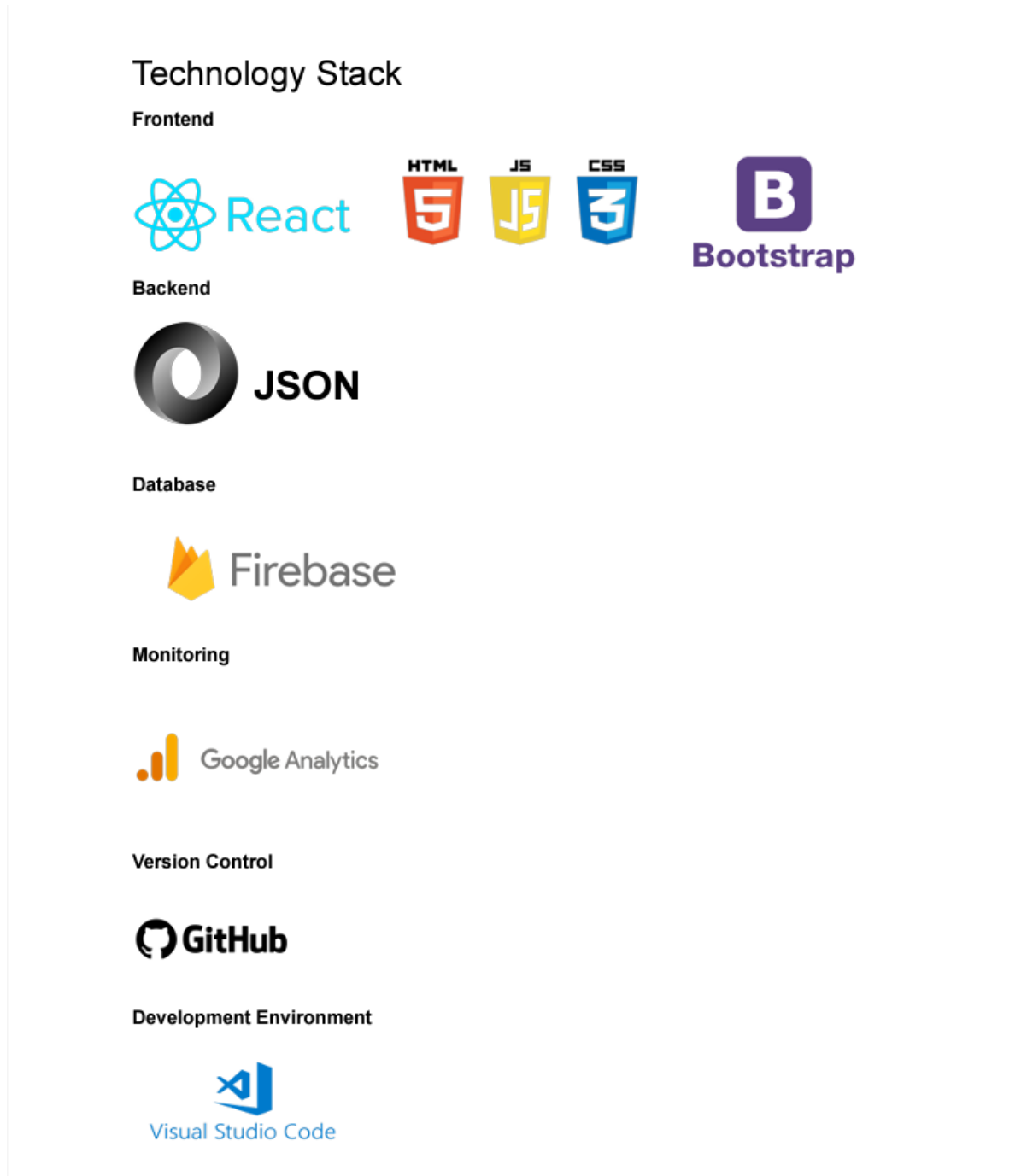


Figure 31: Technology Stack,



Figure 32: Pythonanywhere and Flask.

### Conclusion:

This Job Recruitment Web Application will provide a platform for job seekers and employers to connect and will be developed using ReactJS, Python, and Firebase servers. The application will have features for job seekers to create a profile and search and apply for jobs, and for employers to post, view, remove, update job listings, and predict employee attrition. The application will also have user authentication and authorization, The development will include testing, and regular updates and maintenance will be performed after deployment.