Project title:

Interns.Hub

Project topic:

Advance web development

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Introduction:

Welcome to the Job Internship Program

Are you ready to embark on a transformative journey that bridges the gap between academic knowledge and professional experience? Welcome to the Job Internship Program, where we connect aspiring professionals with invaluable opportunities to launch their careers.

Introduction to the Job Internship Program

Discover your potential and build a foundation for your future career with the Job Internship Program. Our initiative is designed to provide hands-on experience, industry insights, and professional growth opportunities that will set you apart in a competitive job market.

Kickstart Your Career with the Job Internship Program

Welcome to the Job Internship Program, a comprehensive platform tailored to help you gain real-world experience, develop essential skills, and make meaningful connections in your desired industry. Join us to transform your academic achievements into a promising professional journey.

Purpose:

The "Job internship. Hub" project is designed to create a comprehensive platform that facilitates the connection between job seekers, internship seekers, and employers. It aims to streamline the process of job and internship searching, application, and management through a centralized system. The key purposes of this project include:

- **Efficient Job and Internship Matching:**
  The platform provides a streamlined process for job and internship seekers to find opportunities that match their skills and interests. By using tags and detailed descriptions, users can easily search and filter through open positions.
- **Seamless Application Process:**

The system allows users to apply for jobs and internships directly through the platform. It tracks the status of applications, ensuring that users are informed about the progress of their applications.

- **User Authentication and Management:**
  The platform includes robust user authentication mechanisms to ensure secure access. Users can register, log in, and manage their profiles, including changing passwords and verifying their accounts.
- **Centralized Data Management:**
  The ER diagram highlights a centralized approach to managing user data, job and internship listings, and applications. This helps in maintaining data integrity and consistency across the platform.
- **Machine Learning Integration:**
  The inclusion of an `Ml_model` entity suggests that the platform might incorporate machine learning algorithms to enhance the matching process between job seekers and opportunities, providing personalized recommendations based on user profiles and preferences.

Scope:

The "interns.hub" project has significant potential for growth and expansion in the future. The following outlines the future scope of the project, detailing areas where it can evolve to better serve its users and stay competitive in the job and internship marketplace.

Enhanced Machine Learning and AI Integration

Advanced Recommendation Systems:

- Implement more sophisticated machine learning models to provide highly personalized job and internship recommendations based on user behavior, preferences, and historical data.

Automated Matching:

- Use AI to automatically match job seekers and internship seekers with the most suitable opportunities, reducing the effort required by users to find relevant positions.

Predictive Analytics:

- Integrate predictive analytics to forecast job market trends and suggest career paths for users based on industry demands and user profiles.

Expansion of User Features

Profile Enrichment:

- Allow users to create richer profiles with video resumes, portfolio links, and social media integrations to showcase their skills and experiences more effectively.

Skill Assessment and Certification:

- Introduce online assessments and certifications that users can complete to enhance their profiles and improve their chances of being selected for positions.

Mentorship Programs:

- Develop mentorship programs that connect job seekers and interns with experienced professionals in their fields to provide guidance and career advice.

Employer and Recruiter Enhancements

Advanced Applicant Tracking:

- Provide employers and recruiters with advanced tools to track applicants, schedule interviews, and manage the hiring process more efficiently.

Employer Branding:

- Enable companies to create detailed profiles that highlight their culture, values, and benefits, helping them attract top talent.

Recruitment Analytics:

- Offer analytics and insights to employers about their recruitment processes, helping them optimize their strategies and improve their hiring outcomes.

Global Expansion

Multilingual Support:

- Expand the platform's reach by supporting multiple languages, making it accessible to users in different regions around the world.

Localized Job Listings:

- Provide localized job and internship listings to cater to the specific needs of users in various countries and regions.

International Partnerships:

- Form partnerships with international companies and educational institutions to offer a wider range of opportunities to users.

Integration with Educational Institutions

Campus Recruitment:

- Partner with universities and colleges to facilitate campus recruitment drives, connecting students directly with potential employers.

Internship Programs:

- Work with educational institutions to create structured internship programs that offer academic credits to students.

Alumni Networks:

- Integrate alumni networks to provide job and internship opportunities specifically for recent graduates.

Data Security and Privacy Enhancements

Enhanced Data Protection:

- Continuously update security measures to protect user data against breaches and cyber threats.

Compliance with Regulations:

- Ensure compliance with global data protection regulations, such as GDPR, to build trust with users and maintain the integrity of the platform.

User-Controlled Privacy Settings:

- Provide users with more control over their data and privacy settings, allowing them to choose what information they want to share and with whom.

Overview:

The "interns.hub" project is designed to be an all-encompassing platform that connects job seekers, internship seekers, and employers. Its primary aim is to streamline the job and internship search process, making it easier for users to find suitable opportunities and for employers to find qualified candidates. Below is a detailed overview of the project, highlighting its key components, features, and objectives.

Key Components

1. **User Management**
    - **signup data:** Stores user registration details including ID, name, email, password, user type, and tags.
    - **login_data:** Manages user login credentials with attributes such as ID, email, password, and user type.
    - **password_change:** Facilitates secure password changes through email verification.

- **verification:** Handles account verification by storing email addresses and verification codes.

2. **User Types**
   - **job_seeker:** Represents users looking for job opportunities.
   - **client:** Represents employers or companies posting job and internship opportunities.
3. **Job and Internship Listings**
   - **interns_data:** Contains detailed information about internship opportunities, including title, company, location, duration, and description.
4. **Machine Learning Integration**
   - **ml_model:** Stores data related to machine learning models, which may be used to enhance the matching process and provide personalized recommendations.

Key Features

5. **User Authentication and Profile Management**
   - Secure user registration and login processes.
   - Profile management features that allow users to update personal information and preferences.
6. **Job and Internship Search**
   - Advanced search functionality enabling users to filter opportunities based on various criteria such as location, duration, and company.
   - Use of tags and detailed descriptions to enhance search accuracy.
7. **Application Management**

- Users can apply for jobs and internships directly through the platform.
- Track application statuses and receive notifications about updates.

8. **Employer Tools**
   - Employers can post job and internship listings, manage applications, and communicate with potential candidates.
   - Detailed employer profiles to attract top talent.
9. **Security and Verification**
   - Robust security measures for password management and account verification to ensure user data integrity and protection.
10. **Machine Learning Enhancements**
    - Integration of machine learning models to provide personalized job and internship recommendations.
    - Potential use of predictive analytics to forecast job market trends and suggest career paths.

Objectives

Streamline the Job and Internship Search Process

- Provide an efficient and user-friendly platform for job and internship seekers to find opportunities that match their skills and interests.

Facilitate Employer Recruitment

- Offer tools and features that simplify the recruitment process for employers, helping them find and manage qualified candidates.

Enhance User Experience

- Continuously improve the platform's functionality and user interface to provide a seamless experience for all users.

Leverage Advanced Technologies

- Use machine learning and AI to enhance the matching process, providing personalized recommendations and improving overall efficiency.

Ensure Data Security and Privacy

- Implement robust security measures to protect user data and ensure compliance with global data protection regulations.

Code and Description

Code Discussion:

Github URL:

All the source code is uploaded on github public repository named: “Django-rest-api”

Here is the url of that repository, and also please follow my github

URL: https://github.com/Ali-Jaan-Butt/Django-rest-api

Libraries:

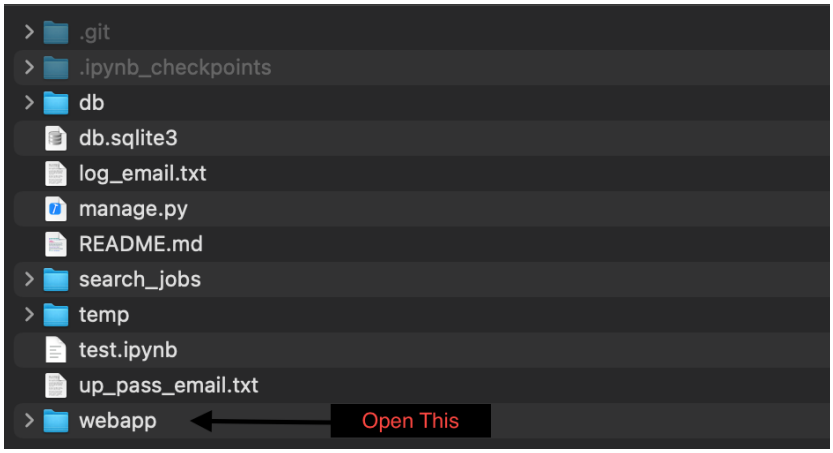
```
from django.shortcuts import render
from django.http import HttpResponse
import pymongo
import smtplib
from email.mime.multipart import MIMEMultipart
from email.mime.text import MIMEText
import random
```

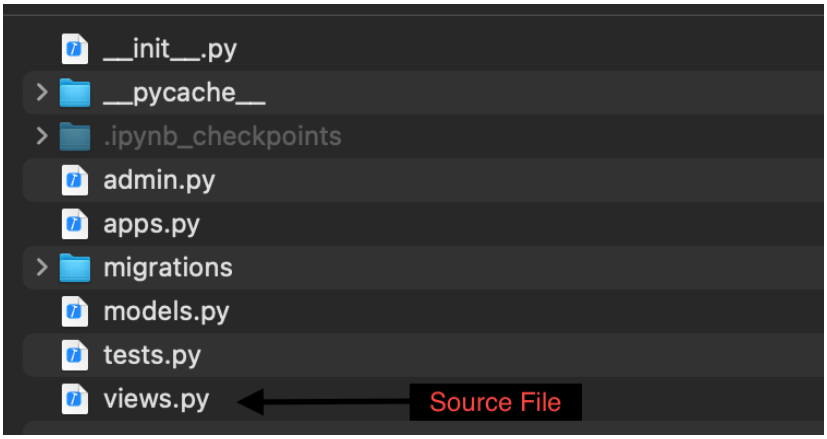
```
import string
from django.http import JsonResponse
from django.urls import path
from django.conf import settings
from django.core.management import execute_from_command_line
from pymongo import MongoClient
from bson.objectid import ObjectId
from django.views.decorators.csrf import csrf_exempt
import json
from sentence_transformers import SentenceTransformer, util
import requests
```

These are the libraries used in that project,

- Django is actually a framework that is used for the development backend of the website.
- Pymongo is a library for mongodb in Python.
- SMTP is used for email server.
- Random and String is for random letters and number, and string respectively.
- Json is for jsonify the data in json format.
- Sentence Transformers is a machine learning pre-trained algorithm used for text cosine similarity.
- Requests is for requesting self-made API to get the data.

I will not paste all the source code here; you can see the code from github.
I'm going to tell you about where the source code is located.





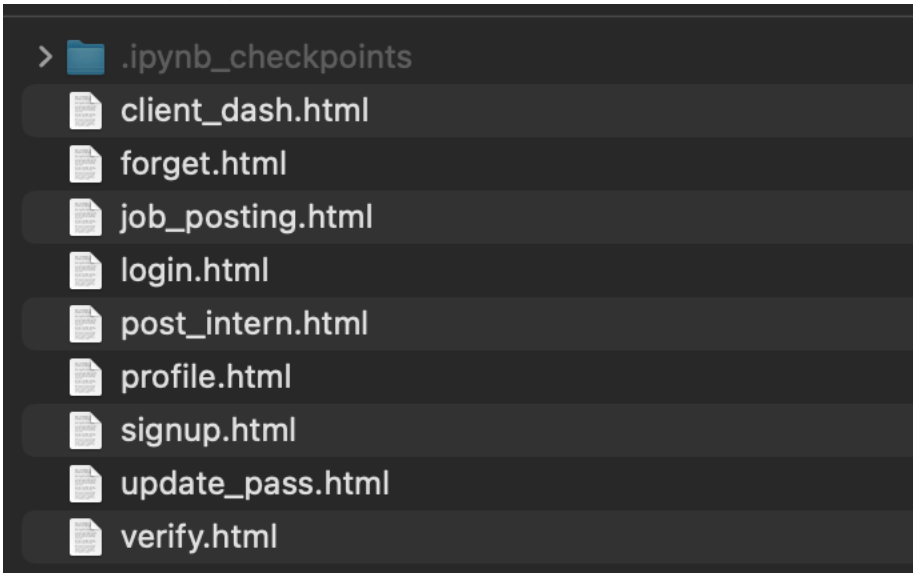
URL Paths:

```
urlpatterns = [
    path("admin/", admin.site.urls),
    path('', views.myapp, name='login'),
    path('sign-up', views.signup, name='signup'),
    path('login', views.signup_info, name='signup_inf'),
    path('dash', views.login_info, name='login_inf'),
    path('forget-password', views.forget, name='forget_pass'),
    path('verify-code', views.verify, name='verify-pass'),
    path('verification-code', views.email_verify, name='code'),
    path('enter-code', views.code_verify, name='code-enter'),
    path('changed', views.update_pass, name='update-pass'),
    path('client-page', views.client_dashboard, name='client'),
    path('internships', views.save_internship, name='interns'),
    path('api/items/', views.get_items, name='get_items'),
    path('api/items/<str:item_id>/', views.get_item, name='get_item'),
    path('api/items/create/', views.create_item, name='create_item'),
    path('client-postings', views.cli_dash, name='cli-postings'),
    path('intern-list', views.interns_list, name='int_list'),
    path('profile', views.profile, name='profile'),
    path('save-tag', views.save_tags, name='tags'),
```

```
    path('dash-applied', views.applied, name='apply'),
]
```

Templates:

These are the Templates of the websites.



Templates Path:

Adding templates to the path and on the website became possible only by adding path in settings.py in templates list. As I set BASE_DIR it means that it's root directory is in the folder where manage.py file is located.

```
TEMPLATES = [
    {
        "BACKEND": "django.template.backends.django.DjangoTemplates",
        "DIRS": [BASE_DIR],
        "APP_DIRS": True,
        "OPTIONS": {
            "context_processors": [
                "django.template.context_processors.debug",
                "django.template.context_processors.request",
                "django.contrib.auth.context_processors.auth",
                "django.contrib.messages.context_processors.messages",
            ],
        },
    },
]
```

Entities and Attributes

Signup data:

_id
Name
Email
Password
User _type
Tags

Login_data

_id
Email
Password
User_type

Password change

Email
Code
Password

Verification

Email
Code

Client:

_id
Email
User_type

Job seeker

_id
Email
User_type
Tags

Interns_data

_id
Title
Company
Location
Duration
Description

Ml_model

Tags
Description

Relationships

Job internships are like building blocks for your career, they lay the foundation for your professional growth. These opportunities not only enhance your skills but also help you forge valuable connections in the industry. Dive into job internships to supercharge your career trajectory! The "interns.hub" project consists of several interconnected tables, each representing different aspects of the platform. Below is a detailed description of the relationships between these tables, explaining how they interact with each other.

Signup_data

Attributes:

- `_id` (obj)
- `Name` (str)
- `Email` (str)
- `Password` (str)
- `User_Type` (str)
- `Tags` (list)

Relationships:

- **login_data**: The `signup_data` table is directly related to the `login_data` table. The `Email` and `Password` fields in `login_data` reference the same fields in `signup_data` to authenticate users.
- **password_change**: The `Email` field in `signup_data` is referenced in the `password_change` table to facilitate password reset processes.
- **verification**: The `Email` field in `signup_data` is referenced in the `verification` table for account verification purposes.
- **job_seeker** and **client**: The `_id`, `Email`, and `User_Type` fields in `signup_data` are used to differentiate between job seekers and clients (employers), linking the relevant data to these specific tables.

login_data

- **Attributes:**
  - `_id` (obj)
  - `Email` (str)
  - `Password` (str)
  - `User_Type` (str)
- **Relationships:**
  - **signup_data**: The `login_data` table is closely linked with `signup_data` through the `Email` and `Password` fields to authenticate users during the login process.

password_change

- **Attributes:**
  - `Email` (str)
  - `Code` (str)
  - `Password` (str)
- **Relationships:**
  - **signup_data**: The `Email` field in `password_change` references the `Email` field in `signup_data` to identify users who are changing their passwords.

verification

- **Attributes:**
  - `Email` (str)
  - `Code` (str)
- **Relationships:**
  - **signup_data**: The `verification` table references the `Email` field in `signup_data` to verify user accounts.

job_seeker

- **Attributes:**
  - `_id` (obj)
  - `Email` (str)
  - `User_Type` (str)
  - `Tags` (list)
- **Relationships:**

- **signup_data**: The `job_seeker` table uses the `_id`, `Email`, and `User_Type` fields from `signup_data` to identify and manage job seekers on the platform.

client

- **Attributes:**
  - `_id` (obj)
  - `Email` (str)
  - `User_Type` (str)
- **Relationships:**
  - **signup_data**: The `client` table uses the `_id`, `Email`, and `User_Type` fields from `signup_data` to identify and manage clients (employers) on the platform.
  - **interns_data**: The `client` table is linked with `interns_data` through the `Company` attribute to manage internship postings by clients.

interns_data

- **Attributes:**
  - `_id` (obj)
  - `Title` (str)
  - `Company` (str)
  - `Location` (str)
  - `Duration` (str)
  - `Description` (list)
- **Relationships:**

- **client**: The Company field in `interns_data` references the `client` table to link internship postings to specific employers.

ml_model

- **Attributes:**
  - `Tags` (list)
  - `Description` (str)
- **Relationships:**
  - **signup_data**: The `ml_model` table uses the `Tags` attribute from `signup_data` to enhance and personalize job and internship recommendations through machine learning algorithms.
-

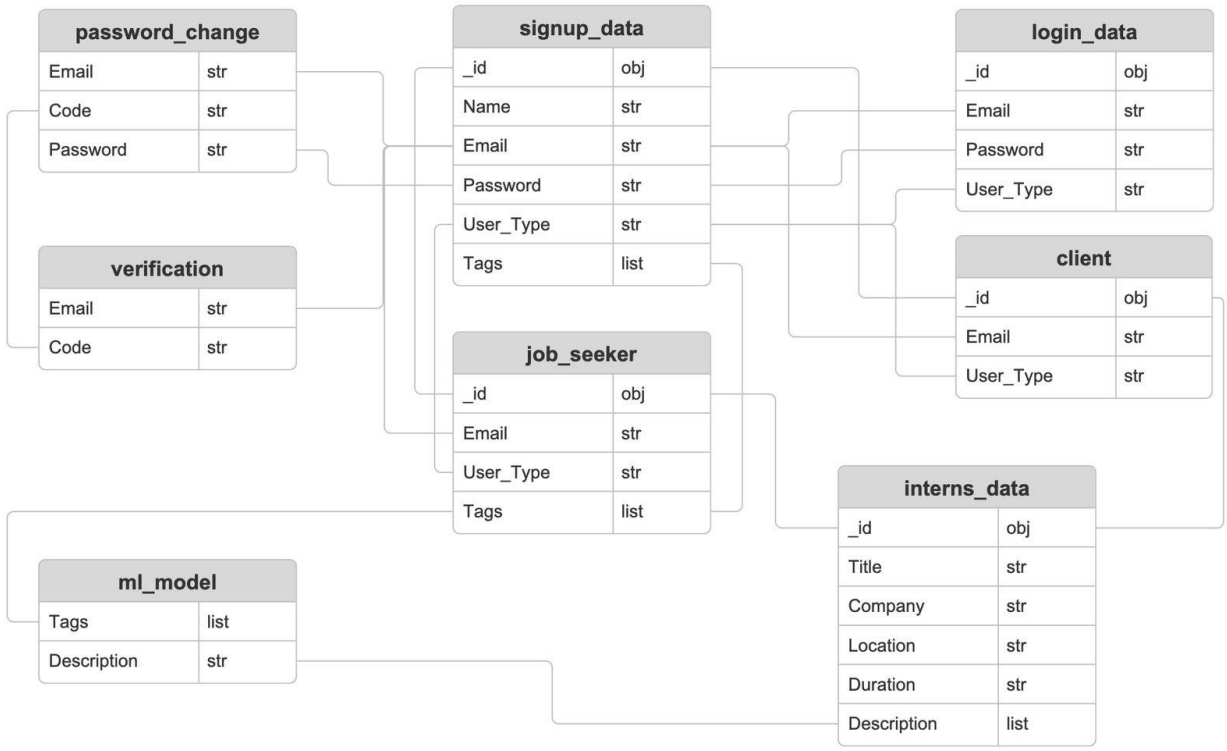
ER Diagram Description

An Entity-Relationship (ER) diagram is a visual representation of the entities and relationships within a database. It helps in designing a database by illustrating the logical structure of the data and how entities relate to each other.

In an ER diagram, entities are represented as rectangles, attributes as ovals, and relationships as diamond shapes. Entities are objects or concepts about which data is stored, attributes are properties that describe entities, and relationships show how entities are connected.

There are different types of relationships in ER diagrams like one-to-one, one-to-many, and many-to-many, which depict how entities are associated with each other. These diagrams are crucial in database design as they provide a clear overview of the data model

and help in understanding the relationships between different entities in a system.



User Entity

Attributes:

`_id` (obj): Unique identifier for the user.
`Name` (str): The name of the user.
`Email` (str): The email address of the user, used for login and communication.
`Password` (str): The password for the user's account.
`User_Type` (str): Specifies whether the user is a job seeker, client (employer), or any other type.
`Tags` (list): A list of tags related to the user's skills, interests, or preferences.

Description: The User entity encompasses all the essential information required to identify and authenticate users on the platform. This entity is crucial as it forms the basis for differentiating between various types of users (job seekers and clients) and storing their credentials securely.

Company Entity

Attribute's:

- `_id` (obj): Unique identifier for the company.
- `Email` (str): The contact email address of the company.
- `User_Type` (str): Specifies that the user type is a company/client.

Description: The Company entity (represented as client in the diagram) holds information about employers or companies that post job and internship opportunities. This entity is linked to the interns_data table, enabling companies to manage and track their internship listings.

Job Entity

Attributes:

- `_id` (obj): Unique identifier for the job.
- `Title` (str): The title of the job position.
- `Company` (str): The company offering the job.
- `Location` (str): The location where the job is based.
- `Duration` (str): The duration of the job (if applicable).
- `Description` (list): A detailed description of the job, including responsibilities and requirements.

Description: The `Job` entity (while not explicitly detailed in the provided ER diagram, it is implied) would store data regarding job listings posted by companies. This entity is essential for organizing job opportunities, which job seekers can browse and apply to.

Application Entity

Attributes:

- `ApplicationID` (Primary Key): Unique identifier for each application.
- `DateApplied` (str): The date the application was submitted.
- `Status` (str): The current status of the application (e.g., pending, accepted, rejected).
- `UserID` (Foreign Key): Reference to the user who submitted the application.
- `JobID` (Foreign Key): Reference to the job being applied for.

Description: The `Application` entity would track applications submitted by job seekers. It connects users to specific job listings, allowing the platform to manage the application process, update statuses, and notify users about the progress of their applications.

Internship Entity

Attributes:

- `_id` (obj): Unique identifier for the internship.
- `Title` (str): The title of the internship position.
- `Company` (str): The company offering the internship.
- `Location` (str): The location where the internship is based.

- `Duration` (str): The duration of the internship.
- `Description` (list): A detailed description of the internship, including responsibilities and requirements.

Description: The Internship entity (represented as interns_data in the diagram) stores data about internship opportunities. It provides detailed information about each internship, which helps internship seekers to find and apply for positions that match their skills and interests.

InternshipApplication Entity

Attributes:

- `ApplicationID` (Primary Key): Unique identifier for each internship application.
- `DateApplied` (str): The date the internship application was submitted.
- `Status` (str): The current status of the application (e.g., pending, accepted, rejected).
- `UserID` (Foreign Key): Reference to the user who submitted the application.
- `InternshipID` (Foreign Key): Reference to the internship being applied for.
-

  Description: The Internship Application entity would track applications submitted by internship seekers. It links users to specific internship listings, managing the entire application process, updating statuses, and notifying users about the progress of their applications.

User role and operations

User roles and operations are essential components that define the access levels and responsibilities of different users within the system. User roles determine the permissions and functionalities available to each user based on their role or position in the project. For example, an administrator might have full access to all features, while a regular user may have limited access.

On the other hand, operations refer to the specific tasks or actions that users can perform within the program. These operations are often linked to the user roles, ensuring that each user can only carry out tasks that are relevant to their role. By defining user roles and operations effectively, the project can maintain security, efficiency, and proper management of tasks in the system.

The "Jobinternship.hub" project is designed to accommodate multiple user roles, each with distinct operations and responsibilities. Below is a detailed description of these user roles and the specific operations they perform on the platform.

Job Seekers

Operations:

- **Register and Login:**
  - Create an account by providing personal details (name, email, password, etc.) and logging in using credentials.
- **Profile Management:**
  - Update and manage personal profiles, including uploading resumes and setting preferences through tags.
- **Job Search:**

    - Search for job opportunities using various filters such as location, salary, job type, and tags to find suitable matches.
- **Internship Search:**
    - Browse and filter internship opportunities based on criteria such as duration, stipend, location, and company.
- **Application Submission:**
    - Apply for job and internship listings directly through the platform and track the status of applications.
- **Notifications:**
    - Receive notifications about new job and internship postings, application status updates, and relevant platform updates.

Clients

Operations:

- **Register and Login:**
    - Create a company account by providing necessary details and logging in to manage job and internship listings.
- **Company Profile Management:**
    - Update company profiles with contact information, company description, and website links.
- **Job Posting:**
    - Create, update, and manage job listings, including job descriptions, requirements, and application deadlines.
- **Internship Posting:**
    - Post and manage internship opportunities, providing details such as title, duration, location, and stipend.
- **Application Management:**

    - Review and manage applications submitted by job and internship seekers, communicate with applicants, and update application statuses.
- **Employer Branding:**
    - Showcase company culture, values, and benefits to attract top talent.

Administrators

Operations:

- **User Management:**
    - Manage user accounts, including activating, deactivating, and deleting accounts to ensure platform security and integrity.
- **Content Management:**
    - Oversee the content on the platform, ensuring compliance with guidelines and policies, and addressing any inappropriate or outdated content.
- **Platform Maintenance:**
    - Perform routine maintenance tasks, including software updates, bug fixes, and system optimizations to ensure smooth platform operation.
- **Analytics and Reporting:**
    - Monitor platform usage, generate reports, and analyze data to improve platform performance and user experience.
- **Support and Communication:**

- Provide support to users (job seekers, employers, and interns) by handling inquiries, resolving issues, and facilitating effective communication.

Guest Users

Operations:

- **Browse Listings:**
  - View job and internship postings without registering, getting a glimpse of available opportunities.
- **Basic Search**:
  - Perform basic search queries to find job and internship opportunities based on general criteria.
- **Information Access:**
  - Access general information about the platform, such as FAQs, contact details, and platform features.

Recruiters

Operations:

- **Register and Login:**
  - Create an account and log in to the platform to manage candidate searches and job postings.
- **Candidate Search**:
  - Search for potential candidates based on specific criteria, including skills, experience, and location.
- **Contact Candidates:**
  - Reach out to candidates directly for job or internship opportunities, facilitating the recruitment process.

- **Manage Job Postings:**
    - Create and manage job postings on behalf of companies, ensuring that listings are up-to-date and accurate.

Conclusion

A conclusion is like the final wrap-up of a conversation or a piece of writing. It's where you tie everything together, summarize the main points, and leave a lasting impression on the reader or listener. It's like the grand finale that brings everything to a satisfying close.

We need a conclusion because it helps to summarize the main points and findings of a discussion, presentation, or research. It provides closure to the topic and reinforces the key takeaways for the audience or readers. The conclusion serves as a final opportunity to leave a lasting impression, reiterate important information, and offer insights or recommendations based on the content discussed. It adds a sense of completion to the communication and helps in reinforcing the main message.

The "interns.hub" project is a comprehensive platform designed to revolutionize the way job seekers, internship seekers, and employers interact. By providing a streamlined and efficient process for job and internship searches, applications, and management, it aims to create a seamless experience for all users involved. Here is a detailed conclusion of the project:

Comprehensive User Experience

The platform caters to a diverse range of users, including job seekers, internship seekers, employers, recruiters, and guest users. Each user role is equipped with tailored features and functionalities that meet their specific needs. Job seekers and interns benefit from an intuitive search and application process, while employers and recruiters are provided with advanced tools for posting opportunities and managing applications. This comprehensive approach ensures that all users can achieve their objectives efficiently.