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Dot Job

"Graduation Project 2024"

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Chapter 1: Introduction

In response to the challenges faced by job seekers within a large community, the Dot Job platform aims to provide comprehensive support and solutions to address their questions and concerns related to job applications. The platform focuses on facilitating seamless communication, sharing valuable insights, and enhancing the overall job-seeking experience.

Users can easily search for specific job opportunities based on their preferences and qualifications. The platform allows users to submit job applications directly through the application. Job seekers can create posts to share their experiences, ask questions, or seek advice from the community. Users can react to and comment on posts, fostering a collaborative and supportive environment. Employers and organizations can make announcements regarding job fairs, recruitment events, or other relevant updates. Users receive notifications for new job opportunities and important announcements.

The job seeker will be able to obtain all services from our application wherever the platform is used, after a while we will have a large amount of data that provides a lot of useful information It enables us to know the number of job categories, the number of job seekers applying for a particular job, etc. this it makes it easier for us to help them in the future.

1. 1 Background

In today's dynamic job market, the process of matching job seekers with suitable opportunities and facilitating connections between companies and potential employees has become increasingly complex. Traditional methods of job searching and recruitment often lack efficiency and transparency, leading to challenges for both job seekers and employers.
Recognizing these challenges, the DOT JOB team embarked on developing an innovative solution aimed at revolutionizing the job search and recruitment process. Our application seeks to address several key issues prevalent in the current job market landscape:

Fragmentation in Job Search Platforms:
 Job seekers often find themselves navigating multiple job search platforms and websites, each with its own set of requirements and procedures. Similarly, companies face the challenge of managing various recruitment channels, leading to inefficiencies in the hiring process.

Limited Visibility for Job Seekers: Many qualified job seekers struggle to gain visibility in a crowded job market dominated by large corporations and recruitment agencies. As a result, talented individuals may remain unnoticed by potential employers, hindering their career advancement opportunities.

Resource-Intensive Recruitment Process: Traditional recruitment methods typically involve extensive time and resource investments for both employers and job seekers. From manually sifting through resumes to conducting multiple rounds of interviews, the process can be laborious and costly for all parties involved.

Lack of Personalization: Generic job postings and standardized application processes often fail to capture the unique skills and preferences of individual job seekers. Similarly, companies may struggle to find candidates who align closely with their specific requirements and organizational culture.

1.2 Purpose

In response to these challenges DOT JOB has developed an innovative job search and recruitment application that aims to streamline the process for both job seekers and employers. By leveraging advanced algorithms and user-friendly interfaces, our platform offers the following benefits:

Enhanced Job Matching: Our application utilizes cutting-edge matching algorithms to connect job seekers with relevant job opportunities based on their skills, experience, and preferences. This personalized approach ensures that candidates are matched with roles that align closely with their career aspirations.

Efficient Recruitment Process: For employers, our platform offers a streamlined recruitment process, reducing the time and resources required to identify and onboard top talent. From posting job listings to conducting virtual interviews, every step of the hiring process is optimized for efficiency and effectiveness.

Improved User Experience: With a focus on intuitive design and seamless navigation, our application provides an exceptional user experience for both job seekers and employers. Whether browsing job listings or managing recruitment campaigns, users can easily access the features they need with minimal friction.

1.3 Project Objective

1. Basic objectives
- Developing a multi-platform application that provides employment services to job seekers.
- Building a community that benefits from our platform and connecting them.
- Empowering service providers to be more accessible.
- Enabling job seekers to find suitable job opportunities for them and register for these opportunities online.
- Enabling job seekers to build a professional CV.

2. Secondary objectives

- Try to respond to job seekers about their progress in tracking the job opportunities they have applied for as quickly as possible.
- Obtaining a huge amount of data about job categories to analyze it and knowing the number of job seekers registered in the course, and the number of contacts between the two job seekers and Employer, etc.

1.4 Project scope and limitations

In this project, we will provide a multi-platform mobile application to help business owners appoint people capable of carrying out work tasks and create a brochure to describe the work in detail, attaching the form to apply for the job, as well as the requirements that must be met by the job applicant to increase the chances of being accepted for this job and help. Job seekers can apply for various job opportunities that match the data in his CV via the Internet, see the numerous publications submitted by employers, send notifications about them, verify the extent to which the job opportunity he is applying for has reached advanced levels, and work on building his own CV. And see the dashboard that enables him to analyze and detail the opportunities he applies to. All these services see a beneficial community. It can make their lives easier.

Limitation: We will work on a project which is a feature of giant platforms, so competition is quite far. Chatting will not be included in our app so no user behavior (history) data to depend on it in our recommendation. So, we need to choose the best alternative way regarding UX to communication.

1.5 Methodology: Agile

Arrange teams and tools needed to optimize production.

2 Planning of Sprints

Collaborative Design Development

From the beginning of the process, the end users' involvement and feedback is critical.

3

Analysis of concepts and requirements definitions; Determine current state and your expectations.

1 Requirements Definition and Analysis of Concepts

Agile Methodology
User stories drive everything.

Create and Implement

Frequent development delivery through sprints. Feedback on testing & appropriate changes are imperative.

4

5 Review and Monitor

Ensure that you are reviewing and monitoring key metrics for success.

We will use agile methodology as our project life cycle because Agile methodologies, such as Scrum or Kanban, are known for their flexibility and adaptability. In a dynamic project environment, where requirements may evolve or new insights emerge, Agile allows for seamless adjustments to accommodate changes. Agile methodologies aim to deliver a minimum viable product (MVP) quickly. This enables stakeholders to start using and providing feedback on the system sooner, reducing time-to-market and allowing for quicker responses to changing market conditions. Agile practices, such as continuous testing and frequent integration, help in identifying and addressing issues early in the development process. This proactive approach contributes to risk mitigation and better overall project quality.

Figure 1: Agile Life Cycle

Chapter 2: Related Work

This chapter provides an overview of various platforms and tools in the professional networking, job search, and freelancing domains. It covers popular platforms such as LinkedIn, Indeed, Glassdoor, Monster, CareerBuilder, SimplyHired, ZipRecruiter, Dice, Upwork, Freelancer, and FlexJobs, highlighting their key features and functionalities in connecting job seekers with opportunities and facilitating professional connections.

LinkedIn:

LinkedIn is a professional networking platform that also serves as a job search and recruitment platform. Users can create profiles, connect with professionals, and explore job opportunities.

➢ **Indeed:**

Indeed, is a comprehensive job search engine that aggregates job listings from various sources. Users can search for jobs based on keywords, location, and other criteria.

➢ **Glassdoor:**

Glassdoor not only lists job openings but also provides company reviews, salary information, and insights into company culture. It aims to help job seekers make informed decisions.

➢ **Monster:**

Monster is a global job search website that connects employers with job seekers. It offers a wide range of job listings and provides tools for resume creation and career advice.

➢ **CareerBuilder:**

CareerBuilder is an online job portal that offers job search, company research, and career advice. It covers a diverse range of industries and job types.

- ➤ **SimplyHired:**

  SimplyHired is a job search engine that aggregates job listings from various sources. It provides filters for location, job type, and company.

- ➤ **ZipRecruiter:**

  ZipRecruiter is a platform that connects employers and job seekers. It uses AI-driven matching technology to match candidates with relevant job opportunities.

- ➤ **Dice:**

  Dice is a specialized job board for technology and engineering professionals. It focuses on IT and engineering job opportunities.

- ➤ **Upwork:**

  Upwork is a freelancing platform that connects businesses with freelancers. It covers a wide range of skills, including writing, design, programming, and more.

- ➤ **Freelancer:**

  Freelancer is a global freelancing and crowdsourcing marketplace. It allows businesses to post projects, and freelancers can bid on them.

- ➤ **FlexJobs:**

  FlexJobs specializes in remote and flexible job opportunities. It curates listings to provide users with legitimate and high-quality remote work options.

2.1 Weak Points

LinkedIn and Indeed are two popular platforms in the job search and professional networking space, each with its own strengths and weaknesses. Identifying weaknesses can help in understanding potential areas for improvement or opportunities for innovation. Here are some potential weaknesses for each platform:

2.1.1 LinkedIn:

Limited Job Listings: While LinkedIn offers a wide range of professional networking features, its job listings may not cover every industry or job type comprehensively. Some niche industries or specific job roles may have fewer opportunities listed compared to broader job search platforms.

Overemphasis on Networking: LinkedIn's primary focus is on professional networking rather than just job searching. While this can be beneficial for building connections and accessing hidden job opportunities, it may not suit individuals solely interested in finding job listings quickly and easily.

Premium Features: Certain features on LinkedIn, such as advanced search filters or access to candidate profiles, require a premium subscription. This can be a barrier for users who cannot afford or justify the cost, limiting their ability to fully utilize the platform's capabilities.

User Experience: Despite regular updates, LinkedIn's user interface and experience may not always be intuitive or user-friendly for all users. Navigating through job listings, managing connections, or accessing relevant content may require some familiarity with the platform.

2.1.2 Indeed:

Volume Over Quality: Indeed aggregates job listings from various sources, which can sometimes result in a high volume of listings that may not always be relevant or high-quality. Users may need to sift through numerous listings to find suitable opportunities, leading to a potentially overwhelming experience.

Limited Networking Features: Unlike LinkedIn, Indeed focuses primarily on job listings and application processes rather than fostering professional networking. While this may streamline the job search process, it may not provide the same level of networking opportunities or connections as LinkedIn.

Lack of Personalization: Indeed's job recommendation algorithms may not always provide highly personalized suggestions based on a user's skills, experience, and preferences. This can result in job seekers receiving irrelevant job recommendations or missing out on potentially suitable opportunities.

Competitive Job Market: Due to its popularity and wide user base, the competition for job listings on Indeed can be intense. Job seekers may find themselves competing with a large pool of applicants for the same positions, making it challenging to stand out to employers.

It's important to note that while these weaknesses exist, both LinkedIn and Indeed have significant strengths and are valuable resources for job seekers and employers alike. Understanding their weaknesses can help users navigate these platforms effectively and identify opportunities for improvement in the job search process.

2.2   Solutions

Addressing the weaknesses of LinkedIn and Indeed and other platforms involves strategic approaches aimed at improving user experience, enhancing job search effectiveness, and providing additional value to users. Here are some potential solutions:

Diversify Job Listings: LinkedIn can partner with more companies and organizations to ensure a broader range of job listings across various industries and job roles. This could involve targeted outreach to companies in niche industries or those with specific hiring needs.

Enhance Free Features: LinkedIn can improve the functionality of its free features to provide more value to users without requiring a premium subscription. This could include expanding access to advanced search filters or offering more insights and analytics on user profiles.

User Interface Improvements: Continuously refining the user interface and experience can make LinkedIn more intuitive and user-friendly for all users. Conducting usability testing and gathering feedback from users can help identify areas for improvement and prioritize enhancements.

Personalization Algorithms: Invest in machine learning and data analytics to improve the accuracy and relevance of job recommendations on LinkedIn. By analyzing user behavior, preferences, and interactions, LinkedIn can tailor job suggestions more effectively to individual users.

Quality Control Measures: Implement measures to ensure the quality of job listings on Indeed, such as manual review processes or algorithms that prioritize reputable sources and remove spam or duplicate listings. This can help reduce clutter and improve the relevance of job search results.

Networking Features: Introduce networking features on Indeed to facilitate connections between job seekers and industry professionals. This could include features for sharing insights, seeking advice, or connecting with recruiters and hiring managers directly within the platform.

Enhanced Personalization: Similar to LinkedIn, Indeed can leverage data analytics and machine learning to deliver more personalized job recommendations to users. By analyzing user preferences, skills, and behavior, Indeed can surface job listings that align more closely with individual interests and qualifications.

Promote Skill Development: Offer resources and tools to help job seekers improve their skills and qualifications, making them more competitive in the job market. This could involve partnerships with online learning platforms, providing access to courses, certifications, and other educational resources.

Chapter 3: System analysis

This chapter delves into the functional and non-functional requirements, as well as the technological aspects, essential for the development of the system. It outlines functionalities such as user authentication, job exploration, application submission, employer recruitment process, CV management, payment method integration, and dashboard design. Additionally, it addresses non-functional aspects like performance, usability, reliability, security, scalability, compatibility, maintainability, and provides insights into the technology stack chosen for the system, including MongoDB for the database, NodeJS and Express for the backend, and Flutter for the front-end.

3.1 Functional requirements:

1.User Authentication and Profile Management:

- Job seekers should be able to register and log in to the system.
- Users should have the ability to create and manage a personalized profile,
  including information on skills, experiences, and career aspirations.
- Password recovery and account verification mechanisms should be in place.

2. Job Exploration and Listings:

- Users should be able to explore job listings categorized by industries, positions, and locations.
- Detailed information for each job listing should include company profiles, comprehensive job descriptions, and application instructions.

3. Application Submission and Feedback:

- Job seekers should be able to apply to multiple positions effortlessly.
- Once an application is submitted, the system should provide feedback on the status of the application from the recruiter.
- Transparency in the recruitment process should be ensured, reducing uncertainties for the applicants.

4. Advanced Search and Filtering:

- Advanced search functionalities should allow users to refine job searches based on criteria such as job type, salary range, and required skills.
- Notification features should inform users of relevant job openings matching their career goals.

5. Employer Recruitment Process:

- Employers should be able to create, manage, and post job openings.
- Employers should have the capability to review applicant profiles and communicate seamlessly with potential candidates.
- Application tracking features for employers to manage the recruitment pipeline effectively.

6. Create and Manage CV:

- Job seekers should have the ability to create, edit, and manage their curriculum vitae (CV) directly within the application.
- The CV creation feature should include fields for personal information, education history, work experience, skills, certifications, and any other relevant details.
- Users should be able to upload and attach documents, such as cover letters or additional certifications, to their CV.
- The system should provide templates or guidance to help users structure their CV effectively.

- Users should have the option to set privacy settings for their CV, controlling who can view specific sections or the entire CV.
- The created CV should be automatically linked to the user's profile for easy access and management.

7. Feedback and Rating System:

- Include a system for users to provide feedback on the application process and rate their experience with specific employers.

8. Payment Method Integration:

1. Subscription Plans:
   - Employers may subscribe to different plans based on the number of job postings, visibility, or additional features. Payment options should include credit/debit cards, digital wallets, and other relevant methods.

2. Premium Job Listings:
   - Provide an option for employers to boost the visibility of their job listings through premium features for an additional fee.
   - Enable secure online payments for these premium services.

3. Job Seeker Services:
   - Implement optional premium services for job seekers, such as resume writing assistance or enhanced profile visibility.
   - Facilitate online payments for these services.

4. Transaction History:
   - Maintain a transaction history for both job seekers and employers.
   - Ensure transparency in financial transactions.

9. Dashboard:

1. Job Seeker Dashboard:
   - Profile Overview: Display a summary of the job seeker's profile, including application status and relevant notifications.
   - Application Tracking: Provide a section to track and manage submitted applications.
   - Recommendations: Display personalized job recommendations based on the user's profile and preferences.

2. Employer Dashboard:
   - Job Posting Management: Allow employers to create, edit, and manage job postings from a centralized dashboard.
   - Application Review: Provide a section to review and manage received job applications.
   - Analytics and Insights: Offer insights into the performance of job postings and the effectiveness of the recruitment process.

3. Admin Dashboard:
   - User Management: Allow administrators to manage user accounts, roles, and permissions.
   - Analytics and Reports: Provide comprehensive analytics and reports on overall platform performance, user engagement, and financial transactions.
   - Notification Center: Implement a centralized notification center within the dashboard for users to receive updates, alerts, and announcements.
   - Customization and Preferences: Allow users to customize their dashboard layout and set preferences for notifications.
   - Responsive Design: Ensure that the dashboard is accessible and user-friendly across various devices, including desktops, tablets, and mobile phones.
   - Feedback and Support: Include a section for users to provide feedback or seek support through the dashboard.
   - Data Visualization: Utilize charts and graphs to visually represent key metrics and trends within the dashboard.

3.2 Non-Functional requirements:

1. ## Performance:
   - Response Time:
     - The system should respond to user actions within a maximum of 2 seconds.
   - Scalability:
     - The application should be able to handle a scalable number of simultaneous users, especially during peak times.

2. ## Usability:
   - User Interface Design:
     - The user interface should be intuitive and user-friendly, adhering to industry design standards.
   - Accessibility:
     - The application should comply with accessibility standards (e.g., WCAG) to ensure it is usable by people with disabilities.

3. ## Reliability:
   - Availability:
     - The system should aim for 99.9% uptime, allowing for scheduled maintenance.
   - Fault Tolerance:
     - The application should be designed to handle system failures gracefully without losing critical data.

4. ## Security:
   - Authentication and Authorization:
     - Implement secure authentication mechanisms and ensure proper authorization for different user roles.
   - Data Privacy:
     - Adhere to data protection regulations and ensure the privacy of user information.

5. Scalability:

Database Scalability:

- The database should be scalable to handle a growing amount of user and job data.
- Consider implementing database sharding or clustering as needed.

6. Compatibility:

- Browser Compatibility:
  - Ensure compatibility with major web browsers (e.g., Chrome, Firefox, Safari, Edge).
- Device Compatibility:
  - The application should be accessible and functional across various devices and screen sizes.

7. Maintainability:

- Code Maintainability:
  - Code should be well-documented and follow best coding practices for ease of maintenance.

- Modularity:
  - Design the application in a modular way to facilitate updates and modifications.

8. Performance Monitoring and Logging:

- Monitoring:
  - Implement tools for monitoring application performance and user interactions.
- Logging:

  - Maintain logs for system activities, errors, and user interactions for troubleshooting and auditing purposes.

3.3: Sequence diagram
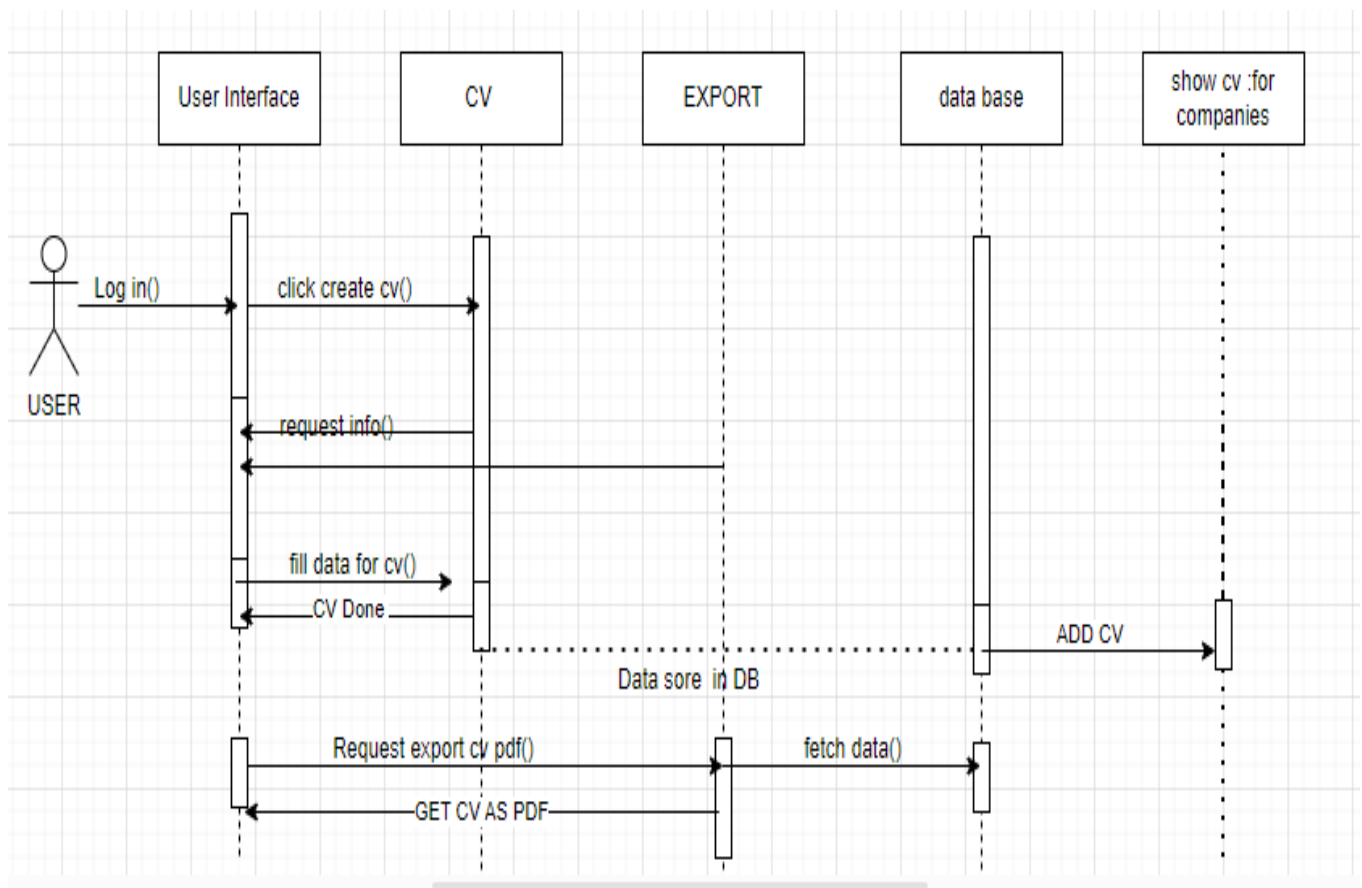
Figure 16: Export cv sequence diagram

This figure show how sequence of user to create cv and request to export It as pdf

Chapter 4: Proposed system

4.1 Technology:

1. Database:

- For our database we will be using Mongo db to store our user's data.

2.backend

- We will use NodeJS, Express for our backend.

- NodeJS is an event driven backend environment with the ability of adding limitless nodes which allows for extremely high vertical or horizontal scalability,

- It is well known for its performance and speed, as well as giving the option for cross-platform development.

- While Express is one of the most powerful node frameworks available, it's easily integral into the Node environment and makes the development much easier.

3.Front-end:

- Our front-end will utilize Flutter.

- Flutter allows for cross platform development on iOS, android and web

4.2 System application

4.2: System application:

Figure 2: Introduction Page screenshot which Which welcome by user and quoted by get your dream job
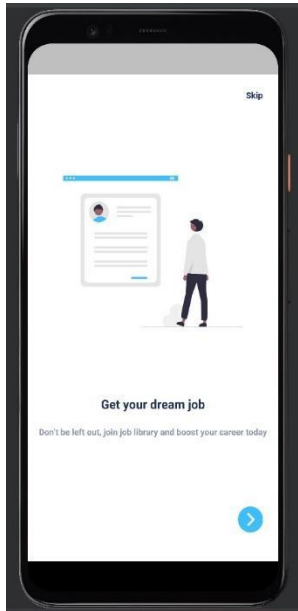
Figure 3: re-password Page screenshot which notify the user that there email had sent to him to follow re-password process
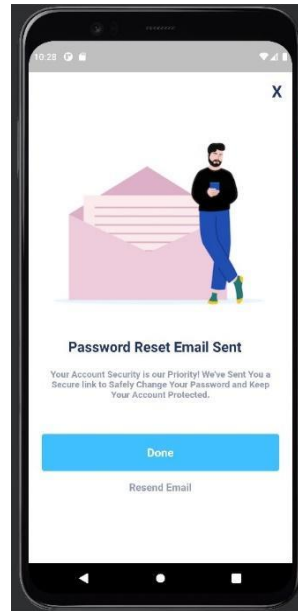
Figure 4: Start Page Screenshot which Quoted by the objective of the user of searching for a job
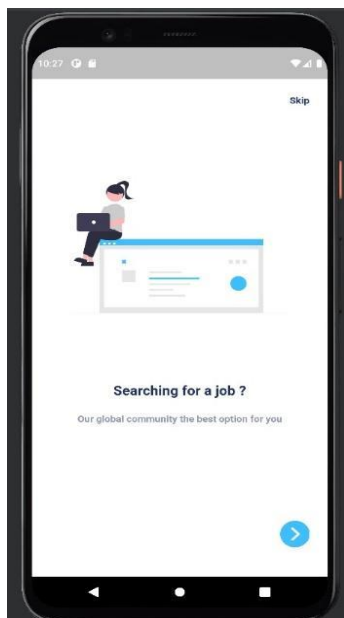
Figure 5: Login Page screenshot contain of two field which is the email and the password to access user account
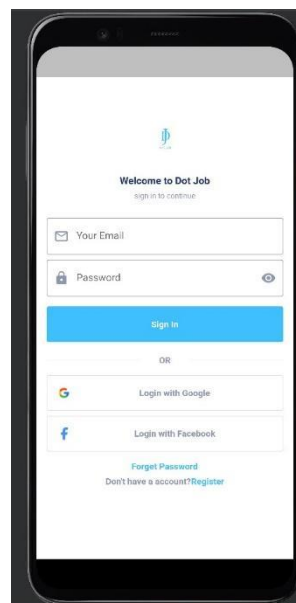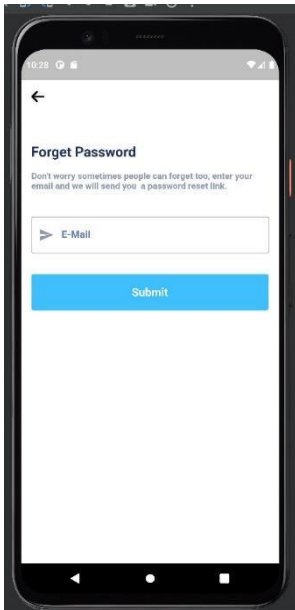
Figure 6: verification Page screenshot request email to continue verification process
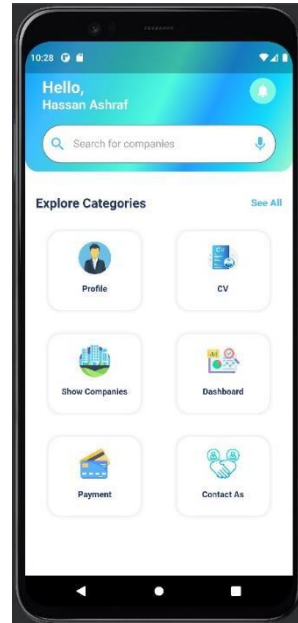
Figure 7: Home Page which show all categories of user interface
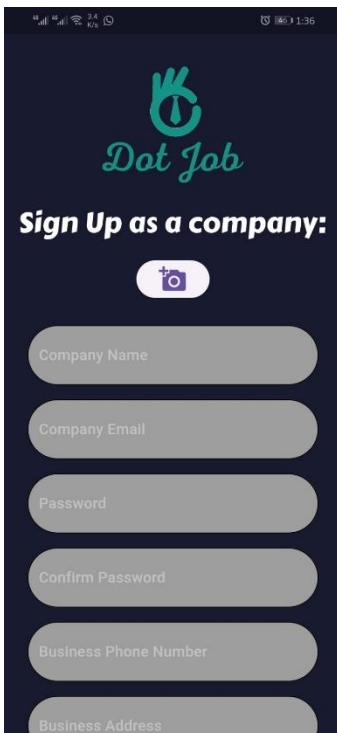
Figure 8 : sign up for company which create new account for company
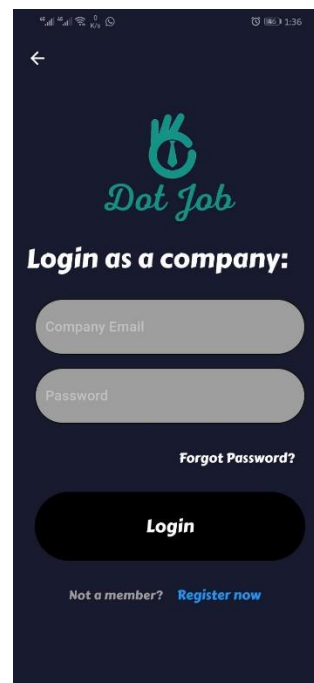
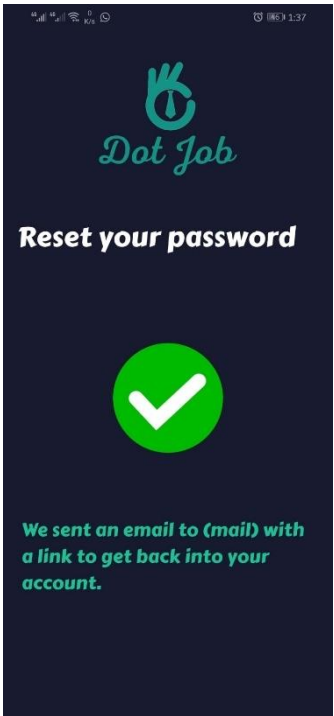Figure 9: login company page for access account company

Figure 10: reset company account password

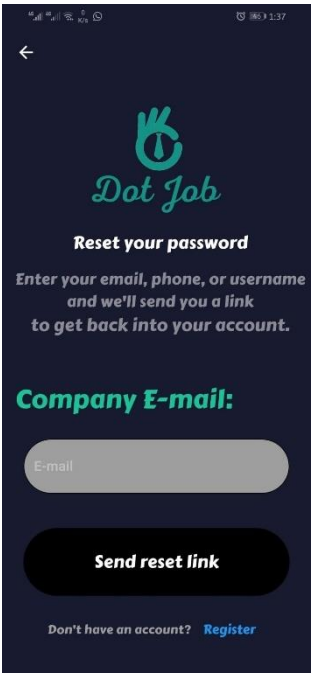Figure 11: create company account password
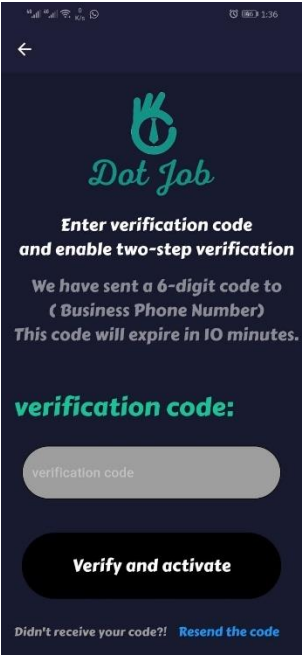

Figure 12:request company account password
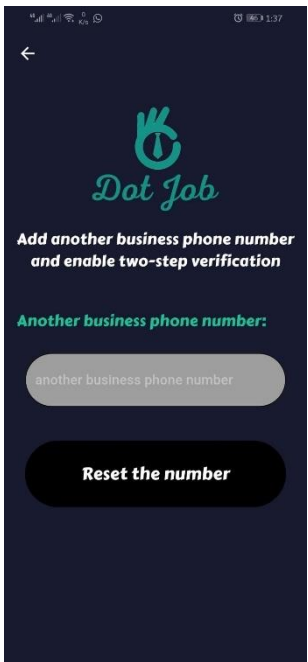

Figure 13:verification company account password
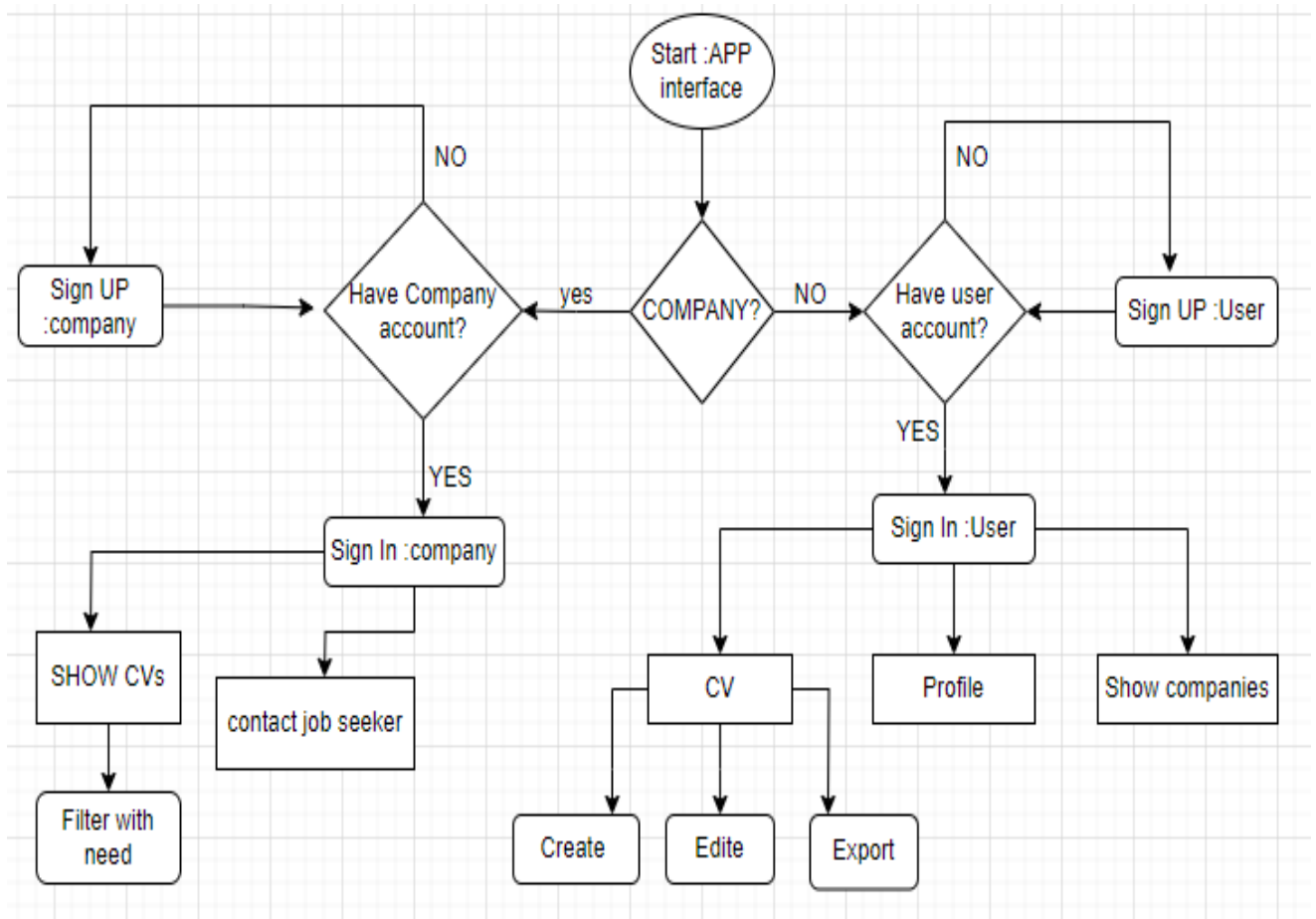

Figure 14:two-step verification company account

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4.3: Flow chart

Figure 15: Project flow chart