A PROJECT REPORT

ON

"Job Portal"

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ABSTRACT

Job Search Portal is a application, which serves jobseekers to find available job vacancies and Employers to identify eligible job seekers with the prospect of selecting the most qualified candidates. The only way to select the best-qualified candidate is to have a pool of eligible applicants, which is possible by drawing the interest of individuals in the market. Job search portals best serve this purpose. E-recruitment has become the standard means for employers and job seekers to meet their respective objectives. The traditional method for recruitment includes Job fairs, University career employment services, Employee referrals, advertising in the newspapers, televisions etc. With the advancement in technology and growth of internet usage, e-recruitment has revolutionized the way organizations hire and candidates search for jobs. With the Online Job search portals, the recruitment process is speeded up at every stage from job postings, to receiving applications from candidates, interviewing process. The cost of searching/posting for jobs will be much less compared to the traditional way of advertising. Job search portal stands as an effective means for Employers to outline the job vacancies, responsibilities, and qualifications to attract jobseekers. Using the portal jobseekers can extensively search for jobs in companies, organizations, and regions they may otherwise have not learnt. In addition, candidates/Employers can write a review about an organization, which might help them to change the way things are done.

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CHAPTER 01

INTODUCTION

1.1 Overview

A job portal is an online platform that connects job seekers with potential employers. It is a mobile application that provides job seekers with access to job listings from various industries, job functions, and locations. The job portal also offers tools for job seekers to create and upload their resumes, search for job openings, and apply to job vacancies. Employers, on the other hand, can post job listings, review resumes and applications, and communicate with job seekers through the portal.

The purpose of a job portal is to make the job search process more efficient and convenient for job seekers and employers. It provides a central location for job seekers to find job openings that match their qualifications and preferences. It also allows employers to reach a large pool of potential candidates and streamline their hiring processes.

Job portals can vary in terms of their features and services. Some job portals may specialize in certain industries or job functions, while others may cater to a broader range of job seekers and employers. Some job portals may also offer additional features and services, such as career advice, salary information, and user support.

Job portals have become an essential tool for both job seekers and employers. Job seekers can use job portals to find job openings, research companies, and apply to job vacancies. Employers can use job portals to post job listings, review resumes and applications, and communicate with job seekers. Job portals have transformed the way people search for jobs and hire employees, making the process more efficient, convenient, and accessible to a wider range of users.

1.2 Objective

The main objective of a job portal is to facilitate the connection between job seekers and potential employers. The job portal aims to provide a centralized location for job seekers to find job openings that match their qualifications and preferences. At the same time, it offers a platform for employers to reach a large pool of potential candidates and streamline their hiring processes.

- **Providing a comprehensive database of job listings:** The job portal should offer a wide range of job listings from various industries, job functions, and locations. This allows job seekers to find job openings that match their qualifications and preferences.

- **Offering tools for job seekers to create and upload their resumes:** The job portal should provide job seekers with tools to create and upload their resumes and cover letters. This helps employers to review their qualifications and consider them for job openings.

- **Providing a user-friendly interface:** The job portal should be easy to use and navigate, with a user-friendly interface that allows job seekers and employers to find what they need quickly.

- **Streamlining the job search and hiring process:** The job portal should simplify the job search and hiring process, making it more efficient and convenient for job seekers and employers.

- **Providing additional features and services:** The job portal may offer additional features and services, such as career advice, salary information, and user support. This can help job seekers to improve their chances of getting hired and advance their careers.

1.3 Purpose of the report

The purpose of a report on a **Job Portal** is to provide a detailed analysis of the apps operations, performance, and impact. The report can serve several purposes, including:

1. **Analysing user behaviour:** A report on a job portal can help to analyse user behaviour, including how job seekers and employers use the portal, which job listings are the most popular, and which features are the most used. This information can help to improve the portal's functionality and user experience.
2. **Evaluating the effectiveness of the job portal:** A report on a job portal can evaluate the effectiveness of the portal in connecting job seekers with potential employers. This can include analysing the number of job listings posted, the number of applications submitted, and the success rate of job placements.
3. **Identifying trends and opportunities:** A report on a job portal can help to identify trends in the job market, such as which industries are hiring the most, which job functions are in demand, and which locations have the most job openings. This information can help job seekers to make informed decisions about their job search, and employers to identify potential opportunities for growth.
4. **Providing insights for strategic decision-making:** A report on a job portal can provide insights for strategic decision-making, such as which areas of the portal need improvement, which features should be added or removed, and which marketing strategies are the most effective.

1.4 Organization of Project Report

The organization of the project report on a job portal should be focused on providing a clear and concise overview of the job portal's performance and effectiveness. The report should be structured in a way that allows the audience to understand the key findings and recommendations, and how they can be used to improve the job portal. The report should also provide specific and actionable recommendations that can be implemented to improve the job portal's functionality, user experience, and marketing strategies.

- **Defining the project scope:** The first step in organizing a project report on a job portal is to define the project scope. This includes identifying the purpose of the report, the audience, and the specific areas of the job portal that will be evaluated.
- **Gathering data:** The next step is to gather data on the job portal, including user behavior, job listings, application data, and marketing strategies. This data can be obtained through surveys, interviews, and analytics tools.
- **Analyzing data:** Once the data has been collected, it needs to be analyzed to identify trends and insights. This may involve using statistical analysis tools, data visualization techniques, and other methods.
- **Developing recommendations:** Based on the analysis of the data, recommendations can be developed to improve the job portal's functionality, user experience, and marketing strategies. These recommendations should be based on the specific needs and goals of the job portal.
- **Writing the report:** The final step is to write the project report, which should include an executive summary, introduction, methodology, findings, recommendations, and conclusion. The report should be well organized, clearly written, and based on the data and analysis collected.

CHAPTER 2
LITERATURE SURVEY

2.1 Motivation

The purpose of developing an Online Job Search Portal comes from my idea to make the job search efficient and handy. It helps the recruiters as a primary source of talent search. It also helps the job seekers to search for current vacancies at a single point. Therefore, we can say that Online Job Search Portal act as a bridge of communication between organizations and applicants. With the evolution of technology and internet being the main source of information for the applicants, these job portals and have become an excellent method to reach wide range of audience. Initially, when I am unaware of these portals, I used to do research about companies and their technology stack through their respective websites and apply if the job responsibilities match my interests. This requires lots of effort and time. However, later when I realized the importance of job search portals, I can access jobs in companies, locations that I might not otherwise have learned.

2.2 Existing System

The existing system of job portals includes a variety of online platforms that connect job seekers with potential employers. These platforms typically offer job listings from various industries, job functions, and locations, as well as tools for job seekers to create and upload their resumes and cover letters. Employers can post job openings, review resumes and applications, and manage their hiring process through the platform.

Some of the most popular job portals include Indeed Glassdoor, Monster, and LinkedIn. These platforms offer a wide range of job listings, as well as additional features and services such as career advice, salary information, and user support.

One of the key benefits of job portals is that they provide a centralized location for job seekers to find job openings that match their qualifications and preferences. This saves time and effort compared to traditional job search methods such as newspaper ads and cold calling. Additionally, job portals offer employers a large pool of potential candidates to choose from, making it easier to find qualified applicants for job openings.

However, the existing system of job portals also has some limitations. For example, job seekers may face competition from a large number of applicants for popular job listings, which can make it harder to stand out. Employers may also receive a high volume of applications for job openings, which can make it difficult to review resumes and select candidates for interviews.

Overall, the existing system of job portals offers many benefits for job seekers and employers, but also has some limitations that can be addressed through improved functionality and user experience.

2.3 Proposed System

A proposed system for a job portal would aim to address some of the limitations of the existing system and improve the functionality and user experience for both job seekers and employers. Some of the proposed improvements for the job portal system include:

- **Personalized job recommendations:** The proposed system would use machine learning algorithms to recommend job listings that match a job seeker's qualifications, experience, and preferences. This would save time and effort for job seekers by presenting them with job openings that are more relevant to their skills and interests.

- **Automated resume screening:** The proposed system would use artificial intelligence (AI) and natural language processing (NLP) to screen and filter resumes, matching job seekers with the most suitable job openings. This would save time and effort for employers by automating the resume screening process and ensuring that the most qualified candidates are selected for interviews.
- **Video interviews:** The proposed system would incorporate video interview capabilities, allowing employers to conduct virtual interviews with job candidates. This would save time and resources for both employers and job seekers by eliminating the need for in-person interviews and making the interview process more convenient and accessible.
- **Social media integration:** The proposed system would integrate with social media platforms such as LinkedIn and Twitter, allowing job seekers and employers to connect and network with each other. This would expand the reach of the job portal and create more opportunities for job seekers and employers to connect with each other.
- **Advanced analytics and reporting:** The proposed system would include advanced analytics and reporting tools, allowing job portal administrators to track user behavior, job listings, and other metrics. This would provide insights into the effectiveness of the job portal and help to identify areas for improvement.

Overall, the proposed system for a job portal would aim to provide a more personalized and efficient experience for job seekers and employers, leveraging advanced technologies such as machine learning, AI, and NLP. It would also aim to expand the reach of the job portal through social media integration and provide advanced analytics and reporting tools for job portal administrators to track and improve the performance of the portal.

2.4 Summary

Here is a summary of the key findings that may emerge from a literature survey of an Job Portal:

- Job portals are online platforms that connect job seekers with potential employers, and offer a centralized location for job listings and job search tools.
- The key benefits of job portals include time and cost savings for both job seekers and employers, as well as access to a large pool of potential candidates or job openings.
- However, job portals also have limitations such as high competition for popular job listings, high volume of applications for job openings, and difficulties in matching job seekers with the most suitable job openings.
- The existing system of job portals can be improved through advanced technologies such as machine learning, AI, and NLP, which can provide personalized job recommendations, automate resume screening, and facilitate virtual interviews.
- Social media integration can also expand the reach of the job portal and provide networking opportunities for job seekers and employers.
- Advanced analytics and reporting tools can help job portal administrators track and improve the performance of the portal.

Overall, the literature review highlights the benefits and limitations of the existing system of job portals, and suggests ways in which the system can be improved through advanced technologies and features such as personalized job recommendations, automated resume screening, and social media integration.

CHAPTER 3
PROBLEM DEFINATION AND SYSTEM DESIGN

1.1 Problem Statement

The existing system of job portals has several limitations and challenges that hinder the efficient and effective matching of job seekers with suitable job openings. Some of the key challenges include a high volume of applications for job openings, high competition for popular job listings, and difficulties in screening resumes to identify the most qualified candidates. Additionally, job seekers may find it challenging to identify job openings that match their qualifications and preferences and may face difficulties in networking and connecting with potential employers.

These limitations and challenges of the existing job portal system indicate the need for a proposed system that leverages advanced technologies such as machine learning, AI, and NLP to improve the functionality and user experience for both job seekers and employers. The proposed system aims to address these limitations by providing personalized job recommendations, automating resume screening, facilitating virtual interviews, integrating with social media platforms, and providing advanced analytics and reporting tools for job portal administrators.

Therefore, the problem statement for this project is to design and develop a proposed system for a job portal that leverages advanced technologies to improve the efficiency and effectiveness of the job search process for both job seekers and employers, and to address the limitations and challenges of the existing system.

3.2 Scope

The scope of this project includes designing and developing a proposed system for a job portal that leverages advanced technologies to improve the efficiency and effectiveness of the job search process for both job seekers and employers. The proposed system will address the limitations and challenges of the existing job portal system by providing personalized job recommendations, automating resume screening, facilitating virtual interviews, integrating with social media platforms, and providing advanced analytics and reporting tools for job portal administrators.

The proposed system will be designed to accommodate many users, including job seekers and employers, and will provide a user-friendly interface that is easy to navigate and use. The system will be scalable and adaptable, allowing for future enhancements and upgrades as needed.

The development of the proposed system will involve several stages, including requirements gathering, system design, software development, testing, and deployment. The project team will use agile development methodologies to ensure that the project is completed on time and within budget.

The scope of this project does not include the development of mobile applications for the job portal, as this is beyond the scope of the current project. However, the system will be designed to be responsive and accessible on mobile devices, allowing job seekers and employers to access the portal from their smartphones and tablets.

3.3 System Requirements Specification

System Requirements specification (SRS) is a document that outlines the functional and non-functional requirements for a system.

Functional Requirements:

- **Job seeker registration:** The system should allow job seekers to register on the platform by providing basic personal information, contact details, and work experience.
- **Employer registration:** The system should allow employers to register on the platform by providing company information, job listings, and contact details.
- **Job search:** The system should allow job seekers to search for job openings based on various parameters such as job title, location, and salary range.
- **Job matching:** The system should use machine learning algorithms to provide personalized job recommendations to job seekers based on their qualifications, skills, and experience.
- **Resume upload:** The system should allow job seekers to upload their resumes in various formats such as PDF, Word, and text.
- **Resume screening:** The system should use AI and NLP to screen resumes and identify the most qualified candidates for a particular job opening.
- **Social media integration:** The system should allow job seekers and employers to connect and network through social media platforms such as LinkedIn.
- **Reporting and analytics:** The system should provide advanced analytics and reporting tools for job portal administrators to track and improve the performance of the portal.
- **Job application tracking:** The system should allow job seekers to track the status of their job applications and receive notifications when their applications are reviewed.
- **User management:** The system should allow job portal administrators to manage user accounts, access levels, and permissions.

Non-functional Requirements:

- **Performance:** The system should be able to handle a large number of users and job listings without significant performance degradation. The response time for user actions such as job searches and resume uploads should be fast and efficient.
- **Security:** The system should ensure the security and privacy of user data by implementing robust security measures such as encryption, two-factor authentication, and access control.
- **Scalability:** The system should be scalable and adaptable to handle future growth and increased user traffic. It should be designed to accommodate new features and functionalities as needed.
- **Availability:** The system should have high availability and uptime, with minimal downtime or maintenance windows.
- **Usability:** The system should be user-friendly and easy to navigate, with clear and intuitive interfaces for job seekers, employers, and job portal administrators.
- **Compatibility:** The system should be compatible with various web browsers and mobile devices, ensuring that users can access the portal from their preferred devices.
- **Reliability:** The system should be reliable and free from errors, bugs, or crashes that could affect user experience or data integrity.
- **Compliance:** The system should comply with relevant laws and regulations related to data privacy, job listings, and employment practices.
- **Integration:** The system should be able to integrate with third-party services and APIs such as social media platforms, payment gateways, and background check services.

Technical Requirements:

- **Android Studio:** The development environment for the Android application should be Android Studio, which is the official Integrated Development Environment (IDE) for Android app development.
- **Java programming language:** The Android application should be developed using the Java programming language, which is the official language for Android app development.
- **Firestore database:** The job portal system should use the Firestore database, which is a cloud-based NoSQL database provided by Google. Firestore is scalable, flexible, and can handle a large amount of data, making it ideal for a job portal system.
- **Firebase Authentication:** The job portal system should use Firebase Authentication to authenticate users and secure user data. Firebase Authentication provides multiple authentication methods, such as email/password, phone number, and social media logins.
- **Firebase Cloud Messaging (FCM):** FCM should be used for sending push notifications to job seekers and employers to notify them of new job openings, job applications, and other important events.
- **Material Design Guidelines:** The Android application should be developed following the Material Design Guidelines, which provide a set of design principles and best practices for creating a user-friendly and visually appealing user interface.
- **Responsive Design:** The Android application should be designed to be responsive and accessible on different screen sizes and orientations, ensuring that users can access the portal from their smartphones and tablets.
- **Android Jetpack Libraries:** The Android application should use Android Jetpack libraries, which are a set of libraries and tools that simplify app development and enhance app performance.

- **API Integrations:** The job portal system should integrate with various APIs such as social media platforms, payment gateways, and background check services to provide additional features and functionalities.
- **Code Versioning:** The source code for the Android application should be managed using a code versioning tool such as Git to ensure version control, collaboration, and code quality.

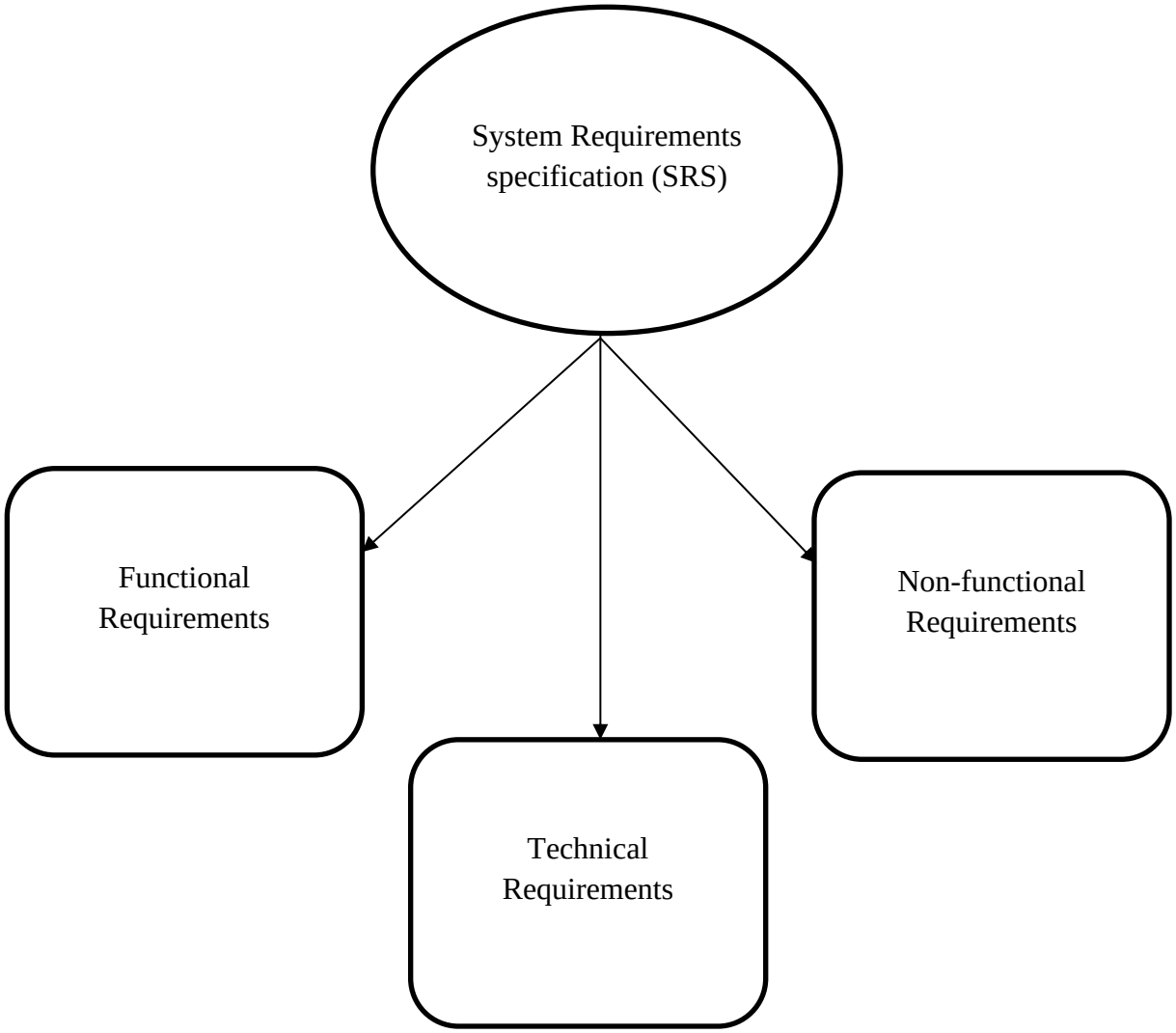


Figure No.3.3.1: System Requirements Specification

3.4 System Design

System design for the proposed job portal system involves creating a high-level architecture and designing the database schema, user interface, and system modules. Here is an overview of the system design:

- **High-Level Architecture:** The proposed job portal system follows a client-server architecture, where the Android application serves as the client and the Firestore database and Firebase services act as the server. The client communicates with the server through REST APIs, enabling the client to fetch and manipulate data.
- **Database Design:** The database schema for the job portal system consists of several collections, including users, job listings, job applications, and employer profiles. Each collection contains multiple documents, with each document representing a unique instance of the collection's entity. The schema is designed to ensure efficient data retrieval, scalability, and data integrity.
- **User Interface Design:** The user interface for the job portal system follows the Material Design Guidelines, providing a clean and intuitive interface for job seekers and employers. The interface includes features such as job search, job application, profile management, and messaging.
- **System Modules:** The job portal system consists of several modules, including:
- **Authentication module:** Handles user authentication and login using Firebase Authentication.
- **Job Search module:** Enables job seekers to search for jobs based on various criteria such as job type, location, and salary.
- **Job Listing module:** Allows employers to create and manage job listings, including job description, requirements, and application deadline.
- **Job Application module:** Allows job seekers to apply for job listings, with employers receiving notifications of new job applications.

- **Messaging module:** Enables job seekers and employers to communicate with each other within the app.
- **API Integrations:** The job portal system integrates with various APIs such as social media platforms, payment gateways, and background check services to provide additional features and functionalities.
- **Security:** The system design ensures that user data is secure and protected by implementing robust security measures such as encryption, two-factor authentication, and access control.
- **Scalability:** The system design ensures that the job portal system is scalable and adaptable to handle future growth and increased user traffic.

In summary, the system design for the proposed job portal system follows a client-server architecture, with the Android application serving as the client and the Firestore database and Firebase services acting as the server. The system is designed to be secure, scalable, and efficient, with a user-friendly interface and various modules for job seekers and employers to search and manage job listings.

3.5 Technologies to Be Used

- **Android Studio**: Android Studio will be used as the Integrated Development Environment (IDE) for developing the Android application.
- **Java:** Java will be the primary programming language for developing the Android application.
- **Firebase:** Firebase will be used for hosting the backend services such as Authentication, Firestore, and Cloud Functions.
- **Firestore:** Firestore will be used as the NoSQL database for storing and retrieving data related to users, job listings, job applications, and employer profiles.
- **Cloud Functions:** Cloud Functions will be used to implement server-side logic for the job portal system.
- **Firebase Authentication:** Firebase Authentication will be used for implementing user authentication and login features.
- **Firebase Cloud Messaging:** Firebase Cloud Messaging will be used for push notifications and real-time messaging between job seekers and employers.
- **Google Maps API:** Google Maps API will be used for location-based features such as job search and location-based job listings.
- **Material Design:** The user interface will be designed following the Material Design guidelines for consistency and user-friendliness.
- **Git:** Git will be used for version control and collaboration during the development process.

3.6 Assumptions

The assumptions for developing Job Portal depend on the specific goals and requirements of the site. However, here are some general assumptions that are made when developing Job Portal:

- The job portal system will primarily target job seekers and employers in a specific geographic location or region.
- The system will allow job seekers to search and apply for job listings, while employers can create and manage job listings and receive job applications.
- The system will provide a user-friendly interface that adheres to Material Design guidelines.
- The system will be developed using Android Studio, Java, Firestore, and Firebase services.
- The system will implement security measures such as encryption, two-factor authentication, and access control.
- The system will integrate with various APIs such as Google Maps API and social media platforms.
- The system will provide push notifications and real-time messaging between job seekers and employers.
- The development team will have access to the necessary hardware and software required for the development process.
- The system will be tested thoroughly to ensure it functions correctly and meets the functional and non-functional requirements mentioned earlier.
- The system will adhere to industry best practices for software development, including agile development methodologies and continuous integration and deployment.

3.7 Constraints

Developing Job Portal app can be challenging due to various constraints. Here are constraints that can impact the development.

.1 **Technical constraints:** The job portal system will be developed using specific technologies such as Android Studio, Java, Firestore, and Firebase services. This means that the system will be limited by the capabilities and limitations of these technologies.

.2 **Budget constraints:** The development of the job portal system will require resources such as hardware, software, and personnel. There may be budget constraints that limit the number of resources available for the project.

.3 **Time constraints:** The development of the job portal system will need to be completed within a specific timeframe, which may be limited by factors such as deadlines or launch dates.

.4 **Resource constraints:** The development team may face resource constraints, such as limited personnel or access to hardware and software resources required for the development process.

.5 **User adoption constraints:** The success of the job portal system will depend on user adoption, which may be affected by factors such as user preferences or the presence of competing job portal systems in the market.

.6 **Compatibility constraints:** The job portal system will need to be compatible with various devices and operating systems, which may limit the features or functionality that can be implemented.

.7 **Security constraints:** The job portal system will need to implement various security measures to protect user data and prevent unauthorized access, which may limit the functionality or user experience of the system.

3.8 User Interface Design

A user interface (UI) designer is responsible for designing the visual layout and appearance of an application or website, with a focus on creating an intuitive and user-friendly interface. In the context of developing a job portal system, a UI designer would be responsible for designing the following elements:

- **Home screen:** The home screen of the job portal system should be designed to provide quick access to key features, such as job search, job listings, and user profiles. The UI designer would be responsible for designing the layout and appearance of the home screen, including the placement of navigation elements and the use of visual design elements such as icons, colors, and typography.
- **Job search:** The job search feature of the job portal system should be designed to allow users to quickly and easily search for job listings based on specific criteria such as location, job title, or salary range. The UI designer would be responsible for designing the layout and appearance of the job search screen, including the placement of search filters and the use of visual design elements such as icons, colors, and typography.
- **Job listings:** The job listings screen of the job portal system should be designed to display relevant job listings based on the user's search criteria. The UI designer would be responsible for designing the layout and appearance of the job listings screen, including the placement of key information such as job title, location, and salary, and the use of visual design elements such as icons, colors, and typography.
- **User profiles:** The user profile feature of the job portal system should be designed to allow users to create and manage their profiles, including information such as work experience, education, and skills. The UI designer would be responsible for designing the layout and appearance of the user profile screen, including the placement of user information and the use of visual design elements such as icons, colors, and typography.

- **Job application:** The job application feature of the job portal system should be designed to allow users to apply for job listings that they are interested in. The UI designer would be responsible for designing the layout and appearance of the job application screen, including the placement of relevant information such as job requirements and application instructions, and the use of visual design elements such as icons, colors, and typography.

Overall, the UI designer plays a critical role in ensuring that the job portal system is user-friendly and easy to navigate, which can help to increase user adoption and satisfaction.

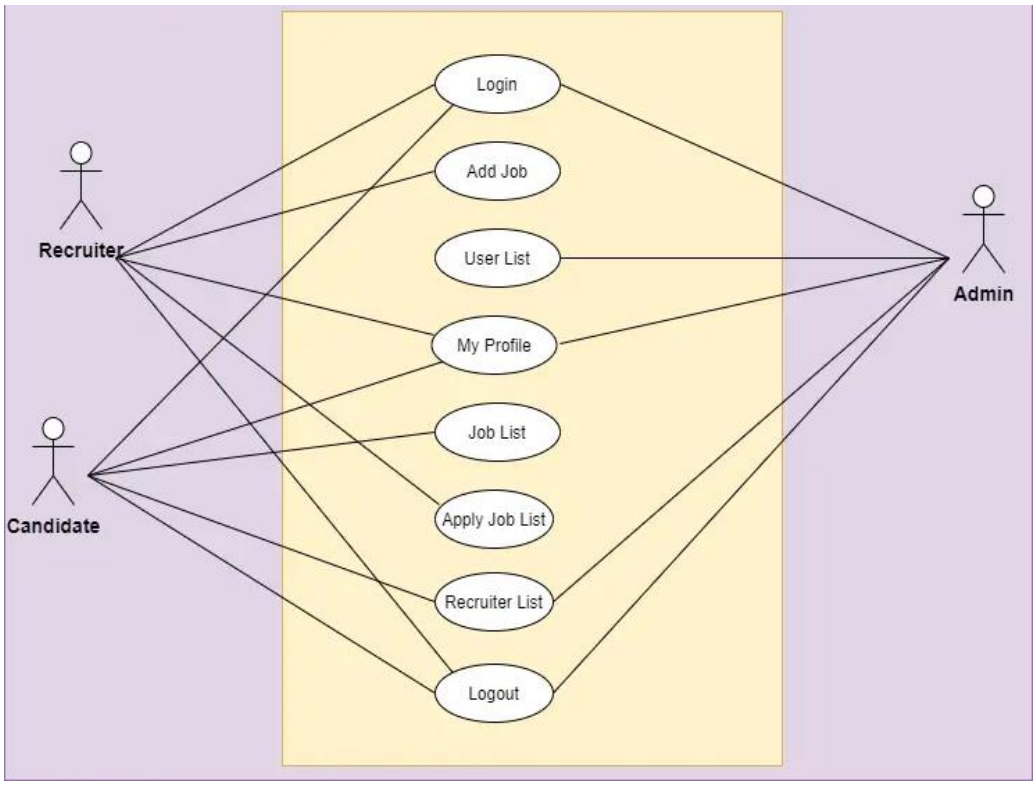


Figure No.3.8.1: User Interface Design

3.9 Summary

- The job portal system will be developed using Android Studio and Java programming language and will use Firestore and Firebase services for data storage and retrieval.
- The job portal system will have a user-friendly and intuitive interface, designed to provide quick access to key features such as job search, job listings, user profiles, and job applications.
- The system will include features such as advanced job search filters, job bookmarking, and real-time job alerts.
- The job portal system will be designed to be scalable, with the ability to handle large volumes of user traffic and data.
- The system will implement various security measures, including user authentication and data encryption, to protect user data and prevent unauthorized access.
- The job portal system will be designed to be compatible with various devices and operating systems, including smartphones and tablets running Android OS.
- The development team will follow an agile development methodology, with regular testing and feedback cycles to ensure that the system meets the requirements and expectations of users.

Overall, the job portal system will provide a user-friendly and efficient platform for job seekers to search and apply for job listings, while also providing employers with a powerful tool for recruiting top talent.

CHAPTER 4

OBJECT ORINTED MODEL

4.1 Need of modeling

Modeling is an essential aspect of software development, including the development of job portal systems. Modeling allows developers to create a visual representation of the system, its components, and its interactions, which can help to clarify and communicate complex concepts and ideas. The following are some of the key benefits of modeling in the context of job portal systems:

- **Improved understanding of the system:** By creating a model of the job portal system, developers can gain a better understanding of how the system works, how its components are related, and how data flows through the system. This can help to identify potential issues and bottlenecks early in the development process.
- **Collaboration and communication:** Modeling can facilitate collaboration and communication between developers, stakeholders, and end-users. By providing a visual representation of the system, modeling can help to clarify requirements, identify areas of concern, and facilitate discussions around potential solutions.
- **Iterative development:** Modeling allows developers to test and refine the system design before committing to code, which can help to identify potential issues early in the development process. This can help to minimize development costs and reduce the time required to deliver a working system.
- **Documentation:** Modeling can serve as a form of documentation, providing a visual representation of the system and its components. This can help to ensure that all stakeholders have a clear understanding of the system and its functionality.

- **Reusability:** By creating models of the job portal system, developers can identify components that can be reused in other systems or projects, which can help to reduce development time and costs.

Overall, modeling is an essential aspect of software development, including the development of job portal systems. By providing a visual representation of the system, modeling can help to clarify and communicate complex concepts, facilitate collaboration and communication, and improve the efficiency and effectiveness of the development process.

4.2 E-R Diagram

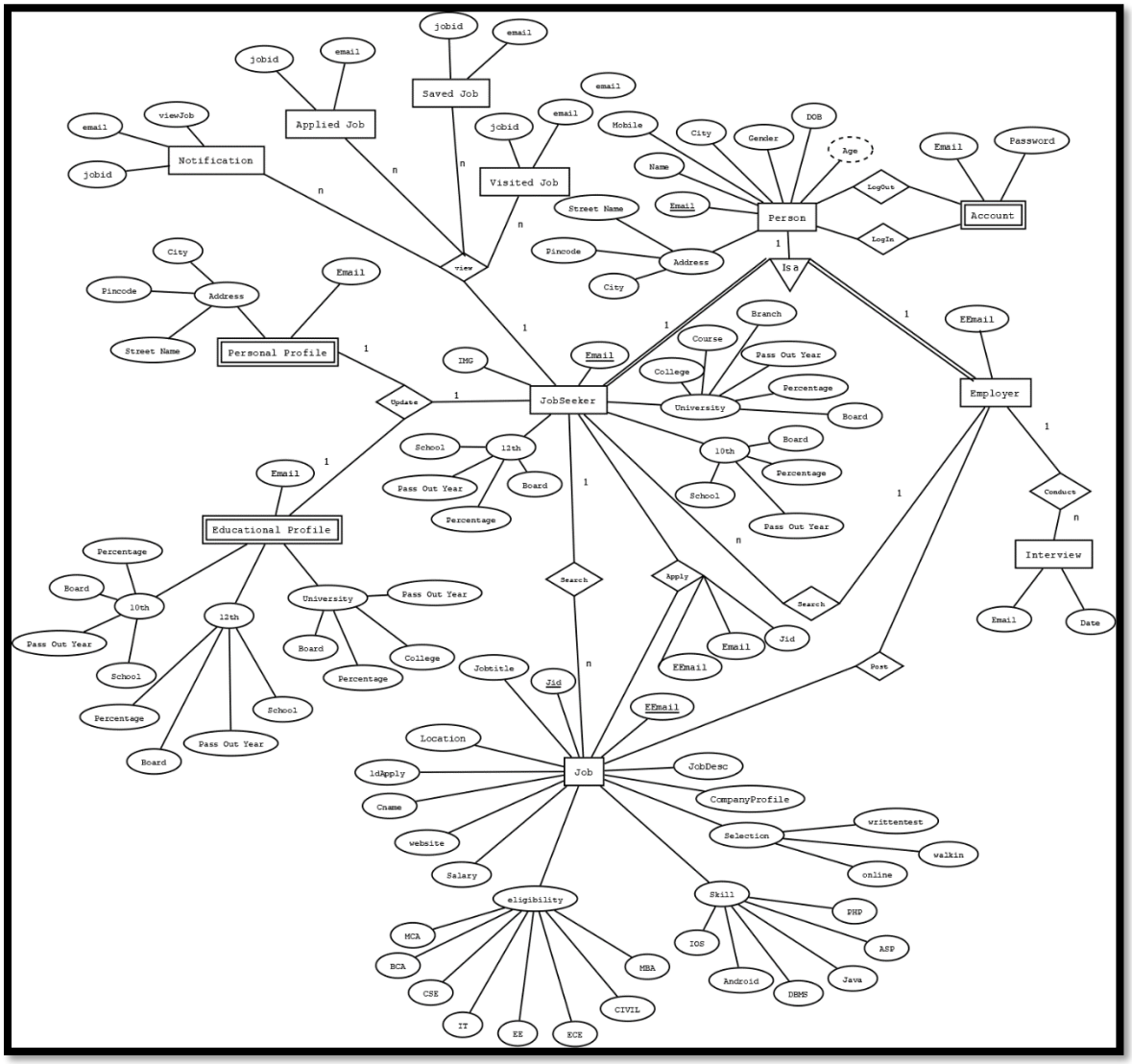


Figure No.4.2.1: E-R Diagram

4.3 Activity Diagram

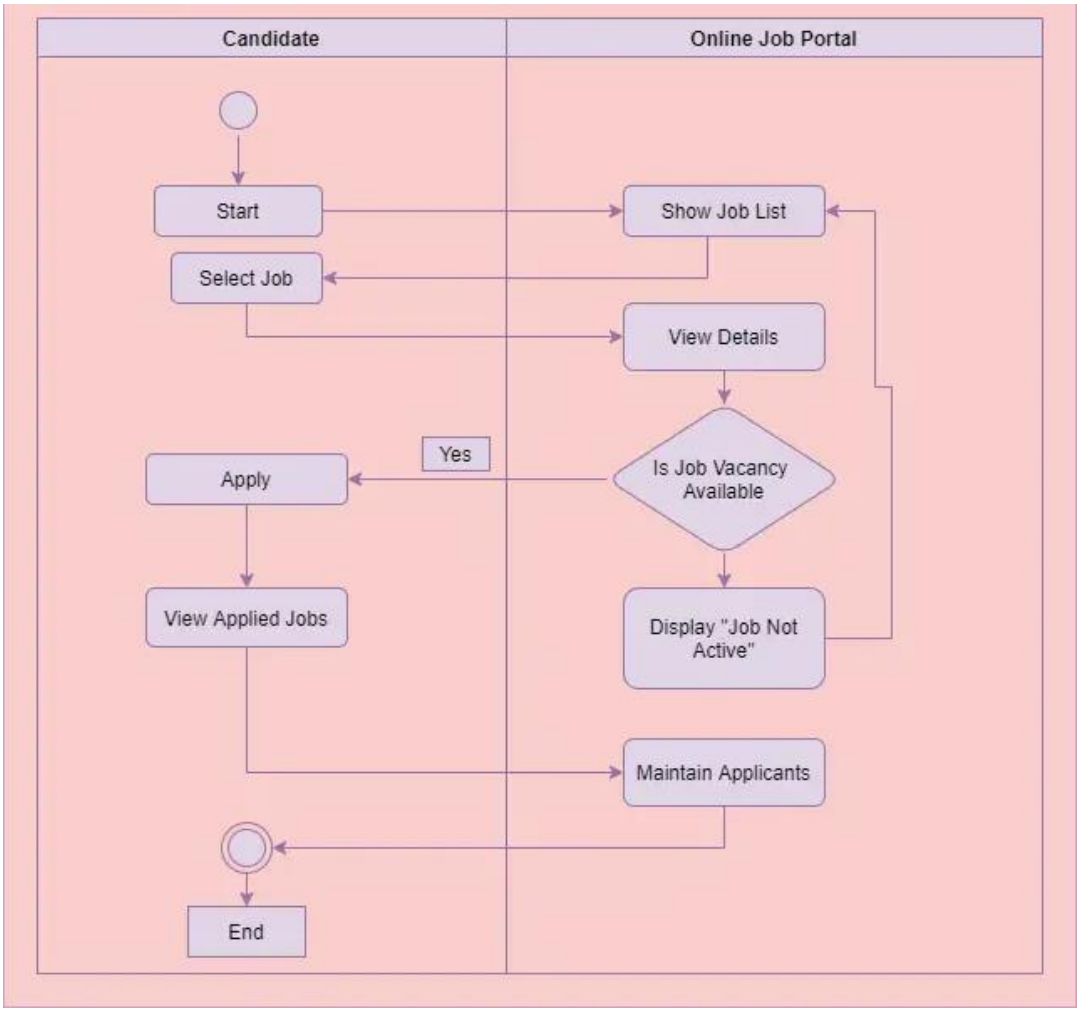
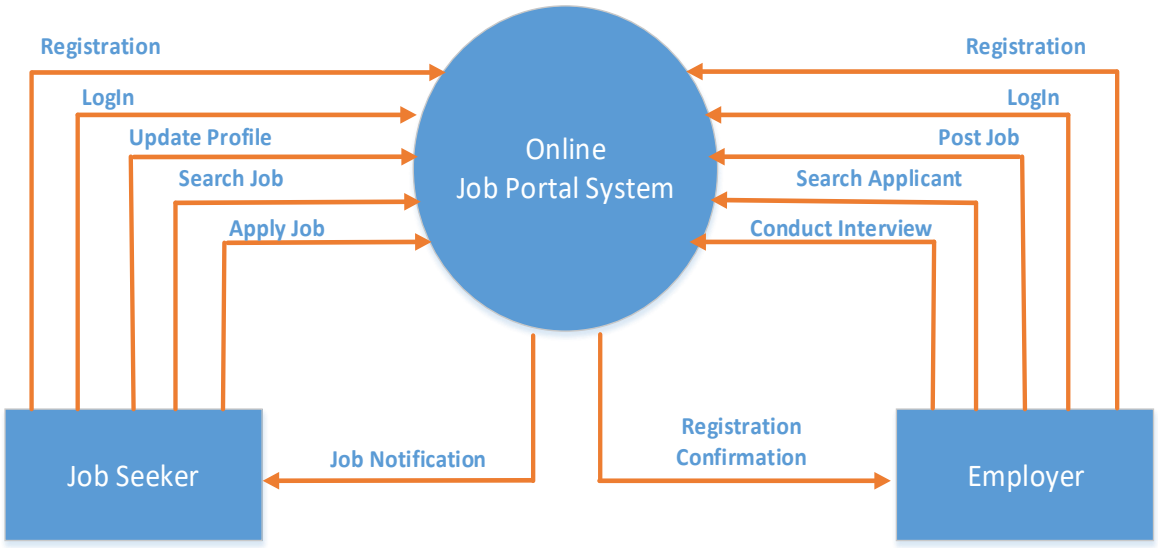


Figure No.4.3.1: Activity Diagram

4.4 Data flow diagram

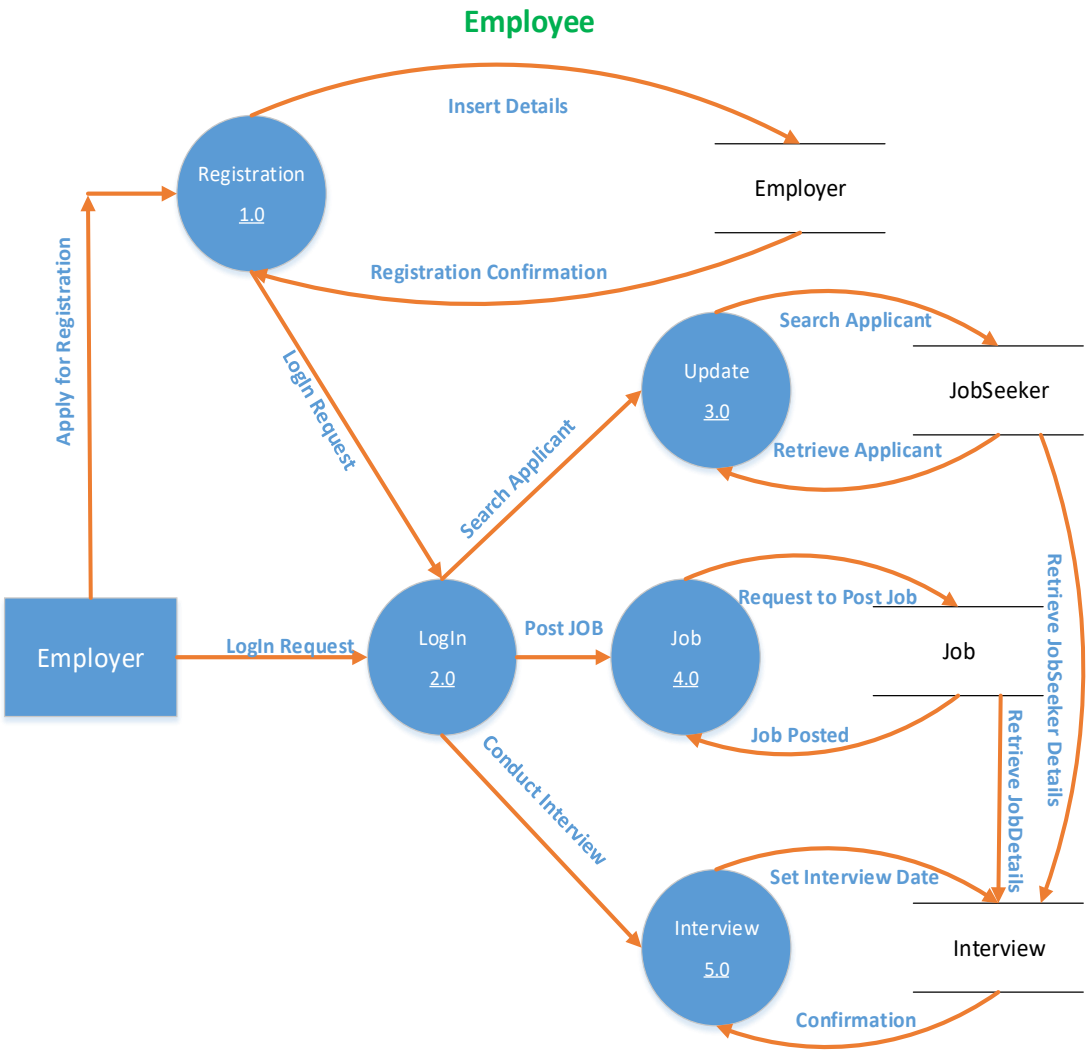
DFD LEVEL:0



Context Level

Figure No.4.4.1: DFD LEVEL 0

DFD LEVEL 1 : Job Provider



Level 1 DFD

Figure No.4.4.2: DFD LEVEL 1

DFD LEVEL 1: Job Seeker

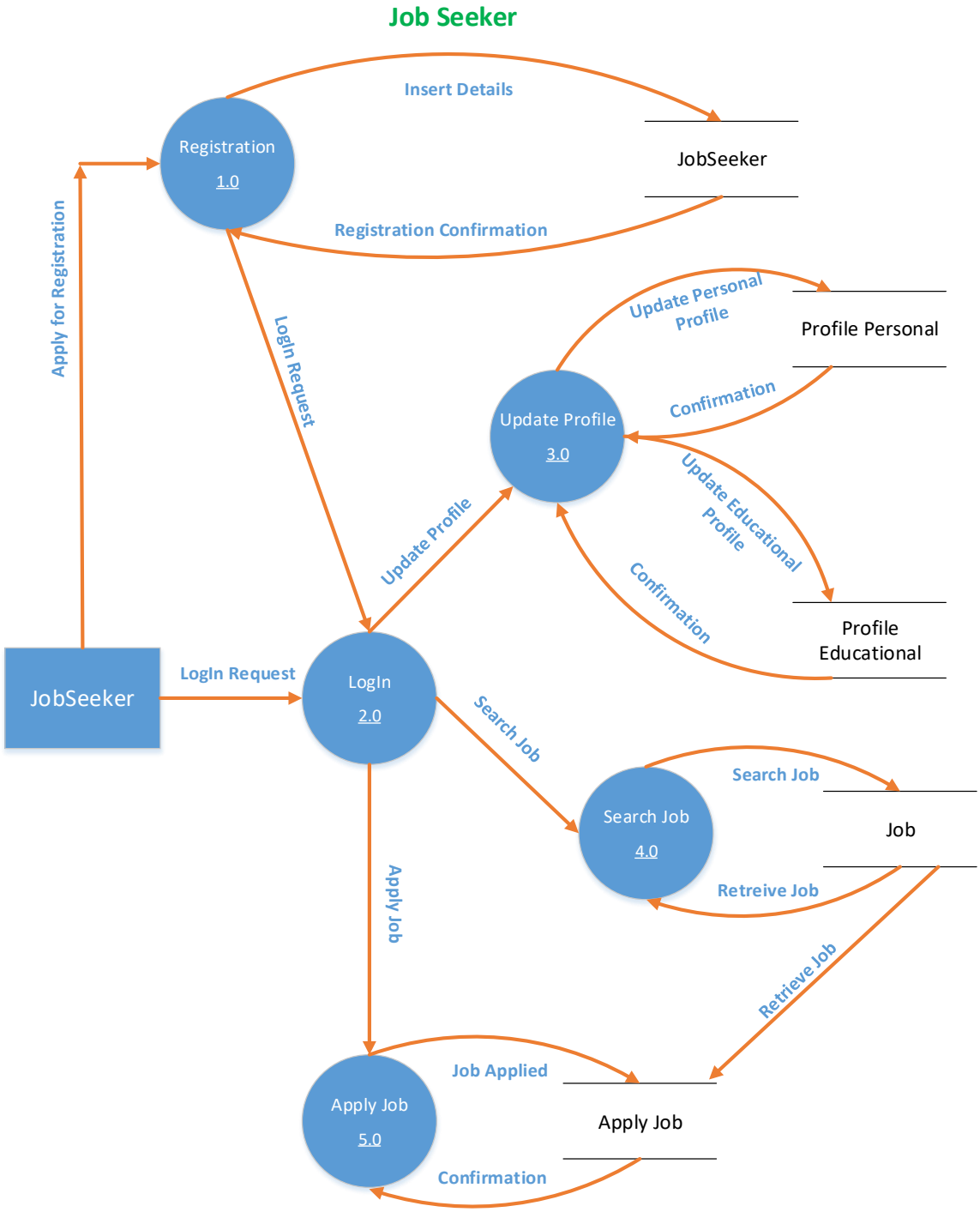


Figure No.4.4.3: DFD LEVEL 1

4.5 Component diagram

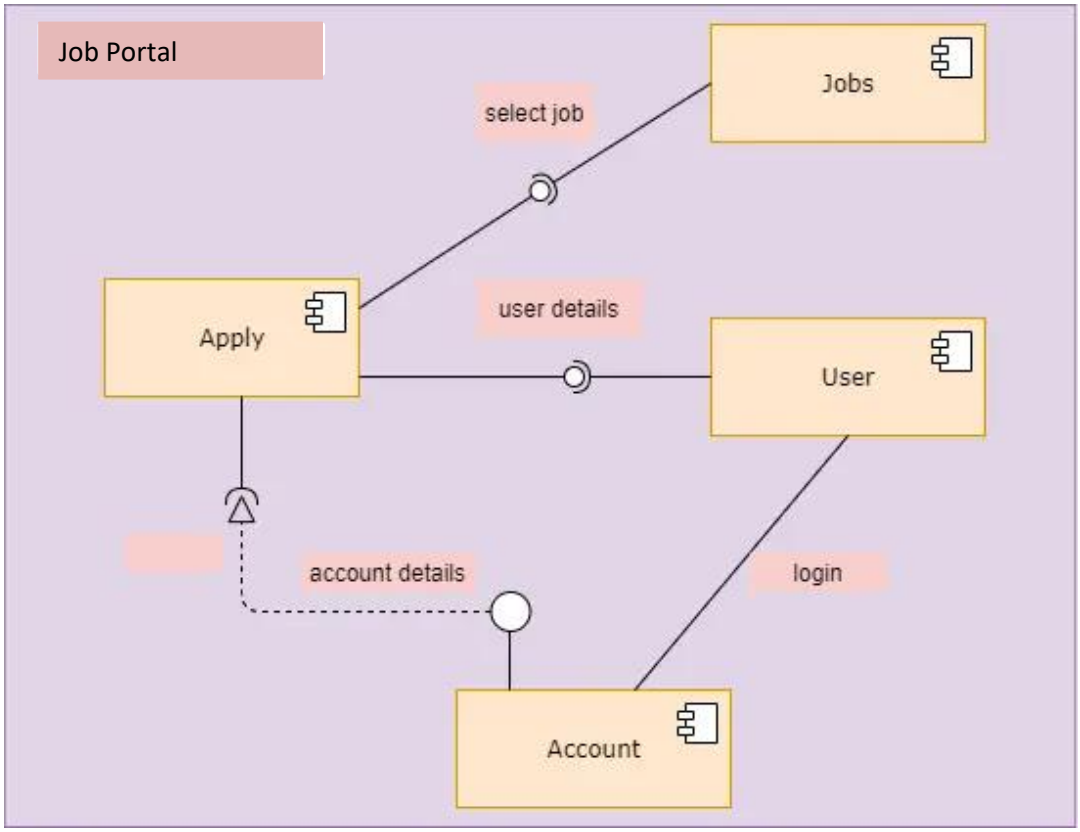


Figure No.4.5.1: Component Diagram

4.6 Summary

Sign Up

The 'Sign up' activity allows the user to register himself in Job Portal. Hence, any user willing to access the facilities provided by the application must register using proper information. During the signup process, the user must first enter a valid email address followed by a password of his/her choice (minimum 8 characters). After this process is completed, the user will be asked to fill some additional information regarding his/her personal and education details. Once this process is done, the user is directed to the ‘Home’ activity.

Login

The 'Login' facility is added for user authentication purpose. It helps to verify the credentials of an authorized user. In this activity the user needs to enter the proper credentials, matching the credentials entered during ‘Signup’ to access the rest of the functionalities.

Home

This is first layout the user interacts with after his/her registration is completed. Here he/she will find two tabs headed as 'Matched' and 'Recommended'. In 'Matched' the user will see jobs according to his qualification whereas in 'Recommended' he/she will see all the available jobs. The user can also filter the jobs according to his/her Skill, Location and preferred Company. He/she can also search job according to desired field of work, say for example Mobile App Development, Web Developer, etc.

Activity

The ‘Activity’ layout keeps track of user's activity within the app. It is divided into three tabs headed as ‘Viewed’, ’Saved’ and ’Applied’. In ‘Viewed’, the user can find all the jobs he/she has been viewing recently. In ‘Saved’, the user can find the job he/she has saved for later. In ‘Applied’, the user can find the jobs he/she has applied for.

Notification

The ‘Notification’ layout notifies the user once a job is successfully applied.

CHAPTER 5

PROJECT PLAN

5.1. Overview

- **Requirements Gathering:** This phase involves identifying and documenting the requirements of the job portal system, including its features, functionality, and user interface.
- **Design:** In this phase, the system's architecture and design are created, including the database schema, user interface design, and system flow.
- **Development:** This phase involves the actual development of the job portal system using Android Studio, Java programming language, and Firebase for backend services. The system's features are developed and tested against the requirements.
- **Testing:** In this phase, the developed system is tested for bugs and errors, ensuring that it meets the requirements and objectives of the project.
- **Deployment:** The system is deployed to a production environment, where it can be accessed by users.
- **Maintenance:** Once the system is deployed, maintenance activities begin, including ongoing updates, upgrades, and bug fixes.
- **Support:** During the maintenance phase, support is provided to users of the system, including addressing any issues or concerns they may have.

Throughout the development process, a project plan is created and maintained to ensure that the project stays on track and meets its objectives. The project plan includes details such as the timeline, budget, resources required, and risk management plan. Communication between stakeholders is also essential to ensure that everyone is aligned on the project's goals and progress.

5.2. Project Estimate

Project estimation for the development of a job portal system using Android Studio, Firebase, and Java will depend on various factors such as the scope, complexity, and functionality of the system. However, here are some general estimates for the development of a job portal system:

- **Requirements Gathering:** This phase can take up to 1-2 weeks, depending on the complexity of the requirements.
- **Design:** This phase can take up to 2-4 weeks, depending on the system's architecture and design.
- **Development:** The development phase can take up to 4-6 weeks, depending on the complexity of the features and functionality of the system.
- **Testing:** The testing phase can take up to 2-4 weeks, depending on the number of bugs and errors identified during testing.
- **Deployment:** The deployment phase can take up to 1-2 weeks, depending on the deployment environment's complexity and requirements.
- **Maintenance:** The maintenance phase is ongoing and can last for several years, depending on the system's life cycle and updates required.

Based on these estimates, the total duration for the development of a job portal system can range from 12-15 weeks, with an estimated cost of around $100-$200, depending on the hourly rates of the development team and other project expenses such as equipment, software, and licensing fees. It's important to note that these are just general estimates, and the actual project estimate may vary depending on the specific requirements and complexities of the system.

5.3. Project Schedule

Week 1-2: Requirements Gathering

- Identify and document the requirements for the job portal system
- Define the features, functionality, and user interface

Week 3-4: Design

- Create the system's architecture and design
- Design the database schema, user interface, and system flow

Week 5-9: Development

- Develop the job portal system using Android Studio, Java programming language, and Firebase for backend services
- Develop the system's features and functionality
- Conduct testing to ensure the system meets the requirements

Week 10-11: Testing

- Test the developed system for bugs and errors
- Address any issues or concerns that arise during testing

Week 12-13: Deployment

- Deploy the system to a production environment
- Ensure that the system is accessible and available to users

Week 14-15: Maintenance

- Provide ongoing maintenance and support to users
- Perform updates, upgrades, and bug fixes as necessary

Sr. No.	Point to be covered	Planning Date (Week wise)
01	Working on requirement gathering	01/09/22 to 12/09/22
02	Working on requirement analysis	13/09/22 to 14/09/22
03	Project planning	20/09/22 to 20/01/23
04	System/project design process	01/02/23 to 20/02/23
05	Implementation of the proposed system	20/02/23 to 26/02/23
06	Implementation of the proposed system (continue)	27/02/22 to 10/03/23
07	Implementation of the proposed system (continue)	11/03/23 to 20/03/23
08	Testing: Unit, Integration, and system testing	25/02/23 to 10/03/23
09	Report writing	15/03/23 to 25/03/23
10	Report Writing (continue)	26/03/23 to 30/03/23
10	Report Finalization discussing with guide	30/03/23 to 05/04/23

Table No.5.3.1: Project Schedule Chart

5.4 Summary

The project plan is to develop a job portal system using Android Studio, Firebase, and Java. The plan involves identifying and documenting the requirements for the system, creating the system's architecture and design, developing the system's features and functionality, testing the system for bugs and errors, deploying the system to a production environment, and providing ongoing maintenance and support to users. The estimated timeline for the project is between 12-15 weeks, with a cost range of $100-$200 depending on various expenses. A design project schedule for 15 weeks has been proposed, which includes specific activities and timelines for each phase of the project.

CHAPTER 6

TEST PLAN AND REPORTS

6.1. Goals and objectives

The goals and objectives of developing a job portal system using Android Studio, Firebase, and Java are:

- Provide a user-friendly and efficient platform for job seekers and employers to connect and communicate.
- Enable job seekers to easily search for job opportunities that match their skills and experience.
- Allow employers to post job openings and quickly find qualified candidates for their job positions.
- Ensure the job portal system is secure, reliable, and scalable.
- Increase the visibility and accessibility of job opportunities for job seekers, particularly those who may not have access to traditional job search methods.
- Streamline the hiring process for employers by providing them with tools and features that enable them to manage and track their job postings and applications.
- Provide a seamless user experience that allows users to easily navigate and use the system, regardless of their technical background or expertise.

Overall, the goals and objectives of the job portal system are to provide a platform that meets the needs of both job seekers and employers and enhances the overall job search experience for all users.

6.2. Test Procedure and Report

6.2.1. Test Procedure:

- **Unit Testing:** A Unit corresponds to a form/class in the package. Unit testing focuses on verification of the corresponding form or class. In this level we have tested all our forms/classes individually. This testing includes testing of control paths, interfaces, local data structures, logical decisions, boundary conditions, and error handling. From this testing we were able to save, retrieve, update, delete and the search records on a table.
- **Integration Testing**: Integration testing is used to verify the combination of the software modules. In this level, we have tested by combining all unit tested forms into a subsystem. Here we found that the subsystems are performing well.
- **System Testing:** System testing is used to verify, whether the developed system meets the requirements.
- **Acceptance Testing:** Acceptance is the part of the project by which the customer accepts the product. The system under consideration is tested for user acceptance by constantly keeping in touch with the system users at time of developing and making changes whenever required.

We hope that after the acceptance testing the system will perform the best result for the organization. When modification will be made, we will use regression testing during the maintenance of the system. The Application delivered to the customer may undergo changes. Changes may be due to addition of new functional modules or performance enhancement. For this purpose, proper maintenance of the system is must.

Test case Ref No		**TCT-001**
Functionality	:	Log in to the System
Expected outcome	:	The user should only login with valid credentials failing which some error message follows

Step No.	Data Used	Actual Outcome
1.	Click on the log in button without entering username or password	An alert message came to enter Username
2.	Click on the log in button after entering some username leaving password field blank	An alert message came to enter Password
3.	Click on the log in button after entering some password but leaving username field blank	An alert message came to enter Username
4.	Click on the log in button after entering some wrong username but correct password	A message displayed on Log in page about this

Table No.6.2.1.1: Testcase Login

Test case Ref No		**TCT-001**
Functionality	:	Log in to the System
Expected outcome	:	The user should only login with valid credentials failing which some error message follows

Step No.	Data Used	Actual Outcome
1.	Click on the log in button without entering username or password	An alert message came to enter Username
2.	Click on the log in button after entering some username leaving password field blank	An alert message came to enter Password
3.	Click on the log in button after entering some password but leaving username field blank	An alert message came to enter Username
4.	Click on the log in button after entering some wrong username but correct password	A message displayed on Log in page about this

Table No.6.2.1.2: Testcase Signup

Test case Ref No		**TCT-003**
Functionality	:	Applying for a job
Expected outcome	:	The user will be alerted if the job he/she wants to apply for has already been applied.

Step No.	Data Used	Actual Outcome
1.	Applied for a job that has already been applied before.	An message was displayed saying the user has already applied for the job.

Table No.6.2.1.3: Testcase For Apply Job

6.2.2. Test Report:

Test Case No	Date	Pass / Fail
TCT-001	11/4/2023	Pass
TCT-002	15/4/2023	Pass
TCT-003	19/4/2023	Pass

Table No.6.2.2.1: Testcase Report

6.3 Summary

The test procedure and test report are crucial components of the testing process for the job portal system. The test procedure outlines the steps to be followed for executing the test cases, including the test case description, test data requirements, and expected results. The actual results and pass/fail status should also be recorded for each test case. The test report summarizes the testing process and results, including a summary of testing objectives, test results and metrics, issues and defects identified, and recommendations for improvement. It is essential to carefully document and review the test procedure and test report to ensure that the job portal system is thoroughly tested and meets the requirements and expectations of the stakeholders. This process will help to identify and address any issues or defects in the system before it is launched, improving the overall user experience and satisfaction.

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CHAPTER 7

FUTURE SCOPE

The job portal system has significant potential for future development and improvement. Here are some possible areas for future scope:

- **Mobile App:** The job portal system can be developed into a mobile app, making it more accessible and convenient for users to search and apply for jobs on the go.
- **Artificial Intelligence:** The system can be enhanced with artificial intelligence features, such as intelligent job matching, chatbots for user support, and automated resume screening.
- **Career Development:** The system can be expanded to include career development resources, such as training courses, resume writing services, and job interview preparation tools.
- **Social Media Integration:** Social media integration can be added to the system, allowing users to connect with potential employers through their social media profiles.
- **Internationalization:** The system can be expanded to include support for multiple languages and international job postings, making it a truly global platform for job seekers and employers.
- **Analytics and Reporting:** The system can be enhanced with advanced analytics and reporting features, allowing users to track job application status, monitor job market trends, and analyze their job search success rate.

By incorporating these features and functionalities, the job portal system can continue to evolve and meet the changing needs of job seekers and employers in the future.

CHAPTER 8

CONCLUSION

The job portal system is an essential platform that connects job seekers with potential employers, providing a user-friendly and efficient job search experience. The system was designed and developed using Android Studio, Firebase, and Java technologies, with a focus on meeting the functional and non-functional requirements of the stakeholders. The system design and development process followed best practices and included rigorous testing and quality assurance procedures to ensure the system's reliability and effectiveness. The future scope of the job portal system includes mobile app development, artificial intelligence features, career development resources, social media integration, internationalization, and advanced analytics and reporting. Overall, the job portal system is a valuable tool that helps job seekers and employers to achieve their respective goals and serves as an important resource for the job market.

CHAPTER 9

APPENDIX

The appendix of Job Portal can include additional information that supports the project plan, such as:

- **User persons:** Detailed profiles of the target user groups of the job portal system, including their demographics, interests, motivations, and pain points.
- **Wireframes and mockups:** Visual representations of the user interface design of the job portal system, showing the layout, structure, and functionality of the different screens and features.
- **Use case diagrams:** Diagrams that illustrate the different scenarios and interactions between users and the job portal system, helping to identify the system requirements and design specifications.
- **Data models:** Diagrams that depict the structure and relationships between the different data entities and attributes used in the job portal system, including job postings, user profiles, resumes, and application status.
- **Code snippets:** Examples of the code used in the implementation of the job portal system, showcasing the use of different programming languages, libraries, and frameworks.
- **Test cases and results:** Detailed documentation of the testing process used to validate the functionality and performance of the job portal system, including the test plan, test cases, and test results.
- **References and sources:** A list of the different sources and references used in the research and development of the job portal system, including academic papers, books, articles, and online resources

9.1. Glossary (Definitions/ Abbreviations)

- **UI: User Interface** - the visual and interactive components of a software application that users interact with.
- **UX: User Experience** - the overall experience and satisfaction a user has when using a software application, including ease of use, accessibility, and effectiveness.
- **API: Application Programming Interface** - a set of protocols, routines, and tools used to build and integrate software applications.
- **CRUD: Create, Read, Update, Delete** - the four basic functions used in database applications to manage data.
- **MVP: Minimum Viable Product** - the most basic version of a software application that includes only the core features necessary to deliver value to users.
- **SRS: Software Requirements Specification** - a document that outlines the functional and non-functional requirements of a software application.
- **SDLC: Software Development Life Cycle** - the process used to design, develop, test, and deploy a software application.
- **Agile:** A project management methodology that emphasizes flexibility, collaboration, and continuous improvement throughout the software development process.
- **Sprint:** A time-boxed period (usually 1-4 weeks) in which a development team works to complete a set of specific tasks and goals within an Agile project.
- **Firebase:** A mobile and web application development platform developed by Google that provides a range of tools and services for building and managing apps, including real-time databases, hosting, and authentication.

CHAPTER 10

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BIBLIOGRAPHY:

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CHAPTER 11

OUTPUTS