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### Revision History

Name	Date	Reason For Changes	Version
Revision 1	01.03.23	Added Description of Diagrams	1.0

# 1. Introduction

## 1.1 Purpose

An online job portal provides a platform where job seekers can search for job openings, and where employers can post job vacancies and find qualified candidates. The goal is to create a centralized and efficient system that simplifies the job search and hiring process for both job seekers and employers. The project should offer features such as job search filters, user profiles, job application tracking, and job posting management. Overall, the aim is to create a user-friendly, accessible, and reliable job portal that helps to bridge the gap between job seekers and employers. This SRS describes the functional and non-functional requirements of the job portal system, as well as any constraints and assumptions that may impact the development process. It outlines the features and functionalities of the system and establishes a clear set of criteria for the acceptance and evaluation of the final product. While this SRS is intended to provide a comprehensive overview of the system, it may not cover every aspect or feature of the job portal. As the project evolves, additional requirements may emerge, and the scope of the SRS may need to be revised to reflect these changes.

## 1.2 Document Conventions

Document conventions refer to the standards or typographical conventions followed when writing a software requirements specification document. These conventions provide a consistent and clear format for the document, making it easy to read and understand.

Some of the commonly followed conventions include:

Font and size: The font and size of the text used in the document should be consistent throughout. A standard font like Times New Roman or Arial with a size of 12 points is generally used.

Headings and subheadings: The document should have clear and consistent headings and subheadings that follow a logical order. These headings help to organize the document and make it easy to navigate.

Highlighting: Bold or italicized text may be used to highlight important points in the document.

Numbering: Every requirement statement may have its own priority, which can be indicated by a numbering convention. For example, higher-level requirements may have a priority of 1, while detailed requirements may have a priority of 2 or 3.

Diagrams and Tables: Diagrams and tables may be used to present complex information in a more organized and clear manner.

Overall, the purpose of document conventions is to ensure that the software requirements specification document is consistent and easy to read and understand.

## 1.3 Intended Audience and Reading Suggestions

The intended audience for this SRS includes the development team, project managers, stakeholders, and quality assurance team members. Developers will use this document to understand the requirements for building the job portal system, project managers will use it to

allocate resources and schedule tasks, stakeholders will use it to understand the project goals and requirements, and quality assurance team members will use it to ensure that the project meets the specified requirements.

The rest of this SRS contains information about the project scope, functional and non-functional requirements, constraints, and assumptions. It is organized in a logical and sequential manner to make it easier to read and understand. Readers should start with the overview section, which provides an introduction to the project, followed by the scope section, which describes the boundaries of the project.

After that, the readers should move on to the functional requirements section, which provides details about the features and functionalities of the job portal system. This section is followed by the non-functional requirements section, which outlines the performance, reliability, and security requirements of the system.

Finally, readers should review the assumptions and constraints sections, which list any assumptions or limitations that were made during the development of the SRS.

## **1.4 Project Scope**

The Job Portal is an online platform that connects job seekers with employers, allowing them to browse, search, and apply for job openings. The purpose of this software is to provide an efficient and convenient way for job seekers to find employment and for employers to fill job openings with qualified candidates.

The main objectives of the Job Portal are:

- To provide job seekers with a comprehensive and user-friendly platform to search for job openings

- To provide employers with a platform to post job openings and manage applications To streamline the job application process for both job seekers and employers

- To increase the efficiency of the job market by matching qualified candidates with suitable job openings

- To improve the hiring process for employers by providing tools to manage and track job applications

The goals of the Job Portal are to:

- Increase the number of successful job placements

- Reduce the time and cost associated with finding employment

- Improve the quality of job matches by providing a comprehensive platform for job seekers and employers

- Increase the efficiency of the hiring process for employers

- Enhance the overall user experience for job seekers and employers

The Job Portal software aligns with the business strategy of creating a more efficient and effective job market, benefiting both job seekers and employers.

## **1.5 References**

References for the job portal project may include:

Vision and Scope Document: This document outlines the overall vision and scope of the project, and provides a high-level overview of the features and functionality that will be included.

(Author: Project Manager, Version: 1.0, Date: [insert date], Source: [insert location])

Use Case Document: This document provides detailed descriptions of the various use cases that the job portal must support, including the actions that users can perform and the responses that the system must generate. (Author: Business Analyst, Version: 1.0, Date: [insert date], Source: [insert location])

UI Style Guide: This document provides guidelines for the user interface design of the job portal, including typography, color schemes, and layout. (Author: UX Designer, Version: 1.0, Date: [insert date], Source: [insert location])

System Requirements Specification: This document provides a detailed list of the hardware and software requirements for the job portal, including the operating system, web server, database server, and other components. (Author: System Architect, Version: 1.0, Date: [insert date], Source: [insert location])

## 2. Overall Description

### 2.1 Product Perspective

The job portal being specified in this SRS is a new, self-contained product that aims to provide a platform for job seekers to apply for jobs and for employers to post jobs and manage applications. The job portal will be a web-based application accessible through a web browser. The application will be built using the Django web framework and will utilize a database management system to store and manage job postings and user data.

The job portal will be a standalone system that does not have any direct interface with other systems or components. However, it may require integration with third-party services for authentication, payment processing, and other functionalities.

### 2.2 Product Features

The product features of the job portal system can be divided into two categories: user-facing features and admin-facing features.

User-Facing Features:

Job search: Users can search for jobs using various filters such as location, industry, job type, etc.

Apply for jobs: Users can apply for jobs by submitting their resume and cover letter to the employer.

Job alerts: Users can receive email alerts for new job postings that match their search criteria.

Saved searches: Users can save their job search criteria and receive alerts when new jobs are posted that match their criteria.

Company profiles: Users can view detailed company profiles, including information about the company culture, benefits, and reviews from current and former employees.

Career advice: Users can access articles and resources on career development and job search strategies.

Social media integration: Users can share job postings on social media platforms and apply for jobs using their social media profiles.

Admin-Facing Features:

Job posting: Admins can create and publish job postings, including job descriptions, requirements, and application instructions.

Application management: Admins can review and manage job applications submitted by users.

User management: Admins can manage user accounts and profiles, including user authentication and authorization.

Analytics and reporting: Admins can access data and reports on job postings, job applications, and user activity.

## **2.3 User Classes and Characteristics**

The job portal has two main user classes:

1. Job seekers: Individuals who are seeking job opportunities and want to apply for the posted jobs on the platform.

Characteristics:

They create their profiles on the platform and upload their resumes.

They can search for job vacancies based on different criteria such as job title, location, experience, and education level.

They can apply for job vacancies by submitting their resumes to the posted jobs.

They can view the status of their applications and receive notifications on the progress of their applications.

1. Employers/Recruiters: Companies or individuals who are posting job opportunities on the platform and looking for suitable candidates to fill those positions.

Characteristics:

They create their profiles on the platform and provide details about their company.

They can post job vacancies by providing details such as job title, job description, qualifications, experience required, and salary range.

They can search for job seekers on the platform based on different criteria such as experience, education level, and skills.

They can view the resumes of job seekers who have applied for their job vacancies and shortlist them for interviews.

They can communicate with the job seekers through the platform and schedule interviews.

Note: There may be additional user classes, such as platform administrators who manage the platform and ensure its smooth operation.

## 2.4 Operating Environment

The job portal software will operate in a web-based environment, which can be accessed through any modern web browser such as Google Chrome, Mozilla Firefox, or Microsoft Edge. The software will be developed using PHP as the server-side programming language and JavaScript for client-side scripting. The database management system used for the software will be MySQL.

The minimum system requirements for the web server are:

- CPU: 1 GHz or faster
- RAM: 2 GB or more
- Hard Disk: 20 GB or more free space
- Operating System: Linux or Windows Server

The following web technologies will be used in the development of the software:

- HTML5
- CSS3
- Bootstrap Framework
- AJAX
- jQuery
- Django

The job portal software will be designed to operate independently of other software applications. However, it will need to peacefully coexist with any web-based third-party tools that are integrated into the system, such as payment gateways or authentication services.

## 2.5 Design and Implementation Constraints

Design and implementation constraints for a job portal could include:

Technology stack: The job portal must be built using certain technologies, tools, and databases specified by the client or organization.

Security considerations: The job portal must comply with industry-standard security protocols and regulations, ensuring that user data is protected and secure.

Design conventions and programming standards: The job portal must adhere to certain programming standards and design conventions to ensure consistency, readability, and maintainability.

Hardware limitations: The job portal must be designed to work on hardware with specific requirements, such as timing and memory limitations.

Integration with other systems: The job portal must be designed to integrate with other systems or databases, such as an organization's HR system.

Language requirements: The job portal must support multiple languages, depending on the target audience and geographic location.

Accessibility: The job portal must comply with accessibility standards, ensuring that people with disabilities can use the system.

## **2.6 User Documentation**

The user documentation for the job portal project will include the following components:

User manual: A comprehensive guide for job seekers and recruiters on how to use the portal, including how to register, search and apply for jobs, and post jobs.

On-line help: Contextual help available on each page to guide the user through the process.

Tutorials: Interactive step-by-step tutorials on how to use the various features of the portal, such as creating a profile or posting a job.

The user documentation will be delivered in both online and offline formats. Online help and tutorials will be available on the job portal website, while the user manual will be available in PDF format for download. The user documentation will be written in simple and easy-to-understand language to cater to users of all levels of technical expertise.

## **2.7 Assumptions and Dependencies**

Assumptions:

The users have basic computer skills and internet access.

The users will provide accurate and truthful information while registering and applying for jobs.

The job postings and responses are legal and adhere to ethical standards.

The users will comply with the terms and conditions of the website.

Dependencies:

The job portal will depend on a stable and reliable internet connection.

The website will use the Django framework and depend on its components and libraries.

The job portal may integrate with third-party services for payment processing or email notifications.

The website may depend on the availability and compatibility of certain web browsers and devices.

# **3. System Features**

## **3.1 System Feature 1**

System features illustrates organizing the functional requirements for the product by system features, the major services provided by the product.

### **3.1.1 Description and Priority**

Job portal system is a software system that enables employers to post job vacancies and job seekers to search and apply for job opportunities.

Here is a description and priority of key features of a job portal system:

Job Posting: Employers can create and post job vacancies with job titles, descriptions, required qualifications, experience, salary, and other relevant information. This is a critical feature of a job portal system as it is the primary function of the system.

Priority: High

Job Search: Job seekers can search for job vacancies based on keywords, location, job type, industry, and other relevant criteria. This is also a critical feature of the system as it enables job seekers to find suitable job opportunities.

Priority: High

Candidate Profile: Candidates can create and manage their profiles on the job portal system.

This includes personal details, work experience, education, skills, and other relevant information. This feature is important as it enables job seekers to showcase their qualifications and experience to potential employers.

Priority: Medium

Application Submission: Candidates can submit their applications for job vacancies through the job portal system. This includes submitting resumes and cover letters. This feature is important as it enables candidates to apply for job vacancies easily and quickly.

Priority: High

Job Matching: The job portal system should have an algorithm that matches job vacancies with candidates' profiles and notifies them of suitable job openings. This feature is important as it helps to connect job seekers with suitable job opportunities.

Priority: Medium

Communication Functionality: The job portal system should allow employers and candidates to communicate with each other, including scheduling interviews and exchanging information. This feature is important as it enables employers and candidates to connect and interact with each other.

Priority: High

Admin Panel: The job portal system should have an admin panel that allows administrators to manage job postings, candidates, and other aspects of the system. This feature is important as it enables administrators to manage the system effectively.

Priority: Medium

Overall, the job posting, job search, and application submission features are critical for the job portal system, and communication functionality is also important. The candidate profile and job matching features are also useful but have a lower priority. The admin panel is essential for the effective management of the system.

### 3.1.2 Stimulus/Response Sequences

Here are some examples of sequences of user actions and system responses that stimulate the behavior defined for job portal website system features:

User Action: Job seeker enters job search criteria and clicks on search button.

System Response: The website retrieves job postings that match the search criteria and displays them to the job seeker.

User Action: Employer creates and posts a job vacancy.

System Response: The website saves the job vacancy information and makes it available to job seekers who match the job requirements.

User Action: Job seeker clicks on apply button for a job posting.

System Response: The website prompts the job seeker to upload their resume, cover letter, and other required documents. The website then records the job application and sends a notification to the employer.

User Action: Employer schedules an interview with a job seeker.

System Response: The website sends a notification to the job seeker about the interview schedule and provides details about the interview.

User Action: Job seeker updates their profile information.

System Response: The website saves the updated profile information and uses it to match the job seeker with relevant job vacancies.

User Action: Employer edits the job vacancy details.



System Response: The website updates the job vacancy information and makes the changes available to job seekers who have already applied or who may apply in the future.

User Action: Job seeker provides feedback on a job posting or employer.

System Response: The website records the feedback and makes it available to other job seekers who may be interested in the job posting or employer.

User Action: Employer posts a job vacancy with a salary range.

System Response: The website includes the salary range in the job posting and allows job seekers to filter job postings by salary range.

User Action: Job seeker signs up for job alerts.

System Response: The website sends job alerts to the job seeker based on their preferences and job search criteria.

User Action: Employer adds screening questions to the job application process.

System Response: The website includes the screening questions in the job application process and prompts job seekers to answer them.

Overall, the sequences of user actions and system responses in a job portal website are designed to provide a user-friendly and efficient platform for job seekers and employers to find and post job vacancies. The website should be able to respond to user inputs and provide relevant and accurate information in real-time.

## 3.2 system features 2

### 3.2.1 Functional and Non-functional Requirements

#### Functional requirements for a job portal project:

Job search functionality: The job portal should allow users to search for jobs based on keywords, location, job type, industry, and other relevant criteria.

Job posting functionality: Employers should be able to post job vacancies on the job portal, including details such as job title, job description, required qualifications, experience, salary, and other relevant information.

Candidate registration and profile creation: Candidates should be able to create a profile on the job portal, including their personal details, work experience, education, skills, and other relevant information.

Application submission: Candidates should be able to apply for job vacancies by submitting their resumes and cover letters through the job portal.

Job matching: The job portal should have an algorithm that matches job vacancies with candidates' profiles and notifies them of suitable job openings.

Communication functionality: The job portal should allow employers and candidates to communicate with each other, including scheduling interviews and exchanging information.

#### Non-functional requirements for a job portal project:

Performance: The job portal should be fast and responsive, with minimal downtime or errors.

Security: The job portal should be secure, with measures in place to prevent unauthorized access, data breaches, and other security threats.

Scalability: The job portal should be scalable, able to handle increasing traffic and data volumes without affecting performance.

User-friendly interface: The job portal should have a user-friendly interface that is easy to navigate, with clear instructions and intuitive design.

Accessibility: The job portal should be accessible to users with disabilities, including support for assistive technologies such as screen readers.

Compatibility: The job portal should be compatible with a range of devices and browsers, including mobile devices and popular web browsers.

## 4. External Interface Requirements

### 4.1 User Interfaces

The job portal will have a user interface that allows users to interact with the system. The user interface will be designed to be user-friendly and intuitive, with clear navigation and easy-to-use features.

The user interface will include the following components:

Home page: This will be the main landing page for the job portal, where users can search for jobs, create an account, and view featured job postings.

Job search: The job search interface will allow users to search for job postings based on various criteria, including job title, location, and keywords.

Job posting submission: Employers will be able to submit job postings through a separate interface that will allow them to provide all the necessary details about the job.

User account: Users will be able to create and manage their accounts, including updating their profile information, uploading resumes, and tracking job applications.

Messaging: The messaging interface will allow users to communicate with employers and other job seekers regarding job postings and applications.

Notifications: The job portal will send notifications to users when new job postings are added that match their search criteria or when there are updates to their job applications.

The user interface will be designed to be accessible and responsive across different devices, including desktops, tablets, and mobile devices. The design will follow standard web design conventions and will be consistent with the overall branding of the job portal.

### 4.2 Hardware Interfaces

The job portal system will require the following hardware interfaces:

Web server: The job portal system will require a web server to host the application. The web server should support the necessary web technologies such as HTML, CSS, JavaScript, and PHP.

Database server: The job portal system will require a database server to store and manage job data. The database server should support SQL language and be able to handle large amounts of data.

Mobile devices: The job portal system should be accessible through mobile devices such as smartphones and tablets. Therefore, the system should support the necessary mobile device platforms such as iOS and Android.

Printers: The system should be able to interface with printers to generate job-related documents such as resumes and job application forms.

Network: The system should support the necessary network protocols such as TCP/IP and HTTP to enable communication between the system and other network devices.

### 4.3 Software Interfaces

Software Requirements deal with defining database resource requirements and pre-requisites that need to be installed on a computer to provide optimal functioning of an application. These requirements or pre-requisites are generally not included in the database of the project and need to be installed separately before the work starts.

**Software requirements for the present project:**

OPERATING SYSTEM	UBUNTU, Windows 7/ XP/8/10/11
DATABASE	sqlite3
FRONT END	HTML, CSS, Bootstrap, JavaScript.
SERVER SIDE SCRIPT	PYTHON, DJANGO.

### 4.4 Communications Interfaces

The job portal software requires several communications interfaces to enable users to interact with the system, including:

Email interface: The system will be capable of sending automatic email notifications to users, such as confirmation of registration, password reset, job alerts, and other relevant information.

Web browser: The software will be accessible via web browsers such as Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.

Network server communication protocols: The system will utilize HTTP and HTTPS protocols to communicate with the web server, while SMTP and POP3 protocols will be used for email communication.

Electronic forms: The system will feature electronic forms to enable users to input data such as job postings, resumes, and profile information.

Data transfer rates: The system will require high data transfer rates to enable fast loading and submission of data.

Synchronization mechanisms: The system will need to synchronize data with external systems such as social media platforms, job aggregators, and third-party job posting sites.

Communication security and encryption: The system will need to ensure the security and confidentiality of user data by implementing measures such as HTTPS encryption, SSL certificates, and two-factor authentication.

## 5. Other Nonfunctional Requirements

### 5.1 Performance Requirements

Performance requirements for the job portal system include:

Response time: The system should respond to user requests within 3 seconds or less, to ensure a smooth user experience.

Throughput: The system should be able to handle a minimum of 1000 concurrent users without any degradation in performance.

Database performance: Database queries should return results within 1 second or less, to ensure a quick response time for user requests.

Load testing: The system should be able to handle a load of at least 10,000 concurrent users without crashing or experiencing significant performance degradation.

Availability: The system should be available 99% of the time, with downtime limited to scheduled maintenance periods.

These performance requirements are necessary to ensure that the job portal system can handle the expected load and provide a satisfactory user experience. The response time and throughput requirements are based on industry standards for web applications, while the database performance requirements ensure that the system can handle large amounts of data without slowing down. The load testing and availability requirements are necessary to ensure that the system is robust and reliable under high load and usage conditions.

## 5.2 Safety Requirements

As the job portal is an online platform, there are no safety requirements related to physical harm or damage. However, there are certain safety requirements related to data security and privacy of users' personal information. The following safety requirements should be met:

User data should be stored securely and encrypted to prevent unauthorized access.

The system must have proper authentication and authorization mechanisms to ensure that only authorized users can access and modify data.

The system should have a mechanism to prevent cross-site scripting (XSS) attacks and SQL injection attacks.

The system should have proper backup and disaster recovery mechanisms in place to prevent data loss in case of hardware or software failures.

The system should comply with all applicable laws and regulations related to data privacy and protection, such as GDPR or CCPA.

The system should have proper logging and auditing mechanisms to monitor system activity and detect any security breaches or suspicious activity.

## 5.3 Security Requirements

The job portal system must adhere to the following security requirements:

User Authentication: The system must provide secure authentication of users before allowing access to any sensitive data or functionality. The user's login credentials must be validated before granting access to the system.

Role-based Access Control: The system must provide role-based access control to ensure that users only have access to the data and functionality required to perform their job responsibilities.

Data Encryption: The system must provide encryption for all sensitive data, including user login credentials, personal information, and payment information, to protect against unauthorized access.

Secure Communication: The system must provide secure communication protocols (such as HTTPS) to protect data in transit from unauthorized access and tampering.

Data Backup and Recovery: The system must provide secure data backup and recovery procedures to prevent data loss in the event of a system failure or security breach.

Audit Trail: The system must maintain an audit trail of all system activities, including user logins, data access, and transactions, to allow for system monitoring and forensic analysis.

Compliance: The system must comply with all applicable security and privacy regulations, such as GDPR, HIPAA, and PCI DSS.

## 5.4 Software Quality Attributes

Some additional software quality attributes that could be considered for the product are:

Usability: The software should be easy to learn and use, with clear and intuitive user interfaces. Usability can be measured through metrics such as task completion time, error rate, and user satisfaction surveys.

Reliability: The software should be dependable, with a low rate of failures and errors. Reliability can be measured through metrics such as mean time between failures (MTBF) and mean time to repair (MTTR).

Maintainability: The software should be designed and developed in a way that makes it easy to modify and maintain over time. Maintainability can be measured through metrics such as code complexity, code readability, and defect density.

Performance: The software should be able to handle a certain level of workload and provide results within an acceptable timeframe. Performance can be measured through metrics such as response time, throughput, and scalability.

Security: The software should be designed and developed in a way that ensures the confidentiality, integrity, and availability of the data and system. Security can be measured through metrics such as vulnerability assessments and penetration testing.

Portability: The software should be able to run on different platforms and environments without major modifications. Portability can be measured through metrics such as compliance with standard APIs and programming languages.

## 6. Other Requirements

The following are other requirements not covered elsewhere in the SRS:

Database Requirements: The software shall use a MySQL database to store all user data, job postings, and other relevant information.

Internationalization Requirements: The software shall support multiple languages, including English, Spanish, and French.

Legal Requirements: The software shall comply with all applicable laws and regulations, including but not limited to data privacy laws and equal opportunity employment laws.

Reuse Objectives: The software shall be designed to facilitate reuse of code and components for future development and maintenance.

Accessibility Requirements: The software shall be designed to be accessible to users with disabilities, in accordance with the Web Content Accessibility Guidelines (WCAG) 2.1 Level AA.

Performance Requirements: The software shall be designed to handle a large number of concurrent users and job postings, with a response time of no more than 2 seconds for any operation.

Scalability Requirements: The software shall be designed to scale horizontally and vertically to accommodate increasing usage and data storage needs.

Availability Requirements: The software shall be designed to have at least 99% uptime, with a maximum downtime of 1 hour per month for maintenance purposes.

Security Requirements: The software shall implement appropriate security measures to protect user data, including but not limited to encryption of sensitive data and secure authentication mechanisms.

## 7. Appendix A: Glossary

ER	Entity Relationship
DFD	Data Flow Diagram
SRS	Software Requirement Specification
PK	Primary Key
FK	Foreign Key
API	Application programming interface

## 8. Appendix B: Analysis Models

### 8.1 Function oriented diagram

#### 8.1.1 ER diagram

The system consists of 6 entities: user, profile, education, job, apply job, response job

Attributes of the entities:

- 1) User: User id, Email, Password
- 2) Profile: Profile id, Date of Birth, Full Name, Father's name, Mother's Name, Nid No, Religion, Occupation, Image, Present address, Permanent address, Nationality, Gender, Marital status, Mobile number.
- 3) Education: Education id, HSC group, HSC institution, HSC year, HSC GPA, HSC board, SSC group, SSC institution, SSC year, SSC GPA, SSC board, BSC session, BSC graduation year, BSC subject, BSC GPA, BSC institution, MSC session, MSC graduation year, MSC subject, MSC GPA, MSC institution.
- 4) Job: Job id, Category, Title, Image, Published on, Application, Deadline, Experience, Salary, Description, Job location, Gender, Vacancy, Company name.
- 5) Apply job: Apply job id, Email, Name, CV
- 6) Response job: Description, Description id.

Here user entity has profile and education. It can be used as job seeker and also can post jobs. After apply for job response job entity gives feedback to the job seeker.

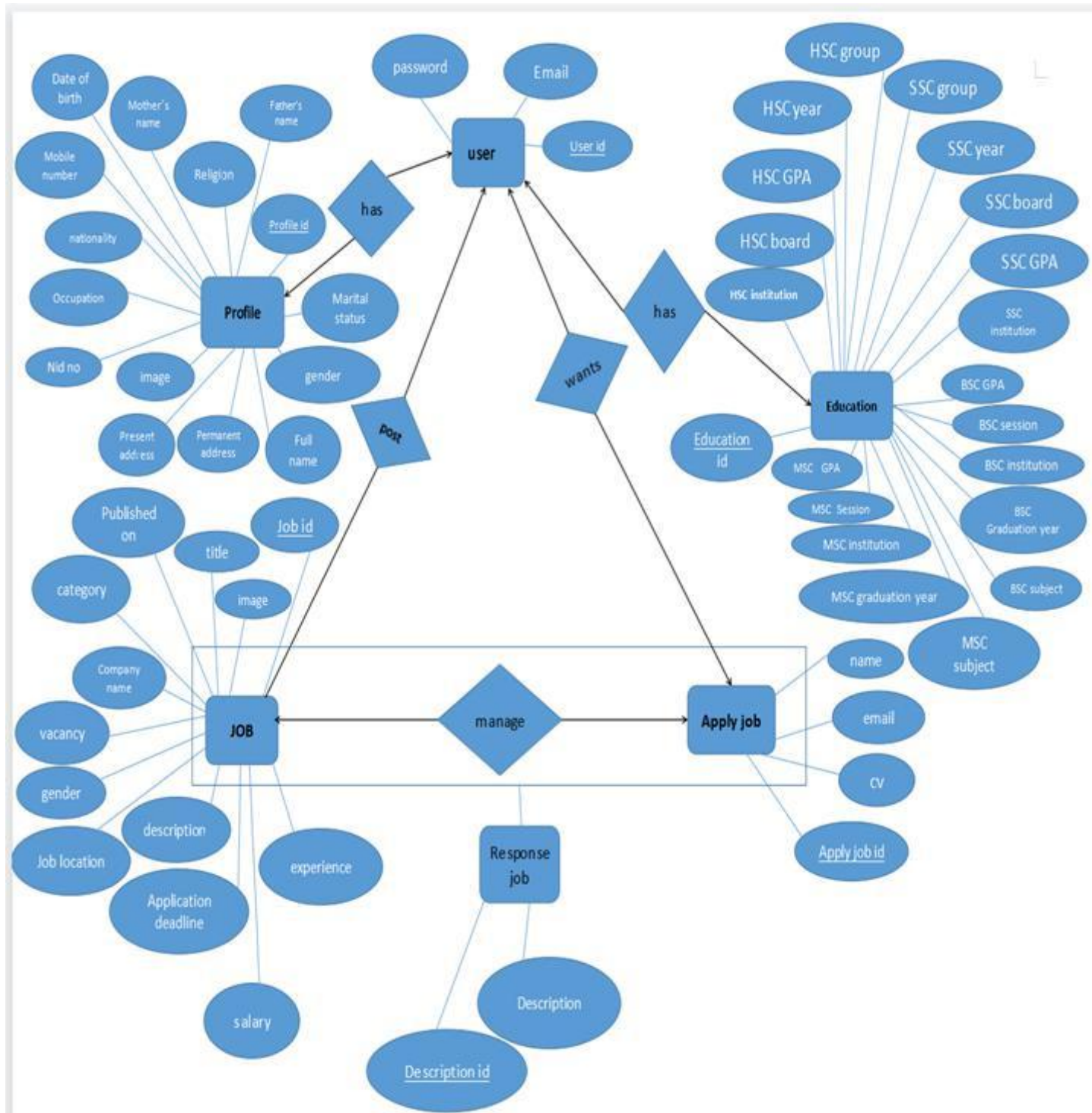


Figure: ER diagram for job portal system

### 8.1.2 Scheme Diagram

**Primary key of entities: Underlined attributes**

User: user id,

Profile: profile id,

Education: education Id,

Job: job Id,

Apply job: apply Job Id,

Response job: response job id

**Foreign key of entities:**

Apply job id: Email from user entity

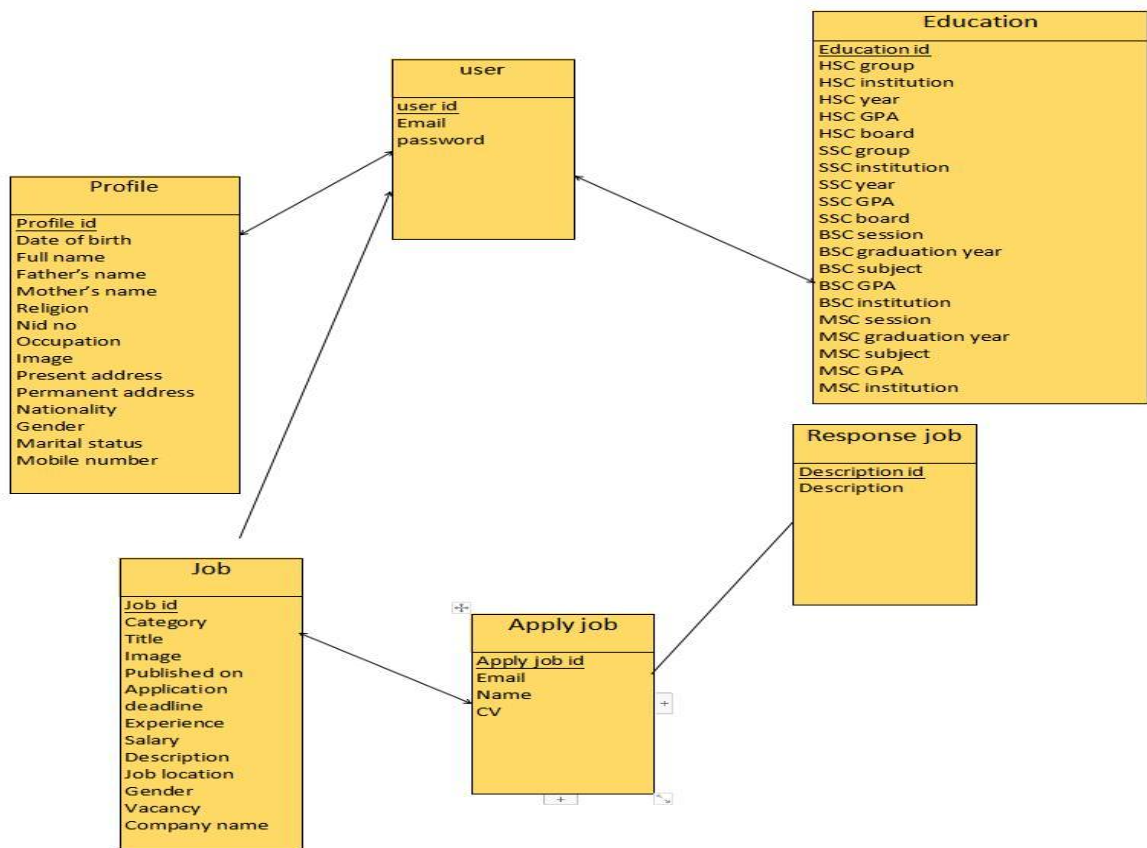
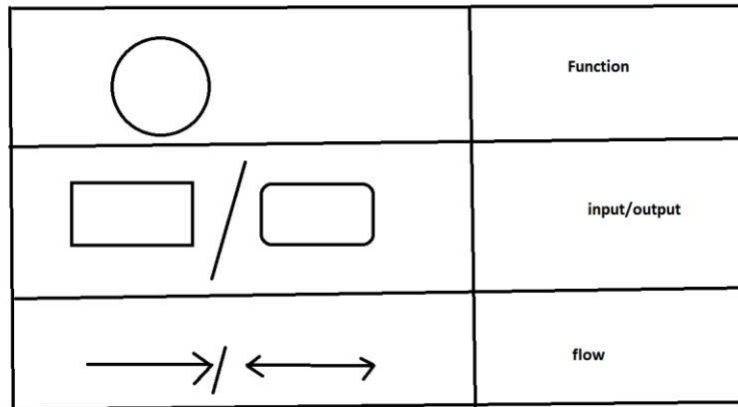


Figure: Schema diagram for job portal system



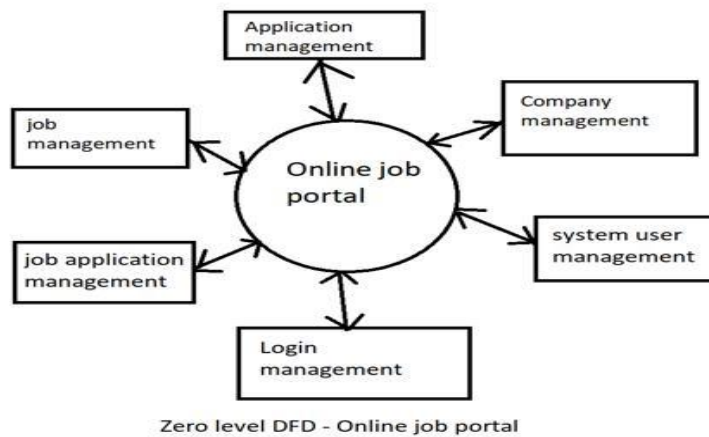
### 8.1.3 Data Flow Diagram

DFD components:



DFD level – 0:

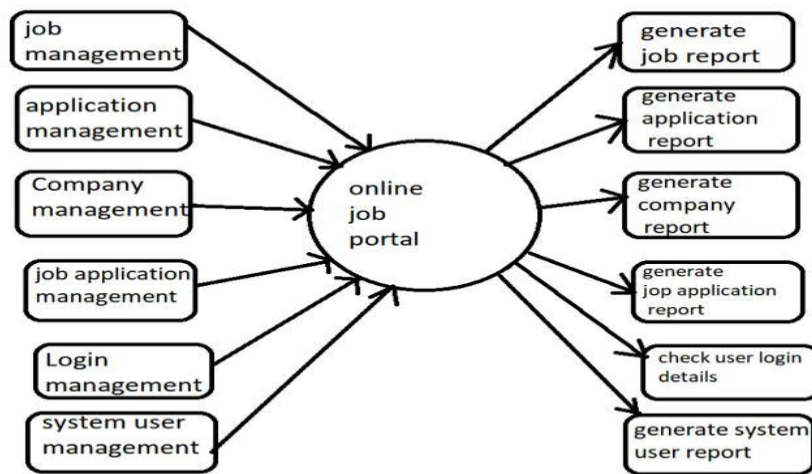
The system is shown as a single process of the full management system of job portal system. Admin can manage application while a job seeker can search and give necessary information for apply desired job.



DFD level – 1:

The following figure highlights main function of the system visualizing incoming and outgoing data flow of job portal system

Here each management incoming to the system and next outgoing flow gets ready for generating report.

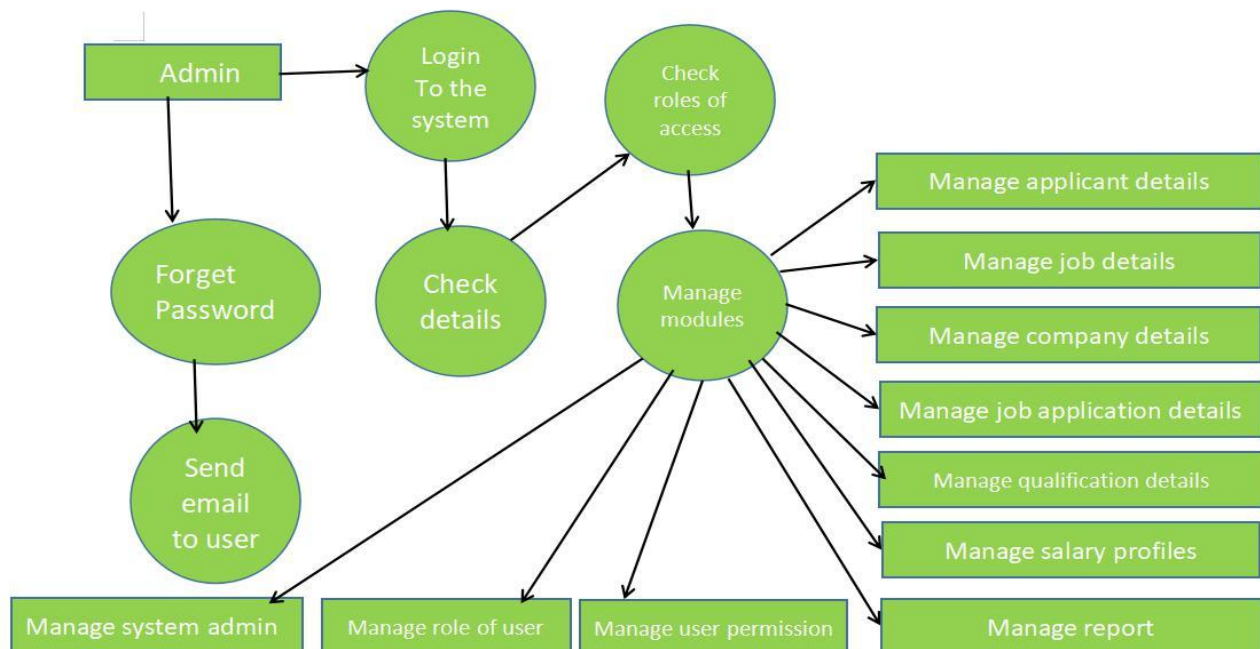


First level DFD - Online job portal

**DFD level – 2:**

The following figure illustrates the overall process of the job portal system.

user tasks, admin tasks, full functionality is highlighted in the following diagram.



2nd level DFD

## 8.2 Structural view diagram

### 8.2.1 Class diagram for job portal system

A class diagram is a type of UML (Unified Modeling Language) diagram that represents the structure of a system by showing the classes, their attributes, methods, and the relationships between them. In a class diagram, a class is represented as a rectangle with the class name at the top, the attributes in the middle, and the methods at the bottom. The relationships between classes are represented by arrows that connect the classes, with labels indicating the type of relationship. In a class diagram, the + symbol represents a public member and the - symbol represents a private member

Here, user is a class which has id, email and password attributes and it has functionalities - add, delete, search and edit.

Similarly user profile, education, job, apply job and response job class has some attributes and functions.

#### Relationships:

User class have 1 profile class and 1 profile class is related to only 1 user class. So there is one to one relation.

User have 1 education class and 1 education class is related to only 1 user class. So there is one to one relation.

1 user can search, find many jobs so there is one to many relationships between job class and user class.

User can apply for one job and 1 job is related to only 1 user. So there is one to one relation between user class and apply job class.

One applied job can give many responses and vice versa, so there is many to many relationship between response job class and apply job class.

1 response is related with 1 specific job from job class, so there is one to one relationship between job class and response job class.

1 job is applied only from job class, so there is one to one relationship between job class and apply job class.

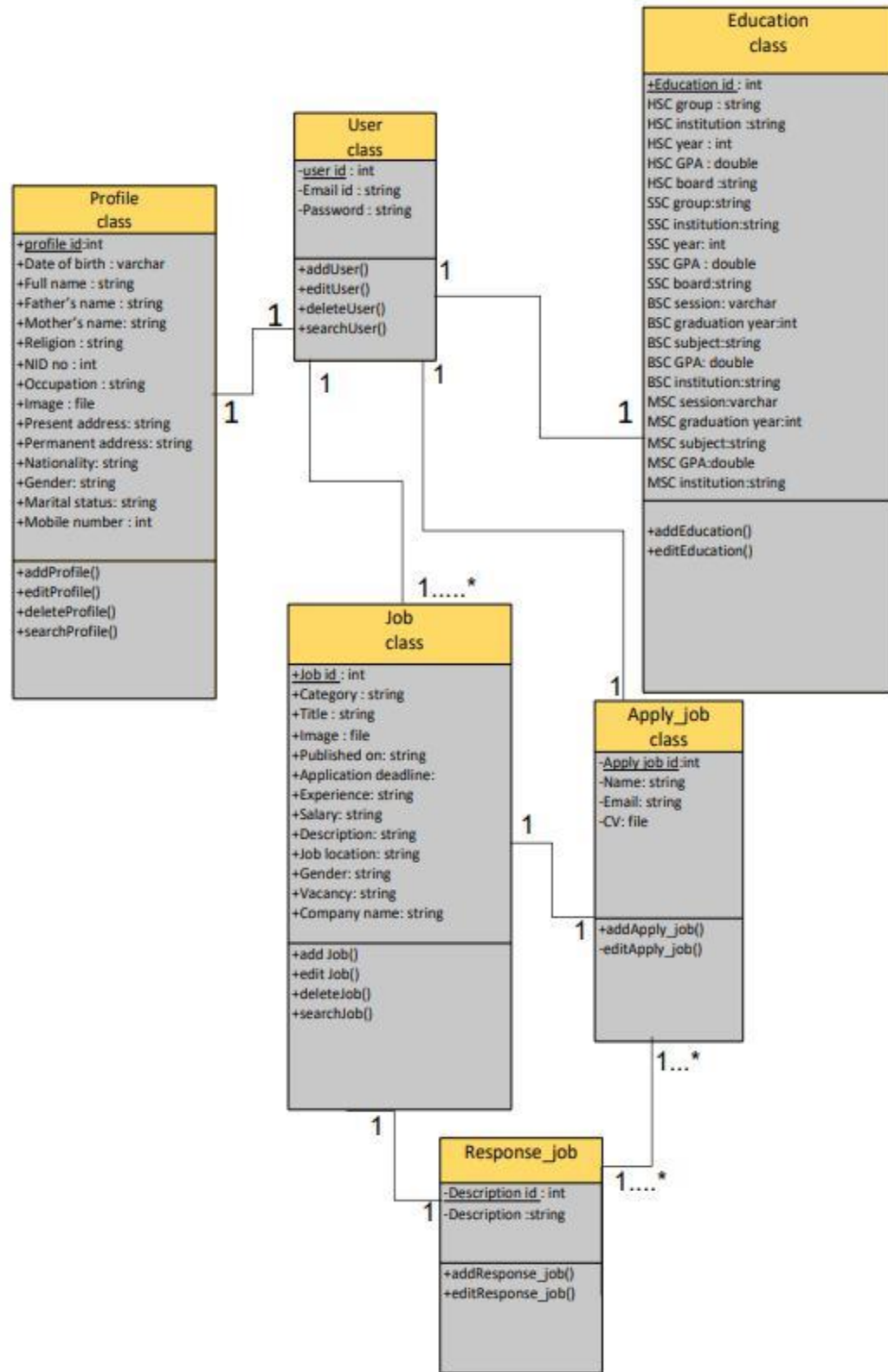


Figure: Class Diagram for job portal System

### 8.2.2 Object diagram for job portal system

An object diagram is a type of UML (Unified Modelling Language) diagram that represents a set of objects and their relationships at a particular point in time. Object diagrams are used to illustrate the structure of a system or software application by depicting the objects and their attributes and relationships.

In an object diagram, each object is represented as a box or rectangle, labeled with the object's name. The attributes of the object are listed inside the box, and the relationships between the objects are depicted using lines with arrows.

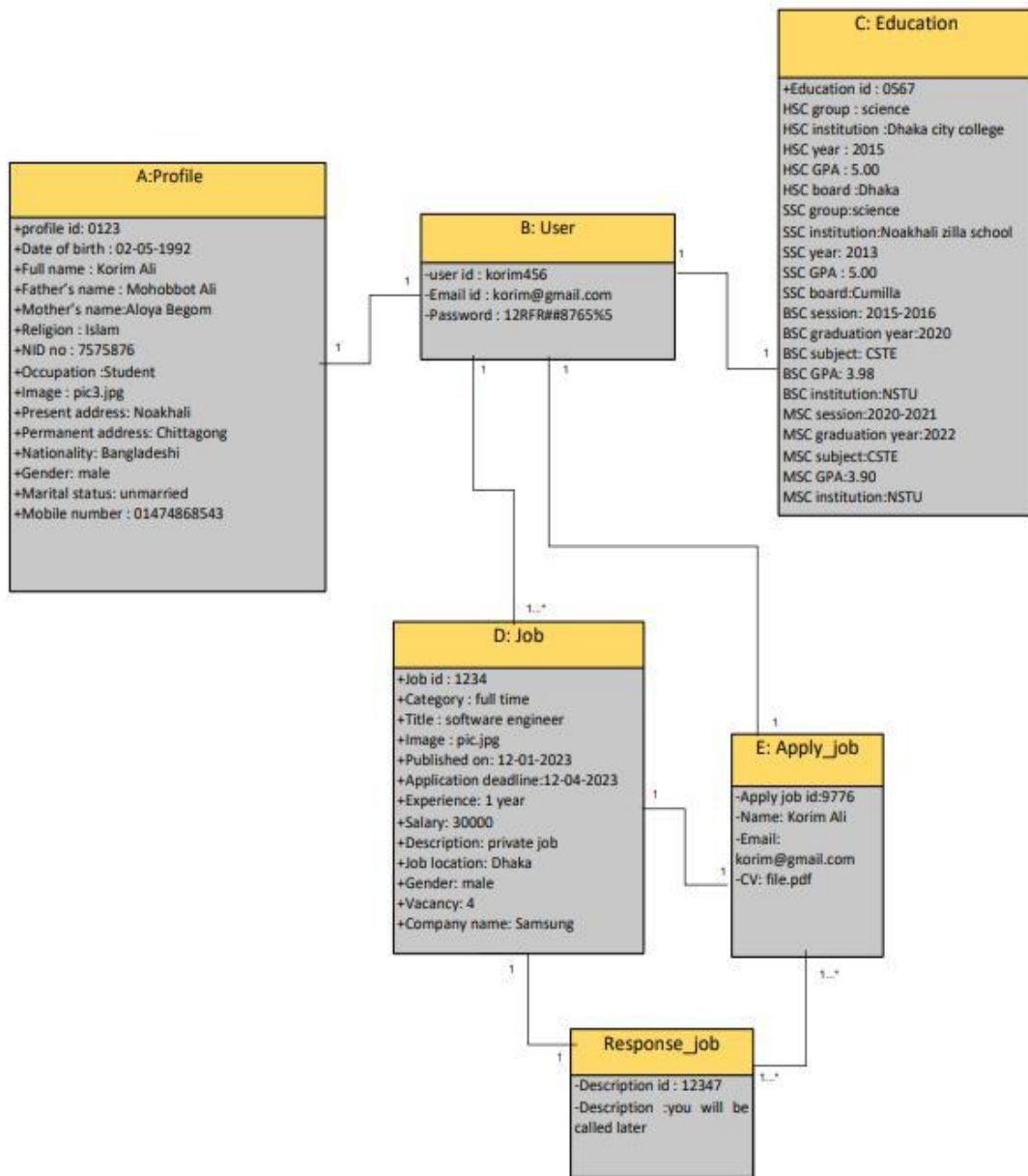


Figure: Object Diagram for job portal System

**Explanation:**

Here, user is Korim Ali. He has such profile information. he uses his email and password for log in to the system. He can search for different job including software engineering and choose job according to different attributes. Finally he can apply for job providing information like CV and email. After that he will get response for the job. He can also post for jobs when he need candidate for any company.

**8.3 User's view analysis for the system: Use Case diagram****Use Case Diagram**

A use case diagram is a type of UML (Unified Modelling Language) diagram that represents the interactions between actors (users or systems) and a system in terms of use cases (a description of a system's behaviour). A use case diagram shows the relationships between actors and use cases and how they interact with each other.

In a use case diagram, actors are represented by stick figures, and use cases are represented by ovals. The lines connecting the actors and use cases show the interactions between them. The use cases describe the functionality of the system and are used to define the system requirements.

**Explanation:** Here the actors are User, Admin, company and candidate.

**User use case:**

- i. Manage job response
- ii. Login and logout of system
- iii. Manage search job
- iv. Manage call letter
- v. Update my profile

**Admin Use cases are:**

- i. Manage users and full application
- ii. Manage employee registration
- iii. Manage post job

**Company Use cases are:**

- i. Post jobs
- ii. Search candidate
- iii. Post requirements

**Candidate Use cases are:**

- i. Search jobs
- ii. Apply for jobs
- iii. Create profile

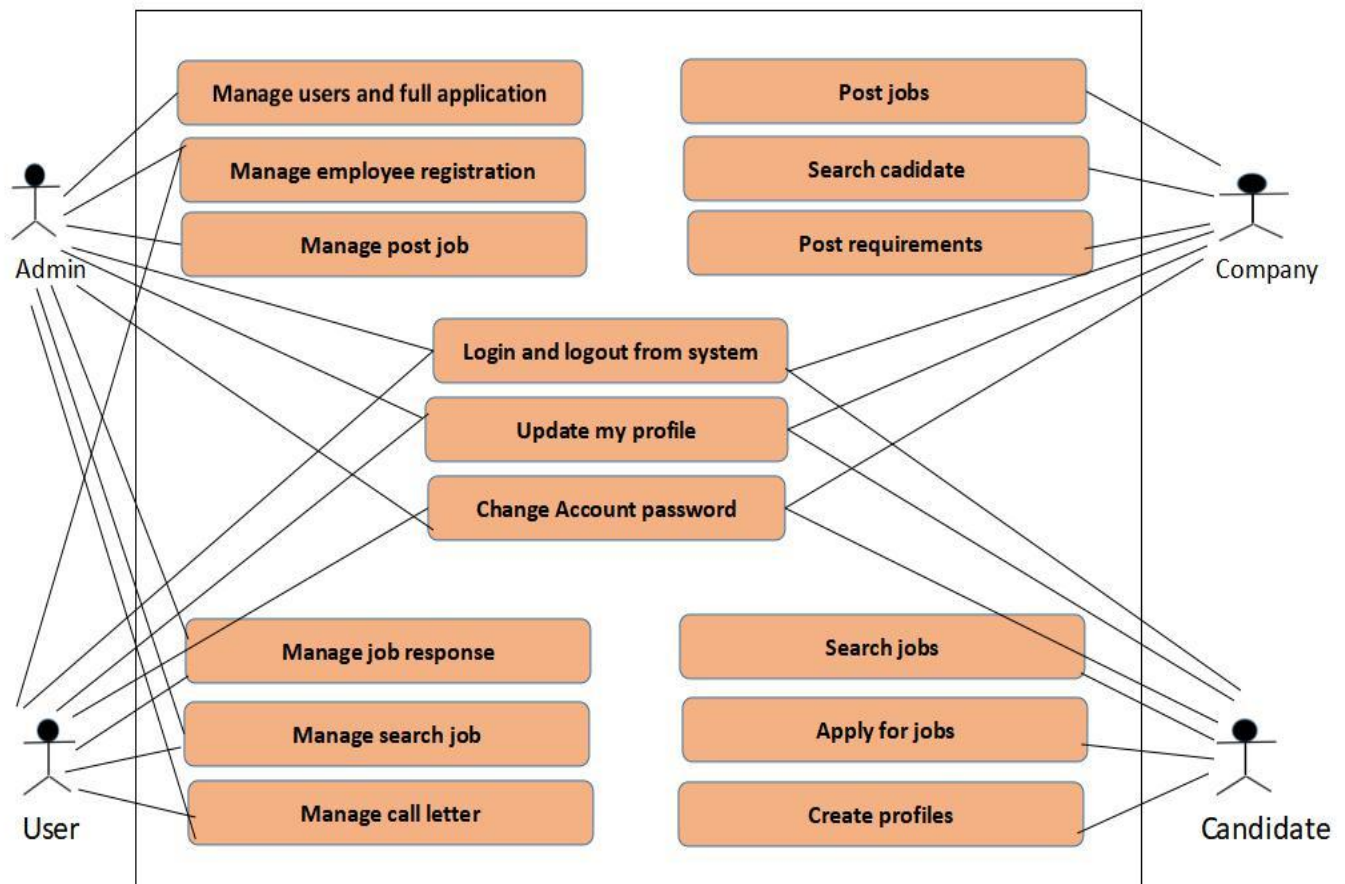


Figure: Use Case Diagram for Job portal

## System 8.4 Behavioral view Diagram

### 8.4.1 State-Chart Diagram

The following diagram describes the behavior of the Job Portal System. It has a finite number of states and actions required to reach the states.

**The system has following states:**

Login

registration

verification

enter email and

password search job

manage job

post job  
 apply job  
 update information  
 choose candidate  
 send email

Logout

The rectangles or nodes represent states and the arrow represents actions performed to reach the states. Diamond shape is used for checking purpose.

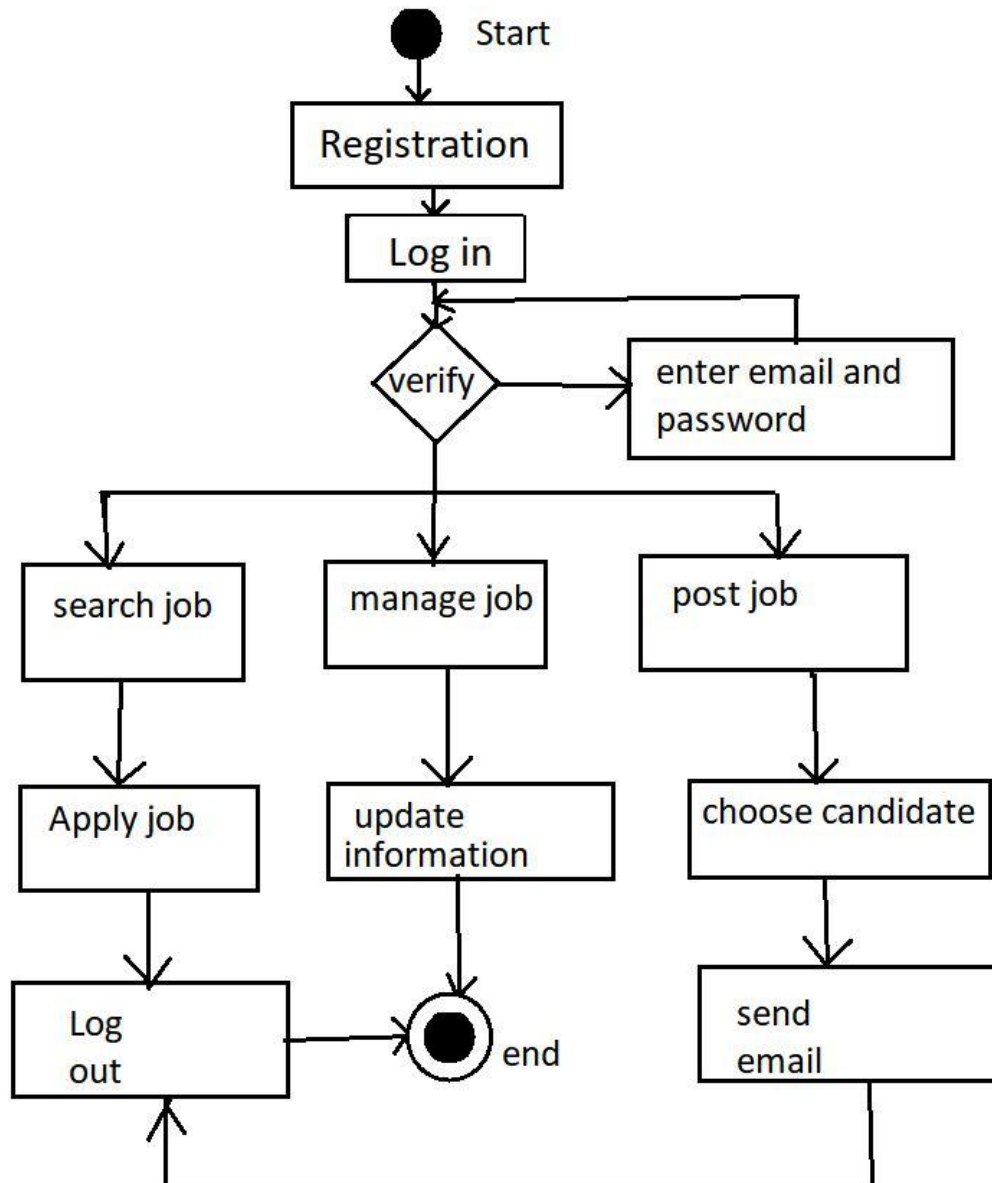


Figure: State Chart Diagram for online job portal System



### **8.4.2 Activity diagram**

The main activity involved in a job portal system activity diagram is the process of job searching and application submission. This involves several sub-activities such as:

- User authentication: The user logs into the job portal system using their username and password.
- Job search: The user searches for job openings using various criteria such as job title, location, salary, and experience.
- Job application: The user selects a job opening and submits their application by uploading their resume and cover letter.
- Employer review: The employer reviews the application and may invite the applicant for an interview.
- Interview scheduling: The employer schedules an interview with the applicant.
- Interview feedback: The employer provides feedback to the applicant regarding their interview.
- Job offer: If the employer decides to hire the applicant, they offer them the job.
- Acceptance or rejection: The applicant either accepts or rejects the job offer.
- Onboarding: If the applicant accepts the job offer, they go through the onboarding process, which may involve filling out paperwork, attending orientation, and completing training.

#### **8.4.2.1 Job seeker side**

##### **Job seeker can:**

- Search and find desired job
- Manage account including log in and Change password
- Update profile
- Apply for job if criteria match
- Manage applied job

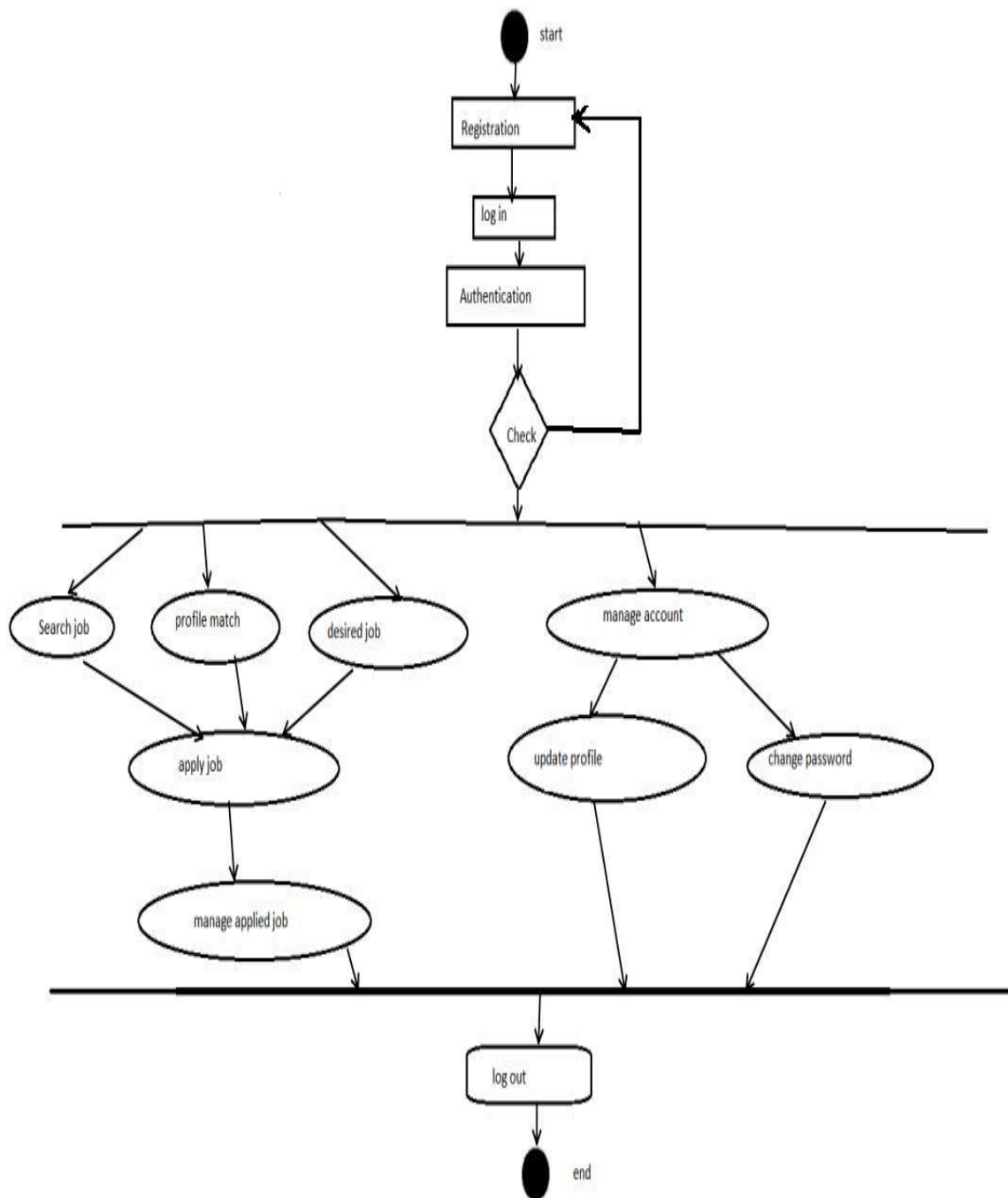


Figure: Activity diagram for online job portal System (Job seeker side)

#### 8.4.2.2 Admin side

**Admin can:**

- Post job
- Manage job
- Update profile
- Response job to job seeker
- Manage log in and Change password

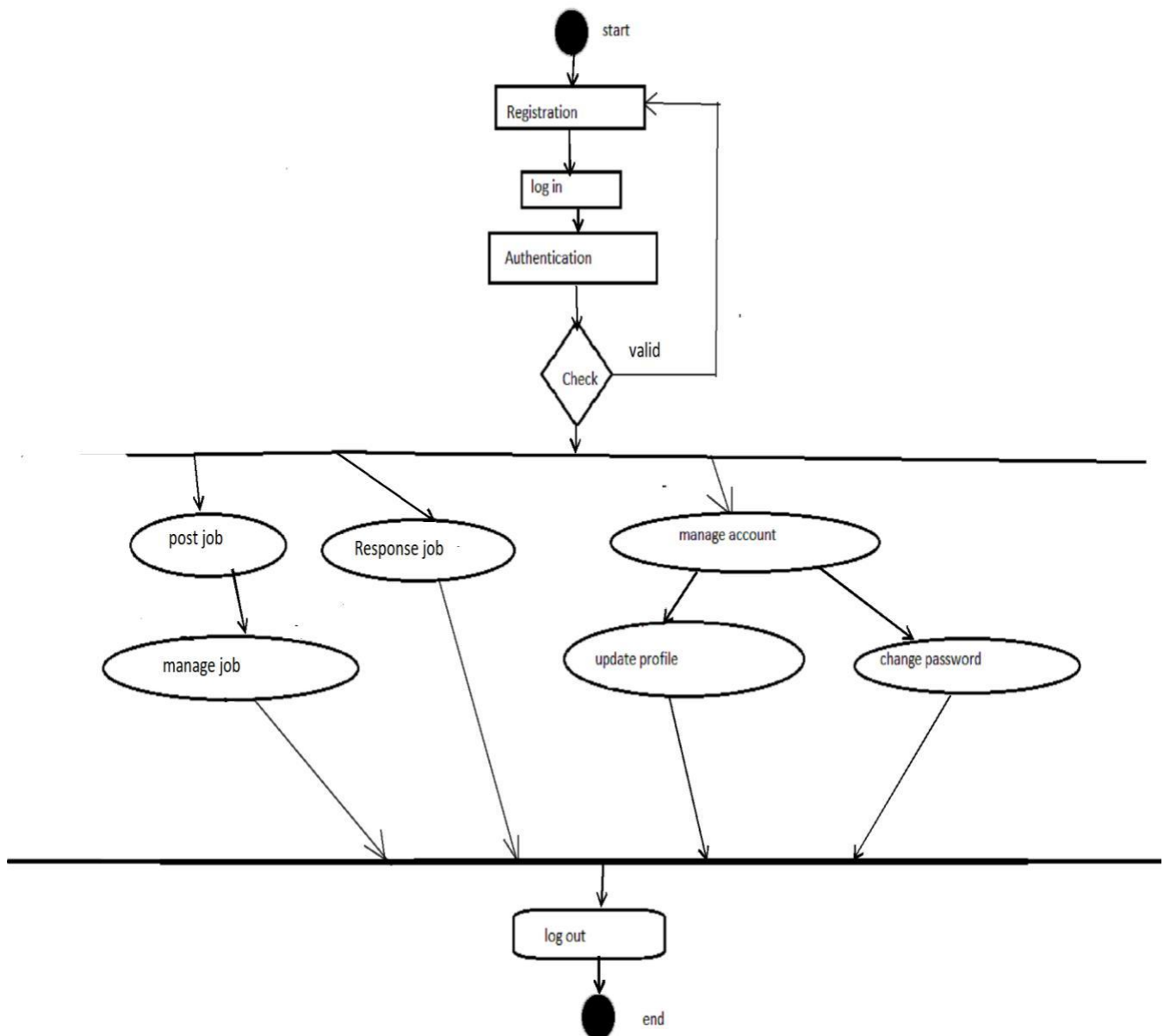


Figure: Activity diagram for online job portal System (Admin side)

## 8.5 Implementation view diagram: Component diagram for the system

The following component diagram shows components provided and requires interfaces, ports and relationships between the user profile, registration, job, search job and response job. The diagram describes the organization and writing of the physical components of the system. Components of the diagram are:

- User profile component
- Registration component
- Job component
- Search job component
- Response job component

### Features of the component diagram:

- The modules of the components are shown
- The database schema is modeled
- The executables of the application is modeled
- The systems source code is modeled

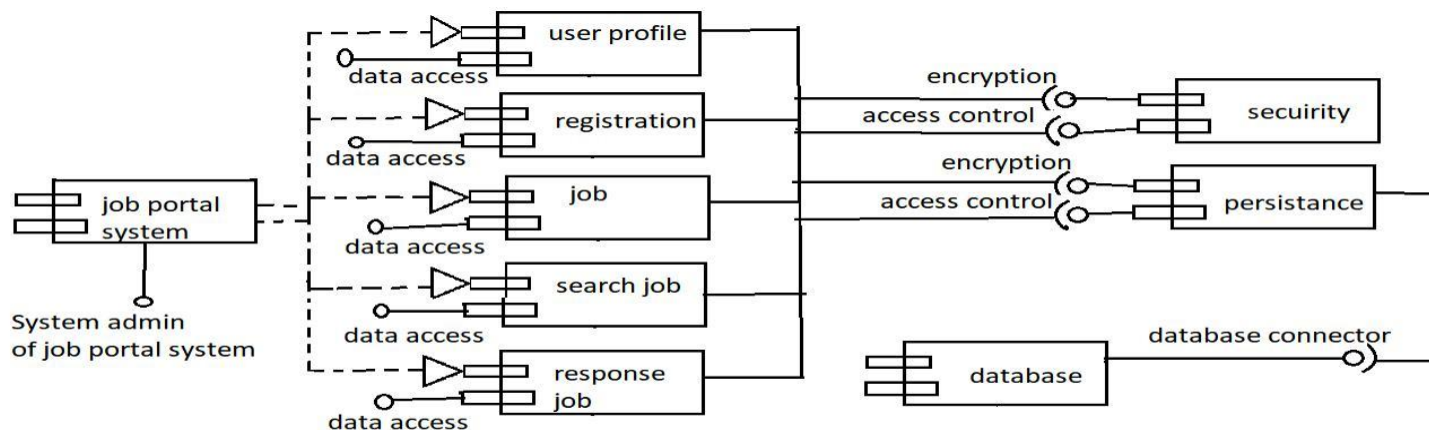


Figure: Component diagram for online job portal System

## 9. Appendix C: Issues List

Here is a list of potential issues that could be included in an SRS (Software Requirements Specification) for a job portal System:

- i. **Security:** The system must have robust security measures to protect user data, prevent unauthorized access, and safeguard against cyber threats.
- ii. **User registration and login:** The system should provide a user-friendly registration and login process that allows users to create and manage their accounts easily.
- iii. **Job posting and application:** The system should provide employers with an easy-to-use interface to post job vacancies, and job seekers should be able to apply for jobs with ease.
- iv. **Search functionality:** The system should allow users to search for jobs based on various criteria such as job title, location, salary, and experience.
- v. **Messaging and notifications:** The system should provide messaging and notification features to facilitate communication between employers and job seekers.
- vi. **Resume management:** The system should allow job seekers to create and manage their resumes, including adding work experience, education, and skills.
- vii. **Payment and billing:** If the system provides paid services such as premium job listings, it should have a secure and reliable payment system that accepts various payment methods.
- viii. **Performance:** The system should be fast, reliable, and scalable, able to handle large volumes of traffic and data.
- ix. **Compatibility:** The system should be compatible with various browsers, devices, and operating systems to ensure broad accessibility.
- X. **Accessibility:** The system should be designed to be accessible to people with disabilities, including features such as screen readers and keyboard navigation.