SOFTWARE REQUIREMENTS SPECIFICATION

**For**

**JOB PORTAL**

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# Introduction

## Purpose

## The main objective of this document is to illustrate the requirements of the project Job Portal. The document gives the detailed description of the both functional and non-functional requirements proposed by the client.This project provides the candidates ability to register to this application and search for jobs,manage their accounts.The main purpose of this project is to serve as an platform that connects job seekers with employees. This project describes the hardware and software interface

## requirements using ER diagrams and UML diagrams.

## Document Conventions

* + - Entire document should be justified.
    - Convention for Main title

Font face: Times New Roman Font style: Bold

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* + - Convention for Sub title

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Font Size: 12

* + - Convention for body

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## Scope of Development Project

Job Portal is an application where people who need jobs can find jobs and companies looking for job seekers can find the perfect employees.It serves as a medium where job seekers can create profiles, upload resumes, and search for job openings across various industries and locations. Each candidate will have thier own account with their own home page.On the other hand companies that are willing to publish the jobs for their company to candidates can register to the job portal and get their own account created and can post jobs to portal's database.Registered companies can add or remove jobs and these jobs can be seen by various candidates and they can contact the company person for the job.Main aim of this application is to make the job search option easy and accessible to everyone who are interested.

## Definitions, Acronyms and Abbreviations

JAVA -> platform independence SQL-> Structured query Language ER-> Entity Relationship

UML -> Unified Modeling Language

IDE-> Integrated Development Environment SRS-> Software Requirement Specification

## References

* + - Books

 JavaFX 8: Introduction by Example" by Carl Dea, Gerrit Grunwald, José Pereda, Sean Phillips

Software Engineering: A Practitioner’s Approach Fifth Edition By Roger S. Pressman

Clean Code: A Handbook of Agile Software Craftsmanship" by Robert C. Martin

* + - Websites
    - [**https://www.slideshare.net/KrishnaRanjan/online-job-portal-system**](https://www.slideshare.net/KrishnaRanjan/online-job-portal-system)

# Overall Descriptions

## Product Perspective

Use Case Diagram of Library Management System

*searches*

1

1 *requests*

1

1

1..\*

\*

search\_book



1..\*

check\_limit

check\_availability

User 1

issue\_book

*request\_renew*

<<include>>

*monitors\_request*

1

*monitors\_renew* 1

1

*performs*

*give\_book*

<<include>>

0..\*

1..\*

renew\_book

verify\_member

<<include>>

*take\_book*

1

1 Librarian

Student

0..\*

1..\*

*adds\_new\_book*

*perform\_transaction\_updation*

Staff

\*

\*

return\_book

View\_logs

<<extend>>

add\_book

\*

calculate\_fine

update\_record

This is a broad level diagram of the project showing a basic overview. The users can be either staff or student.. This System will provide a search functionality to facilitate the search of resources. This search will be based on various categories viz. book name or the ISBN. Further the library staff personnel can add/update the resources and the resource users from the

system.The users of the system can request issue/renew/return of books for which they would have to follow certain criteria.

## Product Function

Entity Relationship Diagram of Library Management System



The Online Library System provides online real time information about the books available in the Library and the user information. The main purpose of this project is to reduce the manual work. This software is capable of managing Book Issues, Returns, Calculating/Managing Fine, Generating various Reports for Record-Keeping according to end user requirements. The Librarian will act as the administrator to control members and manage books. The member’s status of issue/return is maintained in the library database. The member’s details can be fetched by the librarian from the database as and when required. The valid members are also allowed to view their account information.

## User Classes and Characteristics

The system provides different types of services based on the type of users [Employer/Jobseeker/Admin]. The Admin will be acting as the controller and he will have all the privileges of an Employer/Jobseeker. The member can be either a Employer or jobseeker who will be accessing the Job portal Application.

The features that are available to the Admin are:-

* + - Admin can manage and oversee all aspects of the job portal system.
    - Admin has the authority to add, edit, or remove user accounts.
    - Admin can review and manage job listings posted by employers.
    - Admin can access and analyze reports related to job postings, user activities, and system performance.
    - Admin has the capability to intervene in case of disputes or issues between employers and job seekers.
    - Admin can monitor and manage system security, ensuring the confidentiality and integrity of user data.
    - Admin can implement system-wide updates, enhancements, or modifications.
    - Admin has the authority to enforce and update system policies and guidelines.
    - Admin can handle escalated support requests and provide assistance to users when needed.
    - Admin can perform system maintenance tasks, including backups and optimizations.

The features that are available to the Employer are:-

* Post Jobs: Employers can create and publish job listings with details.
* Manage Listings: Employers can edit, update, or remove posted job listings.
* View Resumes: Employers can search and view resumes of job seekers.
* Receive Applications: Employers can manage job applications from candidates.
* Monitor Status: Employers can track the status of received applications.
* Access Reports: Employers can view reports on job listing performance.
* Communicate: Employers can interact with job seekers through the platform.
* Explore Categories: Employers can discover jobs in different categories.
* Request Features: Employers can suggest additional features or improvement

The features that are available to the Jobseeker are:-

* Look through and see job postings
* Look for particular positions
* Apply online for jobs
* Establish and maintain a private profile.
* Monitor past application data
* Get alerts about jobs
* Speak with employers
* Examine positions across several categories.
* Depending on your preferences, request new job postings.

## Operating Environment

## The job portal project is a mobile application that will be compatible with the Android and ios. The only requirement to use this application would be the internet connection.The hardware configuration includes a dedicated server with a minimum of 4 cores, 8 GB RAM, and SSD storage for optimal performance and scalability, ensuring a robust environment for efficient job search and recruitment processes.The basic input devices required are keyboard, mouse, touchscreen, microphone, camera, file upload interface and output devices are monitor, printer, smartphone etc.

## 2.5 Assumptions and Dependencies

The assumptions are:-

* The coding should be error free
* The Application should be user-friendly so that it is easy to use for the users
* The Application assumes users have consistent internet access for real-time job searches and updates.
* It assumes that users' mobile devices meet minimum technical requirements for optimal application performance.
* The effectiveness of personalized job recommendations assumes users provide accurate and up-to-date profile information.
* It assumes adherence to data protection regulations and the implementation of robust security measures to safeguard user information.
* The application assumes a consistent influx of job listings from employers and reliable third-party

The dependencies are:-

* The availability and reliability of internet services are crucial dependencies for seamless user interactions and data synchronization.
* The application is dependent on third-party APIs for features like location services, authentication, and integration with external job databases.
* Dependency on push notification services to alert users about job updates, application status, and relevant information.
* The application depends on the compatibility and support of major mobile operating systems (iOS, Android) for consistent functionality.
* The application is dependent on a secure user authentication system for access control and data protection.

## .6 Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database.

Operating System: Windows NT, windows 98, Windows XP Language: Java Runtime Environment, Net beans 7.0.1 (front end) Database: MS SQL Server (back end)

Hardware Configuration:- Processor: Pentium(R)Dual-core CPU Hard Disk: 40GB

RAM: 256 MB or more

## 2.7 Data Requirement

The Job Portal Mobile Application requires data such as user profiles, job listings, resume uploads, and application history. User data includes personal details and preferences. Job listings should feature comprehensive information, including job descriptions and qualifications. The application needs a secure authentication system. Additionally, it should gather analytics on user activity, supporting effective recommendations. Resume parsing and storage, as well as communication logs between employers and candidates, are crucial data elements.

# 3.External Interface Requirement

**3.1.User Interface (UI):**

3.1.1 Job Seeker Interface:

Personalised employment recommendations are shown on an easy-to-use dashboard.

Simple navigation for managing profiles, applications, and job searches.

Upload and manage cover letters, portfolios, and resumes.

3.1.2 Employer Interface:

Interface for job postings that is easy to use and effective.

Access to a dashboard for managing job listings, reviewing applications, and tracking hiring processes.

**3.2. Integration with External Platforms:**

3.2.1 Social Media Integration:

Permit users to use their social network profiles to register or log in.

Use social media to spread job listings.

**3.3. Communication:**

3.3.1 Messaging System:

Employers and job seekers can communicate via an in-app chat system.

Notifications for application status updates.

**3.4.Mobile Interfaces:**

3.4.1 Mobile App Compatibility:

For a seamless user experience across various devices, use responsive design.

Native applications for Android and iOS mobile platforms.

**3.5. Security:**

3.5.1 Data Protection:

Adherence to data privacy laws (e.g., the General Data Protection Regulation).

Sensitive data is transmitted securely.

**3.6.Reporting and Analytics:**

3.6.1 User Activity Reports:

Reports about job postings, application metrics, and user activity are generated.

Dashboard analytics for administrators.

**3.7.Support and Feedback:**

3.7.1 Helpdesk:

Support system for user assistance.

User input is collected through feedback forms on the application.

# 4.System Features

The job portal application should have features for:

* user registration
* job posting
* job search
* resume building
* application tracking
* communication platform
* job alerts
* company profiles
* user reviews
* ratings
* prioritize privacy
* security of user data.

**5. Other Non-functional Requirements**

## 5.1Performance Requirement

The goal of the Job Portal System's design is to achieve a seamless user experience while adhering to strict performance constraints. It promises to respond quickly, guaranteeing that user interactions are completed in less than two seconds.The system implements secure user authentication and aims for 99.9% uptime with a focus on reliability. It also guarantees effective job searches, instant notifications, scalability for growth in the future, and recurring performance evaluations and optimization techniques.Maintaining high performance over time requires regular performance monitoring and tuning techniques.

## 5.2 Safety Requirement

## The Job Portal System places strong emphasis on user safety. To protect personal data, it uses strong access controls, robust data encryption, and frequent security assessments.It guarantees a secure and private environment for users by adhering to industry standards for protection.Protocols for incident response are in place to deal with possible security breaches quickly. Encouraging user trust in the security of the platform requires protecting their privacy and confidentiality. The system is always changing to accommodate new security risks, indicating a dedication to upholding a safe and dependable job-search environment.

## Security Requirement

The Job Portal Application places a high priority on security and employs strict protocols. For the storage and transfer of sensitive data, it makes use of strong encryption. Multi-factor authentication and other secure user authentication techniques are used. The app is subject to frequent security audits and complies with industry-specific security standards. To ensure a secure and reliable user experience, the mobile application incorporates safeguards for secure data transmission, secure storage, and quick reaction to security events.

## Requirement attributes

* There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
* The project should be open source
* The Quality of the database is maintained in such a way so that it can be very user friendly to all users of the database.
* The user be able to easily download and install the application

## Business Rules

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data.This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

## User Requirement

The Job Portal System is made to accommodate a range of user requirements. In addition to uploading resumes and creating and managing profiles, users can perform preference-based job searches. The system offers customized notifications and makes it simple to apply for jobs. Smooth navigation is ensured by user-friendly interfaces, and job finding is improved by powerful search criteria. The portal also provides tools for companies, facilitating contact, applicant tracking, and job advertisements. Personalized job recommendations and real-time application status updates are available to users. In order to guarantee a good and inclusive user experience, which promotes efficiency and happiness throughout the job-seeking process, accessibility and responsiveness across devices are given top priority. By offering users choice over who may see their profiles, the technology protects user privacy. Mechanisms for continuous improvement, like feedback loops and user surveys, support an evolving

The admin provides certain facilities to the users in the form of:-

* Restore and Backup
* Forgot Password
* Data Transfer
* Data Duplication
* Recover Autonomously
* File Organisation and Maintenance
* Continual Upkeep of Servers
* Updates for the system

# Other Requirements

## 6.1.Data and Category Requirement

User Categories:

Admin (A): Full control over system, including user management and database modifications.

Employer (E): Can post jobs, review applications, and manage hiring processes.

Job Seeker (JS): Access to profile management, application submission, and job search.

Access Rights:

Admins can add, modify, and delete files with complete access rights.

Employers are not able to change system settings, but they can post jobs and review applications.

Job seekers can retrieve information with read-only access.

Job Categories:

Sort jobs into industry categories (e.g., IT, Finance, Healthcare).

Sort and arrange employment data according to categories.

Data Structure:

Establish a uniform structure for user bios, job postings, and other pertinent information.

To facilitate effective retrieval, make sure that data representation is uniform.

**6.2.Appendix:**

A: Admin Responsibilities, B: Business Rules, C: Class Diagram, D: Data Requirement, G: GUI (Graphical User Interface), K: Key, L:Layers, M: Member, N: Non-functional Requirement, O: Operating Environment, P: Purpose, R: Requirement Attributes, S: System Features, U: User

**6.3.Glossary:**

Administrator :

User having complete control over the application on the job portal.

User :

General login IDs for Admin, Employers, and Job Seekers.

Client :

The intended audience comprises both job seekers and employers.

SQL and SQL Server:

Structured Query Language for database interactions, SQL Server for data storage.

Layers :

Divisions in the project, including UI, Logic, and Data Storage.

Use Case :

A high-level summary of the features of the project.

Class Diagram :

Diagram showing the classes and relationships in the system's structure.

Interface :

A channel of communication between various project sections.

Unique Key :

Data differentiation is ensured by a database element..

## 6.4 Class Diagram

A class is an abstract, user-defined description of a type of data. It identifies the attributes of the data and the operations that can be performed on instances (i.e. objects) of the data. A class of data has a name, a set of attributes that describes its characteristics, and a set of operations that can be performed on the objects of that class. The classes’ structure and their relationships to each other frozen in time represent the static model. In this project there are certain main classes which are related to other classes required for their working. There are different kinds of relationships between the classes as shown in the diagram like normal association, aggregation, and generalization. The relationships are depicted using a role name and multiplicities. Here ‘Librarian’, ‘Member’ and ‘Books’ are the most important classes which are related to other classes.

