SOFTWARE REQUIREMENTS SPECIFICATION

**For**

**Job portal System**

**Prepared by:-**

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# Introduction

## Purpose

The main objective of this document is to illustrate the requirements of the project Job Portal system. The document gives the detailed description of the both functional and non-functional requirements proposed by the candidates. The purpose of this project is to promote their job postings in search of a candidate, or a candidate can apply to find the right job. The main purpose of this project is to maintain easy circulation system using app. 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

Font Size: 14

* + - Convention for Sub title

Font face: Times New Roman Font style: Bold

Font Size: 12

* + - Convention for body

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## Scope of Development Project

The scope for a job portal system is quite extensive, as it plays a crucial role in connecting job seekers with employers. Below are some key features and functionalities that can be included in the scope of a job portal system:

* + - User Registration and Profile Management:
    - Job Search and Filters
    - Job Listings
    - Resume Database
    - Application and Recruitment Process
    - Notifications and Alerts
    - User Reviews and Ratings
    - User Reviews and Ratings
    - Messaging and Communication
    - Career Resources
    - Analytics and Reporting
    - Mobile Responsiveness
    - Integration with Social Media
    - Security and Privacy
    - Multi-language Support
    - Feedback and Support

**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:
      * Conallen, J. (2003). Building Web Applications with UML, Inc.Firth, R. (2005).
      * High Powered CVs. How to Books Publishing.Maier, M. & Rechtin, E. (2000).
      * Sams Teach Yourself UML in 24 Hours, Third Edition. Sams Publishing
    - Websites:
      * [**http://www.jobsonline.com.ph**](http://www.jobsonline.com.ph)
      * [**http://www.jobstreet.com.ph**](http://www.jobstreet.com.ph)

# Overall Descriptions

## Product Perspective

Use Case Diagram of Job Portal 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>>

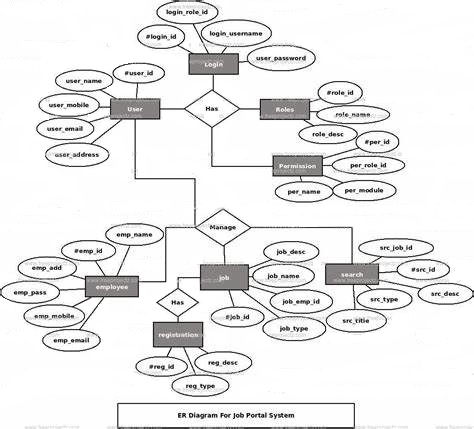
add\_book

\*

The Job Portal Entity-Relationship Diagram (ERD) is a visual representation of the data model that captures the relationships and interactions among the main entities in a job portal system. The Job Portal Entity-Relationship Diagram (ERD) is a visual representation of the data model that captures the relationships and interactions among the main entities in a job portal system.

## Product Function

Entity Relationship Diagram of Job Portal System



A job portal system serves as a pivotal platform for both job seekers and employers, streamlining the recruitment process and fostering efficient connections in the job market. For job seekers, it provides a centralized hub for discovering diverse job opportunities, submitting applications seamlessly, and managing their professional profiles. Employers benefit from a wide pool of potential candidates, with features like resume databases, advanced search functionalities, and applicant tracking systems facilitating efficient candidate selection.Additionally, job portals often offer resources for skill development and training, contributing to the continuous growth of job seekers in a competitive workforce. Overall, job portal systems play a crucial role in modern recruitment, offering convenience, accessibility, and efficiency to the dynamic job market.

## User Classes and Characteristics

In a job portal system, there are different types of users, each with specific roles. Job seekers can search for jobs, apply, and manage their profiles. Employers can post jobs, search for candidates, and communicate with applicants. System administrators oversee the overall functioning of the system. Customer support helps users with questions and issues. Optional user classes may include educational institutions, career counselors, and freelancers, each contributing to the platform in various ways. Understanding these user classes is essential for creating a user-friendly job portal system that meets the needs of both job seekers and employers..

**The features that are available to the recruiters are:-**

* + - Job Posting and Management
    - Resume DataBase Access
    - Advanced Search and Filtering
    - Applicant Tracking System
    - Communication tools
    - Job Application Review
    - Candidate Profiles
    - Interview Scheduling
    - Collaboration Tools
    - Analytics and Reporting
    - Customized Recruitment Workflows

**The features that are available to the candidates are:-**

* + - Online Application Platforms
    - Job Search filters
    - Resume Upload and parsing
    - Application Tracking systems
    - Profile Creation
    - Customized job Alerts
    - Video Interviews
    - Skill and personality Assessments
    - Communication Tools
    - Interview scheduling
    - Feedback and Status Updates
    - Virtual Job Fairs

## Operating Environment

## The operating environment for a job portal system includes the necessary hardware and software components, as well as external factors. This involves servers, databases, networking equipment, and security measures to ensure proper functioning. The system relies on web technologies for the user interface and integrates with external services like payment gateways. It should be scalable, comply with regulations, and include monitoring tools for performance tracking. User support, documentation, and mobile compatibility are also essential considerations for an effective job portal system.

## Assumptions and Dependencies

**The assumptions are**:-

* Internet Access
* Device Compatibility
* User Skills
* Data Accuracy
* Security Measures
* Legal Compliance
* Third -Party Integrations
* Scalability
* User Engagement
* Job Availability
* Communication Responsiveness
* Feedback and Reviews
* Mobile Application Usage
* Payment Processing

**The dependencies are:-**

* + - Internet Connection
    - Web Browser
    - Database Management System
    - Server Infrastructure
    - Third – Party APIs and Integrations
    - Security protocols
    - Operating System
    - Email Services
    - Mobile Platforms
    - Human Resources and recruiting Trends

## Requirement

Software Configuration:-

Creating a job portal system involves setting up different software components. This includes choosing a web server (like Apache or Nginx), a database system (such as MySQL or PostgreSQL), and a scripting language (like PHP or Python). Security measures, like SSL/TLS and firewalls, are important for protecting user data. Other setups include a Content Management System, secure user logins, email services, and connections with third-party tools using APIs

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

RAM: 256 MB or more

## Data Requirement

A good job portal system relies on important data like user profiles for job seekers and employers, job listings, and application records. User preferences customize the job search, and there's data about skills, analytics, security, feedback, and system settings. Regular maintenance and following data protection rules are vital for the system's effectiveness and security.

# External Interface Requirement

## GUI

The software provides good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing the details of the book.

* + - It allows user to view quick reports like Book Issued/Returned in between particular time.
    - It provides stock verification and search facility based on different criteria.
    - The user interface must be customizable by the administrator
    - All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined
    - The design should be simple and all the different interfaces should follow a standard

template

* + - The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module

Login Interface:-

In case the user is not yet registered, he can enter the details and register to create his account. Once his account is created he can ‘Login’ which asks the user to type his username and password. If the user entered either his username or password incorrectly then an error message appears.

Search:-

The member or librarian can enter the type of book he is looking for and the title he is interested in,then he can search for the required book by entering the book name.

Categories View:-

Categories view shows the categories of books available and provides ability to the librarian to add/edit or delete category from the list.

Librarian’s Control Panel:-

This control panel will allow librarian to add/remove users; add, edit, or remove a resource. And manage lending options.

# System Features

The users of the system should be provided the surety that their account is secure. This is possible by providing:-

* User authentication and validation of members using their unique member ID
* Proper monitoring by the administrator which includes updating account status, showing a popup if the member attempts to issue number of books that exceed the limit provided by the library policy, assigning fine to members who skip the date of return
* Proper accountability which includes not allowing a member to see other member’s account. Only administrator will see and manage all member accounts

# Other Non-functional Requirements

## Performance Requirement

The proposed system that we are going to develop will be used as the Chief performance system within the different campuses of the university which interacts with the university staff and students. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the university.

* + - The performance of the system should be fast and accurate
    - Library Management System shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify invalid username/password
    - The system should be able to handle large amount of data. Thus it should accommodate high number of books and users without any fault

## Safety Requirement

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

## Security Requirement

* + - System will use secured database
    - Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
    - System will have different types of users and every user has access constraints
    - Proper user authentication should be provided
    - No one should be able to hack users’ password
    - There should be separate accounts for admin and members such that no member can access the database and only admin has the rights to update the database.

## 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 the users of the database
    - The user be able to easily download and install the system

## 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 users of the system are members and Librarian of the university who act as administrator to maintain the system. The members are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and is able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems.

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

* + - Backup and Recovery
    - Forgot Password
    - Data migration i.e. whenever user registers for the first time then the data is stored in the server
    - Data replication i.e. if the data is lost in one branch, it is still stored with the server
    - Auto Recovery i.e. frequently auto saving the information
    - Maintaining files i.e. File Organization
    - The server must be maintained regularly and it has to be updated from time to time

# Other Requirements

## Data and Category Requirement

There are different categories of users namely teaching staff, Librarian, Admin, students etc. Depending upon the category of user the access rights are decided.It means if the user is an administrator then he can be able to modify the data,delete, append etc. All other users except the Librarian only have the rights to retrieve the information about database. Similarly there will be different categories of books available. According to the categories of books their relevant data should be displayed. The categories and the data related to each category should be coded in the particular format.

## Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; L: Library, Librarian; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance,Perspective,Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

## Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

* + - Administrator: A login id representing a user with user administration privileges to the software
    - User: A general login id assigned to most users
    - Client: Intended users for the software
    - SQL: Structured Query Language; used to retrieve information from a database
    - SQL Server: A server used to store data in an organized format
    - Layer: Represents a section of the project
    - User Interface Layer: The section of the assignment referring to what the user interacts with directly
    - Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
    - Data Storage Layer: The section of the assignment referring to where all data is recorded
    - Use Case: A broad level diagram of the project showing a basic overview
    - Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system’s cases, their attributes, and the relationships between the classes
    - Interface: Something used to communicate across different mediums
    - Unique Key: Used to differentiate entries in a database

## 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.

