

Software Engineering II

Lab Manual

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Problem Statement

Job Recruitment System

The proposed system bridges the gap between the recruiters and job seekers, by reducing the time and cost of running for job interviews from one place to another. By uploading resumes and setting job search criteria by the job seekers, the recruiters can browse the web application. Recruiters will have the freedom to post the particular jobs with their requirements, can filter their search query, check out the resumes of job seekers, upload their logos, can create their profiles. Job seekers can able to search job on the basis of various category such as organization wise, using their skills, location wise, job type etc.

Aim: To develop an object-oriented system for Job Recruitment Process using Java to bridge the gap between recruiters and job seekers

Objective

1. Understand the object-oriented approach for designing a software application
2. Identifying the classes for the application, the main being the recruiter and job seeker
3. Give the system requirements along with reports using questionnaire and interviews
4. Make a User-Friendly Interface
5. Get the Maximum Jobs Listing
6. Minimum Cost
7. Minimum Time to Find Desired Job for Jobseekers
8. Minimum Time to Find Desired Jobseekers for Employer
9. Information Sharing Within Jobseeker and Employer
10. Proper Security and Privacy To All Users
11. Release the project after testing and modification for enhance user experience throughout.

Experiment No.: 1

AIM: Write SRS

THEORY:

Software Requirements Specification

For

Job Recruitment System

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Course: Computer Engineering
Lab section: SE II Lab
College: VJTI

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1. Introduction

1.1 Purpose

The proposed system bridges the gap between the recruiters and job seekers, by reducing the time and cost of running for job interviews from one place to another. By uploading resumes and setting job search criteria by the job seekers, the recruiters can browse the web application. Recruiters will have the freedom to post the particular jobs with their requirements, can filter their search query, check out the resumes of job seekers, can create their profiles. Job seekers can able to search job on the basis of various category such as organization wise, using their skills, location wise, job type.

1.2 Document Conventions

For Main Heading:

Font size: 18, Font: Times New Roman, Font Type: Bold

For Sub Heading:

Font size: 14; Font: Times New Roman, Font Type: Bold

For Content:

Font size: 12, Font: Times New Roman, Font Type: Regular

1.3 Intended Audience

The intended audience of this document includes faculty members in the Department, the students looking for placements, company HR and job seeker looking for jobs.

1.4 Product Scope

The project targets the HR Departments of hiring companies, where the recruiters can upload jobs and look out for candidates with the required skills for the job. On the other hand, those seeking for jobs choose from various jobs available. The main modules of the system are Admin, Recruiter and Job Seeker

Aim: To develop an object-oriented system for Job Recruitment Process using Java to bridge the gap between recruiters and job seekers

Objective

1. To allow the user to enter the system through registering through forms
2. To allow only authentic users having valid ID and Password with the specified type to enter into the system
3. To check for any invalid entry into the system
4. To allow the user to modify his details using the profile tab
5. To allow user to upload his Resume through his profile
6. To allow the recruiter to check the Resume of a job seeker
7. To allow the job seeker to search for jobs by applying different filters available

8. To get the Find Desired Job for Jobseekers in Minimum Time
9. To get the maximum Jobs Listing for job seekers to apply for
10. To apply for the job if the job seeker is eligible and has valid skills
11. To Find Desired Jobseekers for Employer in Minimum Time
12. To check for interviews and status of a job applied to
13. To post jobs as recruiter
14. To allow admin to manage the overall system
15. To make a User-Friendly Interface
16. To release the project after testing and modification for enhance user experience throughout.

Scope (Modules)

1. Registration
2. Login
3. Manage Profile
4. Upload Resume
5. Apply/Search for Job
6. Job Application Status
7. Post a Job
8. View Job Seeker Profile
9. Hire Jobseeker
10. Handle Users
11. Feedback

1.5 References

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- [2] : Keethana Kopuri1, Gulam Mujtaba Hussain Aqueel2, Azbar Sadiqa Jabeen3, Dr.T.K.Shaik Shavali, A Online Job portal management system
- [3] Dr. Bandu Meshram ,Software Engineering PPT
- [4] Urmil Chakravarty, Report on Online Job Portal
- [5] Grady Booch, J. Rumbaugh, Ivar Jacobson, "The UML Users guide", Pearson
- [6] Stephen Cooper (2008). Software Requirements Specification. Retrieved June 6, 2008, from www.sju.edu/~scooper/spring01se/SoftwareRequirementsSpecification.htm

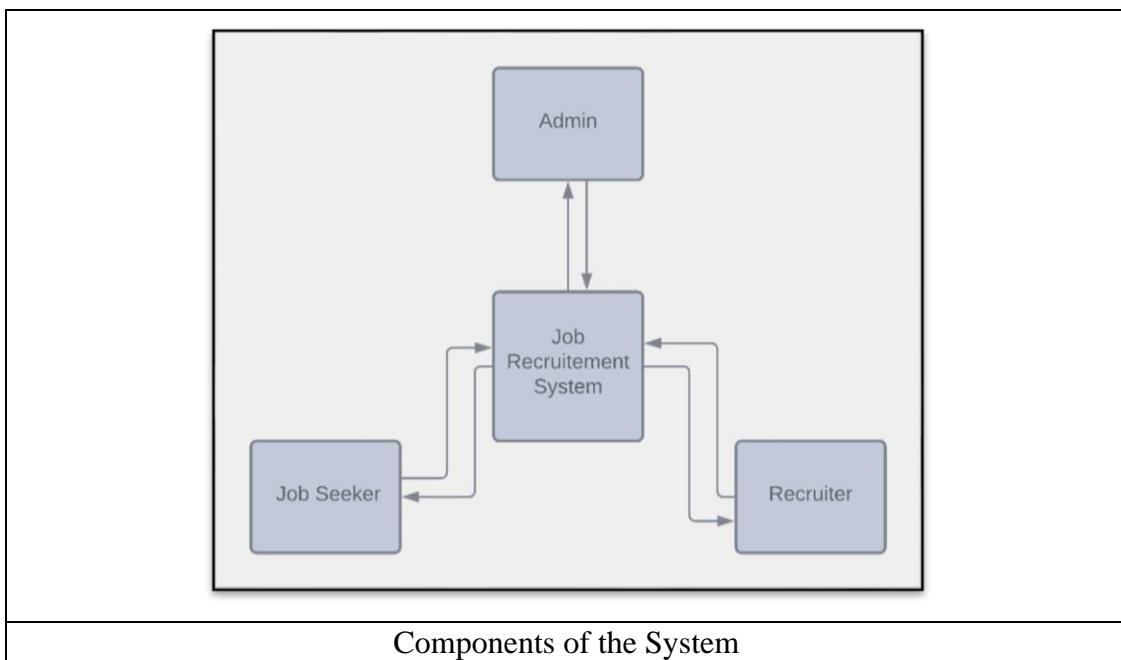
2 Overall Description

2.1 Product Perspective

The Job Recruitment System provides searching of jobs by the job seekers listed. The Recruiter/HR Departments of the companies posting jobs available. The Admin approving the recruiters and job seekers to keep authenticity. It manages the database of jobs, companies, HR Departments, job seekers, skills, resumes.

The external view of the project

- Admin: He is the central manager of the system who manages the users on the system mainly being job seeker and recruiter. He/she decides if a user is valid or is it a bogus account, if he sees any malicious activity or illegal jobs posted he caters to its management.
- Job Seeker: The main user of the system, who is looking for job. He/she fills in details about skills and uploads the resume, after which he can search for the jobs that have been posted on the system according to the filters to be applied. Later, if suitable he can apply for the job and thereafter wait for the response from the recruiter for interview.
- Recruiter: The stakeholder of the system, the one that uploads the jobs on the system for employment. He/she can search for a particular job seeker based on his skills. He/she can schedule the interviews for the job.



2.2 Product Features

Admin

- i. Login/Logout: This will help users to login into the system using id and password. A user who has the valid id and password can only login to their respective accounts.
- ii. Manage recruiters/job Seekers: It verifies and authorizes the accounts of a user, that can be either a recruiter or a job seeker, to ensure minimum fake jobs and scams to occur.

Recruiter

- i. Register: In this segment, we will register the new user of the system by entering the required details, this will then be approved by the admins.
- ii. Login/Logout: This will help users to login into the system using id and password. A user who has the valid id and password can only login to their respective accounts.
- iii. Create Job: In this interface, the recruiter who has registered themselves in the system can post the jobs. They can give the requisition specifying the post and skill needed for that post. It also implies the criteria of recruitment the Recruiter has planned for the post.
- iv. Schedule Interview: Once, a recruiter is satisfied with the skills and resume of a job seeker he can schedule an interview for the job of that job seeker, for knowing him further, if he is a feasible candidate or not
- v. Edit Profile: The recruiter can make modifications in his profile containing personal details, job details and other information
- vi. View Job Seekers: The recruiter can search a particular job seeker according to his skills or past positions
- vii. Feedback: The recruiter can give a feedback about the system or report any bugs if found

Job Seeker

- i. Register: In this segment, we will register the new user of the system, by entering the required details.
- ii. Login/Logout: This will help users to login into the system using id and password. A user who has the valid id and password can only login to their respective accounts.
- iii. Search for Jobs
- iv. Apply for Jobs: This module is for the job seeker where they can search all the requisition present in the system. One can filter the search based on their skill and experience of the job. Ones selected a requisition applicant can apply for the post.
- v. Edit Profile: This feature allows the job seeker to update his/her skills and profile
- vi. Check status for the job application applied to
- vii. Upload Resume: The job seeker has an option to upload a file as his resume to let the recruiter know more about his work positions and educational information, projects and more
- viii. Feedback: The recruiter can give a feedback about the system or report any bugs if found

2.3 User Classes

The user classes are: -

1. Admin: Who administrated the overall system by allowing job seekers and recruiters into the system and ensuring authentic entry into the system
2. Job Seeker: The main task is to search from jobs available and update the skills and resume.
3. Recruiter: Uploading of valid vacant jobs for the company and selecting candidate for interview
4. Interview: A recruiter schedules an interview process for the job seeker
5. Job: It is posted by a recruiter for a company and job seeker applies for one.

2.4 Operating Environment

No. of machine: 1.

Processor: Pentium 4 & upward.

Hard disk: 80 GB

RAM: 256 MB & upward

Java: JDK8.1, JRE8.0

Server: Apache tomcat 7.0

Database: Oracle10g

Operating system: Windows-xp & upward

2.5 Design and Implementation Constraints

The following semantic integrity and constraint explicitly are imposed by the s/w developed. These constraints are applied by keeping in mind customer requirements as well as consistent working of the system: -

Module Name	Applied constraint to maintain data integrity
JOB SEARCH	<ul style="list-style-type: none">○ Search query need to be entered else entry denied.○ Only registered job seekers can search for job.
POST JOB	<ul style="list-style-type: none">○ Only registered recruiters can post jobs.○ Job details need to be entered otherwise denied.
JOB STATUS	<ul style="list-style-type: none">○ Registered users except admin can see job status.○ Only status of applied job will be shown.

Security & Other Constraints

- Each profile must be created or deleted by owner of profile or administrator.
- (username, password, type) pair constraint to be unique for each profile.
- Module name can be one of the possible modules existing in the system (viz. Job Search, Job Status, Reports, Post Job etc)
- The user should have sufficient knowledge of computers.
- The users must know the English language, as the user interface will be provided in English.
- The browser using should support JSP
- The user needs internet connectivity

Implementation Constraints: -

- Software Language Used: The languages that shall be used for coding Online Job Portal System are Java Servlets, Java Server Pages (JSP), and HTML. For working on the coding phase of the Online Library System, the Internet Information Services (IIS) Server needs to be installed.
- Development Tools: We will make use of the available Java Development Tool kits for working with Java Beans and Java Server Pages. Also we will make use of the online references available for developing programs in HTML.
- Class Libraries: We will make use of the existing Java libraries available for JSP and Servlets. Also, we need to develop some new libraries for the web-based application. Also, we will develop new programs using scripting languages.

2.6 Assumptions and Dependencies

- Jobseeker should be from any fields.
- Only admin have all the privileges.
- Candidate can only fill the registration form.
- Candidate cannot apply for job after deadlines.
- The project is done on the basis of selection of candidates for the company
- Every user should be comfortable working with computer and net browsing
- Since the application is a web based application there is a need for the internet browser. It will be assumed that the users will possess decent internet connectivity.

3. System Features

3.1 Use Case: Registration

Name	Register
Summary	A new user (a user which doesn't have an account) should first register into the system to use it. This feature will allow the user to enroll into the system if the user is a new user and doesn't already have an existing account.
Rationale	The user can access the system
Actor	Job Seeker and Recruiter
Pre-Condition	None
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI the registration. 3. User enters the valid details required to join the system 4. Submits the form
Post- Condition	User is registered
Alternate Flow	<ol style="list-style-type: none"> 1. User goes back to the Login Page

3.2 Use Case: Login

Name	Login
Summary	Job seeker can change information into their profiles which include profile edit, delete, and update.
Rationale	After registration of the user, the valid user can login into the system
Actor	All Users
Pre-Condition	<p>The login name and password should match with the login name and password provided while registering.</p> <p>If the username and or password do not match, the user cannot login successfully into the system.</p>
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI the login form 3. The user writes its username, password and type 4. If valid, user can login into the system. If the username and or password do not match, the user cannot login successfully into the system.
Post- Condition	User goes to his/her dashboard
Alternate Flow	<ol style="list-style-type: none"> 1. The username and password is blank 2. The type of user is not specified 3. The username and password do not match

3.3 Use Case: Manage Profile

Name	Manage Profile
Summary	User can change information into their profiles which include profile edit, delete, and update.
Rationale	If there is unnecessary date and fake profiles that are running on the site then Admin will have rights to remove or delete the profile.
Actor	All Users
Pre-Condition	Profile and record must exist
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI of different pages. 3. User will input the necessary data into the fields. 4. System will update the record as per requirements.
Post- Condition	User receives the notification that profile has been approved or profile has been updated.
Alternate Condition	<ol style="list-style-type: none"> 1. The details enter to not validate, e.g. age is <18, date of birth is out of range.

3.4 Use Case: Upload CV

Name	Upload CV
Summary	Job seeker can post his/her CV on job portal
Actor	Job seeker
Pre-Condition	New Jobs and other features should be displayed.
Basic course of Event	<ol style="list-style-type: none"> 1. Job seeker search for a specific job category. 2. The system displays GUI for the new jobs and features. 3. Job seeker clicks on the new jobs option and upload his/her CV there. 4. System will show all the CV on the admin and job seeker end.
Post- Condition	CV successfully uploaded.
Alternate Flow	<ol style="list-style-type: none"> 1. The type of file uploaded does not match the required file type 2. The size of file is more than the maximum available size

3.5 Use Case: Apply/Search for Job

Name	Search/Apply Jobs
Summary	Job seeker can search for jobs related to his interest using filters, if interested he can apply for the job
Rationale	Job Seeker is searching for a job
Actor	Job Seeker
Pre-Condition	Job Seeker must have an account
Basic course of Event	<ol style="list-style-type: none"> 1. Jobseeker access the required page to search the job. 2. System will show the appropriate GUI for searching and filtering the jobs 3. Job Seeker will fill all the required fields and describe the category and type of a job. 4. If, he/she is interested he will Apply for the job
Post- Condition	Apply for the job and wait for Interview notification.
Alternate Flow	<ol style="list-style-type: none"> 1. The search criteria entered has no jobs listed

3.6 Use Case: Job Application Status

Name	Job application status
Summary	Job seeker can check its status either their application is accepted.
Rationale	If their application is accepted and rejected, then they must know about the status, so that they can further proceed.
Actor	Job seeker
Pre-Condition	Job should have been applied for
Basic course of Event	<ol style="list-style-type: none"> 1. The job seeker login to system and check status of his application 2. The system displays GUI for the job application page. 3. Job seeker clicks on the page and check its status. 4. System will show all the results regarding their post on the jobs.
Post- Condition	Result successfully shown to the job seeker

3.7 Use Case: Post jobs

Name	Post Jobs
Summary	Recruiter can post the job
Rationale	Recruiter wants to find the right employees for specific job.
Actor	Recruiter
Pre-Condition	Recruiter must have a task and reasonable price for that task
Basic course of Event	<ol style="list-style-type: none"> 1. Recruiter access the required page to post the job. 2. System will show the appropriate GUI for posting the project. 3. Recruiter will fill all the required fields and describe the category and type of a project. 4. System will post the job.
Post- Condition	Anyone can see the posted job and apply for it after registration.
Alternate Flow	<ol style="list-style-type: none"> 1. The job details are not sufficient enough to be posted

3.8 User Case: View Job seeker profile

Name	View Job seeker profile
Summary	Recruiter can search the job seeker by name and can view the whole portfolio of job seeker.
Rationale	If a Recruiter has a job then he can search the job seeker and see entire profile of all employees or jobseekers.
Actor	Recruiter
Pre-Condition	Recruiter must be existing in a list and Job Seeker has applied for the Job
Basic course of Event	<ol style="list-style-type: none"> 1. The user indicates that the system is to perform a search function. 2. System responds by requesting the search term and shows the results. 3. System will show the entire job seeker in a relevant field in which Recruiter wants.
Post- Condition	Recruiter can see whole information about the job seeker.

3.9 Use Case: Hire Jobseeker

Name	Hire Job seeker
Summary	Recruiter can hire the employee for a specific job required
Rationale	Recruiter has a job and wants to search the employee for the project if found, Recruiter will hire schedule the interview.
Actor	Recruiter
Pre-Condition	Recruiter should have posted a job.
Basic course of Event	<ol style="list-style-type: none"> 1. The user indicates that the system is to perform a search function. 2. System responds by requesting the search term and shows the results 3. System will show the entire list of job seeker. 4. System will send the interview notification to the job seeker.
Post- Condition	Job seeker will receive the notification that he or she has been asked for interview.

3.10 User Case: Handle Users

Name	Handle Users
Summary	Admin can view all the user's proceedings.
Rationale	If admin wants to job seeker and recruiter to be added to the system or denied.
Actor	Admin
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	<ol style="list-style-type: none"> 1. Job Seeker or Recruiter has registered through the website 2. Admin verifies the details and credentials of the user 3. If valid, he admits them into the system, else removes them
Post- Condition	Job Seeker and Recruiter's account will be created

3.11 User Case: Feedback

Name	Feedback
Summary	To get a feedback from the user of the system
Rationale	To improve the system and understand the bugs
Actor	Recruiter and Job Seeker
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	<ol style="list-style-type: none">1. Job Seeker or Recruiter has registered through the website2. GO to the feedback tab from dashboard3. Enter and submit the feedback
Post- Condition	The developer receive the feedback

4. Functional Requirements

1. Login/Logout

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR001	Login approved	The system will provide functionality to all the users once they log onto the system with their user name and password. On the basis of their type, they will be directed to different pages or section after matching username and password	Essential
FR002	Login declined	If user enters wrong username and password it will show the error message.	Essential
FR003	Forgot/Change password	Due to privacy concerns any registered user in the system can change their login password	Essential
FR004	Logout	The user can logout from the system to avoid unauthentic access	Essential

2. Manage recruiters/job Seekers

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR005	Admin approval (Job Seeker)	The admin can approve the request of job seeker to the system	Essential
FR006	Admin approval (Recruiter)	The admin can approve the request of recruiter to the system	Essential
FR007	Admin Rejection (Job Seeker)	The admin if suspicious can deny the request of job seeker to join the system	Essential
FR008	Admin Rejection (Recruiter)	The admin if suspicious can deny the request of recruiter to join the system	Essential
FR009	View/Suspend (Job Seeker)	Admin can suspend a job seeker from system as required and view reports on it.	Essential
FR010	View/Suspend (Recruiter)	Admin can suspend a recruiter from system as required and view its reports	Essential

3. Register (Recruiter)

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR011	Registration form	A recruiter can register online to put up jobs	Essential
FR012	Email confirmation of registration	Recruiter will get an email after registration is completed.	Essential
FR013	Submit registration form	After filling registration form recruiter can submit the application	Essential
FR014	Cancel Registration form	If recruiter does not want to submit the form, they can cancel it	Essential
FR015	Select Type of User	Choose the type of user while filling the registration form	Essential
FR016	Password and Confirm Password Field Should Match	The characters of both fields should be identical to avoid error in typing of password	Essential

4. Create Job

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR021	Job Posting	Recruiters can post jobs, and specific details	Essential
FR022	Update Job Details	Recruiter can make changes to the job listed already	Essential
FR023	View Posted Job	A recruiter can view the summary of the job	Optional

5. Schedule Interview

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR024	Create Interview	The recruiter can schedule an interview	Essential
FR025	Edit Interview	Recruiter can change the date, time or place of interview	Essential

6. Edit Profile (Recruiter)

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR026	Change address	Recruiter can change their address	Essential
FR027	Change company	Recruiter can edit his details on the profile	Essential
FR028	Change designation	Recruiter can edit his details on the profile	Essential
FR029	Change email	Recruiter can edit his email on the profile	Essential

7. View Job Seekers

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR030	Search Job Seeker	A recruiter can search a job seeker by his name or skills required	Essential
FR031	Send message	If the recruiter wants to get in contact with the job seeker he can leave a message	Essential

8. Feedback

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR032	Feedback form	Recruiter can send feedback to admin by feedback us page by filling in username, email and message	Optional

9. Register (Job Seeker)

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR033	Registration form	A job seeker can register online to apply for the job	Essential
FR034	Email confirmation of registration	Job seeker will get an email after registration is completed.	Essential
FR035	Submit registration form	After filling registration form job seeker can submit the application	Essential
FR036	Cancel Registration form	If job seeker does not want to submit the form, they can cancel it	Essential
FR037	Select Type of User	Choose the type of user while filling the registration form	Essential
FR038	Password and Confirm Password Field Should Match	The characters of both fields should be identical to avoid error in typing of password	Essential

10. Search for Jobs

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR043	Filter for jobs	Job seeker can search for a job according to various filters like type, salary, position, experience needed	Essential
FR044	View Job Details	By clicking on the job from the search results you can check the details of the same.	Essential

11. Apply for Jobs

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR045	Apply for job	Job seeker can apply for job after registration.	Essential
FR046	Reference no for application	System will generate a reference no for job seeker application.	Essential

12. Check Interview

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR047	Job Alerts	Job seeker can receive job alerts by message about specific job category	Essential
FR048	Interview Message	The jobseeker receives a message when he is selected for an interview with its details	Essential

13. Edit Profile (Job Seeker)

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR049	Change address	Job seeker can change their address as required.	Essential
FR050	Change skills, education and other details	The job seeker can edit his details on the profile	Essential
FR051	Change personal details	Job seeker can change their address as required.	Essential
FR052	Change phone	Job seeker can edit his details on the profile	Essential
FR053	Change email	Job seeker can edit his email on the profile	Essential

14. Upload Resume

Functional Requirement ID	Requirement Name	Details of requirement	Priority
FR054	Upload Resume	Job seeker can upload their Resume including cover letter to apply for job	Essential
FR055	Download Resume	Recruiter can download Resume of the applicant from the system	Essential

5. External Interface Requirements

5.1 User Interfaces

The key rules are:

- Placed the user in control with program the interface do what the user desire.
- Reduced the user's memory load with less command based and intuitive shortcuts.
- Make the interface consistent

Fig 1. Login Form

Job Recruitment System

Login Form

Username	<input type="text"/>
Password	<input type="password"/>
Type	<input type="text"/> ▼

Fig 2. Registration Form (Job Seeker/Recruiter)

Job Recruitment System

Registration Form

Username	<input type="text"/>
Password	<input type="password"/>
Confirm Password	<input type="password"/>
Type	<input type="text"/> ▼

Education Details..

Personal Details...

Fig 3. Admin Dashboard

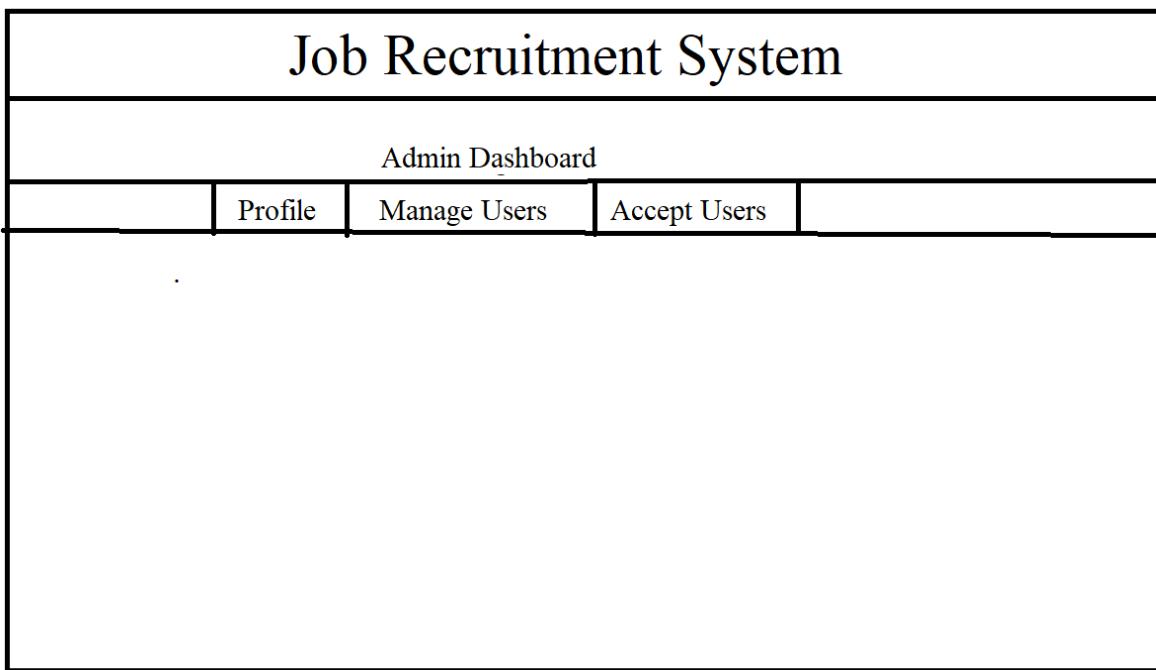


Fig 4. Job Seeker Dashboard

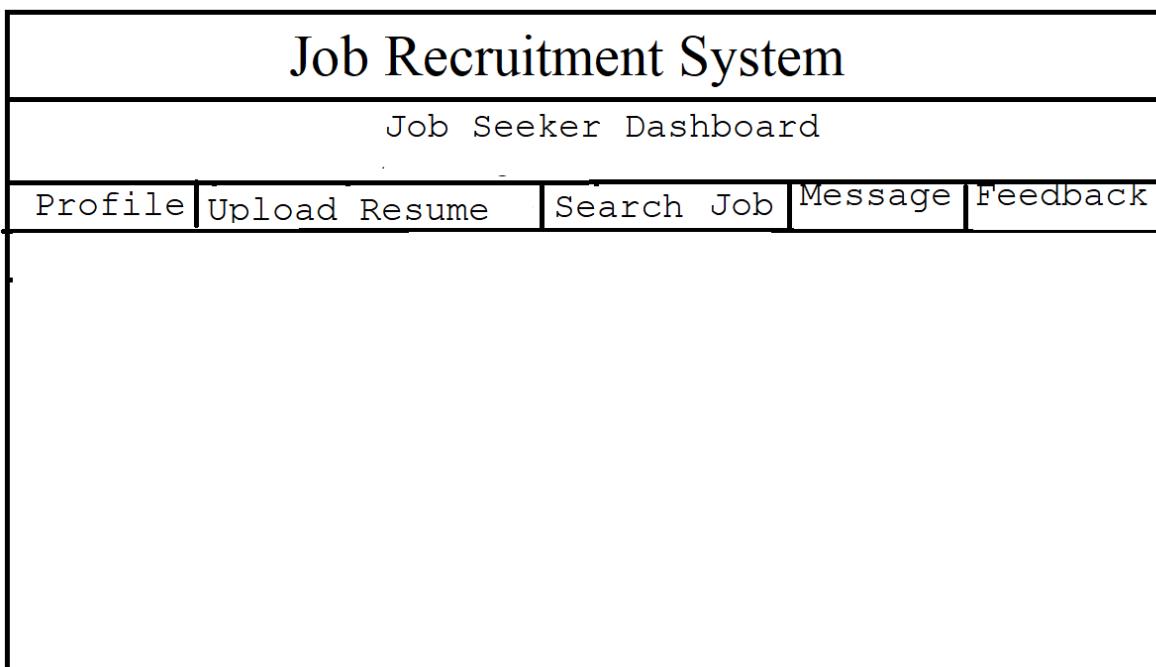


Fig 5. Recruiter Dashboard

<h1>Job Recruitment System</h1>			
Recruiter Dashboard			
Profile	View Posted Job	Post a Job	Search Jobseeker
	Message	Feedback	

Fig 6. Search Jobs

<h1>Job Recruitment System</h1>											
Job Seeker Dashboard											
Profile	Upload Resume	Search Job	Message Feedback								
<table border="1"><tr><td>Keywords <input type="text" value="java"/></td><td>Expected Salary <input type="text" value="10000"/></td></tr><tr><td>Location <input type="text" value="mumbai"/></td><td></td></tr><tr><td>Experience <input type="text" value="2"/></td><td></td></tr><tr><td colspan="2"><input type="button" value="Search Job"/></td></tr></table>				Keywords <input type="text" value="java"/>	Expected Salary <input type="text" value="10000"/>	Location <input type="text" value="mumbai"/>		Experience <input type="text" value="2"/>		<input type="button" value="Search Job"/>	
Keywords <input type="text" value="java"/>	Expected Salary <input type="text" value="10000"/>										
Location <input type="text" value="mumbai"/>											
Experience <input type="text" value="2"/>											
<input type="button" value="Search Job"/>											

Fig 7. Post a Job

The figure shows a screenshot of a web-based job recruitment system. At the top, a header bar contains the text "Job Recruitment System". Below the header is a sub-header "Recrutier Dashboard". A navigation menu bar includes links for "Profile", "View Posted Job", "Post a Job" (which is highlighted in blue), and "Search Jobseeker". Underneath the menu is a horizontal row of buttons labeled "Message" and "Feedback". The main content area is a form for posting a job. It contains fields for "Job ID", "Job Title", "Job Description", "KeySkills", "Salary", "Minimum Experience", "Role", and "Location". At the bottom of the form is a prominent "Post A Job" button.

5.2 Hardware Interfaces

No. of machine: More than 1.
Processor: Pentium 4 & upward.
Hard disk: 80 GB
RAM: 256 MB & upward
LAN card (Each system)
Keyboard
Mouse
Color Monitor.
Networking environment

5.3 Software Interfaces

For server:

Java: JRE5.0
Server: Apache tomcat 5.5
Database: Oracle9i
Operating system: Windows-xp & upward

For client system:

New version of java enabled web browser.
Operating system: Windows-xp & upward

5.4 Communications Interfaces

The Recruitment System will be connected to the World Wide Web.
The HTTP protocol will be used for communication over web

6. Non-functional Requirements

6.1 Performance Requirements

1. Response Time:

The splash page or information page should be able to be downloaded within a minute using a 56k modem. The information is refreshed every two minutes. The system shall respond to the member in not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs.

2. Admin Response:

The system shall take as less time as possible to provide service to the admin.

3. Throughput:

The number of transactions is directly dependent on the number of users; the users may be the Admin and also the job seekers who use the system for checking-out jobs, agencies checking-out registered job seekers.

4. Resource Utilization:

The resources are modified according the user requirements and also according to the jobs requested by the users.

6.2 Security Requirements

1. Login verification:

- Jobseeker will be asked for username, password and type will provide the detail about the type of user, to access jobseeker home only jobseeker type is accessible.
- For the admin home, it will only demand their username & password and type as admin.
- For the recruiter home, it will request username, password and type as recruiter.

2. Hiding the Home Page name from external people: Through this, we will provide double security from external users for the Job Seekers, Recruiters and as well as Administrator Home Page: By Hiding home page name. If unfortunately, they know then username verification works as a security for us.

3. All users should be properly authenticated before allowed entry into the system Authentication will be based on a E-mail address, and a password. All activities on the system must be logged.

4. Highly recommend Kaspersky 2020 internet security to been Installed in users Pc to prevent the harm that may occurs by Unwanted malicious software's, phishing URLs and all the types of Virus attacks during using this application.

5. The system must be protected against the following security threats:-

- Man-in-the-middle (MitM) attacks, also known as eavesdropping attacks, occur when attackers insert themselves into a two-party transaction. Once the attackers interrupt the traffic, they can filter and steal data. Two common points of entry for MitM attacks:

- (a) On unsecure public Wi-Fi, attackers can insert themselves between a visitor's device and the network. Without knowing, the visitor passes all information through the attacker.
 - (b) Once malware has breached a device, an attacker can install software to process all of the victim's information.
 - A denial-of-service attack floods systems, servers, or networks with traffic to exhaust resources and bandwidth. As a result, the system is unable to fulfill legitimate requests. Attackers can also use multiple compromised devices to launch this attack. This is known as a distributed-denial-of-service (DDoS) attack.
 - SQL Injection: A Structured Query Language (SQL) injection occurs when an attacker inserts malicious code into a server that uses SQL and forces the server to reveal information it normally would not. An attacker could carry out a SQL injection simply by submitting malicious code into a vulnerable website search box.
6. The user should be forced to keep a difficult password including upper and lower case, numbers and symbols, to avoid:-
- Brute-force password guessing means using a random approach by trying different passwords and hoping that one work. Some logic can be applied by trying passwords related to the person's name, job title, hobbies or similar items.
 - In a dictionary attack, a dictionary of common passwords is used to attempt to gain access to a user's computer and network. One approach is to copy an encrypted file that contains the passwords, apply the same encryption to a dictionary of commonly used passwords, and compare the results.

6.3 Safety Requirement

- The system should be protected from excess heating by using cooling mechanisms and fan to release the heat produced from continuous working.
- The server should always be confirmed to run properly and the data are saved to the database at consecutive intervals.
- Power is a significant feature and the power supply should be always taken care of.
- Power supply must be uninterrupted. Unsaved data might be lost due to sudden power failure.
- The database may get crashed at any point of time due an operating system failure or any other reason. Therefore, a reliable backup system has been implemented.
- Safeguard the system and server side and database from People, earthquake, fire, temperature, humidity etc.

6.4 Business Rules

- Frequency of use can be varied depend on where it is used.
- Maintenance: The maintenance of the system shall be done as per the maintenance contract.
- Standards: The coding standards and naming conventions will be as per the American standards.
- The system shall support the UHCL information security requirements and use the same standard as the information security requirements.
- Internet Protocols: The system shall be comply with the TCP/IP protocol

standards and shall be designed accordingly.

6.5 Data Integrity requirement

1. User data is confidential and should be stored in an encrypted way, to prevent unauthorized access and misuse. Information regarding airlines must be treated with utmost confidentiality. Users must be told to upgrade their passwords periodically, to improve security and confidentiality of their data. Encryption keys must not be made publicly available at any cost.
2. The integrity constraints on the database should be as follows:-
 - Job
 - Primary Key:- JOBID
 - Domain: The job should be listed under a given available domains only
 - Referential Integrity: Each job is created by a recruiter with recruiter username
 - Job Seeker
 - Primary Key: Job Seeker Username
 - Recruiter
 - Primary Key: Recruiter Username
 - Interview:
 - Primary Key: Interview ID
 - Referential: Each interview is for a particular job seeker for a particular job created by a particular recruiter

6.6 Regulatory requirement

- The system shall be complying with the TCP/IP protocol standards and shall designed accordingly.
- The coding standards and naming conventions will be as per the American standards.
- Legal, Copyright, and Other Notices: Job Recruitment System is a trademark and cannot be used without consent.
- Applicable Standards: The ISO/IEC 6592 guidelines for the documentation of computer-based application systems will be followed.

6.7 Environmental requirement

- The system should be developed in a well-lit and cool room to maintain the server.
- There should be less interference in the wireless signals in case of wireless connectivity to the internet.
- The temperature within the range of 18 °C to 23 °C and the humidity within the range of 50 % to 70 % independent of weather conditions.

6.8 Software quality attributes

1.1.1 Usability requirement

- The system shall allow the users to access the system from the internet using HTML or its derivative technologies. The system uses a web browser as an interface.
- Since all users are familiar with the general usage of browser, no specific training is required.
- The system is user friendly and self-explanatory.

1.1.2 Availability requirement

1. In case of failure of one server the other must be made available.
2. The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs.
3. In case of a hardware failure or database corruption, a replacement page will be shown. Also, in case of a hardware failure or database corruption, backups of the database should be retrieved from the server and saved by the administrator.
4. The service should not be denied at any time to any authorized user. Routine maintenance should be performed at hours of low user activity, to reduce the number of users inconvenienced. If the platform is not available for use by any user, at any point, efforts should be taken to make it available with as little delay as possible.
5. The system is available 100% for the user and is used 24 hours a day and 365 days a year.

1.1.3 Capacity requirement

1. The system is capable of handling 250 users at a time.
2. A large amount of data will be stored on such a platform; hence the data storage should be as efficient as possible. Data access and data management should be efficient. Since many users do not have large amounts of internet data that can be used, the platform should efficiently use network resources, and not consume unnecessary data bytes for communication. It should also not store much cache data on the user side, to keep the application size small.

1.1.4 Serviceability requirement

1. Mean Time between Failures (MTBF): The system will be developed in such a way that it may fail once in a year.
2. Online help is provided for each of the feature available with the System. All the applications provide an on-line help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (hyperlinks, etc) with aspects of technical writing (organization, presentation). Online help is provided for each and every feature provided by the system.
3. The User Manual describes the use of the system to Admin. It describes the use of the system on mobile systems. The user manual should be available as a hard copy and also as online help.

4. An installation document will be provided that includes the installation instructions and configuration guidelines, which is important to a full solution offering. Also, a Read Me file is typically included as a standard component. The Read Me includes a “What’s New with This Release” section, and a discussion of compatibility issues with earlier releases. Most users also appreciate documentation defining any known bugs and workarounds in the Read Me file.
5. Since the installation of Online Job Portal System is a complex process, our experts will do it. So, an installation Guide will not be provided to the user.

1.1.5 Manageability requirement

The software must be looked upon every hour for any instability or any unlawful activity. The number of users per hour should be tracked, the number of users returning to the system and failure statistics should be noted.

1.1.6 Recoverability requirement

1. Recoverability is the ability to restore function and data in the event of a failure. The failure of system must be found within 30minutes and repair should take less than 2 hours.
2. The system should be robust and recovery schemes must be provided to restore the system state in case of a crash. User data should be backed up at periodic intervals. The software size should be kept as small as possible, since smaller systems have lower chances of crashing, and are therefore more robust. The code should also be capable of handling edge cases, and the implementation should be abstracted to prevent modification by any outsider.

1.1.7 Interoperability requirement

1. The system can be adapted to run on computers other than the one for which it was designed.
2. Degree of hardware independence: There is no interdependence between the hardware components
3. Implementation language: the JSP pages can be run on all web browsers
4. The agencies balance amount that will be calculated and sent to the billing system shall be compatible with the data types and design constraints of the billing system.
5. The application is HTML and scripting language based. So The end-user part is fully portable and any system using any web browser should be able to use the features of the system, including any hardware platform that is available or will be available in the future.
6. An end-user is using this system on any OS; either it is Windows or Linux.
7. The system shall run on PC, Laptops, and PDA etc.

1.1.8 Reliability requirement

1. Mean Time Between Failures (MTBF): The system will be developed in such a way that it may fail once in a year.

2. Mean Time to Repair (MTTR): Even if the system fails, the system will be recovered back up within an hour or less.
3. Accuracy: The accuracy of the system is limited by the accuracy of the speed at which the employees of the agency and job seekers use the system.
4. Access Reliability: The system shall provide 100% access reliability.
5. The system provides storage of all databases on redundant computers with automatic switchover.
6. The reliability of the overall program depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes.
7. Thus, the overall stability of the system depends on the stability of container and its underlying operating system.
8. The system has to be very reliable due to the importance of data and the damages incorrect or incomplete data can do.

1.1.9 Maintainability requirement

1. The maintenance of the system shall be done as per the maintenance contract.
2. A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the program will be done.
3. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

1.1.10 Scalability requirement

1. There are several ways of measuring efficiency which is a key component of scalability:
 - i. Concurrent requests per second (250 users)
 - ii. Average response time per request (1 second)
 - iii. Number of records processed per second/minute (500)
2. The scalability can be affected by: -
 - i. More users hitting the server (i.e., more web traffic)
 - ii. More data in the database (i.e., queries take longer, or processing takes longer)
 - iii. Hard drive failure in a RAID (storage performance/reliability is affected)
 - iv. Network saturation
3. With the increase in users over 500 that is double the capacity of the system the, performance will be affected and would slower down. To integrate greater number of users the bandwidth of the server and ability to respond to queries should be continuously monitored and improved.
4. To “Scale up” is when you upgrade a machine to a more powerful machine (e.g. faster CPU, faster GPU, engine with more HP, etc...) to get more processing power.
5. To increase processing power, you decide to buy a new computer with an 8-core 3.4GHz CPU to replace your old computer.
6. Scale out is when you increase the number of processing machines

(computers, processors, servers, etc) to increase processing power. In case of excess traffic the server should be increased from one to three. One must scale out processes to achieve redundancy when you want to configure a highly available environment.

7. To scale database partitioning of large tables, based on ranges of values in a key field. In this manner, the database can be scaled out across a cluster of separate database servers. (MPP)

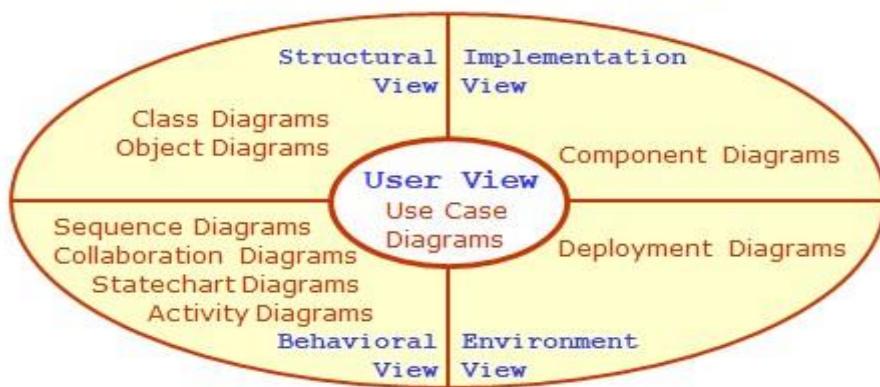
CONCLUSION: Thus, from this experiment I drafted the software requirement specification document for the case study of Job Recruitment System.

Experiment No. 2

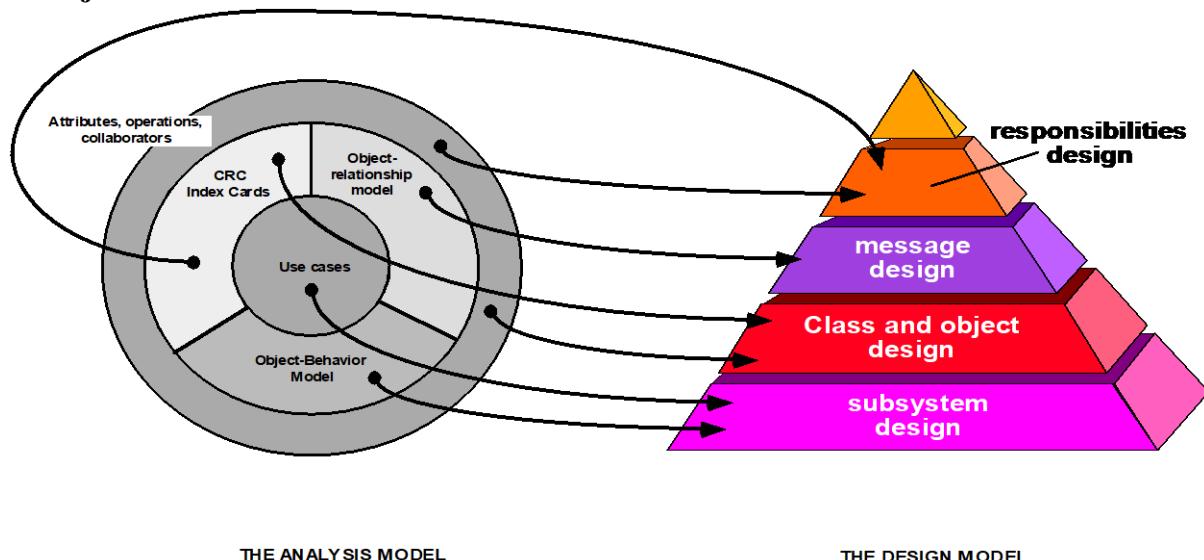
AIM: OOAD USING UML

THEORY:

- (i) Give structural view and Behavioral view.
 - (iii) Implement the project and illustrate implementation view.
 - (iii) Illustrate the environmental view with specifications.
- Use the following dimensions for answering your experiment.



Map the analysis Model with design Model. Use the following dimensions for the design of object oriented software.

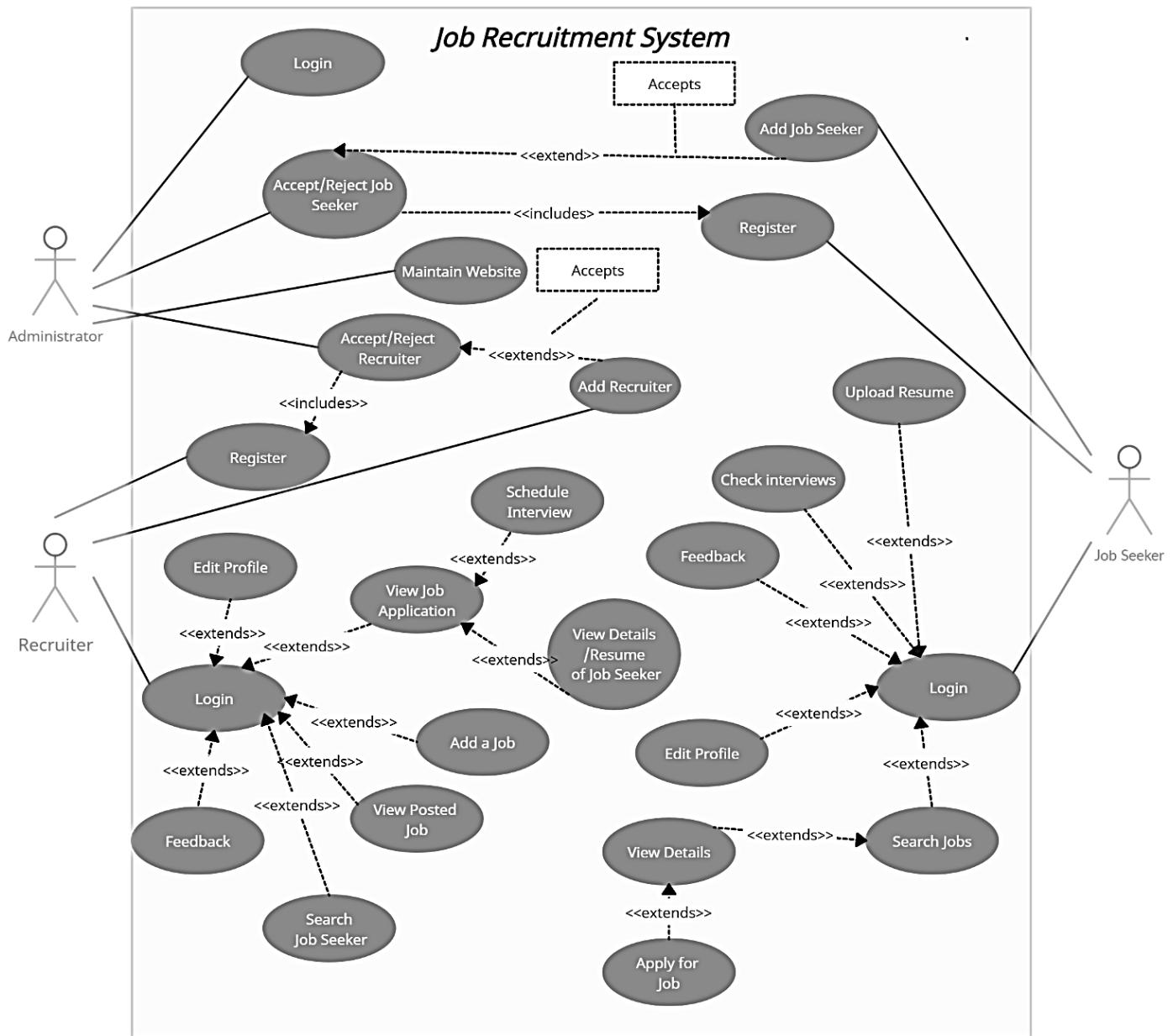


Design the software architecture, algorithm and data structure design and authoring system for the given project.

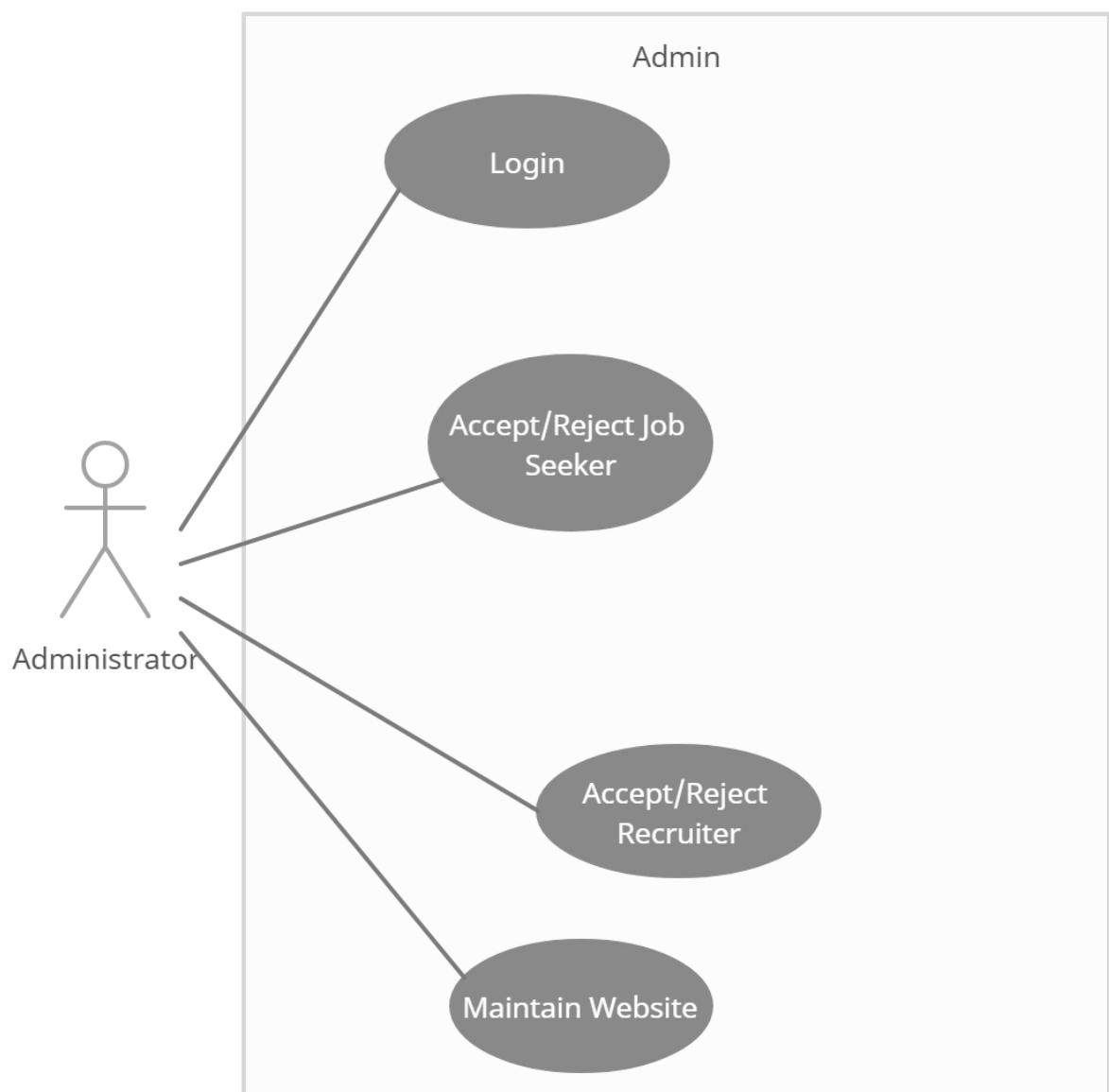
User View

USE CASE DIAGRAM

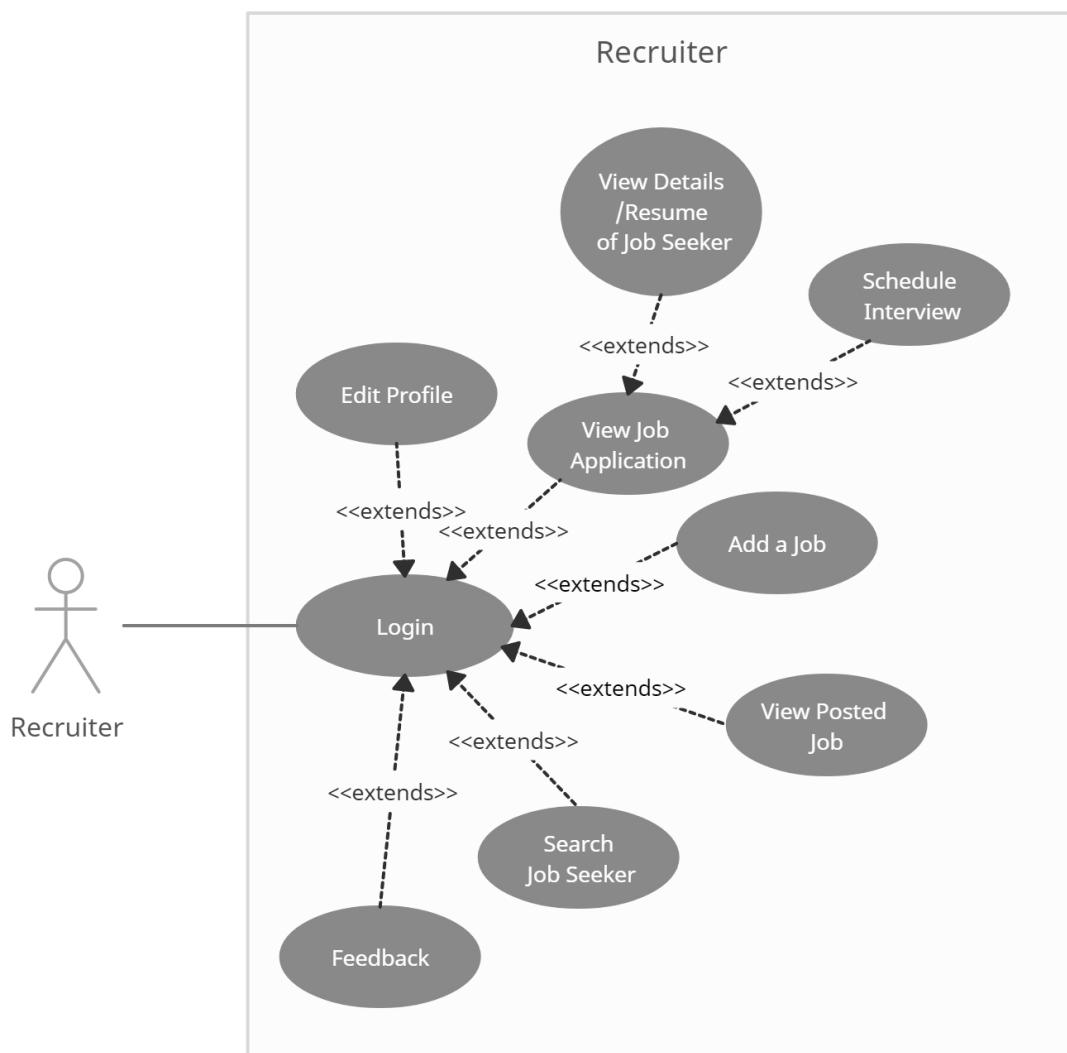
1. Complete System



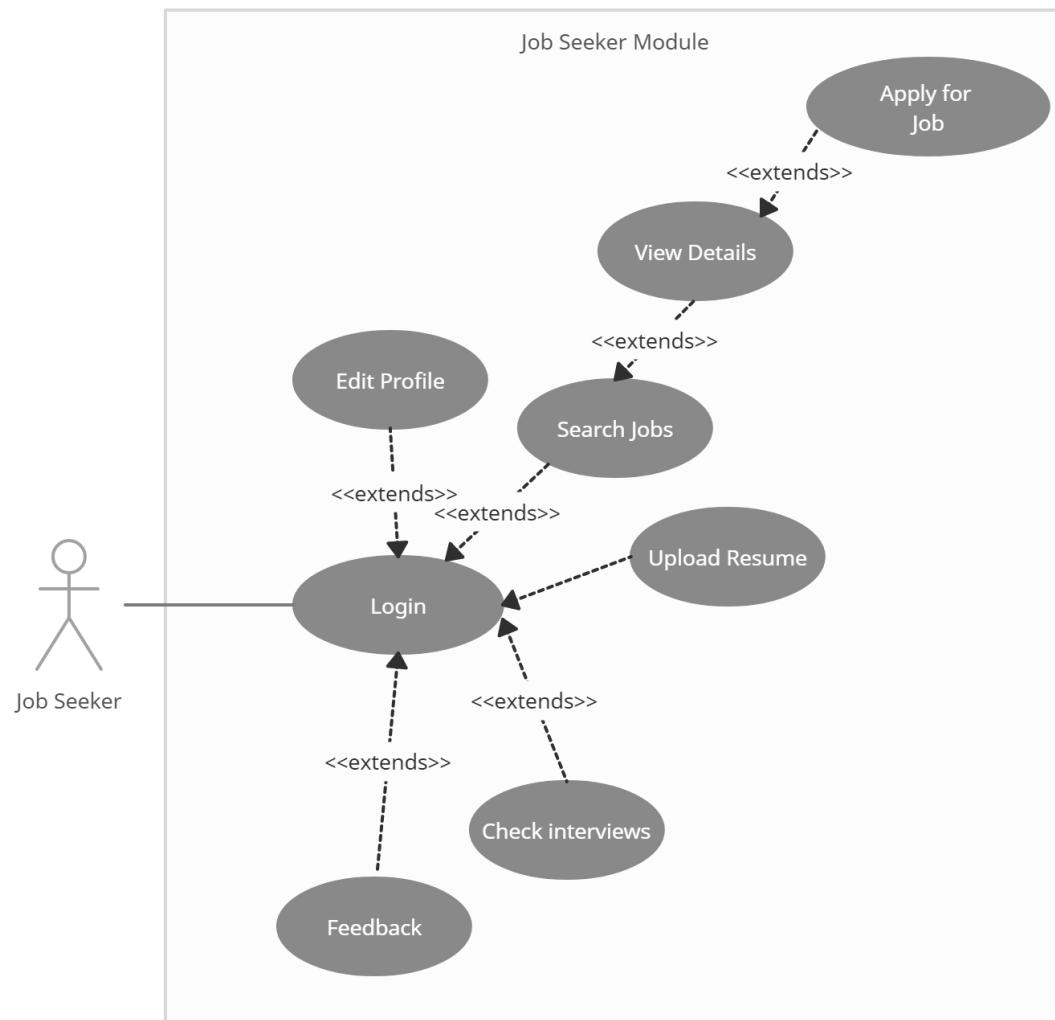
2. Admin



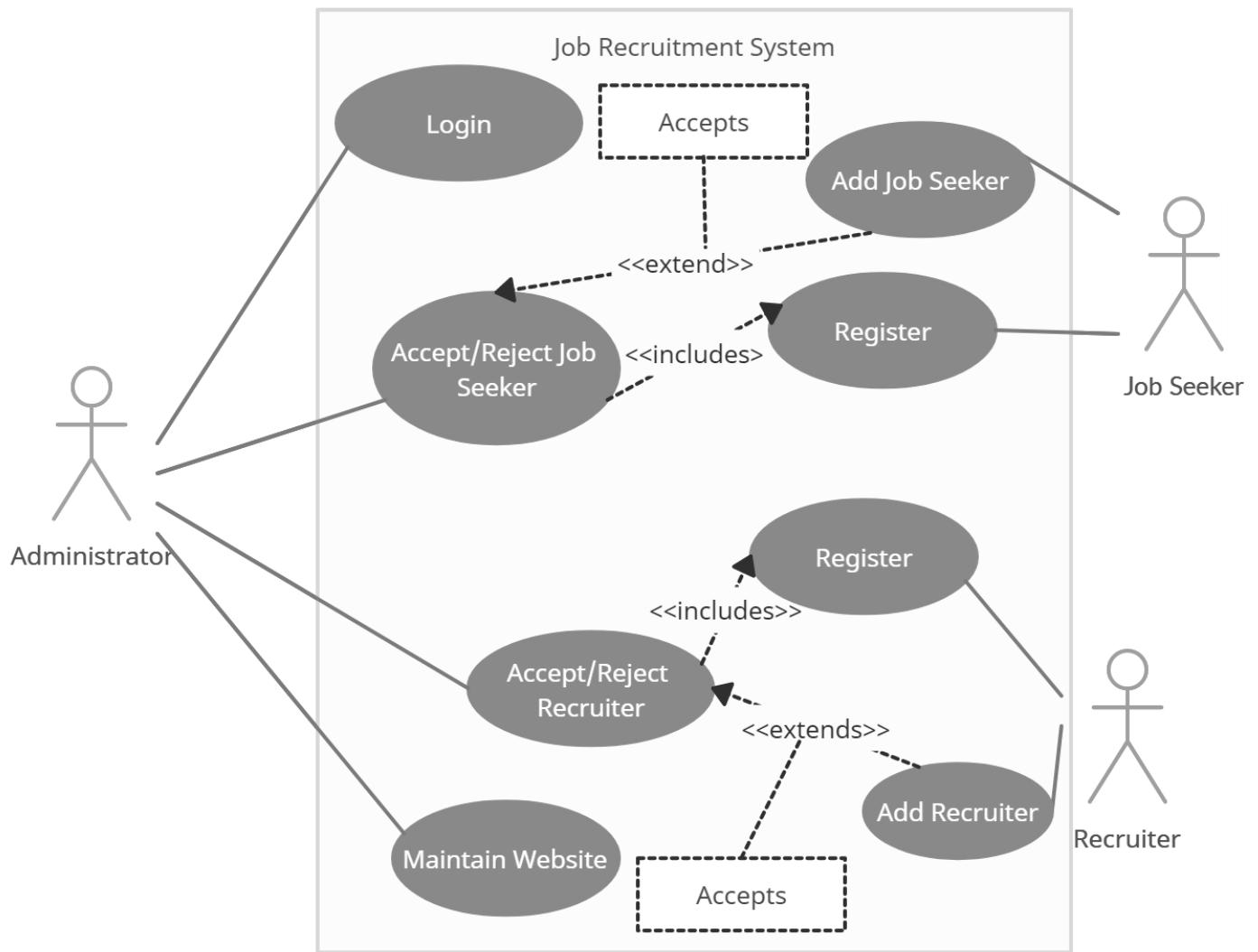
3. Recruiter



4. Job Seeker



5. Admin Interaction



USE CASE TEMPLATE

1. Use Case: Registration

Name	Register
Summary	A new user (a user which doesn't have an account) should first register into the system to use it. This feature will allow the user to enroll into the system if the user is a new user and doesn't already have an existing account.
Rationale	The user can access the system
Actor	Job Seeker and Recruiter
Pre-Condition	None
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI the registration. 3. User enters the valid details required to join the system 4. Submits the form
Post- Condition	User is registered
Alternate Flow	User goes back to the Login Page
Exception	Username already taken

2. Use Case: Login

Name	Login
Summary	Job seeker can change information into their profiles which include profile edit, delete, and update.
Rationale	After registration of the user, the valid user can login into the system
Actor	All Users
Pre-Condition	<p>The login name and password should match with the login name and password provided while registering. If the username and or password do not match, the user cannot login successfully into the system.</p>
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI the login form 3. The user writes its username, password and type 4. If valid, user can login into the system. If the username and or password do not match, the user cannot login successfully into the system.
Post- Condition	User goes to his/her dashboard
Alternate Flow	<ol style="list-style-type: none"> 1. The username and password is blank 2. The type of user is not specified 3. The username and password do not match

3. Use Case: Manage Profile

Name	Manage Profile
Summary	User can change information into their profiles which include profile edit, delete, and update.
Rationale	If there is unnecessary date and fake profiles that are running on the site then Admin will have rights to remove or delete the profile.
Actor	All Users
Pre-Condition	Profile and record must exist
Basic course of Event	<ol style="list-style-type: none">1. User opens the desired module of the system.2. The system displays GUI of different pages.3. User will input the necessary data into the fields.4. System will update the record as per requirements.
Post- Condition	User receives the notification that profile has been approved or profile has been updated.
Alternate Condition	<ol style="list-style-type: none">1. The details enter to not validate, e.g. age is <18, date of birth is out of range.

4. Use Case: Upload CV

Name	Upload CV
Summary	Job seeker can post his/her CV on job portal
Actor	Job seeker
Pre-Condition	New Jobs and other features should be displayed.
Basic course of Event	<ol style="list-style-type: none"> 1. Job seeker search for a specific job category. 2. The system displays GUI for the new jobs and features. 3. Job seeker clicks on the new jobs option and upload his/her CV there. 4. System will show all the CV on the admin and job seeker end.
Post- Condition	CV successfully uploaded.
Alternate Flow	<ol style="list-style-type: none"> 1. The type of file uploaded does not match the required file type 2. The size of file is more than the maximum available size

5. Use Case: Apply/Search for Job

Name	Search/Apply Jobs
Summary	Job seeker can search for jobs related to his interest using filters, if interested he can apply for the job
Rationale	Job Seeker is searching for a job
Actor	Job Seeker
Pre-Condition	Job Seeker must have an account
Basic course of Event	<ol style="list-style-type: none"> 1. Jobseeker access the required page to search the job. 2. System will show the appropriate GUI for searching and filtering the jobs 3. Job Seeker will fill all the required fields and describe the category and type of a job. 4. If, he/she is interested he will Apply for the job
Post- Condition	Apply for the job and wait for Interview notification.
Alternate Flow	The search criteria entered has no jobs listed

6. Use Case: Job Application Status

Name	Job application status
Summary	Job seeker can check its status either their application is accepted.
Rationale	If their application is accepted and rejected, then they must know about the status, so that they can further proceed.
Actor	Job seeker
Pre-Condition	Job should have been applied for
Basic course of Event	<ol style="list-style-type: none">1. The job seeker login to system and check status of his application2. The system displays GUI for the job application page.3. Job seeker clicks on the page and check its status.4. System will show all the results regarding their post on the jobs.
Post- Condition	Result successfully shown to the job seeker

7. Use Case: Post jobs

Name	Post Jobs
Summary	Recruiter can post the job
Rationale	Recruiter wants to find the right employees for specific job.
Actor	Recruiter
Pre-Condition	Recruiter must have a task and reasonable price for that task
Basic course of Event	<ol style="list-style-type: none">1. Recruiter access the required page to post the job.2. System will show the appropriate GUI for posting the project.3. Recruiter will fill all the required fields and describe the category and type of a project.4. System will post the job.
Post- Condition	Anyone can see the posted job and apply for it after registration.
Alternate Flow	<ol style="list-style-type: none">1. The job details are not sufficient enough to be posted

8. User Case: View Job seeker profile

Name	View Job seeker profile
Summary	Recruiter can search the job seeker by name and can view the whole portfolio of job seeker.
Rationale	If a Recruiter has a job then he can search the job seeker and see entire profile of all employees or jobseekers.
Actor	Recruiter
Pre-Condition	Recruiter must be existing in a list and Job Seeker has applied for the Job
Basic course of Event	<ol style="list-style-type: none"> 1. The user indicates that the system is to perform a search function. 2. System responds by the requesting the search term and shows the results. 3. System will show the entire job seeker in a relevant field in which Recruiter wants.
Post- Condition	Recruiter can see whole information about the job seeker.

9. Use Case: Hire Jobseeker

Name	Hire Job seeker
Summary	Recruiter can hire the employee for a specific job required
Rationale	Recruiter has a job and wants to search the employee for the project if found, Recruiter will hire schedule the interview.
Actor	Recruiter
Pre-Condition	Recruiter should have posted a job.
Basic course of Event	<ol style="list-style-type: none"> 1. The user indicates that the system is to perform a search function. 2. System responds by the requesting the search term and shows the results 3. System will show the entire list of job seeker. 4. System will send the interview notification to the job seeker.
Post- Condition	Job seeker will receive the notification that he or she has been asked for interview.

10. User Case: Handle Users

Name	Handle Users
Summary	Admin can view all the user's proceedings.
Rationale	If admin wants to job seeker and recruiter to be added to the system or denied.
Actor	Admin
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	<ol style="list-style-type: none">4. Job Seeker or Recruiter has registered through the website5. Admin verifies the details and credentials of the user6. If valid, he admits them into the system, else removes them
Post- Condition	Job Seeker and Recruiter's account will be created

11. User Case: Feedback

Name	Feedback
Summary	To get a feedback from the user of the system
Rationale	To improve the system and understand the bugs
Actor	Recruiter and Job Seeker
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	<ol style="list-style-type: none">4. Job Seeker or Recruiter has registered through the website5. GO to the feedback tab from dashboard6. Enter and submit the feedback
Post- Condition	The developer receives the feedback

Structural View

CLASS DIAGRAM

1. Identify the Classes

- a. User
 - i. jobseeker
 - ii. Recruiter
 - iii. Admin
- b. Feedback
- c. Job
- d. Interview
- e. Result
- f. Resume

2. Identify Attributes

- a. User
 - + Full_Name: String
 - + username: String
 - # password: String
 - i. Jobseeker
 - +JobSeekerID:int
 - designation: String
 - location:String
 - experience:String
 - email:String
 - mobile:int
 - keyskills: Array
 - projects: Array
 - ITSkills: Array
 - Education:String
 - Certification:String
 - DOB: Date
 - /age:int
 - gender: Gender
 - pincode: Int
 - LanguagesKnown: String
 - ii. Recruiter
 - +RecruiterID: int
 - Company: String
 - Designation: String
 - Location:String
 - email:String
 - mobile:Int
 - gender: Gender
 - DOB : Date
 - /age:int

- iii. Admin
- b. Feedback
 - message: String
 - name: String
 - rating: String
- c. Job
 - +JobID:int
 - Title:String
 - Location:String
 - Experience:Int
 - Salary:Float
 - Description: String
 - Role: String
 - KeySkills: String
 - Vacancy: Boolean
 - Recruiter: String
 - DateofPosting: Date
- d. Interview
 - +InterviewID:int
 - InterviewDate: Date
 - Interviewer: String
 - Interviewee: Job
 - InterviewLcoation
- e. Result
 - +JobID
 - +interviewID
- f. Resume
 - +JobSeekerID: int
 - ResumeFIlle: file

3. Identify functions

- a. User
 - +Register(Full_name,username,password)
 - + Login(username, password): boolean
 - + Logout(username)
 - + Feedback(Full_name): void
 - i. jobseeker
 - +UpdateDetails(label,value:JobSeeker
 - + PrintDetails(JobSeeker): void
 - +UploadResume(Full_Name):Resume
 - +ApplyJob(Job, JobSeeker):Job
 - +CheckInterview(Job, Interview):void
 - +SearchJobs(Jobs[]):void
 - ii. Recruiter

```

+UpdateDetails(label,value):Recruiter
+ PrintDetails( Recruiter ): void
+CreateJob():Job
+ScheduleInterview(Job, JobSeeker):Interview
+ViewJobApplication(Job, JobSeeker):void
+SearchJobSeeker(JobSeeker):void

iii. Admin
+AcceptJobSeeker(JobSeeker):boolean
+ AcceptRecruiter(Recruiter ): boolean
-CreateJobSeeker(JobSeeker):JobSeeker
-CreateRecruiter(Recruiter):Recruiter

b. Feedback
+ GiveFeedback(): Feedback
+ CheckFeeback(Feedback): void

c. Job
+setdetails(Recrutier):Job
+viewdetails(Recuiter)

d. Interview
+setInterviewdetails(Recrutier):Job
+viewInterviewdetails(Recuiter)

e. Result
Result(): Boolean

f. Resume
+UploadResume():Resume
+viewResume():Resume

```

4. Identify relationships

1:1

User gives feedback

Resume belongs to a jobseeker

One interview has a result

1:n

A recruiter posts many jobs

A recruiter schedules many interviews

Admin manages many job seekers

Admin manages many recruiters

A job has many interviews

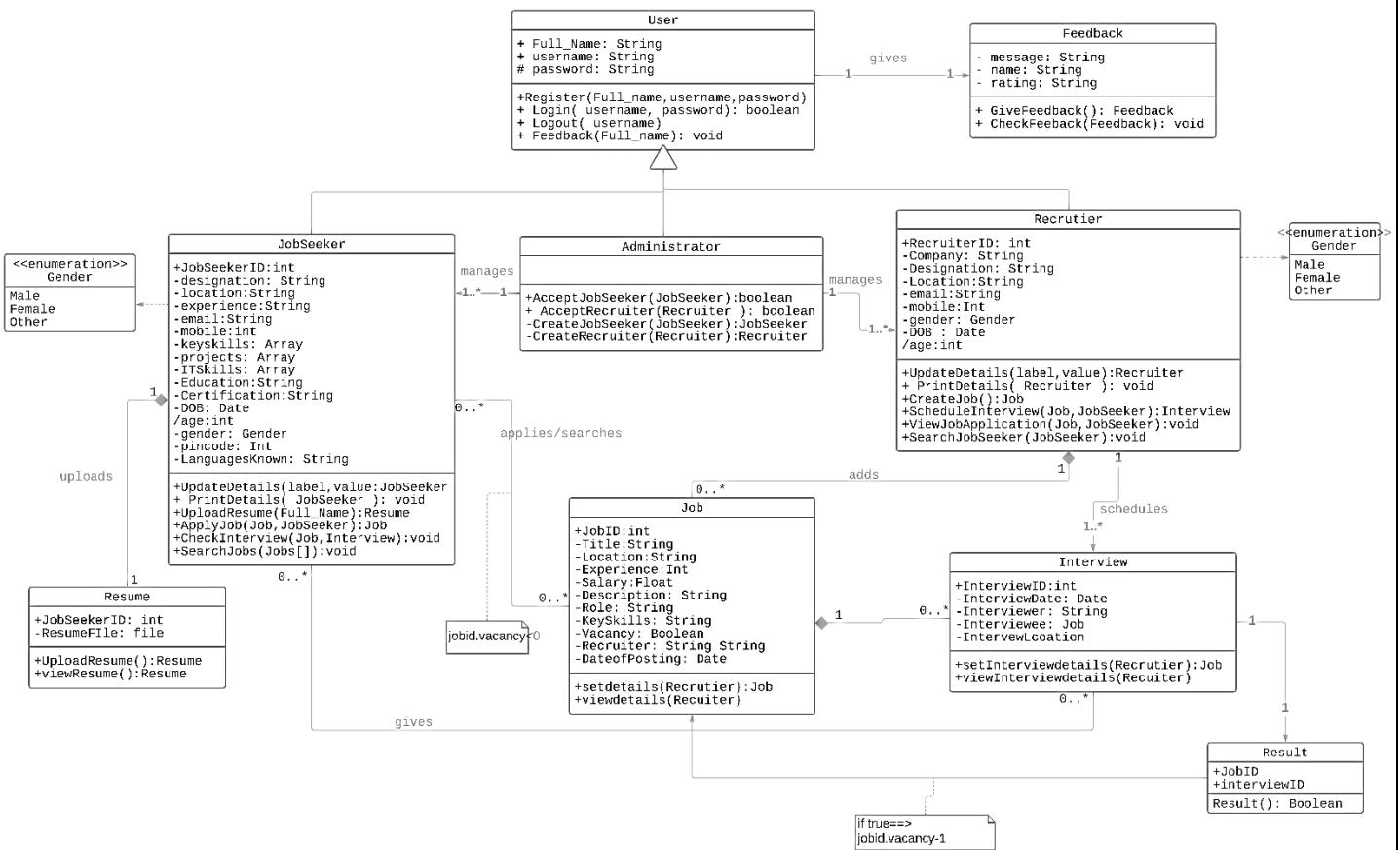
N:n

Jobseeker applies/searches for jobs

5. Constrain

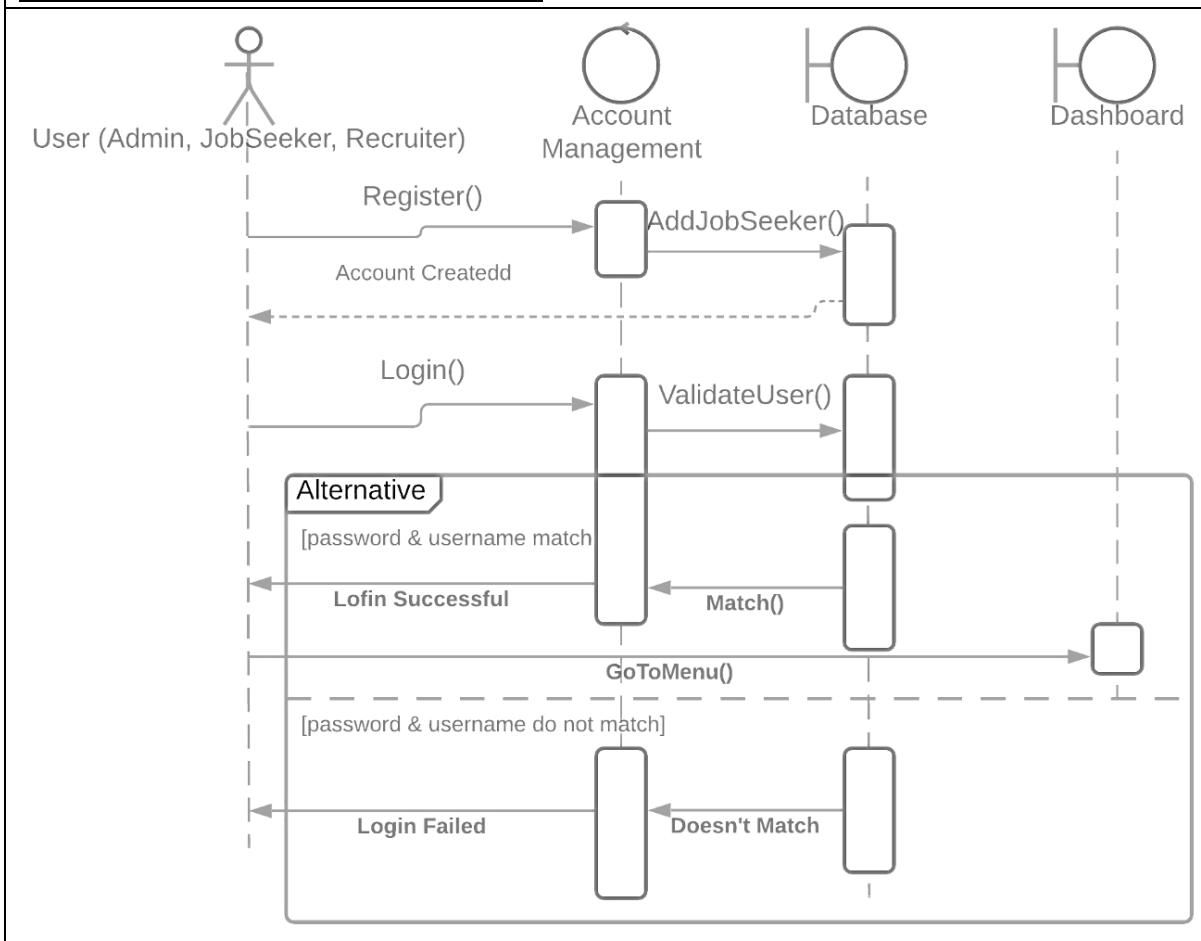
Apply Job: precondition: vacancy>0

After interview if result==true, then c vacancy--;

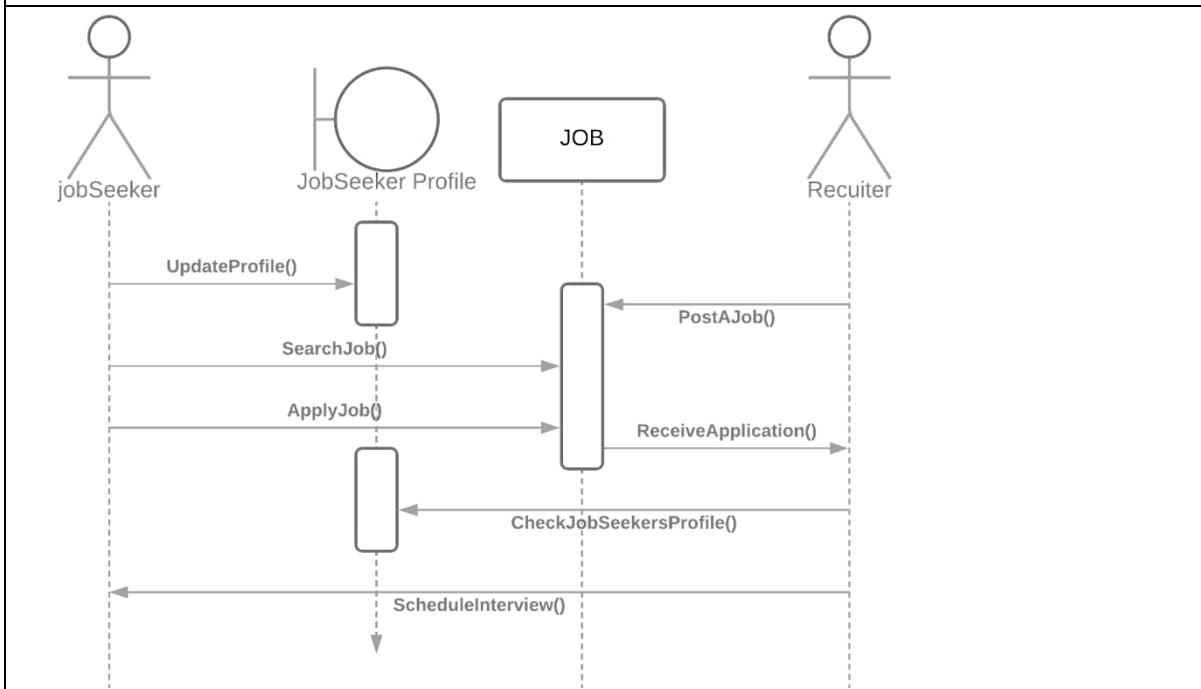


Behavioural View

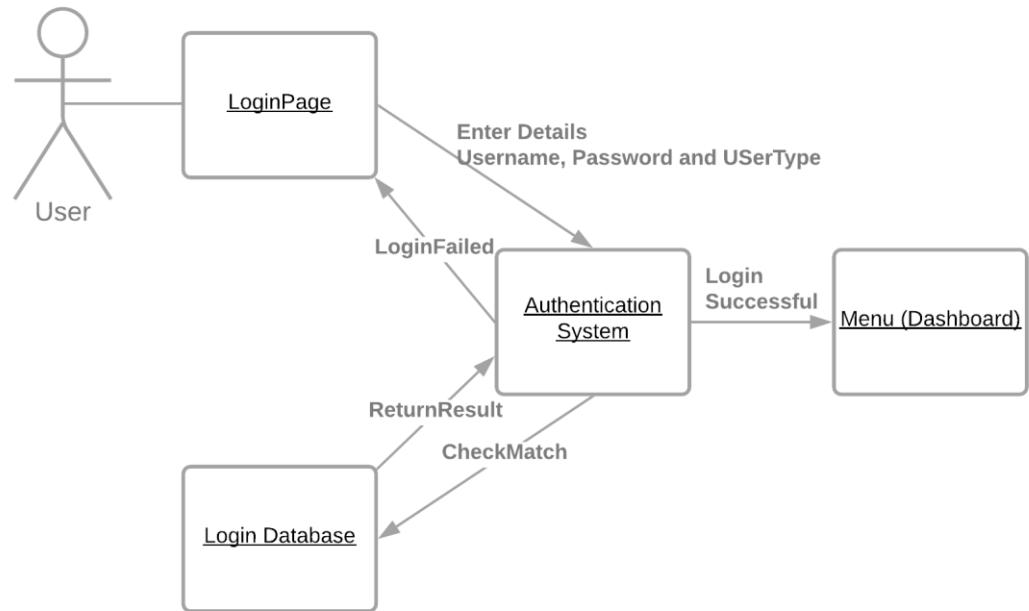
Sequence Diagram: Register and Login



Sequence Diagram: Jobseeker and Recruiter

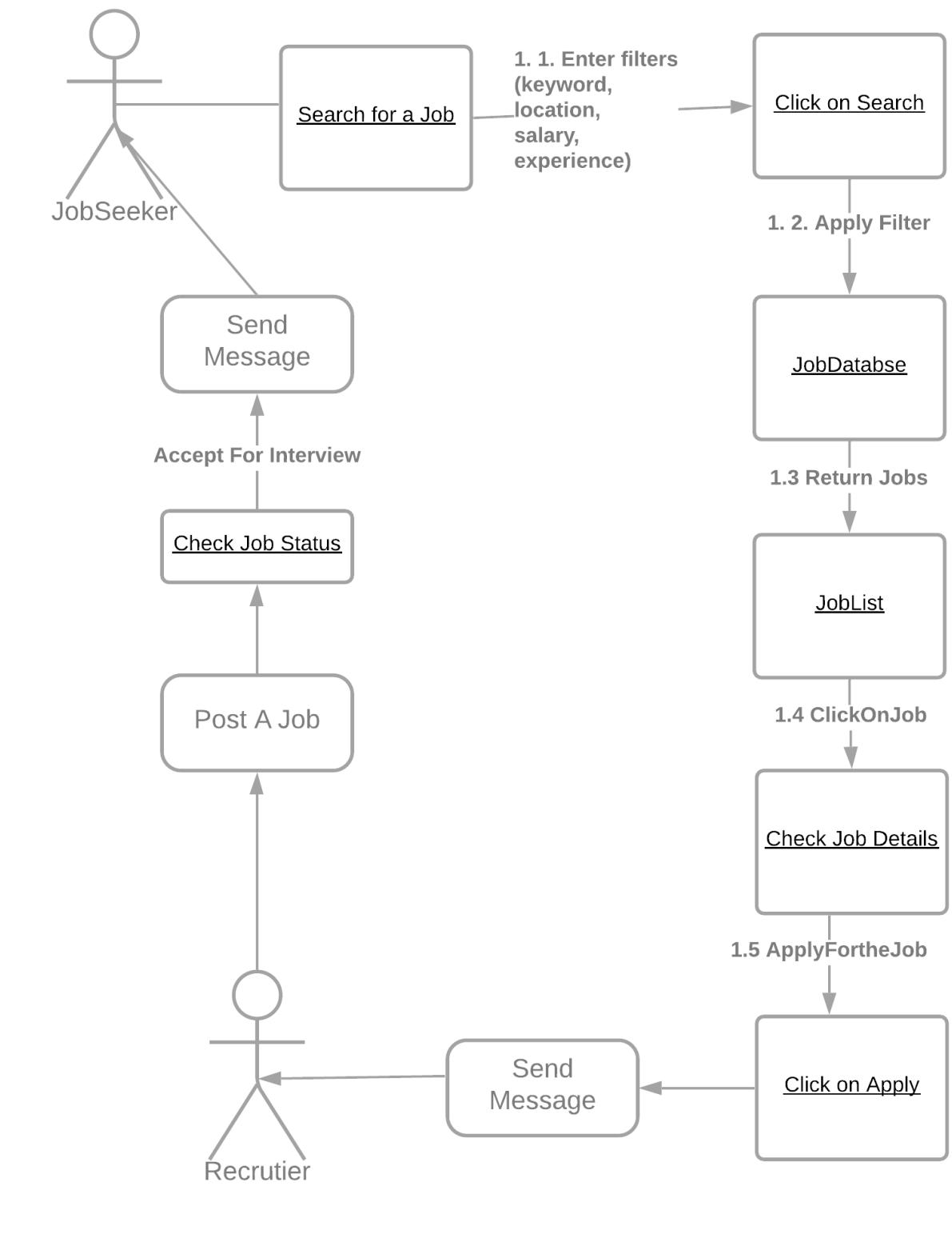


Collaboration Diagram: Login



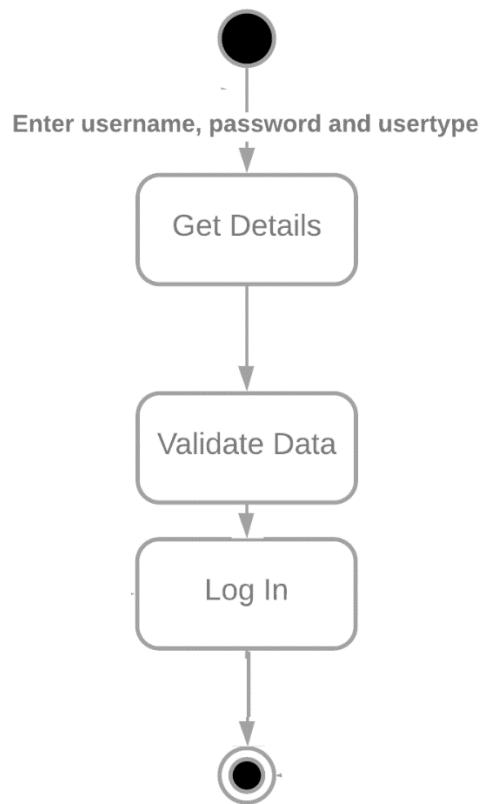
Collaboration Diagram

JobSeeker and Recruiter Activity

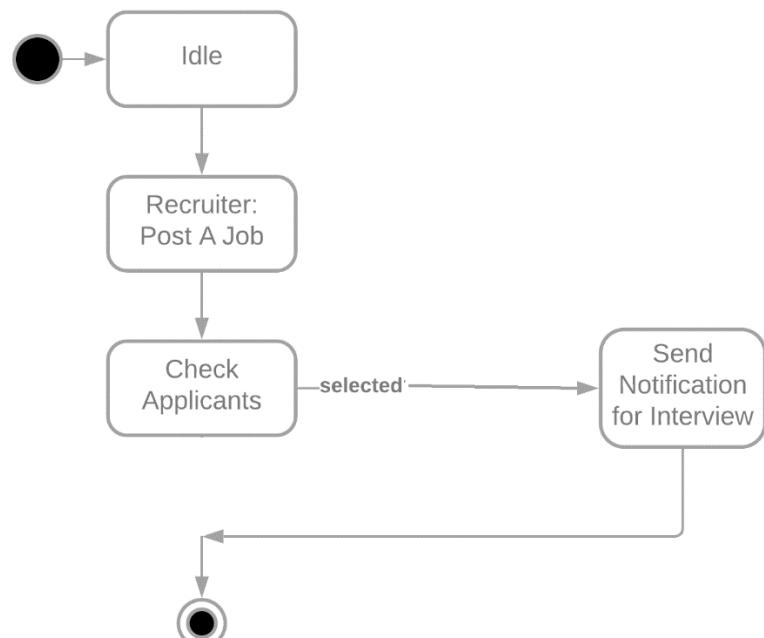


State Chart Diagram

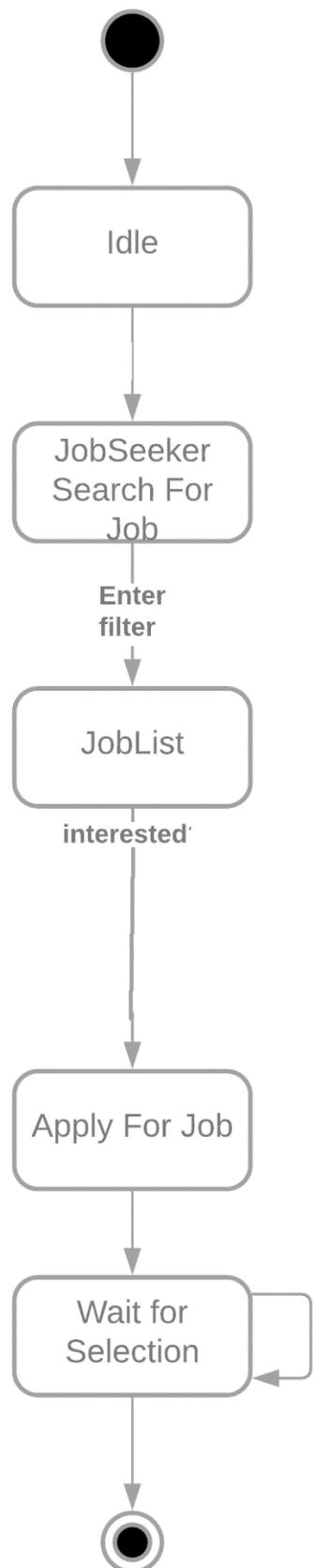
1. Login



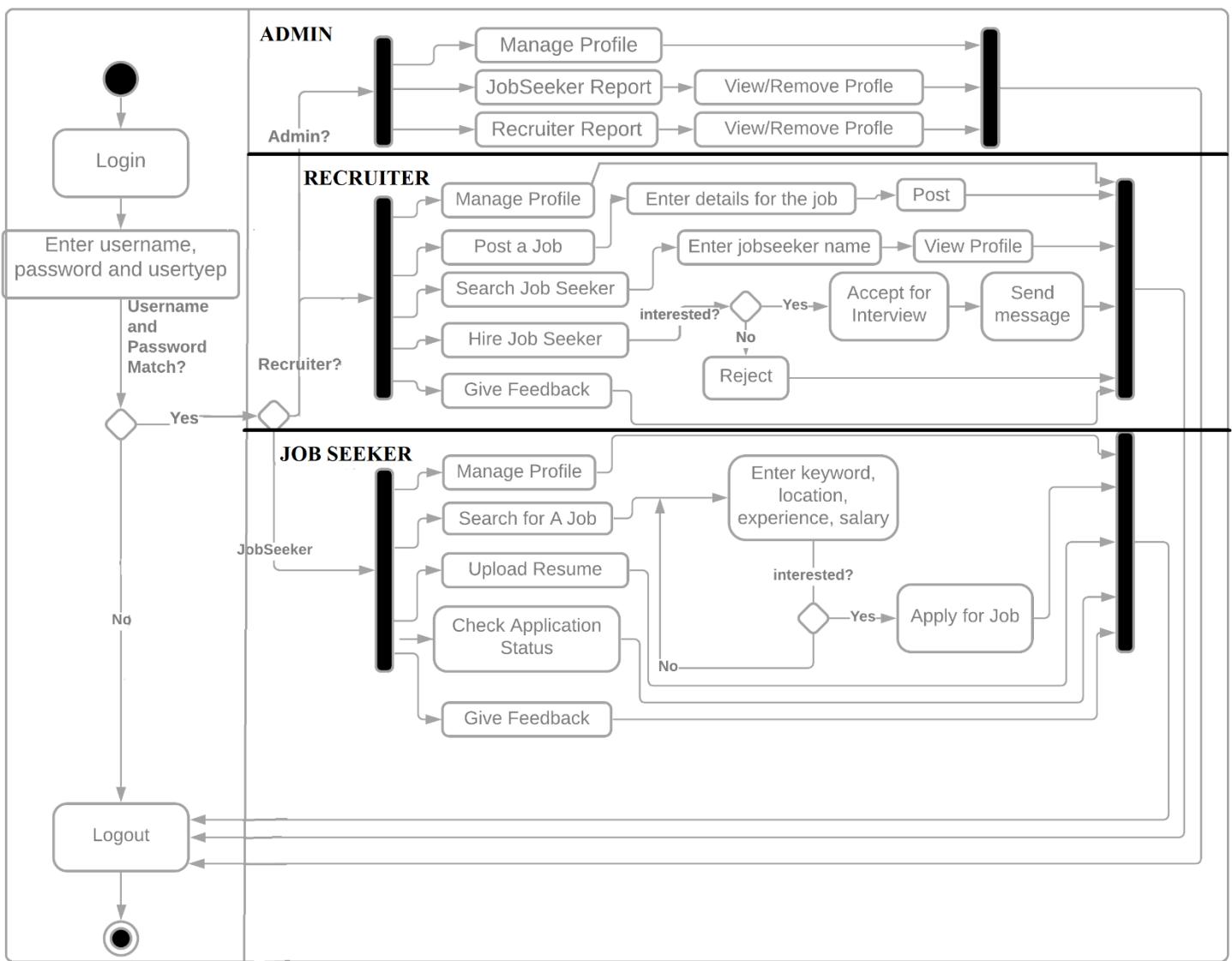
2. Recruiter Activity



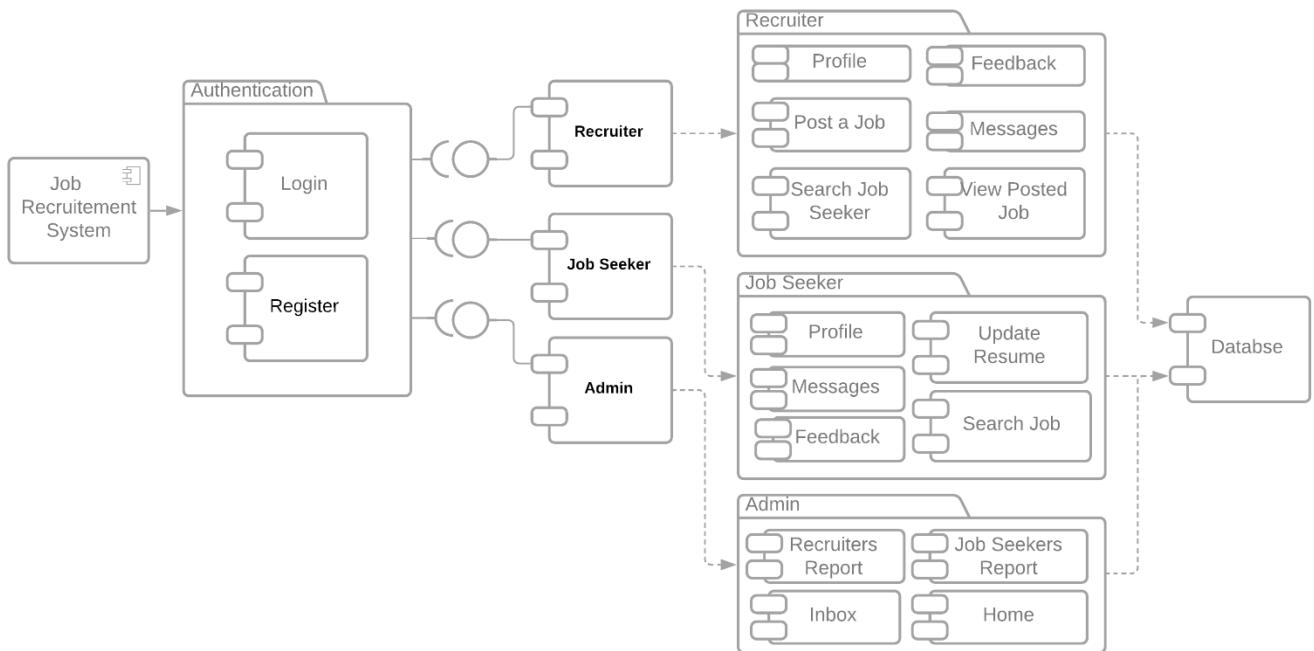
3. JobSeeker Activity



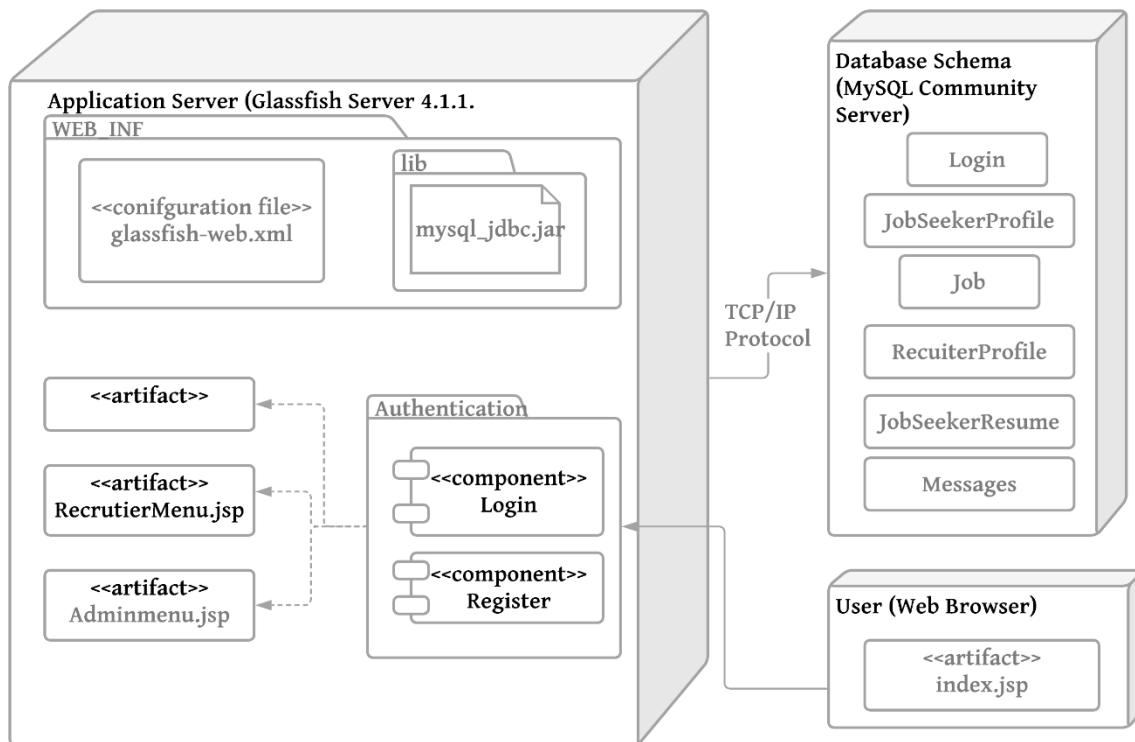
Activity Diagrams: Job Recuritemet System



Component Diagram: Job Recruitierment System



Deployment Diagram



Machine	Software Configuration	Hardware Configuration	Operating System	Compiler	Any other software	Software Modules and path
Client	Google Chrome /Internet Explorer/ any browser with JSP Support		Windows 7 and after	Java	NetBeans,	GUI
Application Server	Sun GlassFish 4.1.1. Server	Sun GlassFish Enterprise Server: 35 MB minimum SDK: 250 MB minimum 1GB Memory	Windows 7 and after, Red Hat, MacOS	HTML, Java, JSP, SQL	Internet Explorer, Chrome, Mozilla, Safari	
Database Server	MySQL Connector/J Driver 5.1		Windwos 7 & after, Unbuntu			tables

Data Structure

LOGIN

Column Name	Data Type	Nullable	Default	Primary Key
USERNAME	VARCHAR2(200)	No	-	1
USERTYPE	VARCHAR2(20)	No	-	-
PASSWORD	VARCHAR2(200)	No	-	-

MESSAGE

Column Name	Data Type	Nullable	Default	Primary Key
FROM_USERNAME	VARCHAR2(200)	Yes	-	-
TO_USERNAME	VARCHAR2(200)	Yes	-	-
MESSAGE	VARCHAR2(4000)	Yes	-	-
FORJOB	VARCHAR2(100)	Yes	-	-
DATETIME	VARCHAR2(100)	No	-	-

JOBSEEKERRESUME

Column Name	Data Type	Nullable	Default	Primary Key
USERNAME	VARCHAR2(200)	No	-	1
FILENAME	BLOB	No	-	-

JOBSEEKERPROFILE

Column Name	Data Type	Nullable	Default	Primary Key
USERNAME	VARCHAR2(200)	No	-	1
FNAME	VARCHAR2(40)	Yes	-	-
LNAME	VARCHAR2(40)	Yes	-	-
DESIGNATION	VARCHAR2(100)	Yes	-	-
LOCATION	VARCHAR2(200)	Yes	-	-
EXPERIENCE	VARCHAR2(2)	Yes	-	-
EMAIL	VARCHAR2(200)	Yes	-	-
MOBILE	VARCHAR2(15)	Yes	-	-
KEYSKILLS	VARCHAR2(4000)	Yes	-	-
PROJECTS	VARCHAR2(4000)	Yes	-	-
ITSKILLS	VARCHAR2(4000)	Yes	-	-
EDUCATION	VARCHAR2(4000)	Yes	-	-
CERTIFICATIONS	VARCHAR2(4000)	Yes	-	-
WORKDETAILS	VARCHAR2(4000)	Yes	-	-
DOB	VARCHAR2(20)	Yes	-	-
GENDER	VARCHAR2(15)	Yes	-	-
HOMETOWN	VARCHAR2(4000)	Yes	-	-
PIN	VARCHAR2(15)	Yes	-	-
MARITALSTATUS	VARCHAR2(20)	Yes	-	-
LANGUAGESKNOWN	VARCHAR2(4000)	Yes	-	-

JOB

Column Name	Data Type	Nullable	Default	Primary Key
JOBID	VARCHAR2(30)	No	-	1
TITLE	VARCHAR2(400)	Yes	-	-
LOCATION	VARCHAR2(400)	Yes	-	-
EXPERIENCE	VARCHAR2(30)	Yes	-	-
SALARY	VARCHAR2(30)	Yes	-	-
DESCRIPTION	VARCHAR2(4000)	Yes	-	-
FUNCTIONALAREA	VARCHAR2(50)	Yes	-	-
ROLE	VARCHAR2(50)	Yes	-	-
KEYSKILLS	VARCHAR2(2000)	Yes	-	-
VACANCY	VARCHAR2(10)	Yes	-	-
INTERVIEWDATE	VARCHAR2(30)	Yes	-	-
INTERVIEWTIME	VARCHAR2(30)	Yes	-	-
INTERVIEWPLACE	VARCHAR2(400)	Yes	-	-
RECRUITER	VARCHAR2(400)	Yes	-	-
DATEOFPUBLISHING	VARCHAR2(30)	Yes	-	-

RECRUITERPROFILE

Column Name	Data Type	Nullable	Default	Primary Key
USERNAME	VARCHAR2(400)	No	-	1
FNAME	VARCHAR2(40)	Yes	-	-
LNAME	VARCHAR2(40)	Yes	-	-
COMPANY	VARCHAR2(400)	Yes	-	-
DESIGNATION	VARCHAR2(400)	Yes	-	-
LOCATION	VARCHAR2(100)	Yes	-	-
EMAIL	VARCHAR2(200)	Yes	-	-
MOBILE	VARCHAR2(20)	Yes	-	-
GENDER	VARCHAR2(20)	Yes	-	-

ALGORITHM DESIGN

1. Use Case: Registration

Name	Register
Summary	A new user (a user which doesn't have an account) should first register into the system to use it. This feature will allow the user to enroll into the system if the user is a new user and doesn't already have an existing account.
Rationale	The user can access the system
Actor	Job Seeker and Recruiter
Pre-Condition	None
Basic course of Event	<ol style="list-style-type: none">1. User opens the desired module of the system.2. The system displays GUI the registration.3. User enters the valid details required to join the system4. Submits the form
Post- Condition	User is registered
Alternate Flow	User goes back to the Login Page
Exception	Username already taken

Algorithm:

Input: username, password, usertype;

Output: user added to the system

Pseudo Code:

1. Start
2. Go to Registration Page
3. Enter the username and usertype
4. Enter password and confirm password
5. If username!=NULL && usertype!=NULL &&password!=NULL && confirm_password!=NULL then
 - i. If password==confirm_password
 1. If username already exists in table then enter another username
 2. Else: Enter the entry into login table of database
 - i. Else
 - a. Alert: Password and confirm password do not match
 - b. Try again
6. Else:
 - a. The field is required, do not leave it empty

2. Use Case: Login

Name	Login
Summary	Job seeker can change information into their profiles which include profile edit, delete, and update.
Rationale	After registration of the user, the valid user can login into the system
Actor	All Users
Pre-Condition	The login name and password should match with the login name and password provided while registering. If the username and or password do not match, the user cannot login successfully into the system.
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI the login form 3. The user writes its username, password and type 4. If valid, user can login into the system. If the username and or password do not match, the user cannot login successfully into the system.
Post- Condition	User goes to his/her dashboard
Alternate Flow	<ol style="list-style-type: none"> 1. The username and password is blank 2. The type of user is not specified 3. The username and password do not match

Algorithm:

Input: username, password, usertype;

Output: allow/denied access to home page

Pseudo Code:

1. Start
2. Login Page open
3. Enter the username, password, type input
4. If password==NULL | username==NULL|| type==NULL
 - a. The field is required
5. Retrieve the entry from database for the given username
 - a. If username=username(database) && password=password(database)&& type=usertype
 - b. Go to Dashboard
6. Else
 - a. Alert: Invalid entry, please try again

End

3. Use Case: Manage Profile

Name	Manage Profile
Summary	User can change information into their profiles which include profile edit, delete, and update.
Rationale	If there is unnecessary date and fake profiles that are running on the site then Admin will have rights to remove or delete the profile.
Actor	All Users
Pre-Condition	Profile and record must exist
Basic course of Event	<ol style="list-style-type: none"> 1. User opens the desired module of the system. 2. The system displays GUI of different pages. 3. User will input the necessary data into the fields. 4. System will update the record as per requirements.
Post- Condition	User receives the notification that profile has been approved or profile has been updated.
Alternate Condition	The details enter to not validate, e.g. age is <18, date of birth is out of range.

Algorithm:

Pseudo Code:

1. Start
2. Go to Profile section
3. Click on edit
4. Update the sections you want
5. Click Update
6. End

4. Use Case: Upload CV

Name	Upload CV
Summary	Job seeker can post his/her CV on job portal
Actor	Job seeker
Pre-Condition	New Jobs and other features should be displayed.
Basic course of Event	<ol style="list-style-type: none">1. Job seeker search for a specific job category.2. The system displays GUI for the new jobs and features.3. Job seeker clicks on the new jobs option and upload his/her CV there.4. System will show all the CV on the admin and job seeker end.
Post- Condition	CV successfully uploaded.
Alternate Flow	<ol style="list-style-type: none">1. The type of file uploaded does not match the required file type2. The size of file is more than the maximum available size

Algorithm:

Pseudo Code:

1. Start
2. Go to Upload Resume section
3. Click on choose file
4. Choose the file from your computer
5. Click on Upload
6. End

5. Use Case: Apply/Search for Job

Name	Search/Apply Jobs
Summary	Job seeker can search for jobs related to his interest using filters, if interested he can apply for the job
Rationale	Job Seeker is searching for a job
Actor	Job Seeker
Pre-Condition	Job Seeker must have an account
Basic course of Event	<ol style="list-style-type: none"> 1. Jobseeker access the required page to search the job. 2. System will show the appropriate GUI for searching and filtering the jobs 3. Job Seeker will fill all the required fields and describe the category and type of a job. 4. If, he/she is interested he will Apply for the job
Post-Condition	Apply for the job and wait for Interview notification.
Alternate Flow	<ol style="list-style-type: none"> 1. The search criteria entered has no jobs listed

Algorithm:

Input: keyword, location, experience, expected salary

Output: List of Matching Jobs

Pseudo Code:

1. Prompt the user for search query
2. Check whether entry is valid or not
3. If entry is invalid
 - a. Then Information to the user & prompt again for entry
4. Else
 - a. check with database
 - b. Show list of jobs
 - c. Select the job of your choice
 - d. The details of the same will be displayed
 - e. Apply for the job
 - f. If vacancy>0
 - i. Successfully Applied
 - g. Else
 - i. Alert: "No vacancy, search other jobs"
5. End

6. Use Case: Job Application Status

Name	Job application status
Summary	Job seeker can check its status either their application is accepted.
Rationale	If their application is accepted and rejected, then they must know about the status, so that they can further proceed.
Actor	Job seeker
Pre-Condition	Job should have been applied for
Basic course of Event	<ol style="list-style-type: none">1. The job seeker login to system and check status of his application2. The system displays GUI for the job application page.3. Job seeker clicks on the page and check its status.4. System will show all the results regarding their post on the jobs.
Post- Condition	Result successfully shown to the job seeker

Algorithm:

Pseudo Code:

1. Start
2. Go to messages tab
3. Check for the application status
4. End

7. Use Case: Post jobs

Name	Post Jobs
Summary	Recruiter can post the job
Rationale	Recruiter wants to find the right employees for specific job.
Actor	Recruiter
Pre-Condition	Recruiter must have a task and reasonable price for that task
Basic course of Event	<ol style="list-style-type: none"> 1. Recruiter access the required page to post the job. 2. System will show the appropriate GUI for posting the project. 3. Recruiter will fill all the required fields and describe the category and type of a project. 4. System will post the job.
Post- Condition	Anyone can see the posted job and apply for it after registration.
Alternate Flow	<ol style="list-style-type: none"> 1. The job details are not sufficient enough to be posted

Algorithm:

Pseudo Code:

1. Start
2. Go to Post a Job Tab
 - a. Initialize: JobID
 - b. Initialize: Title
 - c. Initialize: Location
 - d. Initialize: Experience
 - e. Initialize: Salary
 - f. Initialize: Description
 - g. Initialize: Role
 - h. Initialize: KeySkills
 - i. Initialize: Vacancy
 - j. Initialize: Recruiter
 - k. Initialize: DateofPosting
3. Click on Post Job
4. End

8. Use Case: View Job seeker profile

Name	View Job seeker profile
Summary	Recruiter can search the job seeker by name and can view the whole portfolio of job seeker.
Rationale	If a Recruiter has a job then he can search the job seeker and see entire profile of all employees or jobseekers.
Actor	Recruiter
Pre-Condition	Recruiter must be existing in a list and Job Seeker has applied for the Job
Basic course of Event	<ol style="list-style-type: none"> 1. The user indicates that the system is to perform a search function. 2. System responds by the requesting the search term and shows the results. 3. System will show the entire job seeker in a relevant field in which Recruiter wants.
Post- Condition	Recruiter can see whole information about the job seeker.

Algorithm:

Pseudo Code:

1. Start
2. Go to Search Jobseeker tab
3. Enter the name of jobseeker
4. If no entry
 - a. Display: No such job seeker
5. Else
 - b. From the list of searches, chose the one you want to view profile of
6. End

9. Use Case: Hire Jobseeker

Name	Hire Job seeker
Summary	Recruiter can hire the employee for a specific job required
Rationale	Recruiter has a job and wants to search the employee for the project if found, Recruiter will hire schedule the interview.
Actor	Recruiter
Pre-Condition	Recruiter should have posted a job.
Basic course of Event	<ol style="list-style-type: none">1. The user indicates that the system is to perform a search function.2. System responds by requesting the search term and shows the results3. System will show the entire list of job seeker.4. System will send the interview notification to the job seeker.
Post- Condition	Job seeker will receive the notification that he or she has been asked for interview.

Algorithm:

Pseudo Code:

1. Start
2. Go to Messages tab
3. Check the list of applications
4. Accept the one, you want
5. End

10. Use Case: Handle Users

Name	Handle Users
Summary	Admin can view all the user's proceedings.
Rationale	If admin wants to job seeker and recruiter to be added to the system or denied.
Actor	Admin
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	<ol style="list-style-type: none">1. Job Seeker or Recruiter has registered through the website2. Admin verifies the details and credentials of the user3. If valid, he admits them into the system, else removes them
Post- Condition	Job Seeker and Recruiter's account will be created

Algorithm:

Pseudo Code:

1. Start
2. Login as Admin
3. Go to Jobseeker Report
 - a. View or Remove Job Seeker
4. Go to Recruiter Report
 - a. View or Remove Job Seeker
5. End

11. Use Case: Feedback

Name	Feedback
Summary	To get a feedback from the user of the system
Rationale	To improve the system and understand the bugs
Actor	Recruiter and Job Seeker
Pre-Condition	Job Seeker or Recruiter has registered through the website
Basic course of Event	1. Job Seeker or Recruiter has registered through the website 2. GO to the feedback tab from dashboard 3. Enter and submit the feedback
Post- Condition	The developer receives the feedback

Algorithm:

Pseudo Code:

1. Start
2. Go to feedback section
3. Enter username, email, feedback
4. Click Send
5. End

GUI DESIGN

1. Login

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/index.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/index.jsp). The title bar says "Job Recruitement System". The main content area is titled "Login" and contains three radio buttons: "JobSeeker", "Recruiter", and "Admin". Below these are two text input fields: "Username" and "Password". A "Login" button is positioned below the password field. At the bottom of the form, there is a link "Click here to register an Account". The browser's address bar shows the same URL. The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Mail, Photos, Edge, Google Chrome, Microsoft Edge, File Explorer, Task View, Mail, Photos, Edge, Google Chrome, Microsoft Edge, and File Explorer.

2. Register

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/registration.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/registration.jsp). The title bar says "Job Recruitement System". The main content area is titled "Registration Form" and contains two radio buttons: "JobSeeker" and "Recruiter". Below these are three text input fields: "Username", "Password", and "Confirm Password". A "Register" button is located at the bottom of the form. At the bottom of the page, there is a link "Click here to Login". The browser's address bar shows the same URL. The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Mail, Photos, Edge, Google Chrome, Microsoft Edge, File Explorer, Task View, Mail, Photos, Edge, Google Chrome, Microsoft Edge, and File Explorer.

3. JobSeeker Dahsboard

The screenshot shows a web browser window for the 'Job Recruitement System' JobSeeker module. The URL is [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekerhome.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekerhome.jsp). The page title is 'Job Recruitement System - JobSeeker'. A welcome message 'Welcome srujan Logout' is at the top right. Below it are navigation links: Profile, Upload Resume, Search Jobs, Messages, and Feedback.

4. Job seeker profile

The screenshot shows a web browser window for the 'Job Recruitement System' JobSeeker module. The URL is [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekerprofile.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekerprofile.jsp). The page title is 'Job Recruitement System - JobSeeker'. A welcome message 'Welcome srujan Logout' is at the top right. Below it are navigation links: Profile, Upload Resume, Search Jobs, Messages, and Feedback. The main content area displays a 'Profile Details' section with tabs for Basic Details, Contact Details, Key Skills, Projects, IT Skills, Education, Certifications, and Work Details. The 'Basic Details' tab is active, showing the following information:

Name	Srujan
Designation	Product Leader
Location	Mumbai
Experience	3

The 'Key Skills' tab is also visible, listing Time Management, Team Work, Recruitment System, and HTML, CSS, Java, C++, Python, MySQL.

5. Upload Resume

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekerresume.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekerresume.jsp). The title bar says "JobSeeker - Resume". The main content area has a dark blue header "Job Recruitement System" and a sub-header "JobSeeker". On the right, it says "Welcome ssrushti Logout". Below the header are navigation links: "Profile | Upload Resume | Search Jobs | Messages | Feedback". The main form is titled "Upload Resume" and contains a file input field with "Browse..." and an "Upload" button.

6. Search job

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekersearch.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekersearch.jsp). The title bar says "JobSeeker - Search". The main content area has a dark blue header "Job Recruitement System" and a sub-header "JobSeeker". On the right, it says "Welcome ssrushti Logout". Below the header are navigation links: "Profile | Upload Resume | Search Jobs | Messages | Feedback". The main form is titled "Search Jobs" and includes fields for "Keywords" (containing "software"), "Location" (containing "mumbai"), "Experience" (containing "3"), and "Expected Salary" (containing "200000"). There is also a "Search Jobs" button.

7. Search Job result

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekersearchresult.jsp?keyword=software&location=mumbai&experience=3&expectedsalary=20000](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekersearchresult.jsp?keyword=software&location=mumbai&experience=3&expectedsalary=20000). The page title is "Job Recruitment System". The main content area displays search results for "Software Analyst". The first result is for "Software Analyst" posted on Tue 23.03.2021 at 10:18:58, with details: 0 Years, Mumbai, 50000 p.a., java, HTML, Python, Vacancy-1. The second result is for "Product Engineer" posted on Sat 04.03.2021 at 12:20:15, with details: 3 Years, Mumbai, 80000 p.a., Python, MERN Stack, NodeJS, Vacancy-2. The third result is for "Software Analyst" posted on Sat 04.03.2021 at 14:20:15, with details: 2 Years, Delhi, 100000 p.a.

8. Apply for job

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/jobseekerjobdetails.jsp?jobid=1](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/jobseekerjobdetails.jsp?jobid=1). The page title is "Job Recruitment System". The main content area displays job details for a "Software Analyst" position. The job was posted on Tue 23.03.2021 at 10:18:58 by "sure". The job requirements include: To build projects and maintain website. The functional area is Computer Software. The role is Software Professional. Key skills listed are java, HTML, Python. The interview date is 12/04/2021. The interview time is 5:00. The interview place is Mumbai. At the bottom, there is a link "Apply for this Job".

9. Application status

The screenshot shows a web browser window for the 'Job Recruitement System'. The title bar says 'Job Recruitement System' and 'JobSeeker'. The top right corner shows 'Welcome ssrushti Logout'. The main content area has a blue header 'Job Recruitement System' and a sub-header 'JobSeeker'. Below that is a navigation bar with links: 'Profile | Upload Resume | Search Jobs | Messages | Feedback'. A 'Messages' section is shown with a message from 'sure' dated 'Mon 29.03.2021 at 05:10:27' stating 'Selected for Interview for job 1'.

10. Feedback

The screenshot shows a web browser window for the 'Job Recruitement System'. The title bar says 'Job Recruitement System' and 'JobSeeker'. The top right corner shows 'Welcome ssrushti Logout'. The main content area has a blue header 'Job Recruitement System' and a sub-header 'JobSeeker'. Below that is a navigation bar with links: 'Profile | Upload Resume | Search Jobs | Messages | Feedback'. A 'Feedback' section is shown with a form. It includes fields for 'Username' (ssrushti), 'E-Mail' (empty), 'Message' (empty), and a 'Send Message' button.

11. Recruiter profile

The screenshot shows a web browser window for the 'Job Recruitment System'. The title bar says 'Recruiter - Profile'. The main content area has a dark blue header 'Job Recruitment System' and a sub-header 'Recruiter'. Below this is a navigation menu with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. A 'Welcome user Logout' link is also present. The central part of the page is titled 'Profile Details' and contains the following information:

Name	Rajesh Shah
Company Name	Morgan Stanley
Designation	HR Manager
Location	Mumbai
Email	srsah@gmail.com
Mobile	9865321470
Gender	Male

At the bottom of this section is a small 'Edit' link.

12. View posted job

The screenshot shows a web browser window for the 'Job Recruitment System'. The title bar says 'Recruiter - View Job'. The main content area has a dark blue header 'Job Recruitment System' and a sub-header 'Recruiter'. Below this is a navigation menu with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. A 'Welcome user Logout' link is also present. The central part of the page is titled 'Posted Jobs' and lists two job posts:

Software Analyst	Posted on Tue 23.03.2021 at 10:18:58
0Years	
Mumbai	
50000 p.a.	
java, HTML, Python	
Vacancy-1	

Product Engineer	Posted on Sat 04.03.2021 at 12:20:15
3Years	
Mumbai	
80000 p.a.	
Python, MERN Stack, NodeJS	
Vacancy-2	

13. Post a job

The screenshot shows a web browser window for the 'Job Recruitment System'. The title bar reads 'Job Recruitment System' and 'Recruiter'. The main content area is titled 'Recruiter'. At the top right, there are links for 'Welcome user' and 'Logout'. Below this is a horizontal menu with links: 'Profile', 'View Posted Jobs', 'Post a Job', 'Search Job Seeker', 'Messages', and 'Feedback'. A form for posting a job is displayed, with various input fields and dropdown menus. A validation message 'This is a required field.' is shown above one of the input fields. At the bottom of the form is a large 'ADD' button.

14. Search Job seeker

The screenshot shows a web browser window for the 'Job Recruitment System'. The title bar reads 'Job Recruitment System' and 'Recruiter'. The main content area is titled 'Recruiter'. At the top right, there are links for 'Welcome user' and 'Logout'. Below this is a horizontal menu with links: 'Profile', 'View Posted Jobs', 'Post a Job', 'Search Job Seeker', 'Messages', and 'Feedback'. A search results section is shown, featuring a search bar labeled 'Search Results' and a 'Search' button. Below the search bar, a result for 'Shrushti Shah' is listed, including her role ('Product Leader'), experience ('3Years'), location ('Mumbai'), and skills ('Time Management, Team Work').

15. Check application

The screenshot shows a web browser window with the following details:

- Address bar: http://localhost:8080/OJP%20ISP%20%20MySq%20Server//recruitermessagebox.jsp
- Page Title: Job Recruitment System
- Sub-Page Title: Recruiter
- User Information: Welcome user Logout
- Navigation Links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, Feedback
- Section: Messages
- Message List:
 - ssrushti (Received on Tue 23.03.2021 at 10:20:27)
Applied for 1
[Accept for Interview](#)



CONCLUSION: Thus, from this experiment I have implemented object-oriented analysis and design for Job Recruitment System, along with specifying the software architecture and algorithm design for the system.

191071902
Srushti Shah
T. Y. B. Tech. C. S.

Experiment No. 3

AIM: OO System Testing

THEORY:

Apply object-oriented software testing to test your software. Use the following dimensions for testing

1. Unit Testing
2. Method Testing
3. Class Testing
4. Integration Testing
5. System Testing

You can also use the open source software testing tools, open source functional testing tools, open source web application testing tools, open source performance testing tools, , open source load testing tools, and any other open source testing tools of your choice.

Given below is the list of most popular open-source testing tools

Katalon Studio , Selenium , Appium , Robotium ,Cucumber ,Watir , Sikuli ,JMeter ,WatiN ,SoapUI , Capybara ,Tarantula ,Testlink ,Windmill ,TestNG , Marathon ,httest , Xmind ,Wiremock ,Maven ,Espresso , FitNesse ,JUnit , Grinder ,Tsung ,Gatling ,Multi-mechanize , Selendroid ,KIF ,iMacros ,Linux Desktop Testing Tool , k6

Unit Testing

Test Module: Login Page

Job Recruitment System

Login

JobSeeker Recruiter Admin

Email

Password

[Forgot Password?](#)

[Click here to register an Account](#)

Validation testing

Field	Datatype	Format	Length	Character Set	Pattern
Email	String	It should contain '@' It should contain '.' '@' should be preceded and followed by a string '.' should preceded and followed by at least two letters Before @ there should be at least one letter	Length should be ≥ 6	ASCII Character Set	Pattern should --@--

Equivalence Partitioning

Invalid	Valid
<6	6, 7 and so on
String without '@' and '.'	String with '@' and '.'
String ending without a-z A-Z	String ending with a-z

Boundary Value Analysis

Test Scenario	Test Scenario Description	Expected Outcome
1	Enter 0 to 5 characters in Email field	System should not accept
2	Enter 6 to any characters in Email field	System should accept
3	Input: srushti@gmail.	Invalid
4	Input: srushti@gmail	Invalid
5	Input: srushti@gmail.com	Valid
6	Input: srushtigmail.com	Invalid

Password	String	It should contain lower case letter a-z	The length should be ≥ 8 and ≤ 50	ASCII Character Set	At least one upper case, one lower case, one number and a special symbol
		It should contain lower case letter A-Z			
		It should contain numeric letter			
		It should contain special symbol			

Equivalence Partitioning

	Invalid	Valid	Invalid
Length	<8	8,9,10.... to 49,50	>50
Format	String without a number	String with a number	
	String without a !,@,#,\$,%,&,*,(,), or any special sybmol	!,@,#,\$,%,&,*,(,), or any special sybmol	
	String without lower case	String with lower case	
	String without upper case	String with upper case	

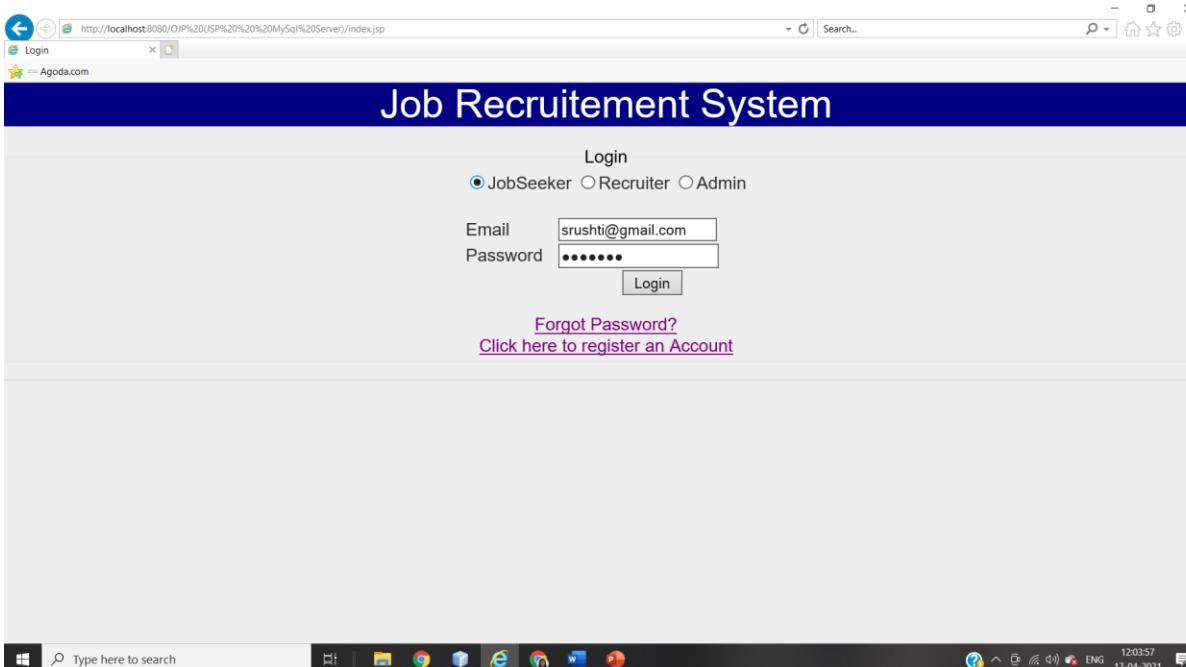
Boundary Value Analysis

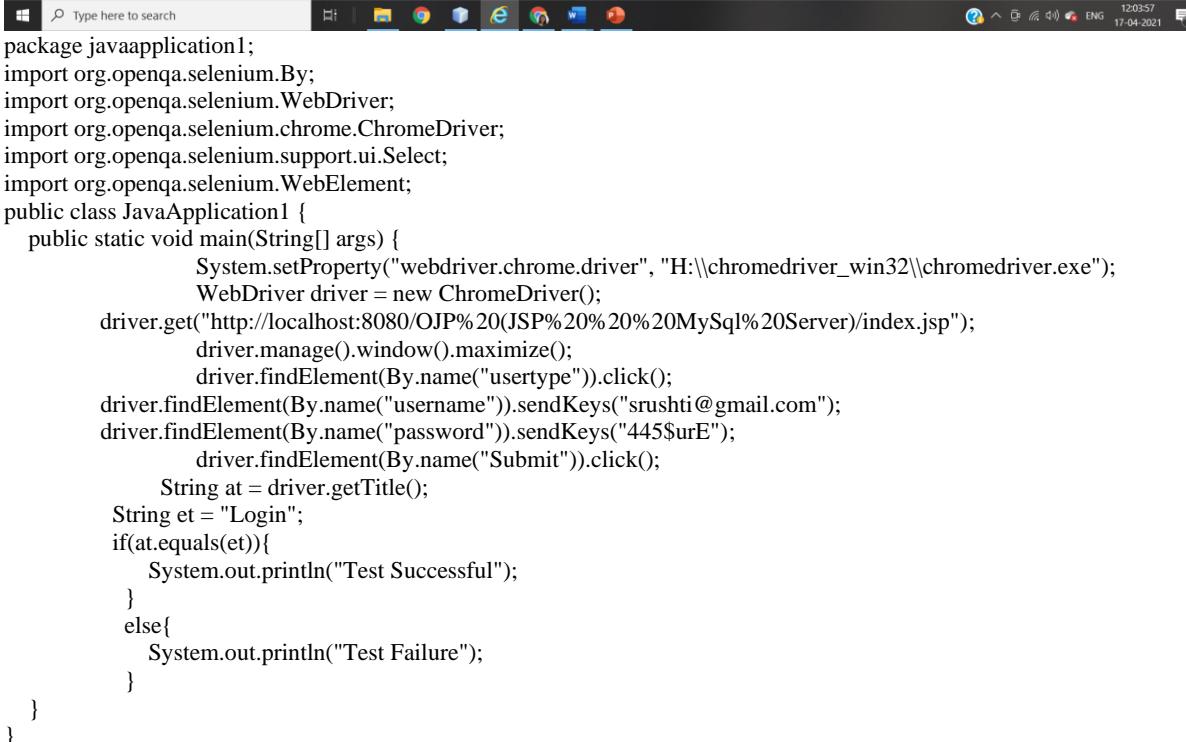
	Test Scenario Description	Expected Outcome
1	Enter 0 to 7 characters in password field	System should not accept
2	Enter 8 to 49, 50 any characters in password field	System should accept
3	Enter 51 characters in password field	System should not accept
4	Input: 4455\$ure	Invalid (no upper case)
5	Input: 44\$5ure	Invalid (no upper case)
6	Input: sure\$urE	Invalid (no number)
7	Input: 4455\$URE	Invalid (no lower case)
8	Input: 445\$urE	Valid

User-type	String	Radio Button	-	-	Admin, Jobseeker or Recruiter
-----------	--------	--------------	---	---	-------------------------------

Verification Testing

No .	Test Case	Steps	Result
1	Verify if the user will be able to login with a valid email and valid password	1. Open the browser 2. Fill the form Valid: email: srushti@gmail.com Password: 445\$urE 3. Click Submit	Positive Message: 'logged in successfully'

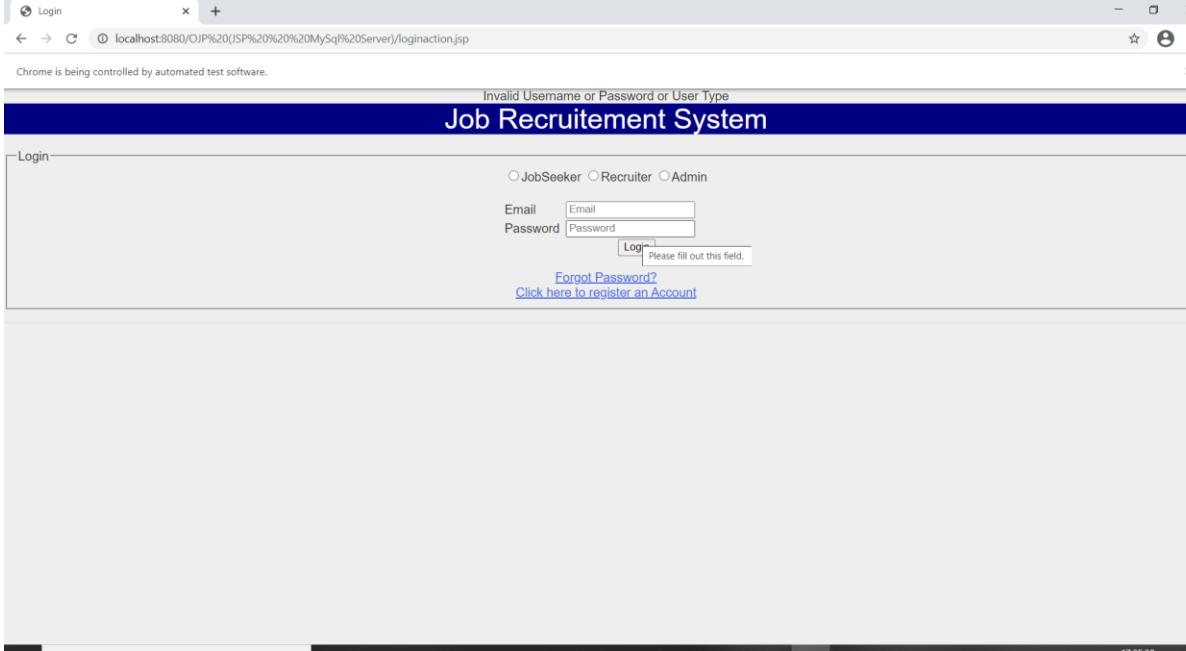


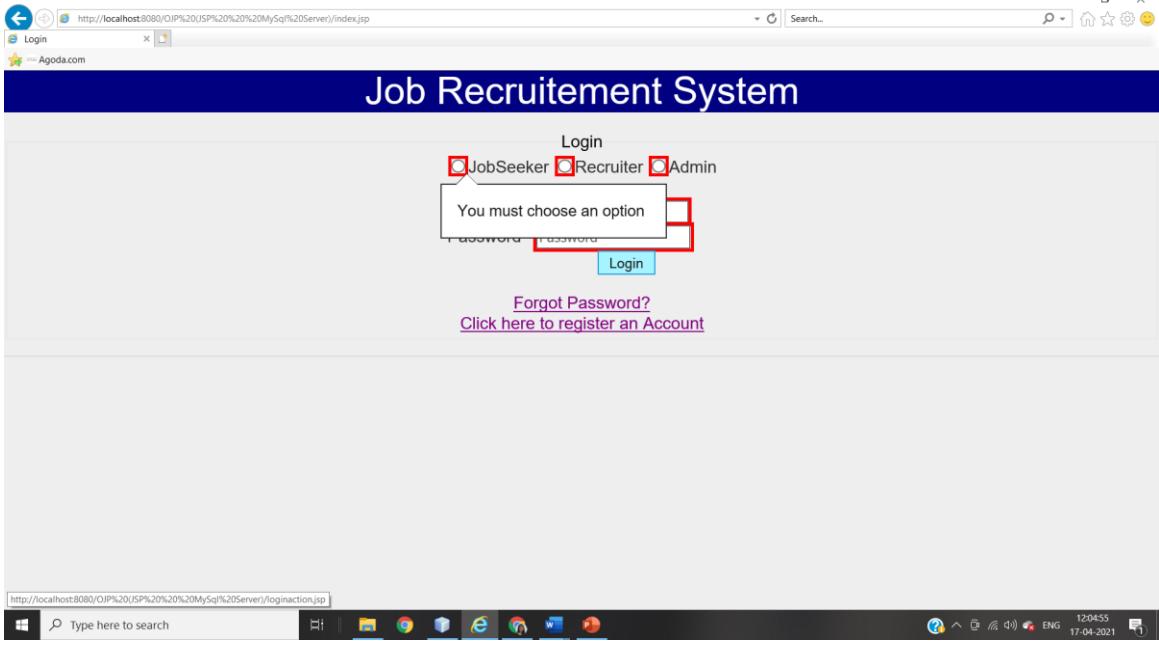


```

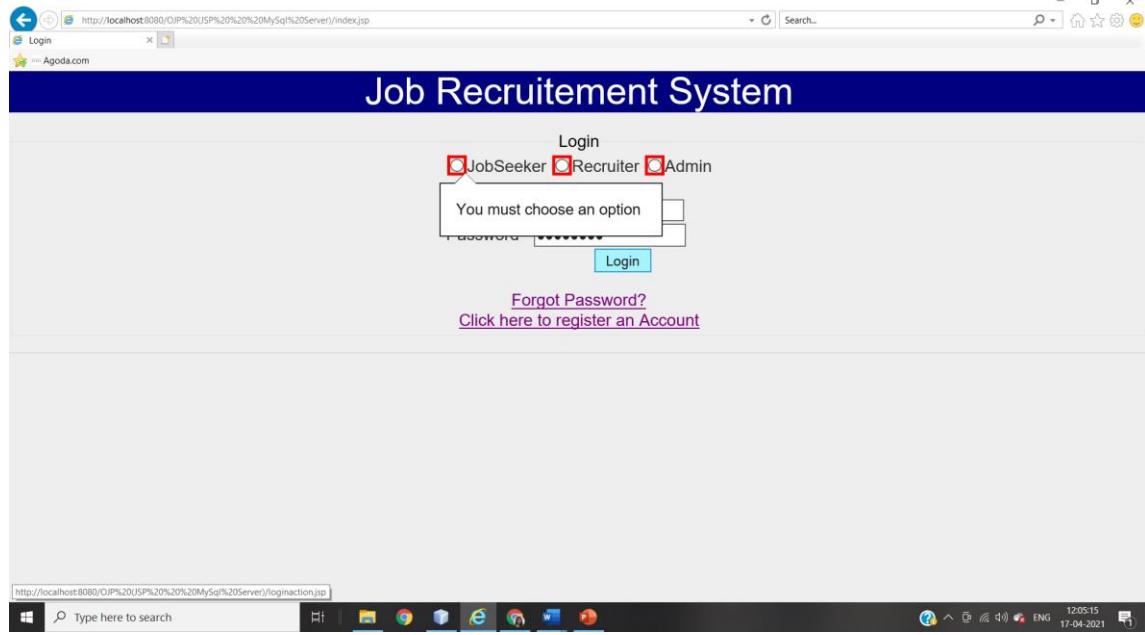
package javaapplication1;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.Select;
import org.openqa.selenium.WebElement;
public class JavaApplication1 {
    public static void main(String[] args) {
        System.setProperty("webdriver.chrome.driver", "H:\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://localhost:8080/OJP%20(JSP%20%20%20MySQL%20Server)/index.jsp");
        driver.manage().window().maximize();
        driver.findElement(By.name("usertype")).click();
        driver.findElement(By.name("username")).sendKeys("srushti@gmail.com");
        driver.findElement(By.name("password")).sendKeys("445$urE");
        driver.findElement(By.name("Submit")).click();
        String at = driver.getTitle();
        String et = "Login";
        if(at.equals(et)){
            System.out.println("Test Successful");
        }
        else{
            System.out.println("Test Failure");
        }
    }
}

```

2	Verify if a user cannot login with a valid email and invalid password	<ol style="list-style-type: none"> Open the browser Fill the form Valid: email: srushti@gmail.com Invalid: Password: 445\$urr Click Submit 	Positive Message: 'cannot login, invalid password'
  <pre> package javaapplication1; import org.openqa.selenium.By; import org.openqa.selenium.WebDriver; import org.openqa.selenium.chrome.ChromeDriver; import org.openqa.selenium.support.ui.Select; import org.openqa.selenium.WebElement; public class JavaApplication1 { public static void main(String[] args) { System.setProperty("webdriver.chrome.driver", "H:\\chromedriver_win32\\chromedriver.exe"); WebDriver driver = new ChromeDriver(); driver.get("http://localhost:8080/OJP%20/JSP%20%20%20MySql%20Server/index.jsp"); driver.manage().window().maximize(); driver.findElement(By.name("usertype")).click(); driver.findElement(By.name("username")).sendKeys("srushti@gmail.com"); driver.findElement(By.name("password")).sendKeys("445\$urr"); driver.findElement(By.name("Submit")).click(); String at = driver.getTitle(); String et = "Login"; if(at.equals(et)){ System.out.println("Test Successful"); } else{ System.out.println("Test Failure"); } } } </pre>			

3	Verify if the form can be submitted when blank	1. Open the browser 2. Click Submit	Positive Message: 'cannot submit'
 <pre> package javaapplication1; import org.openqa.selenium.By; import org.openqa.selenium.WebDriver; import org.openqa.selenium.chrome.ChromeDriver; import org.openqa.selenium.support.ui.Select; import org.openqa.selenium.WebElement; public class JavaApplication1 { public static void main(String[] args) { System.setProperty("webdriver.chrome.driver", "H:\\chromedriver_win32\\chromedriver.exe"); WebDriver driver = new ChromeDriver(); driver.get("http://localhost:8080/OJP%20(JSP%20%20%20MySql%20Server)/index.jsp"); driver.manage().window().maximize(); driver.findElement(By.name("Submit")).click(); String at = driver.getTitle(); String et = "Login"; if(at.equals(et)){ System.out.println("Test Successful"); } else{ System.out.println("Test Failure"); } } } </pre>			

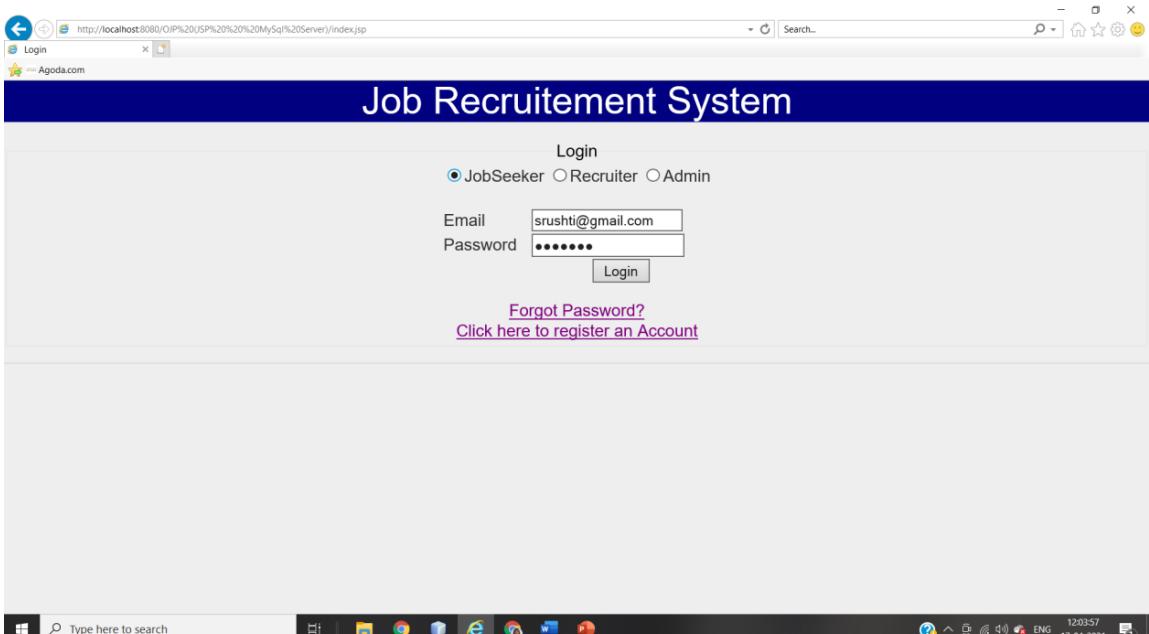
4	Verify if the user type is chosen	1. Open the browser press submit	Positive Message: 'choose a user type'
---	-----------------------------------	-------------------------------------	---



```

package javaapplication1;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.Select;
import org.openqa.selenium.WebElement;
public class JavaApplication1 {
    public static void main(String[] args) {
        System.setProperty("webdriver.chrome.driver",
        "H:\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://localhost:8080/OJP%20(JSP%20%20%20MySql%20Server)/index.jsp");
        driver.manage().window().maximize();
        driver.findElement(By.name("username")).sendKeys("srushti@gmail.com");
        driver.findElement(By.name("password")).sendKeys("445$urE");
        driver.findElement(By.name("Submit")).click();
        String at = driver.getTitle();
        String et = "Login";
        if(at.equals(et)){
            System.out.println("Test Successful");
        }
        else{
            System.out.println("Test Failure");
        }
    }
}

```

5	Verify if the email, password and user type match	<ol style="list-style-type: none"> 1. Open the browser 2. Choose a user type (Job Seeker) 3. Enter email and password Email: srushti@gmail.com Password: 445\$surE 4. Click Submit 	Positive Message: 'logged in successfully'
		 <pre> package javaapplication1; import org.openqa.selenium.By; import org.openqa.selenium.WebDriver; import org.openqa.selenium.chrome.ChromeDriver; import org.openqa.selenium.support.ui.Select; import org.openqa.selenium.WebElement; public class JavaApplication1 { public static void main(String[] args) { System.setProperty("webdriver.chrome.driver", "H:\\chromedriver_win32\\chromedriver.exe"); WebDriver driver = new ChromeDriver(); driver.get("http://localhost:8080/OJP%20(JSP%20%20%20MySql%20Server)/index.jsp"); driver.manage().window().maximize(); driver.findElement(By.name("usertype")).click(); driver.findElement(By.name("username")).sendKeys("srushti@gmail.com"); driver.findElement(By.name("password")).sendKeys("445\$surE"); driver.findElement(By.name("Submit")).click(); String at = driver.getTitle(); String et = "Login"; if(at.equals(et)){ System.out.println("Test Successful"); } else{ System.out.println("Test Failure"); } } } </pre>	

7	Verify the message for invalid login	<ol style="list-style-type: none"> 1. Open the browser 2. Fill the form Valid: email: srushtigmail.com 3. Click Submit 	Positive: Message: 'Enter valid email and password'
---	--------------------------------------	---	--

Invalid Username or Password or User Type

Job Recruitement System

Login

JobSeeker Recruiter Admin

Email

Password

[Forgot Password?](#)
[Click here to register an Account](#)

Would you like to store your password for localhost? [More info](#)

Yes Not for this site

Type here to search

12:06:32 17-04-2021

8	Verify if the data in password field is visible	<ol style="list-style-type: none"> 1. Open Browser 2. Enter password 	Positive: 'bullet points seen'
---	---	--	-----------------------------------

Please Enter Login Details

Job Recruitement System

Login

JobSeeker Recruiter Admin

Email

Password

[Forgot Password?](#)
[Click here to register an Account](#)

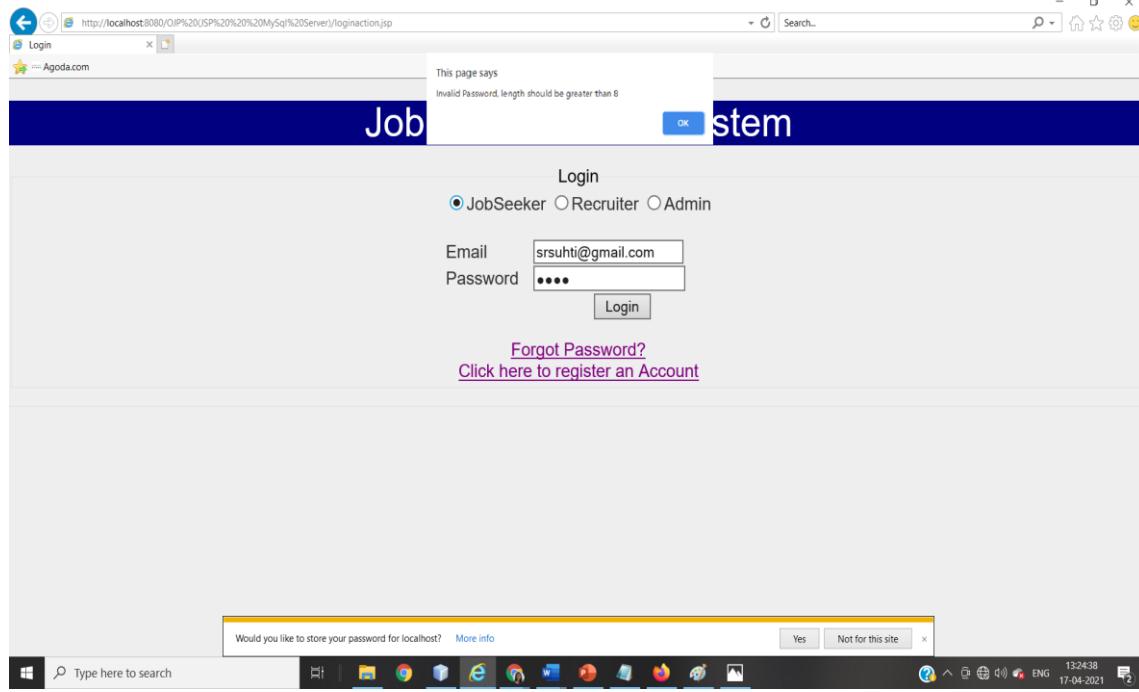
Would you like to store your password for localhost? [More info](#)

Yes Not for this site

Type here to search

12:06:55 17-04-2021

9 Verify if the user cannot login in the length doesn't match



```

package javaapplication1;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.Select;
import org.openqa.selenium.WebElement;
public class JavaApplication1 {
    public static void main(String[] args) {
        System.setProperty("webdriver.chrome.driver", "H:\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("http://localhost:8080/OJP%20(JSP%20%20MySQL%20Server)/index.jsp");
        driver.manage().window().maximize();
        driver.findElement(By.name("usertype")).click();
        driver.findElement(By.name("username")).sendKeys("srushti@gmail.com");
        driver.findElement(By.name("password")).sendKeys("445rE");
        driver.findElement(By.name("Submit")).click();
        String at = driver.getTitle();
        String et = "Login";
        if(at.equals(et)){
            System.out.println("Test Successful");
        }
        else{
            System.out.println("Test Failure");
        }
    }
}

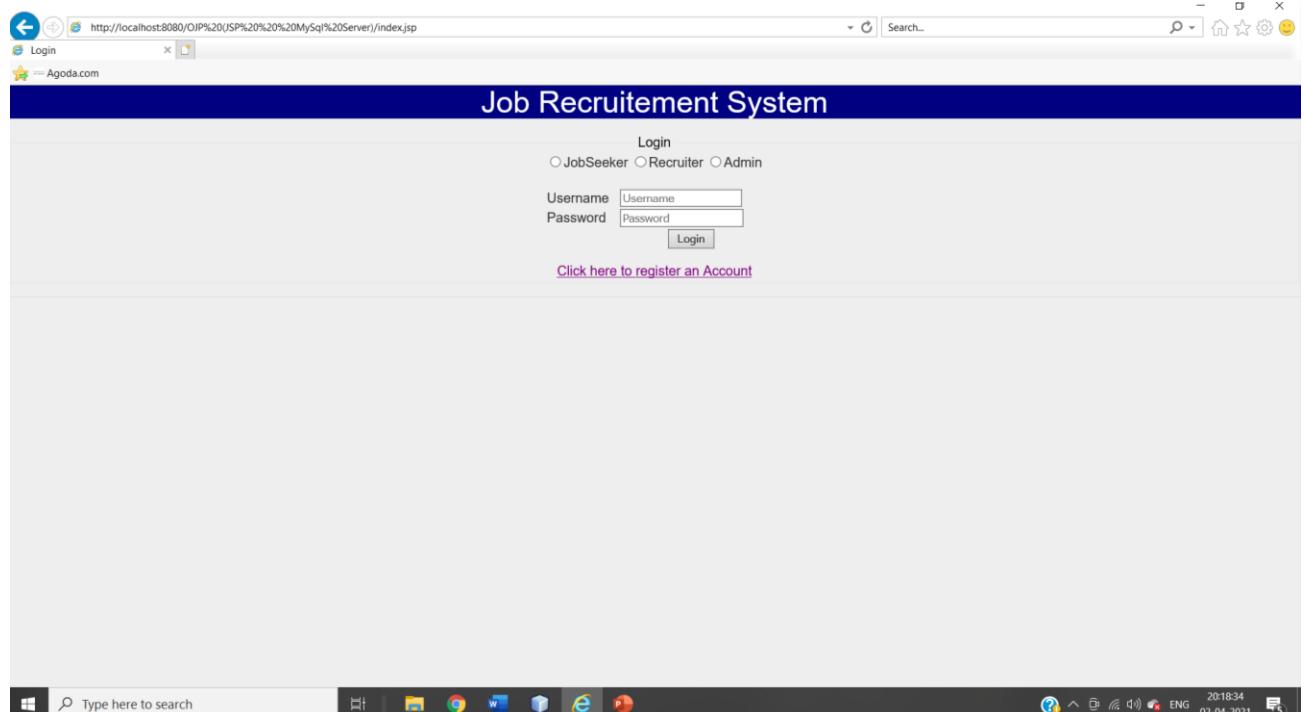
```

Integration Testing

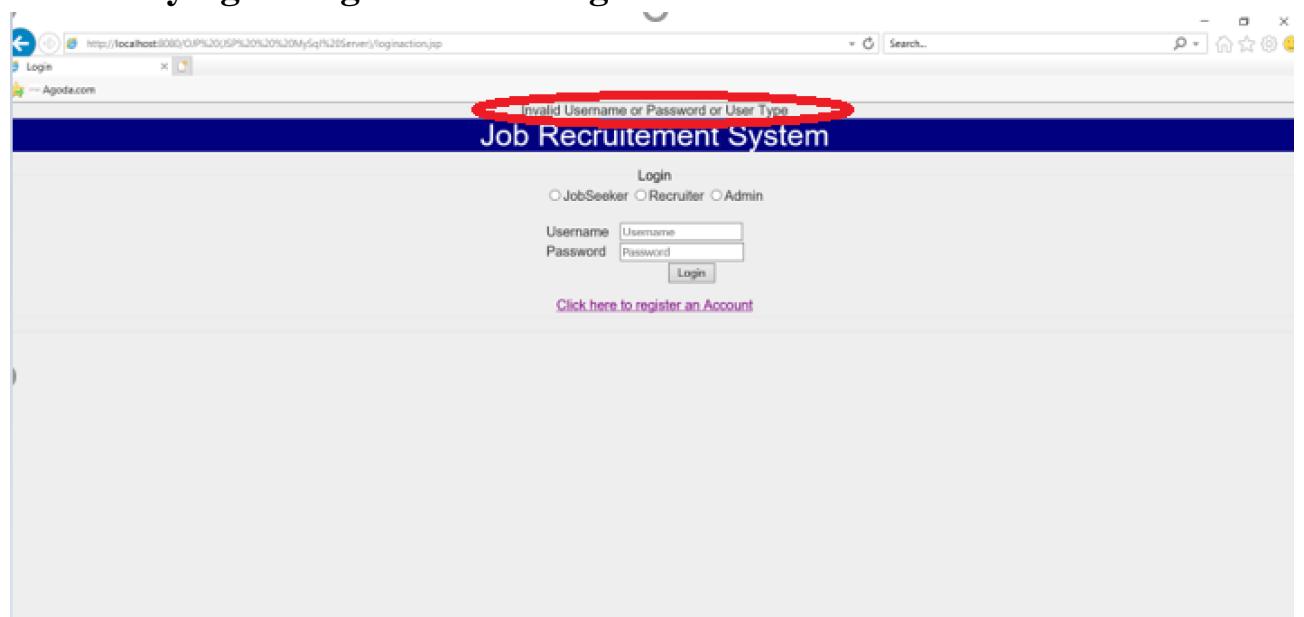
Integration testing is performed after unit testing. Integration testing is a systematic technique for constructing the program structure while conducting tests to uncover errors associated with interfacing. All the modules of the proposed system are tested through top-down Integration testing technique.

1. LOGIN PAGE

The login page must route to the Home Page of respective user, provided the details are correct



When Trying to Login with Wrong Details



2. NEW USER REGISTRATION PAGE

On click on ‘click here to login’, the page must be routed to Login page

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySql%20Server\)/registration.jsp](http://localhost:8080/OJP%20(JSP%20%20MySql%20Server)/registration.jsp). The title bar says "New User Registration". The main content area is titled "Job Recruitement System" and contains a "Registration Form". It includes radio buttons for "JobSeeker" and "Recruiter", three input fields for "Username", "Password", and "Confirm Password", and a "Register" button. Below the form is a link "Click here to Login". The browser's address bar shows the full URL.

When Passwords Don't Match While Registration Process

The screenshot shows the same registration page as above, but with an error message "Passwords do not match!" displayed in red at the top of the form area. The rest of the form and layout are identical to the first screenshot.

When Registering Without Selecting Usertype

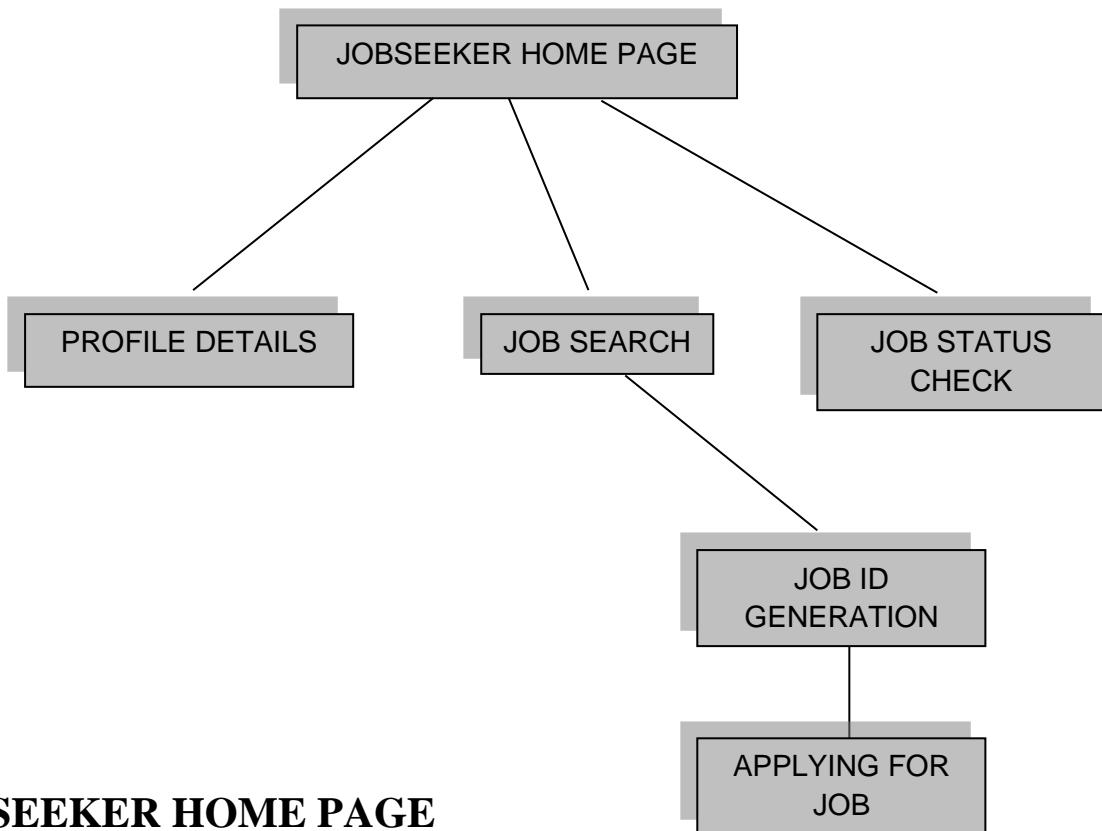
The screenshot shows a web browser window with the URL <http://localhost:8080/OIP%20/JSP%20%20%20MySql%20Server/registration.jsp>. The title bar says "New User Registration". The main content area is titled "Job Recruitement System" and contains a "Registration Form". A red error message "Passwords do not match!" is displayed above the registration fields. The registration form includes fields for "Username", "Password", and "Confirm Password", each with a red asterisk indicating required input. Below these fields is a checkbox group for "JobSeeker" and "Recruiter" with the message "You must choose an option". A "Register" button is at the bottom.

3. LOGOUT PAGE

When User Do Logout From Session, he should be directed to the login page

The screenshot shows a web browser window with the URL <http://localhost:8080/OIP%20/JSP%20%20%20MySql%20Server/logout.jsp>. The title bar says "Login". The main content area is titled "Job Recruitement System" and displays the message "You are successfully logged out!". Below this is a "Login" form with radio buttons for "JobSeeker", "Recruiter", and "Admin". It also has fields for "Username" and "Password" and a "Login" button. At the bottom of the form is a link "Click here to register an Account". The browser's taskbar shows various pinned icons.

4. JOBSEEKER HOME PAGE



JOBSEEKER HOME PAGE



- 1 **Profile:** - This page will open profile page of current logged in user.
- 2 **Upload Resume:**-This link is used to upload resume.
- 3 **Search Jobs:**-This link is used to search jobs posted by recruiters.
- 4 **Messages:**-This link is used to view received messages about job selection.
- 5 **Feedback:**-This link is used for feedback page to submit a feedback.

'PROFILE' PAGE ON JOBSEEKER

When JobSeeker Updated There Details

Profile Details

Basic Details	
Name	Srushti Shah
Designation	Product Leader
Location	Mumbai
Experience	3
Contact Details	
Email	srushti@gmail.com
Mobile	9619384455
Key Skills	
Time Management, Team Work	
Projects	
Recruitment System	
IT Skills	
HTML, CSS, Java, C++, Python, MySQL	
Education	
B Tech CS	
Certifications	
Networking Expert	
Work Details	
Java PRogrammer	
Personal Details	

This page is for jobseeker. All possible activities for the jobseeker are listed here.

1 Edit: -

This link is used to edit/update logged jobseeker's profile details.

When JobSeeker Clicks On ‘Edit’

The screenshot shows a web browser window with the URL [http://localhost:8080/OIP%20\(JSP%20%20MySql%20Server\)/jobseekerupdateprofile.jsp](http://localhost:8080/OIP%20(JSP%20%20MySql%20Server)/jobseekerupdateprofile.jsp). The title bar says "JobSeeker - Update Profile". The main content area is titled "Job Recruitment System" and "JobSeeker". At the top, there are links for "Profile", "Upload Resume", "Search Jobs", "Messages", and "Feedback". On the right, it says "Welcome srujan Logout". Below these are sections for "Basic Details" and "Profile Details". The "Edit" button in the "Profile Details" section is highlighted with a red box.

By clicking on ‘Update’ Button JobSeeker can update there profile details.

When JobSeeker Is New

The screenshot shows a web browser window with the URL [http://localhost:8080/OIP%20\(JSP%20%20MySql%20Server\)/jobseekerprofile.jsp](http://localhost:8080/OIP%20(JSP%20%20MySql%20Server)/jobseekerprofile.jsp). The title bar says "JobSeeker - Profile". The main content area is titled "Job Recruitment System" and "JobSeeker". At the top, there are links for "Profile", "Upload Resume", "Search Jobs", "Messages", and "Feedback". On the right, it says "Welcome Hrikan Logout". Below these are sections for "Basic Details" and "Profile Details". The "Edit" button in the "Profile Details" section is highlighted with a red box.

By clicking on ‘Edit’ JobSeeker can edit profile details.

‘UPLOAD RESUME’ PAGE ON JOBSEEKER

The screenshot shows a web browser window with the URL <http://localhost:8080/OJP%20/JSP%20%20MySql%20Server/jobseekerresume.jsp>. The title bar says "JobSeeker - Resume". The main content area has a dark blue header bar with the text "Job Recruitement System". Below it, the "JobSeeker" logo is displayed. On the right, there is a welcome message "Welcome ssrushiti" and a "Logout" link. A horizontal line separates this from the menu bar which includes "Profile", "Upload Resume", "Search Jobs", "Messages", and "Feedback". Another horizontal line follows. Below this, there is a form field labeled "Upload Resume" with a "Browse..." button and an "Upload" button.



By Clicking on “Upload” JobSeeker can upload there resume on website.

‘SEARCH JOBS’ PAGE ON JOBSEEKER

The screenshot shows the 'Job Recruitement System' search interface. The search form includes fields for Keywords (Software), Location (Mumbai), Experience (0), and Expected Salary (30000). The search button is labeled 'Search Jobs'.



Search Result Page When Searched For “Keywords:Software, Location:Mumbai, Experience:0, Expected Salary:30000”

The screenshot shows the search results page with three job listings:

- Software Analyst** - Posted on Tue 23.03.2021 at 10:18:58
0 Years
Mumbai
50000 p.a.
java, HTML, Python
Vacancy-1
- Product Engineer** - Posted on Sat 04.03.2021 at 12:20:15
3 Years
Mumbai
80000 p.a.
Python, MERN Stack, NodeJS
Vacancy-2
- Software Analyst** - Posted on Sat 04.03.2021 at 13:20:15
2 Years
Delhi
50000 p.a.
Ruby, R Language, ML
Vacancy-3

JOB DETAILS PAGE ON JOBSEEKER

The screenshot shows a web browser window for the 'JobSeeker - Job Details' page. The URL is <http://localhost:8080/JIP%20/JSP%20%20MySql%20Server/jjobseekerjobdetails.jsp?jobid=5>. The page title is 'Job Recruitement System'. A blue header bar contains the text 'Job Seeker'. On the right, there's a welcome message 'Welcome ssrushuti' and a 'Logout' link. Below the header, there are links for 'Profile', 'Upload Resume', 'Search Jobs', 'Messages', and 'Feedback'. The main content area is titled 'Job Details' and displays the following information:

Product Engineer	Posted on Sat 04.03.2021 at 12:55:15
0 Years	Posted by ektashawh
Banglore	
45000 p.a.	
Vacancy-2	
To engineer and craft products	
Functional Area	Developer
Role	Product Engineer
Key Skills	Machine Learning, AI
Interview Date	15/05/2021
Interview Time	6:00
Interview Place	Banglore

At the bottom of the content area, there is a blue link labeled 'Apply for this Job'.



By clicking on “**Apply for this Job**” JobSeeker can apply for selected job.

'MESSAGES' PAGE ON JOBSEEKER

When There Is No Message

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20%20MySql%20Server\)/jobseekermessagebox.jsp](http://localhost:8080/OJP%20(JSP%20%20%20MySql%20Server)/jobseekermessagebox.jsp). The page title is "Job Recruitement System". The user is logged in as "JobSeeker". The top navigation bar includes links for Profile, Upload Resume, Search Jobs, Messages, and Feedback. A welcome message "Welcome srujan Logout" is displayed. Below the navigation, there is a section titled "Messages" with the sub-section "Empty Message Box".

When there are messages

The screenshot shows a web browser window with the same URL as the previous screenshot. The user is still "JobSeeker". The "Messages" section now contains two messages from "sure": one dated "Mon 29.03.2021 at 05:10:27" with the message "Selected for Interview for job 1", and another dated "Fri 16.04.2021 at 02:36:43" with the message "Selected for Interview for job 1".

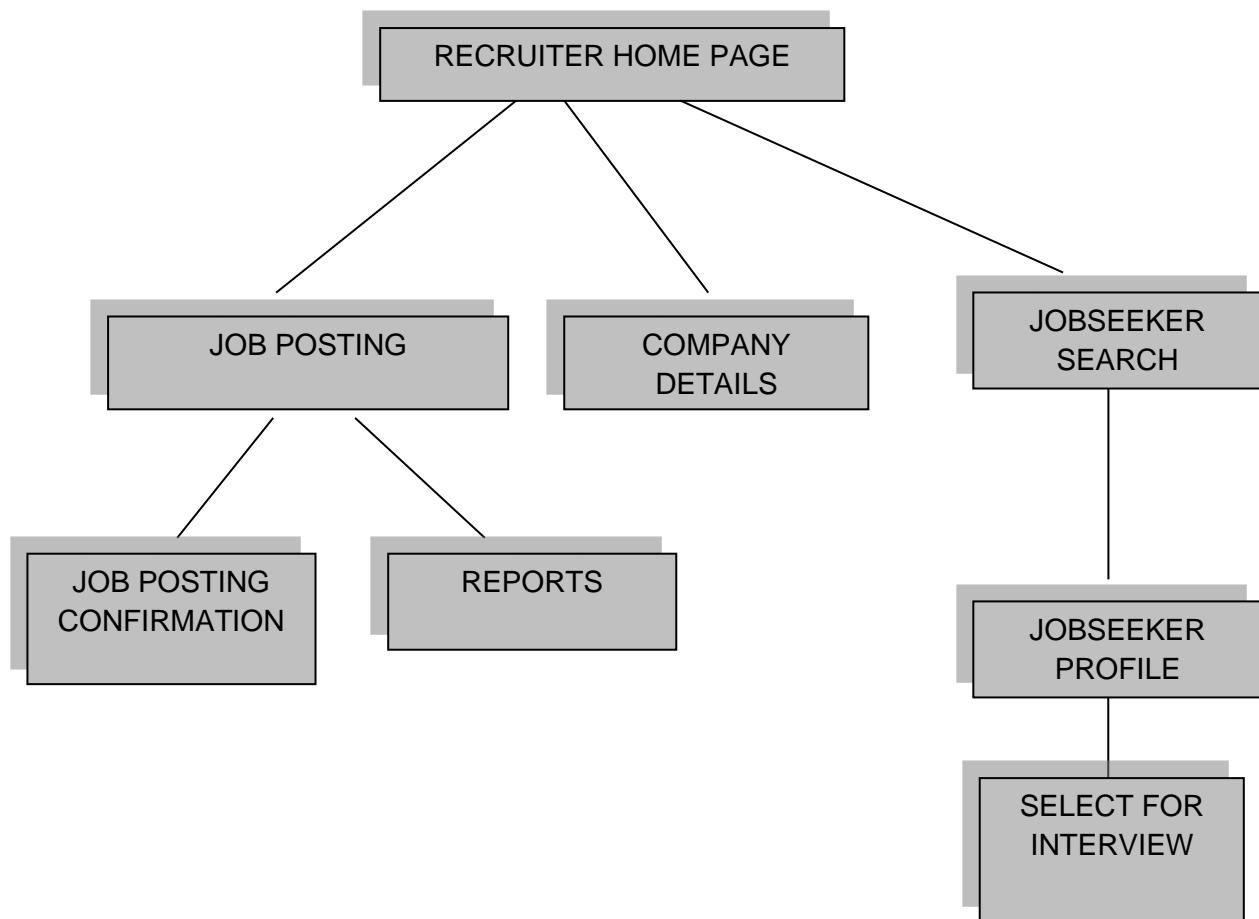
'FEEDBACK' PAGE ON JOBSEEKER

JobSeeker's Feedback Page

The screenshot shows a web browser window for the 'Job Recruitement System'. The title bar displays the URL: http://localhost:8080/JIP%20(JSP%20%20MySql%20Server)/jobseekerfeedback.jsp. The page header includes a logo, the text 'Job Recruitement System', and navigation links for 'Profile', 'Upload Resume', 'Search Jobs', 'Messages', and 'Feedback'. A welcome message 'Welcome ssrushiti' and a 'Logout' link are also present. The main content area is titled 'Feedback' and contains fields for 'Username' (ssrushiti), 'E-Mail' (empty), and a large 'Message' text area with a scroll bar. A 'Send Message' button is located at the bottom of the message area.



5. RECRUITERS HOME PAGE MODULE INTEGRATION TEST



RECRUITER HOME PAGE

The screenshot shows a web browser window with the URL <http://localhost:8080/JSP%20%20%20MySql%20Server/recruiterhome.jsp>. The page title is "Job Recruitement System". The header includes a "Recruiter" section and a "Logout" link. Below the header is a horizontal menu bar with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback.



All possible activities for the recruiters are listed below.

1 Profile :-

This link is used to view/update profile of logged recruiter.

2 View Posted Jobs:-

This link will show jobs that is posted by current logged in user.

3 Post a Job:-

This link is used to post new job.

4 Search JobSeeker:-

This link is used to search registered jobseekers.

5 Message:-

This link is used to message box which contains information about jobseekers who have applied to jobs.

6 Feedback:-

This link is used to submit feedback about website.

'PROFILE' PAGE ON RECRUITER

When Recruiter Updated There Details

The screenshot shows a web browser window for the 'Job Recruitment System'. The URL is <http://localhost:8080/OJP%20/JSP%20%20%20MySql%20Server/recruiterprofile.jsp>. The page title is 'Job Recruitment System' and the sub-page title is 'Recruiter'. A welcome message 'Welcome sure [Logout](#)' is displayed. Below the titles, there is a navigation bar with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. The main content area displays 'Profile Details' for a user named Rajesh Shah, with the following information:

Name	Rajesh Shah
Company Name	Morgan Stanley
Designation	HR Manager
Location	Mumbai
Email	srsrah@gmail.com
Mobile	9865321470
Gender	Male

A blue 'Edit' button is located at the bottom of this section.



This page is for recruiter. All possible activities for the recruiter are listed here.

1 Edit: -

This link is used to edit/update logged recruiter's profile details.

When Recruiter Clicks On 'Edit'

The screenshot shows a web browser window for the 'Job Recruitment System'. The URL is <http://localhost:8080/OJP%20/JSP%20%20%20MySql%20Server/recruiterupdateprofile.jsp>. The page title is 'Job Recruitment System' and the sub-page title is 'Recruiter'. A welcome message 'Welcome Shanay Gala [Logout](#)' is displayed. Below the titles, there is a navigation bar with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. The main content area displays 'Profile Details' for a user, with input fields for Name (FirstName and LastName), Company Name, Designation, Location, Email, Mobile, and Gender (with radio buttons for Male and Female). A blue 'Update' button is located at the bottom of this section.



By clicking on 'Update' Button Recruiter can update there profile details.

When Recruiter Is New

http://localhost:8080/JSP%20%20%20MySql%20Server)/recruiterprofile.jsp

Welcome Shanay Gala [Logout](#)

[Profile](#) | [View Posted Jobs](#) | [Post a Job](#) | [Search Job Seeker](#) | [Messages](#) | [Feedback](#)

Profile Details

[Edit](#)



By clicking on 'Edit' recruiter can edit there profile details

'VIEW POSTED JOBS' PAGE ON RECRUITER

When There Is No Job Posted By Recruiter

Job Recruitement System

Welcome Shanay Gala [Logout](#)

[Profile](#) | [View Posted Jobs](#) | [Post a Job](#) | [Search Job Seeker](#) | [Messages](#) | [Feedback](#)

Posted Jobs

Job Recruitement System

Welcome sur [Logout](#)

[Profile](#) | [View Posted Jobs](#) | [Post a Job](#) | [Search Job Seeker](#) | [Messages](#) | [Feedback](#)

Posted Jobs

Software Analyst	Posted on Tue 23.03.2021 at 10:18:58
0Years	
Mumbai	
50000 p.a.	
java, HTMl, Python	
Vacancy-1	

Product Engineer	Posted on Sat 04.03.2021 at 12:20:15
3Years	
Mumbai	
80000 p.a.	
Python, MERN Stack, NodeJS	
Vacancy-2	

Recruiter can open JobSeeker's Profile Page by clicking on that JobSeeker's name.

'POST A JOB' PAGE ON RECRUITER

The screenshot shows a web browser window with the URL [http://localhost:8080/JP%20\(JSP%20%20%20MySql%20Server\)/recruiteraddjob.jsp](http://localhost:8080/JP%20(JSP%20%20%20MySql%20Server)/recruiteraddjob.jsp). The title bar says "Recruiter - Add Job". The page header includes "Job Recruitement System", "Recruiter", and "Welcome user Logout". Below the header is a navigation menu with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. The main content area is titled "Add Job" and contains the following form fields:

JobId:	<input type="text"/>
Job Title:	<input type="text"/>
Location:	<input type="text"/> - Select -
Minimum Experience:	<input type="text"/> - Select - Years
Salary:	<input type="text"/>
Job Description:	<input type="text"/>
Functional Area:	<input type="text"/> - Select -
Role:	<input type="text"/> - Select -
Key Skills:	<input type="text"/> Java,SQL,HTML,JSP etc
Vacancy:	<input type="text"/>
Interview Date:	<input type="text"/>
Interview Time:	<input type="text"/>
Interview Place:	<input type="text"/>

At the bottom of the form is a "ADD" button.



JOB DETAILS PAGE ON RECRUITER

When Recruiter Views Jobs There Are No “Apply For Job” Option

The screenshot shows a web browser window with the URL <http://localhost:8080/OJP%20/JSP%20%20%20MySql%20Server/recruiter/jobdetails.jsp?jobid=1>. The title bar says "Recruiter - Job Details". The page header includes "Job Recruitement System" and "Recruiter". A "Logout" link is visible in the top right. The main content area displays a job listing for a "Software Analyst" position. The job details are as follows:

Job Details	
Software Analyst	Posted on Tue 23.03.2021 at 10:18:58
0 Years	Posted by sure
Mumbai	
50000 p.a.	
Vacancy-1	

Below the job details, there is a section titled "To build projects and maintain website" with the following specifications:

Functional Area	Computer Software
Role	Software Professional
Key Skills	java, HTML, Python
Interview Date	12/04/2021
Interview Time	5:00
Interview Place	Mumbai

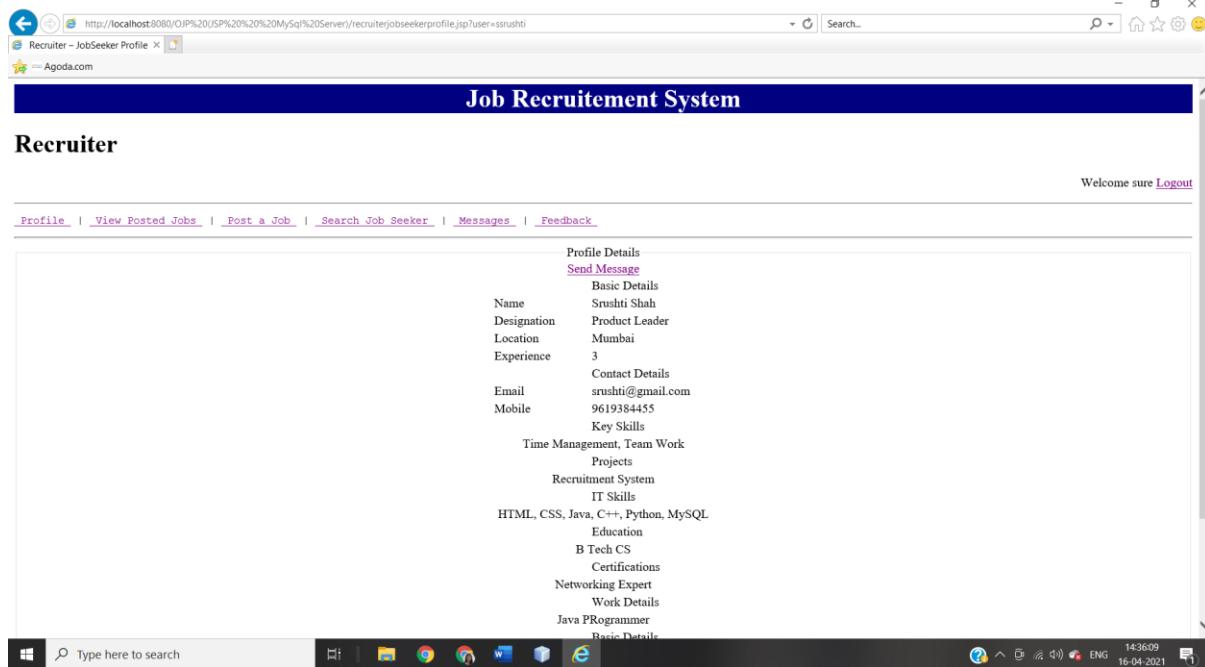


'SEARCH JOB SEEKER' PAGE ON RECRUITER

The screenshot shows a web browser window with the URL <http://localhost:8080/OJP%20JSP%20%20MySql%20Server/recruitersearchresult.jsp?search=srushti>. The page title is "Recruiter - Search Result". The main content area is titled "Job Recruitement System" and "Recruiter". It displays a search result for "Srushti Shah", described as a Product Leader with 3 Years experience in Mumbai, focusing on Time Management, Team Work. The browser interface includes a search bar at the top and a taskbar at the bottom.

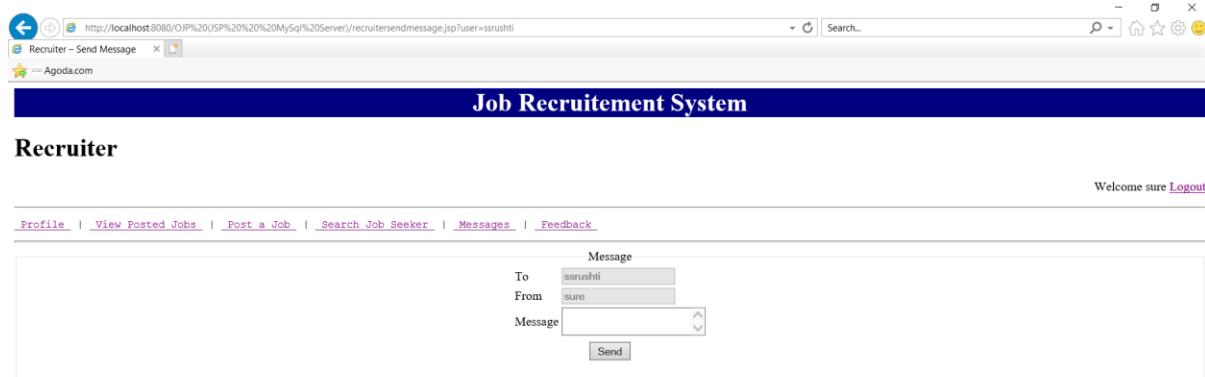
JOBSEEKER PROFILE PAGE ON RECRUITER

When Recruiter Is Accessing JobSeeker Profile There Is ‘Send Message’ Option By Which Recruiter Can Send Message To That Particular JobSeeker.



The screenshot shows the 'Job Recruitment System' interface. At the top, there's a header bar with links for Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. On the right, it says 'Welcome sure Logout'. Below the header, the main content area displays a job seeker's profile for 'ssrushi'. The profile includes basic details like Name (Srushti Shah), Designation (Product Leader), Location (Mumbai), and Experience (3). It also lists contact details (Email: srushti@gmail.com, Mobile: 9619384455) and key skills (Time Management, Team Work, etc.). A sidebar on the left contains navigation links for Profile Details, Send Message, Basic Details, and other sections like IT Skills, HTML, CSS, Java, C++, Python, MySQL, Education, B Tech CS, Certifications, Networking Expert, Work Details, Java Programmer, and Basic Details.

‘Send Message’ Page



This screenshot shows the 'Recruiter - Send Message' page. The top navigation bar is identical to the previous one. The main content area contains a 'Message' form. It has three input fields: 'To' (with 'ssrushi' entered), 'From' (with 'sure' entered), and 'Message' (a text area with a dropdown arrow). Below these fields is a 'Send' button.

'MESSAGES' PAGE ON RECRUITER

When There Is No Message For Recruiter

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20%20MySql%20Server\)/recruitermessagebox.jsp](http://localhost:8080/OJP%20(JSP%20%20%20MySql%20Server)/recruitermessagebox.jsp). The title bar says "Recruiter - Message Box". The page header includes "Job Recruitement System" and "Recruiter". On the right, it says "Welcome Shanay Gala [Logout](#)". Below the header is a navigation menu with links: Profile, View Posted Jobs, Post a Job, Search Job Seeker, Messages, and Feedback. A main content area titled "Messages" displays the message "Empty Message Box". At the bottom of the browser window, there is a Windows taskbar with various icons.

When There Are Messages

The screenshot shows a web browser window with the same URL and title as the previous screenshot. The title bar says "Recruiter - Message Box". The page header and navigation menu are identical. The main content area titled "Messages" now shows a single message from "srushti" with the timestamp "Tue 23.03.2021 at 10:20:27" and the link "Accept for Interview". The Windows taskbar at the bottom is visible.

'FEEDBACK' PAGE ON RECRUITER

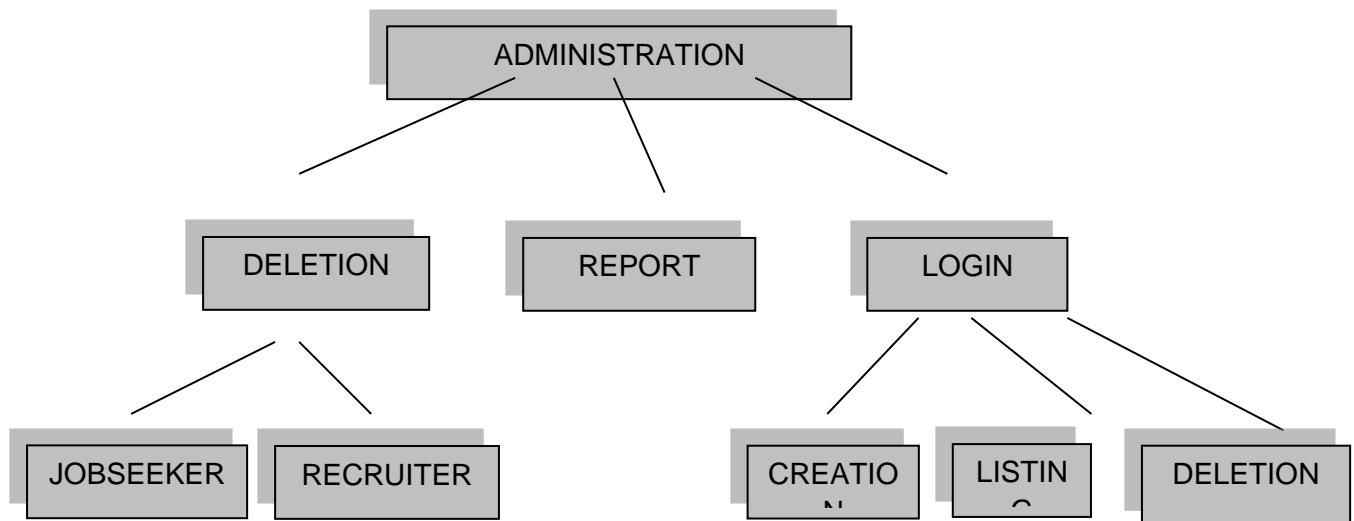
Recruiter's Feedback Page

The screenshot shows a web browser window with the following details:

- Title Bar:** http://localhost:8080/JIP%20JSP%20%20MySql%20Server/recruiterfeedback.jsp
- Page Title:** Job Recruitement System
- User Information:** Welcome user [Logout](#)
- Navigation Links:** Profile | View Posted Jobs | Post a Job | Search Job Seeker | Messages | Feedback.
- Form Fields:** A "Feedback" form with fields for Username (sure), E-Mail (



6. ADMIN HOME PAGE MODULE INTEGRATION TEST



All possible activities for the administrator are listed here.

1. [Home](#): - This link is for administrator homepage.
2. [JobSeeker Reports](#):- With the help of this link administrator can delete or view JobSeekers profile.
3. [Recruiter Reports](#): From this link administrator can manage recruiters profile.

'JOBSEEKER REPORTS' PAGE ON ADMINISTRATOR

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySQL%20Server\)/adminjobseekerreport.jsp](http://localhost:8080/OJP%20(JSP%20%20MySQL%20Server)/adminjobseekerreport.jsp). The title bar says "Job Recruitement System". The page header includes "Administrator" and "Welcome admin [Logout](#)". Below the header is a menu with links: Home, Inbox, JobSeeker Reports, and Recruiter Reports. A table titled "List of Registered JobSeekers" displays two entries:

S.No.	Username	View Profile	Remove Profile
1.	srushtis	View	Remove
2.	ssrushti	View	Remove

This page is for administrator. All possible activities for the administrator are listed here.

- 1 [View](#): - This link will open correspondence jobseeker's profile page.
- 2 [Remove](#): - This link will remove correspondence jobseeker's profile from database.

The screenshot shows a web browser window with the URL [http://localhost:8080/OJP%20\(JSP%20%20MySQL%20Server\)/adminjobseekerprofile.jsp?user=srushtis](http://localhost:8080/OJP%20(JSP%20%20MySQL%20Server)/adminjobseekerprofile.jsp?user=srushtis). The title bar says "Job Recruitement System". The page header includes "Administrator" and "Welcome admin [Logout](#)". Below the header is a menu with links: Home, Inbox, JobSeeker Reports, and Recruiter Reports. The main content area is titled "Profile Details" and contains the following information:

Name	Rohan Singh
Designation	Software Engineer
Location	Delhi
Experience	2
Email	rohan@gmail.com
Mobile	9856325863
Key Skills	
Negotiation, Team Work	
Projects	
E-Praman	
IT Skills	
NodeJS, MERN Stack, Java	
Education	
B Tech IT	
Certifications	
Hackathon	
Work Details	

'RECRUITER REPORTS' PAGE ON ADMINISTRATOR

The screenshot shows a web browser window with the URL <http://localhost:8080/OIP%20/SP%20%20MySql%20Server/admin/recruiterreport.jsp>. The title bar says "Admin – Recruiter Report". The page header includes "Job Recruitement System" and "Administrator". A welcome message "Welcome admin" with a "Logout" link is visible. Below the header is a menu bar with links: Home, Inbox, JobSeeker Reports, and Recruiter Reports. The main content area is titled "List of Registered Recruiters" and contains a table with three rows of data:

S.No.	Username	View Profile	Remove Profile
1.	ektashah	View	Remove
2.	sure	View	Remove
3.	urvishah	View	Remove



This page is for administrator. All possible activities for this page are listed here.

- 1 [View](#): - This link will open correspondence recruiter's profile page
- 2 [Remove](#): - This link will remove correspondence recruiter's profile from database.

System Testing

System testing is directly associated with the system design phase. System tests check the entire system functionality and the communication of the system under development with external systems. Most of the software and hardware compatibility issues can be uncovered during this system test execution.

Hardware:

- The hardware used is Intel Core i3 and higher, on which the processing power is appropriate for the system and it works without any delay
- Using Windows Server 2008, the database fetches details on time and correctly from the tables with minimum delay

Software:.

- Browser: The project works on all browsers efficiently without delay and all functionality are maintained
- Active internet connection: The project needs an active internet connection to run.

Acceptance Testing

Acceptance testing is associated with the business requirement analysis phase and involves testing the product in user environment. Acceptance tests uncover the compatibility issues with the other systems available in the user environment. It also discovers the non-functional issues such as load and performance defects in the actual user environment.

CONCLUSION: Thus, from this experiment I have implemented system testing using Selenium Web Driver for the project, along with unit and integration testing of the system.