

**Veer Narmad South Gujarat University,  
Surat.**

**Department of Information and  
Communication Technology**

**M.Sc. (Information Technology) Programme**

**Project Report**

**8<sup>th</sup> Semester**

**M.Sc. (Information Technology)  
5 Year Integrated Course**

**Year 2021 – 2022**

**Recruitment Management System**

Guided By :

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Guide)**

Submitted By :

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# Certificate

This is to certify that Mr./Ms. Mandviwala Priya Sanjaybhai with Exam Seat Number: 2018013465 and PG Registration Number: E1811018000610056 has worked on his/her part time project work entitled Recruitment Management System as a partial fulfillment of the requirements for **8<sup>th</sup> Semester - M.Sc. (Information Technology) [5 Year Integrated course]**, during the academic Year 2021-2022.

Date : 17<sup>th</sup> June, 2022

Place : Dept. of ICT, VNSGU, Surat.

Internal Project Guide  
M.Sc.(I.T.) 8<sup>th</sup> Semester  
Department of I.C.T.

Veer Narmad South Gujarat University,  
Surat

Head of the Department  
Department of I.C.T.  
Veer Narmad South Gujarat University,  
Surat

|  |
|--|
| PROJECT OF M. Sc. (I.T.) PROGRAMME<br>VEER NARMAD SOUTH GUJARAT UNIVERSITY |
| Academic Year :- _____   |
| Approved By :- _____   |
| <b>EXAMINERS</b>   |

# ACKNOWLEDGEMENT

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**From,**  
Manisha Gami (2018013436)  
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# **1 Introduction**

## **Existing System**

Attending walk-ins by the job seekers is always not possible by visiting from one place to another. Even at the recruitment center lots more paper work involved such as form filling, attaching necessary certificates and documents etc. A lot of investment has to be made from both the side. Recruiters have to give their advertisement in paper media such as newspaper, pamphlets etc which is again extra cost and even not reachable to wider region. Job seekers were not able to know about latest recruitment and not able to get their job even if they satisfy the eligibility condition.

## **2 Proposed System**

Recruitment Management System will responsible to automate all the working process to reduce cost and save time. Recruiters will able to post their job and its type by which it will displayed to the job seekers dashboard based on their job type. Recruiters will able to search for employees based on qualification, colleges, get their contact info, view their resumes, profiles and even much more. Selected job seekers will have to go through recruitment process set by the recruiters such as aptitude test using offline exam mode, have telephonic interview and personal interview between recruiters and job seekers. 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.

### **2.1 Scope**

#### **➤ Admin**

- Recruitment system provides a platform to Companies and organization to hire a quality staff globally all across the world.
- Posts Jobs and finalize candidates.

## ➤ User

- It is useful for the person looking for job change or quality job.

## 2.2 Objective

- To act as middle man connecting jobseeker and provider.
- To facilitates job search and helps candidate to fetch a right job and apply online.
- To make it global.
- Provides better understanding between applicants and organization.
- Simplify the procedure.
- Determine who is compatible with company's culture.

## 2.3 Constraints

### 2.3.1 H/W Constraints

- Computer or laptop needs power supply.
- Cannot access through mobile.
- Internet connection required.

### 2.3.2 S/W Constraints

- Cannot access by other software except Apache Netbeans.
- Cannot access without required jar file .
- It need to Payara server for user software.

## 2.4 Advantages

### 1. Time-saving

No matter where you are, you can send out job postings anytime with Internet access. In other words, you can forget about the paperwork and the action of entering data manually. As a result, it will not only save time of organization, but the people who is in search of specific job.

## **2. Dynamic content.**

Generate dynamic content could build up your branding in a successful way to attract top talents and to boost corporate culture.

## **3. Minimized hiring cost.**

Labor costs in recruiting are usually high in terms of advertising, travel expenses etc. As a result, the hiring process usually takes up too much time and its cost could be minimized by implementing a software which allows you to post free job openings just by one click.

## **4. Effective.**

Online recruitment is easily accessible to individuals, making it a more effective method of getting your posts noticed. Online job ads can be posted within few minutes and they can be easily posted on several social media platform with no waste of time.

## **5. Shorten hiring process.**

The hiring process could be shortened by just clicking a few buttons to screen, filter, and sort applicants data and CV. Online recruiting streamlines the process of inviting or rejecting applicants one by one and inserting applicants' data manually is no longer needed.

## **6. Broader scope**

By using recruitment software, recruiters will be helped in reaching a wider amount of candidates locally and abroad, at the same time job seekers will get notified with updated jobs.

## **7. Personalized design.**

Your professional career page is tailored made accordingly to the graphical identity of the company. As a result, this will help you branding, underlining the company's identity and values.

## **8. Filtration tools.**

Recruitment systems have filtration tools to help recruiters to find the ideal candidates with competencies that match the job position. Therefore, the filtration tools provided by e-recruitment systems speed up the process of

sorting the candidates according to experience, education, and many more criteria.

## **9. Flexible and easy.**

There is no hassle in learning how to use an e-recruitment system. So, it is easy to use and provides a platform where all the companies could follow the hiring process.

## **2.5 Limitation**

- High volume of responses.
- Too impersonal.
- Includes cost in managing email service.
- There's a lot of competition .

## **3. Environment Specification**

### **3.1.1 Hardware Requirement**

#### **Client side**

|           |         |
|-----------|---------|
| RAM       | 512 MB  |
| HARD Disk | 10 MB   |
| Processor | 1.0 GHz |

#### **Server side**

|           |        |
|-----------|--------|
| RAM       | 1 GB   |
| HARD Disk | 20 GB  |
| Processor | 20 GHz |

#### **Client side**

|                         |                                  |
|-------------------------|----------------------------------|
| <b>Web Browser</b>      | Chrome or any Compatible Browser |
| <b>Operating System</b> | Windows Or any Equivalent OS     |



## Server Side

|                     |              |
|---------------------|--------------|
| Web Server          | Payara       |
| Serverside Language | Java EE      |
| Database Server     | Apache MYSQL |

### 3.2 Development Description

**IDE :** The IDE used for RMS is Apache Netbeans. The best Comprehensive IDE For JAVA developers on windows. Fully Packed with Sweet Array of tools and features to elevae and enhance every stage of software development.

**API Development Environment :** we have used Postman to test and develop the APIs..





## 4 System Planning

### 4.1 Feasibility Study



The Feasibility Study for the Project has been carried out on the basis of

- 1: Schedule
- 2: Technology
- 3: Resource Availability


#### 1: Schedule Feasibility

-  Project is Initialized with Specific Deadline
-  The duration is allotted to complete the project within 10 weeks.
-  The development and testing for project is modularized timewise.
-  We require to determine whether the deadlines are mandatory or desirable .

#### 2: Technology Feasibility

-  The Project is Developed in Java EE.
-  As such there is no risk involved as far as technical aspects of the project is concerned

#### 3: Resource Availability

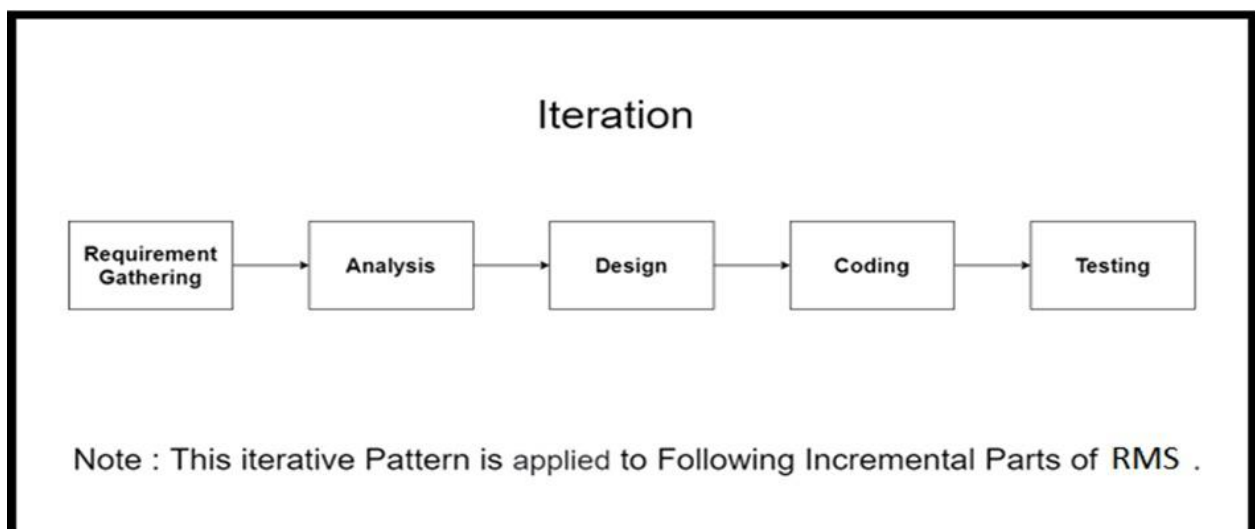
-  The Require hardware and software specifications is mentioned in the requirement section of documentation.

- ✚ The team of developers is needed for different task like design, testing, development etc...

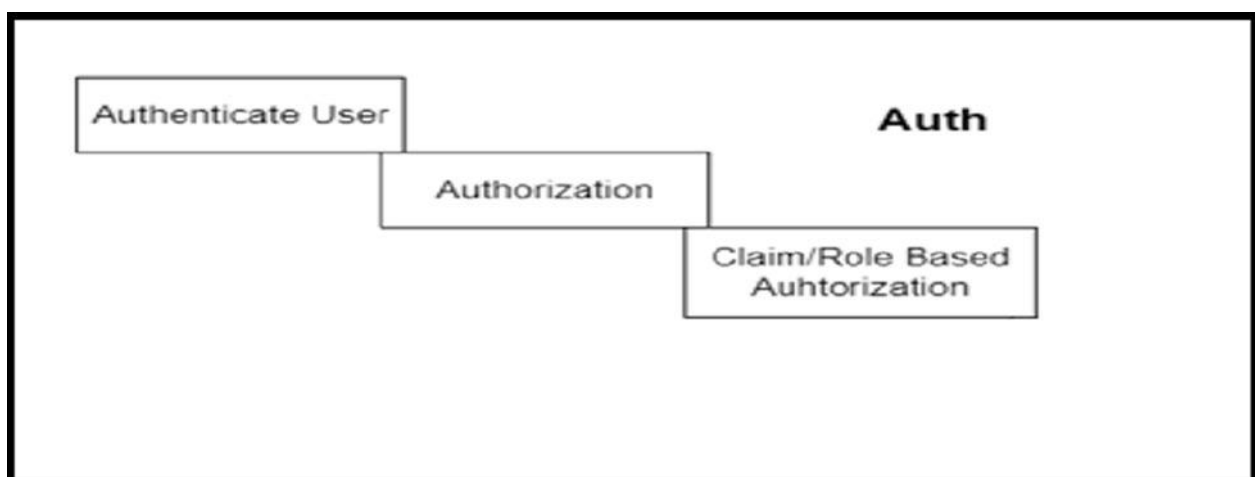
## 4.2 Software Engineering Model

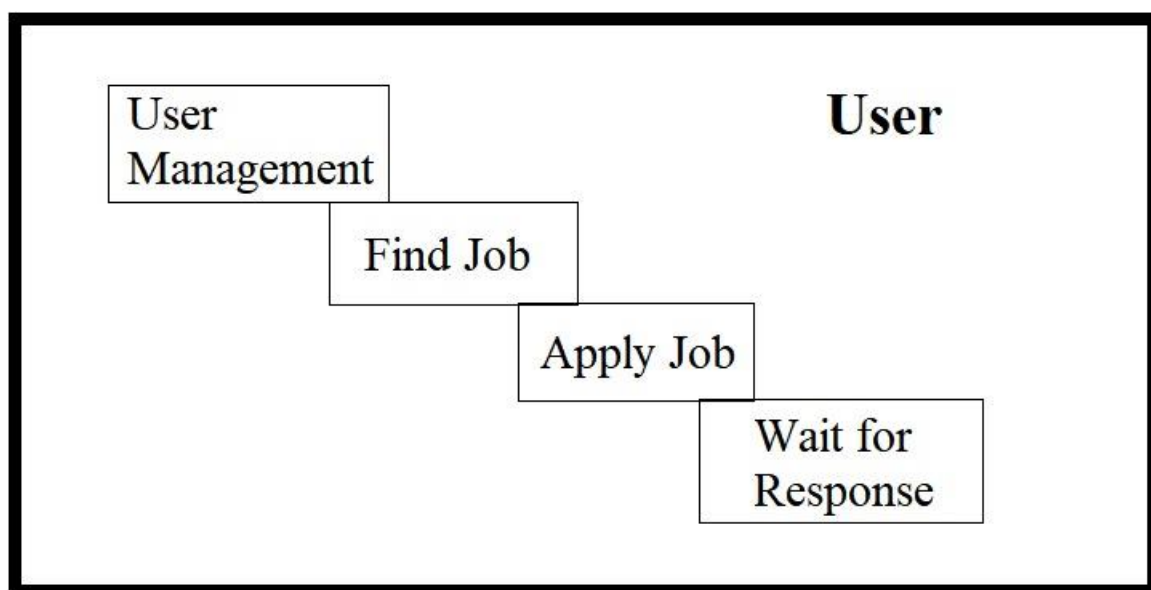
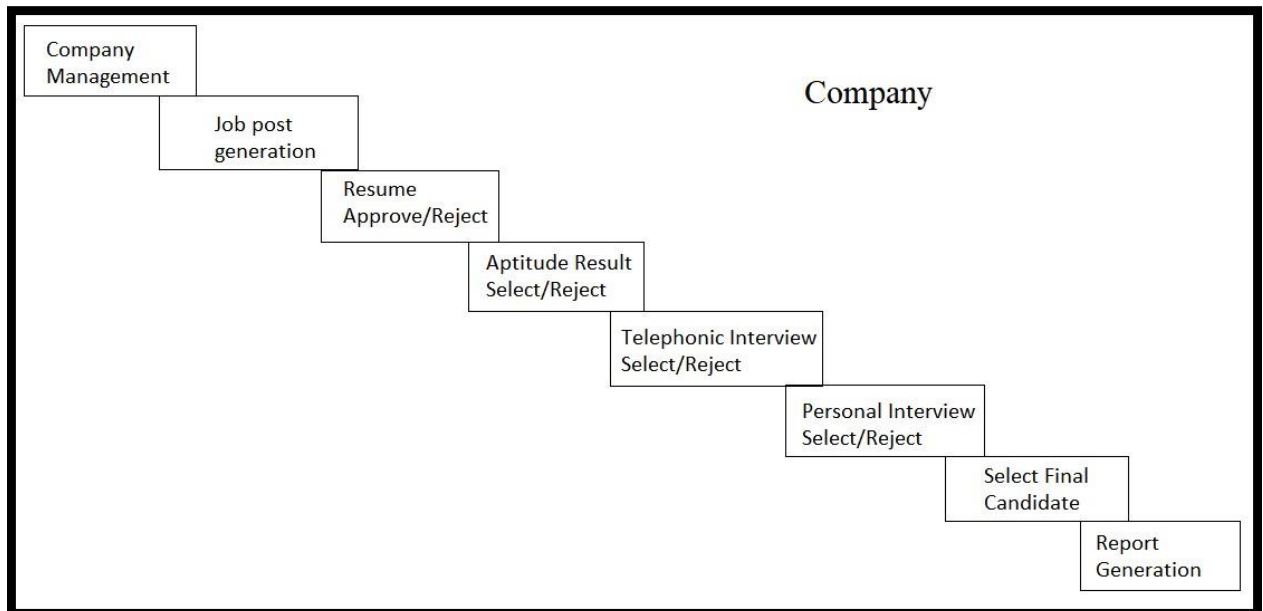
In the RMS, the requirements are decomposed into many small parts that can be incrementally developed. RMS adopts Iterative development. Each incremental part is developed over an iteration. Each iteration is intended to be small and easily manageable and that can be completed within a couple of weeks.

### Agile Model



### Incremental Modules





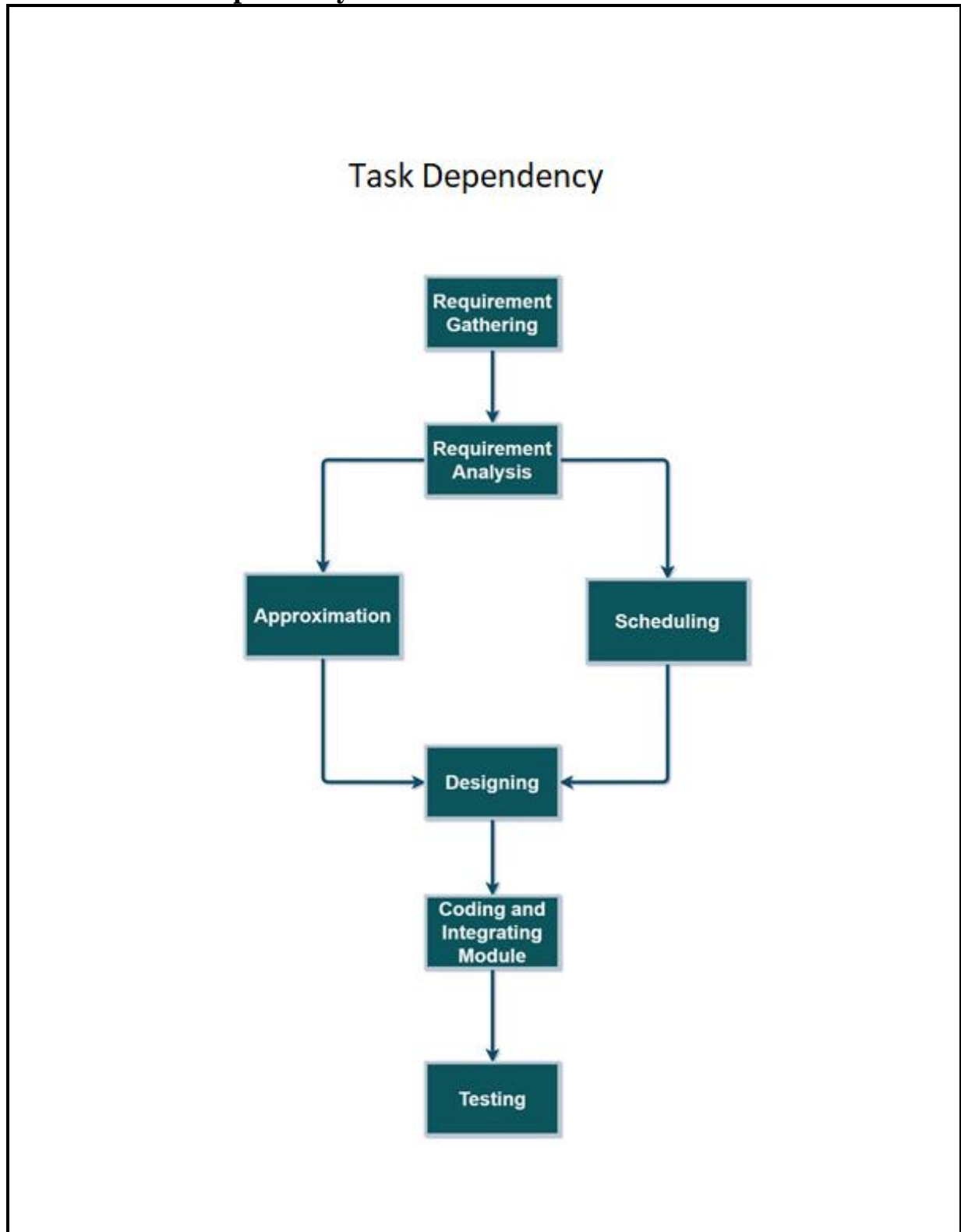
## 4.3 Risk Analysis

| Risk description  | Likelihood of the risk occurring | Impact if the risk occurs | Severity<br><i>Rating based on impact &amp; likelihood.</i> | Owner<br><i>Person who will manage the risk.</i> | Mitigating action<br><i>Actions to mitigate the risk e.g. reduce the likelihood.</i>   | Contingent action<br><i>Action to be taken if the risk happens.</i>  | Progress on actions   |
|---|----------------------------------|---------------------------|---|--|--|--|---|
| Project purpose and need is not well-defined.                 | Medium                           | High                      | High  | Project Sponsor                                  | Complete a business case if not already provided and ensure purpose is well defined on Project Charter and PID.  | Escalate to the Project Board with an assessment of the risk of runaway costs/never-ending project.                          | Business case re-written with clear deliverables and submitted to the project board for approval. |
| Project design and deliverable definition is incomplete.      | Low                              | High                      | High  | Project Sponsor                                  | Define the scope in detail via design workshops with input from subject matter experts.  | Document assumptions made and associated risks. Request high risk items that are ill-defined are removed from scope.         | Design workshops scheduled.   |
| Project schedule is not clearly defined or understood         | Low                              | Medium                    | Medium  | Project Manager                                  | Hold scheduling workshops with the project team so they understand the plan and likelihood of missed tasks is reduced.   | Share the plan and go through upcoming tasks at each weekly project progress meeting.  | Workshops scheduled.  |
| No control over staff priorities                              | Medium                           | Medium                    | Medium  | Project Manager                                  | The Project Sponsor will brief team managers on the importance of the project. Soft book resources as early as possible and then communicate final booking dates as after the scheduling workshops. Identify back ups for each human resource on the project.  | Escalate to the Project Sponsor and bring in back up resource.   | Project Sponsor has agreed to hold briefing. Now making arrangements for a meeting room.          |
| Estimating and/or scheduling errors                           | Medium                           | High                      | High  | Project Manager                                  | Break this risk into two: 'cost estimating' and 'scheduling errors'. Use two methods of cost estimation, and carefully track costs and forecast cost at completion making adjustments as necessary. Build in 10% contingency on cost and scheduling. Track schedules daily and include schedule review as an agenda item in every project team meeting. Flag forecast errors and/or delays to the Project Board early. | Escalate to project sponsor and project board. Raise change request for change to budget or schedule. Pull down contingency. | Contingency agreed by Project Board.  |
| Unplanned work that must be accommodated                      | Low                              | High                      | Medium  | Team Manager                                     | Attend project scheduling workshops. Check previous projects, for actual work and costs. Check all plans and quantity surveys. Document all assumptions made in planning and communicate to the project manager before project kick off.   | Escalate to the Project Manager with plan of action, including impact on time, cost and quality.                             | Team managers attending scheduling workshops.   |
| Lack of communication, causing lack of clarity and confusion. | Medium                           | Medium                    | Medium  | Project Manager                                  | Write a communication plan which includes frequency, goal, and audience of each communication. Identify stakeholders early and make sure they are considered in the communication plan. Use most appropriate channel of  | Correct misunderstandings immediately. Clarify areas that are not clear swiftly using assistance from                        | Communication plan in progress.   |

|  |   |                                  |  |   |  |  |  |
|--|---|----------------------------------|--|---|--|--|--|
|  |   |                                  |  |   | communication for audience e.g. don't send 3 paragraph email to Developers, have a call instead.   | Project Sponsor if needed.   |  |
| <b>Risk description</b>  | <b>Likelihood of the risk occurring</b> | <b>Impact if the risk occurs</b> | <b>Severity</b><br><i>Rating based on impact &amp; likelihood.</i> | <b>Owner</b><br><i>Person who will manage the risk.</i> | <b>Mitigating action</b><br><i>Actions to mitigate the risk e.g. reduce the likelihood.</i>  | <b>Contingent action</b><br><i>Action to be taken if the risk happens.</i>   | <b>Progress on actions</b>   |
| Pressure to arbitrarily reduce task durations and or run tasks in parallel which would increase risk of errors.  | Low                                     | High                             | Medium   | Project Manager   | Share the schedule with key stakeholders to reduce the risk of this happening. Patiently explain that schedule was built using the expertise of subject matter experts. Explain the risks of the changes. Share the Dennis Lock quote at <a href="https://www.stakeholdermap.com/plan-project/plan-reduction-crashing.html">https://www.stakeholdermap.com/plan-project/plan-reduction-crashing.html</a> . | Escalate to Project Board with assessment of risk and impact of the change. Hold emergency risk management call with decision makers & source of pressure and lay out risk and impact. | Awaiting completion of the schedule.   |
| Unresolved project conflicts not escalated in a timely manner  | Low                                     | Medium                           | Medium   | Project Manager   | Hold regular project team meetings and look out for conflicts. Review the project plan and stakeholder engagement plan for potential areas of conflict.  | When aware immediately escalate to Project Board and gain assistance from Project Sponsor to resolve the conflict.   | Project team meetings scheduled.   |
| Delay in earlier project phases jeopardizes ability to meet fixed date. For example delivery of just in time materials, for conference or launch date. | Medium                                  | High                             | High   | Project Manager   | Ensure the project plan is as accurate as possible using scheduling workshops and work breakdown structure. Use Tracking Gantt and Baseline to identify schedule slippage early.   | Consider insurance to cover costs and alternative supplier as a back up.   | Awaiting completion of the schedule.   |
| Customer refuses to approve deliverables/milestones or delays approval, putting pressure on project manager to 'work at risk'.                         | Medium                                  | Medium                           | Medium   | Project Manager   | Ensure customer decision maker with budgetary authority is identified before project start and is part of the project board. Communicate dates for sign-off points up front.   | Escalate to project Board and recommend action e.g. to stop the project.   | Customer project manager is confirming their sponsor / senior supplier.                  |
| Theft of materials, intellectual property or equipment.  | Low                                     | High                             | High   | Project Manager   | Follow security procedures, ensure Non-Disclosure Agreements (NDAs), & compliance certificates are in place. Verify all physical security measures in place. Secure insurance.   | Notify appropriate authorities e.g. police, project board and initiate internal investigations.  | NDAs issued. Security certificates confirmed for contractors.                            |
| Acts of God for example, extreme weather, leads to loss of resources, materials, premises etc.   | Low                                     | High                             | High   | Project Manager   | Ensure insurance in place. Familiarise project team with emergency procedures. Where cost effective put back up systems in place e.g. generators.  | Notify appropriate authorities. Follow health and safety procedures. Notify stakeholders and Project Board.  | Public Liability Insurance confirmed along with additional premises insurance at site B. |

## 4.4 Project Schedule

### 4.4.1 Task Dependency



#### 4.4.2 Timeline Chart

| Task Name             | Weeks (14 <sup>th</sup> February to 20 <sup>th</sup> February)<br>(21 <sup>st</sup> March to 27 March)<br>(28 <sup>th</sup> April to 16 <sup>th</sup> June) |   |   |   |   |   |   |   |   |
|-----------------------|---|---|---|---|---|---|---|---|---|
|                       | 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Training              |   |   |   |   |   |   |   |   |   |
| Requirement Gathering |   |   |   |   |   |   |   |   |   |
| Analysis              |   |   |   |   |   |   |   |   |   |
| Project Planning      |   |   |   |   |   |   |   |   |   |
| Designing             |   |   |   |   |   |   |   |   |   |
| Coding                |   |   |   |   |   |   |   |   |   |
| Testing               |   |   |   |   |   |   |   |   |   |
| Documentation         |   |   |   |   |   |   |   |   |   |

## 5 System Analysis

### 5.1 Detailed SRS

#### Register Module:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registered company who want to add job or user who want to take job. |
| <b>I/O Events:</b>  | User details added.   |
| <b>O/P:</b>         | Access the site   |
| <b>Validatons:</b>  | <b>Username:</b> Required<br><b>Password:</b> Required                              |

|                     |  |
|---------------------|--|
|                     | <b>Firstname:</b> null<br><b>Lastname:</b> null<br><b>Middlename:</b> null<br><b>gender:</b> null<br><b>phonenumber:</b> Required<br><b>colleagename:</b> null<br><b>colleageemail:</b> null<br><b>highestDegree:</b> null<br><b>emailid:</b> Required<br><b>address:</b> Required<br><b>countryid:</b> Required<br><b>stateid:</b> Required<br><b>cityid:</b> Required<br><b>pincode:</b> Required<br><b>level:</b> null<br><b>noofEmp:</b> null<br><b>companyname:</b> null<br><b>companydetail:</b> null<br><b>companyURL:</b> null |
| <b>Constraints:</b> | <b>Id:</b> Primary Key<br><b>Countryid:</b> Foreign Key<br><b>Stateid:</b> Foreign Key<br><b>Cityid:</b> Foreign Key   |

### Job Detail Module:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registerd company can post job and change accordingly as their required. |
| <b>I/O Events:</b>  | Any user can apply that particular job, Search Job With company name.                   |
| <b>O/P:</b>         | When user apply he/she will Notify via email. View Job.                                 |
| <b>Validatons:</b>  | <b>Title:</b> Required<br><b>Details:</b> Required                                      |



|                     |   |
|---------------------|---|
|                     | <b>NoOfVacancy:</b> Required<br><b>MinSalary:</b> Required<br><b>MaxSalary:</b> Required<br><b>CompanyUserName:</b> Required<br><b>Lastdate:</b> NotRequired<br><b>JobType:</b> Required<br><b>BondYear:</b> Required<br><b>CreatedDate:</b> Null |
| <b>Constraints:</b> | <b>Id:</b> Primary Key<br><b>CompanyUserName:</b> Foreign Key   |

### Jobskillset:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registerd company who posted job they add theri jobSkills.Accordingly which skill they need in that particular job |
| <b>I/O Events:</b>  | None.   |
| <b>O/P:</b>         | User can see the job's skill. And Admin can change accordingly.   |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Skillname:</b> Required  |
| <b>Constraints:</b> | <b>Id:</b> Primary Key<br><b>JobID :</b> Foreign Key  |

### Application:

|                     |  |
|---------------------|--|
| <b>Description:</b> | In this module registerd company who posted job they See the apply candidate's in particular job. And admin can approve/reject resume of applied user. |
| <b>I/O Events:</b>  | User applied with any job by sent resume.  |
| <b>O/P:</b>         | User can notify if their resume is satisfied with that job .   |

|                     |  |
|---------------------|--|
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Username:</b> Required        |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>JobID :</b> Foreign Key |

#### **AptitudeTest:**

|                     |  |
|---------------------|--|
| <b>Description:</b> | In this module registerd company who posted job they manage the aptitude test and that is conduct offline and after that set result of user. |
| <b>I/O Events:</b>  | Company manage the test for any job that was posted .  |
| <b>O/P:</b>         | User can notify if their resume is satisfied with that job and they need to apply that particular aptitude test.                             |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Examname:</b> Required<br><b>ExamDetail:</b> Required<br><b>CutOff:</b> Required                                |
| <b>Constraints:</b> | <b>Id:</b> Primary Key<br><b>JobID :</b> Foreign Key   |

#### **AptitudeResult:**

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registerd company who posted job 's test and if any user applied that job than result is added and notify that user via Email. |
| <b>I/O Events:</b>  | User applied with Aptitude test and insert data about that test and marks.  |
| <b>O/P:</b>         | User will notify if he/she get more than marks of cutoff and also notify if get less marks.   |
| <b>Validatons:</b>  | <b>AptitudeTestID:</b> Required<br><b>Username:</b> Required  |

|                     |   |
|---------------------|---|
|                     | <b>Marks:</b> Required<br><b>isSelected:</b> NULL                   |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>AptitudeTestID :</b> Primary Key |

### Telephonic Interview:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registered company can approve or reject user as per they marks get in aptitude test . |
| <b>I/O Events:</b>  | User approve/Reject form aptitude test.   |
| <b>O/P:</b>         | User can notify if they got higher marks than they will go for further process .                      |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Username:</b> Required<br><b>IsSelected:</b> null                        |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>JobID :</b> Foreign Key  |

### Personal Interview:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registered company can approve or reject user as per they give telephonic interview. |
| <b>I/O Events:</b>  | User approve/Reject form telephonic.  |
| <b>O/P:</b>         | User can notify if they got satisfied interview than they will go for further process .             |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Username:</b> Required<br><b>IsSelected:</b> null                      |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>JobID :</b> Foreign Key  |

### Selected Candidate:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registered company can approve or reject user as per they give personal interview.   |
| <b>I/O Events:</b>  | User approve/Reject form personal interview.  |
| <b>O/P:</b>         | User can notify if they got satisfied interview than they will go for further process . or offer for that job with specific salary and designation. |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Username:</b> Required<br><b>Salary:</b> null<br><b>Designation:</b> null<br><b>IsSelected:</b> null                   |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>JobID :</b> Foreign Key  |

### Role:

|                     |   |
|---------------------|---|
| <b>Description:</b> | Define role of company and user   |
| <b>I/O Events:</b>  | A particular role will be able to access particular module according to given permission. |
| <b>O/P:</b>         | None.   |
| <b>Validatons:</b>  | <b>RoleId:</b> Required<br><b>Rolename:</b> Required                                      |
| <b>Constraints:</b> | <b>RoleID:</b> Primary Key  |

### UserRole:

|                     |   |
|---------------------|---|
| <b>Description:</b> | Assign role to particular user as registered.       |
| <b>I/O Events:</b>  | A particular role will be able to access particular |

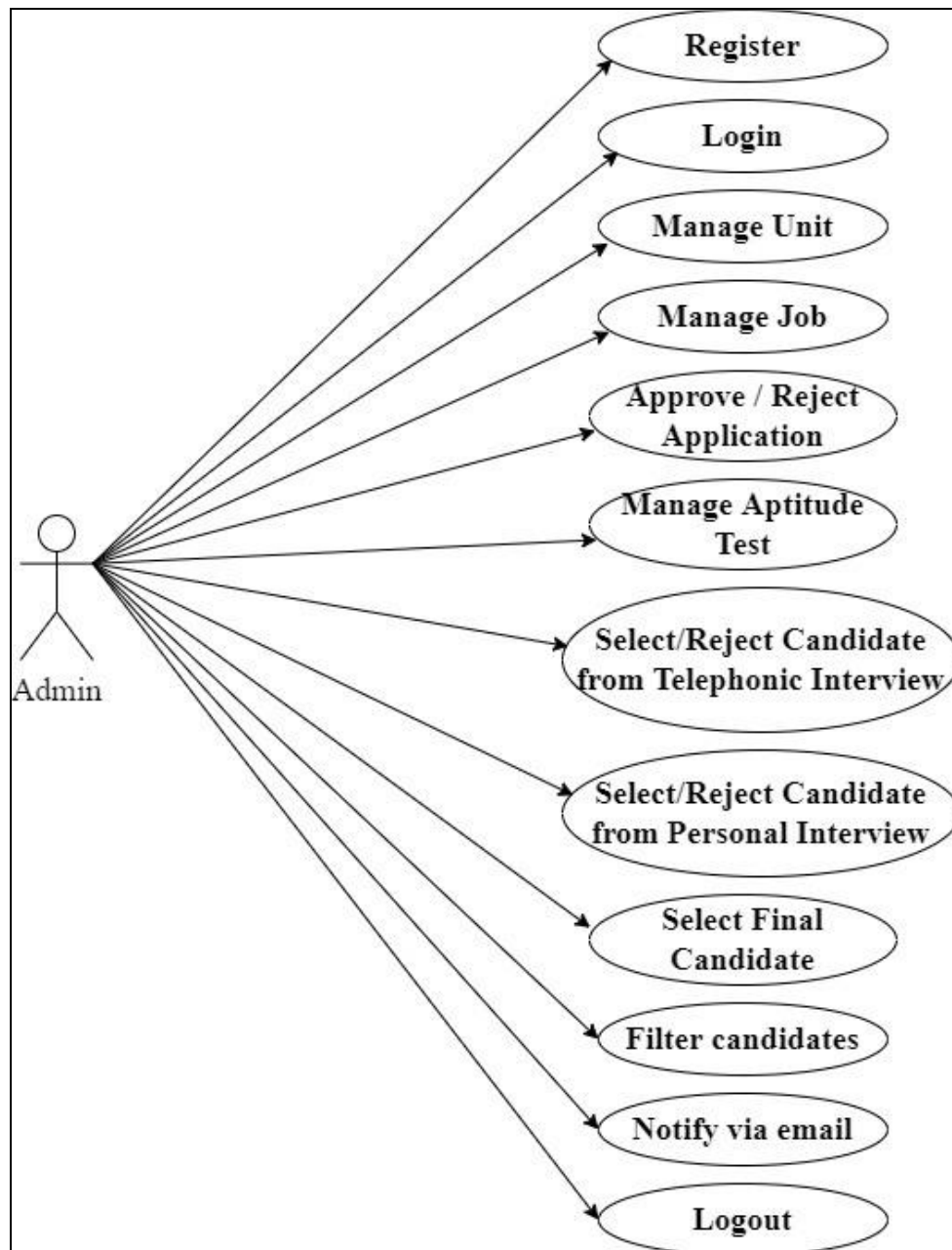
|                     |  |
|---------------------|--|
|                     | module according to given permission.                      |
| <b>O/P:</b>         | No one can access any page without any having role.        |
| <b>Validatons:</b>  | <b>JobID:</b> Required<br><b>Username:</b> Required        |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>JobID :</b> Foreign Key |

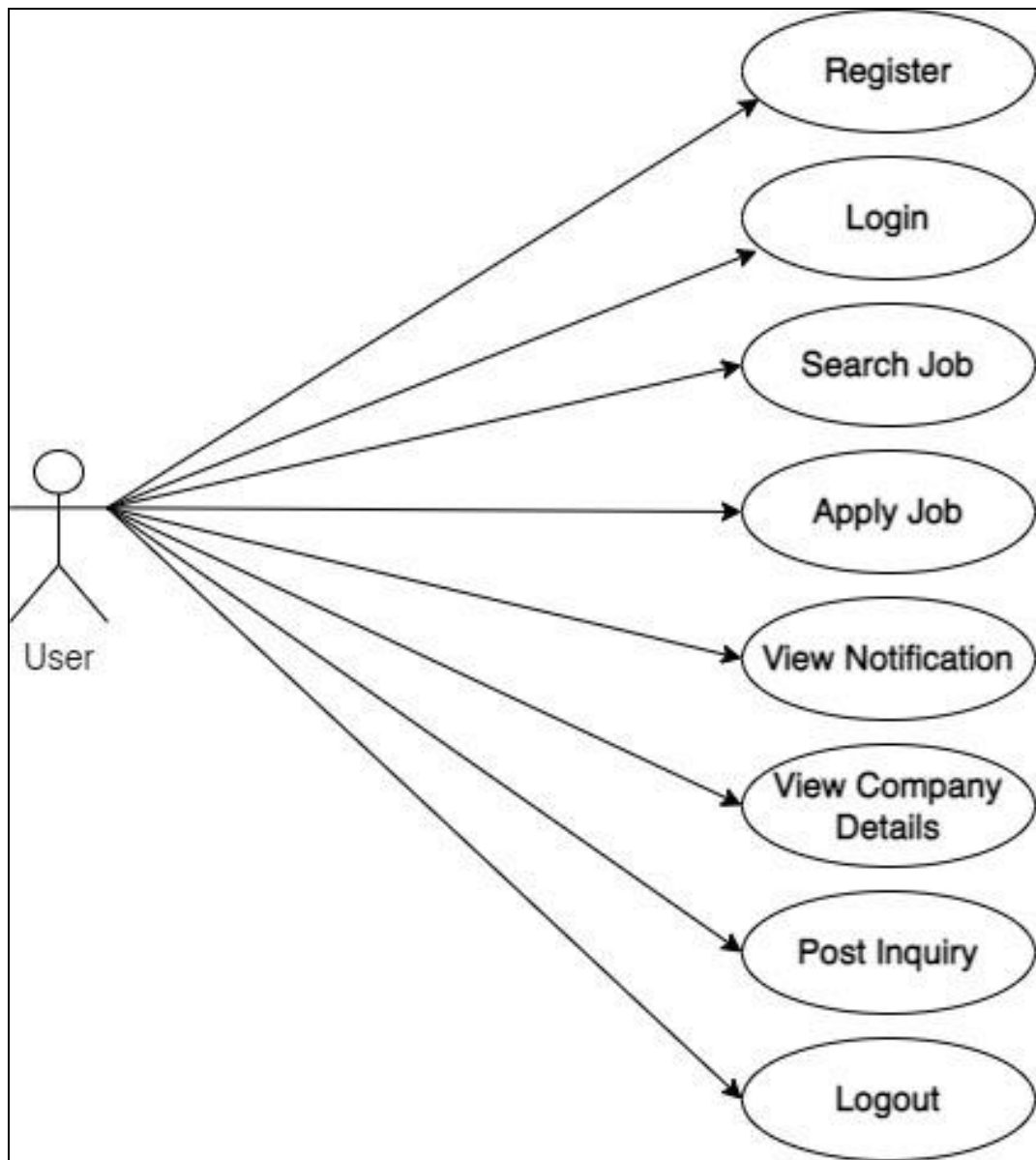
### CompanyService:

|                     |   |
|---------------------|---|
| <b>Description:</b> | In this module registerd company are add their services.  |
| <b>I/O Events:</b>  | Add services and update according   |
| <b>O/P:</b>         | User can notify if their resume is satisfied with that job<br>.   |
| <b>Validatons:</b>  | <b>CompanyUsername:</b> Required<br><b>ServiceTitle:</b> Required<br><b>Service Description:</b> Required |
| <b>Constraints:</b> | <b>Username:</b> Foreign Key<br><b>ID :</b> Primary Key   |

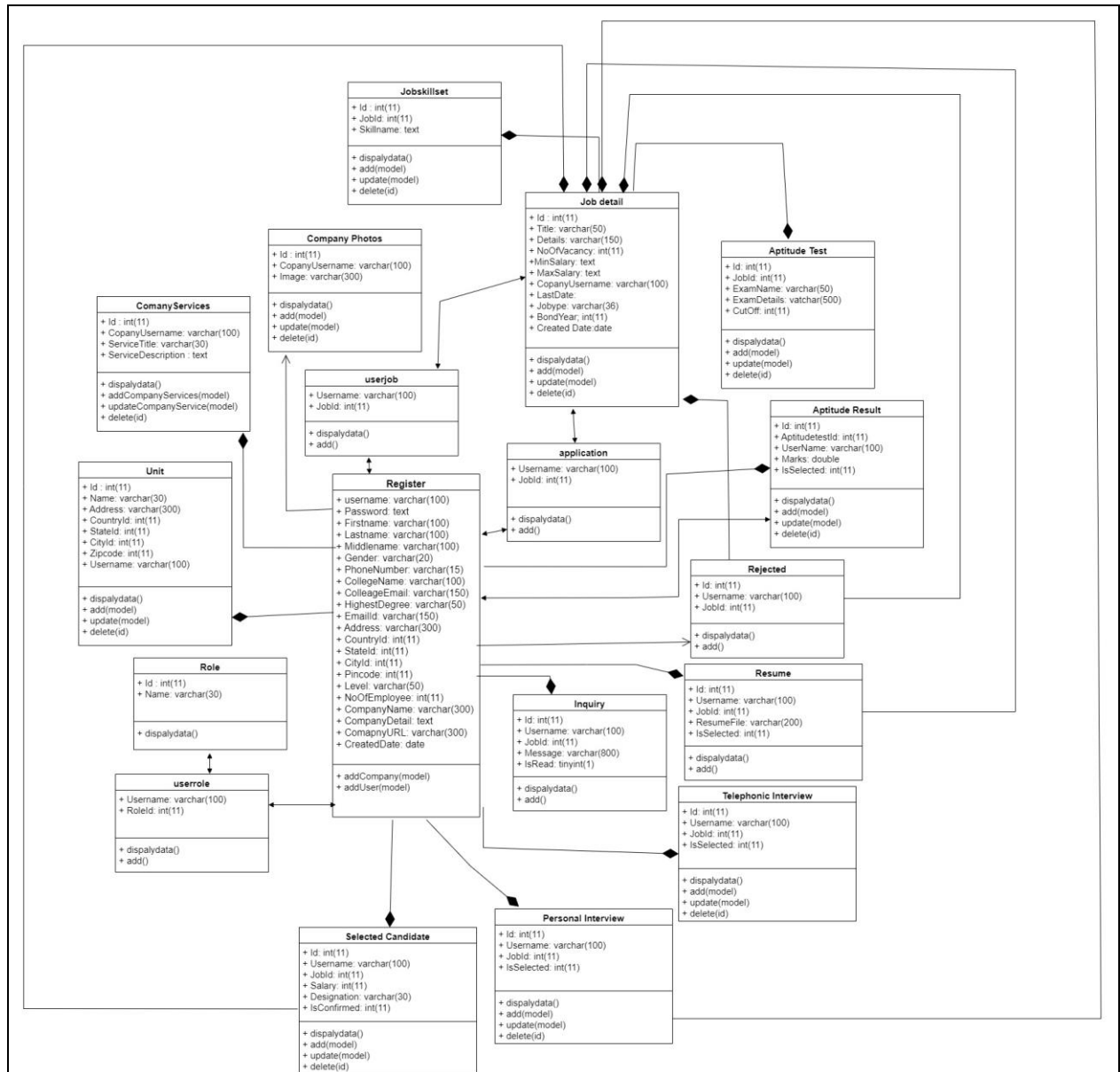
## 5.2 UML Diagram

### 5.2.1 Use Case Diagram



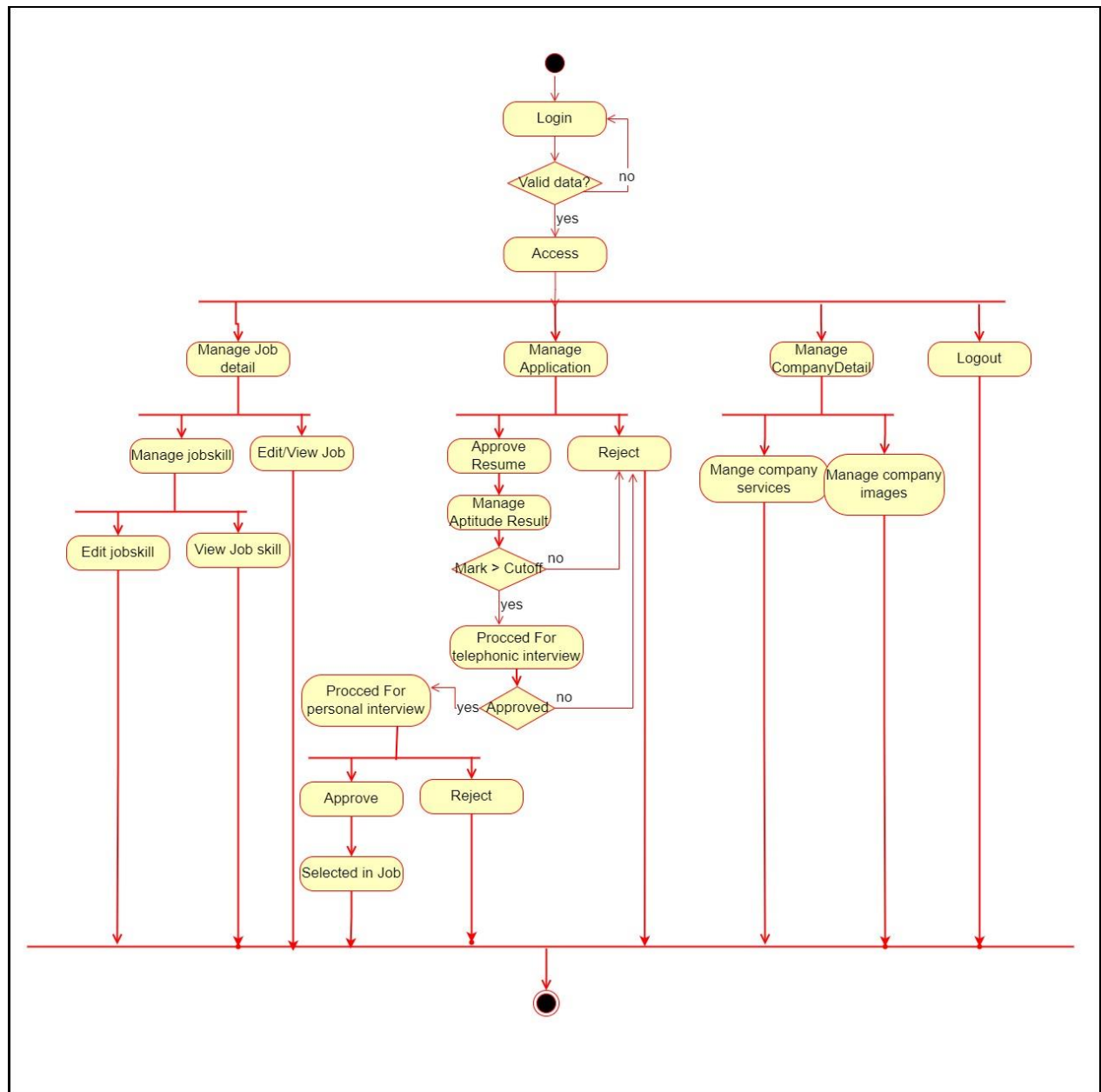


## 5.2.2 Class Diagram

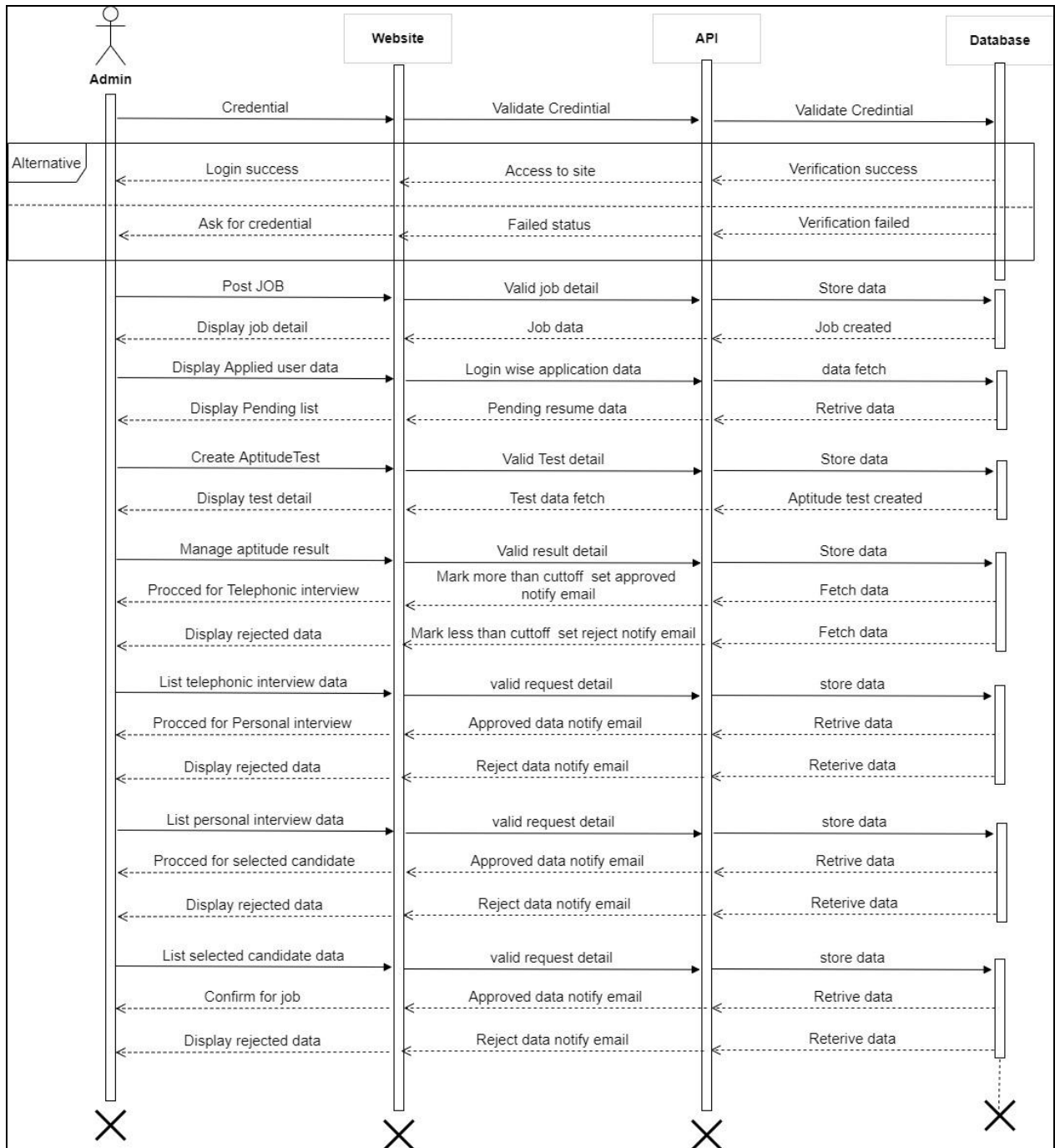




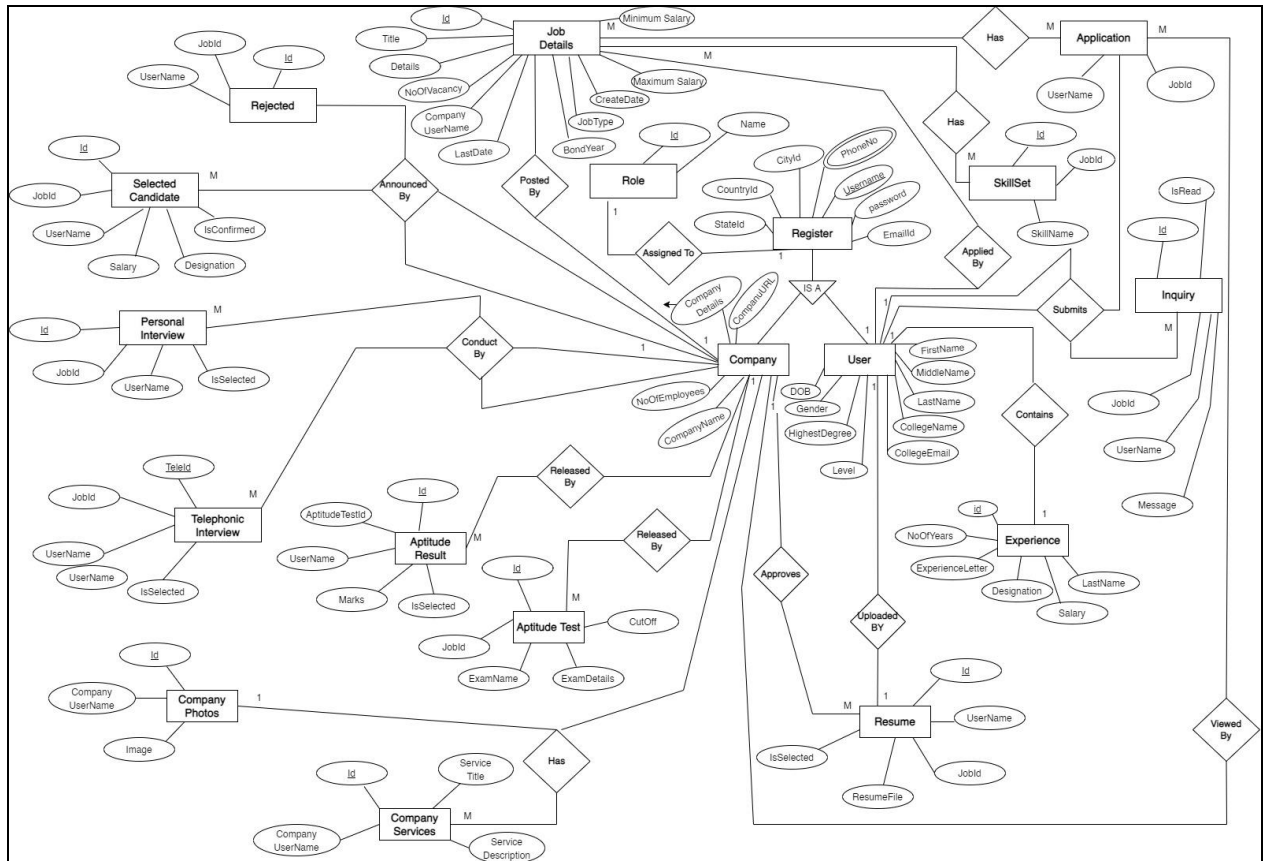
### 5.2.3 Activity Diagram



## 5.2.4 Sequence Diagram



## 5.3 E-R Diagram



## 6 Software Design

### 6.1 Database Design



#### Register[Company/User]:

| #  | Name                 | Type         | Collation         | Attributes | Null | Default | Comments |
|----|----------------------|--------------|-------------------|------------|------|---------|----------|
| 1  | <b>Username</b> 🔑    | varchar(100) | latin1_swedish_ci |            | No   | None    |          |
| 2  | <b>Password</b>      | text         | latin1_swedish_ci |            | No   | None    |          |
| 3  | <b>Firstname</b>     | varchar(100) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 4  | <b>Middlename</b>    | varchar(100) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 5  | <b>Lastname</b>      | varchar(100) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 6  | <b>DOB</b>           | text         | latin1_swedish_ci |            | Yes  | NULL    |          |
| 7  | <b>Gender</b>        | varchar(20)  | latin1_swedish_ci |            | Yes  | NULL    |          |
| 8  | <b>PhoneNumber</b>   | varchar(15)  | latin1_swedish_ci |            | No   | None    |          |
| 9  | <b>CollegeName</b>   | varchar(100) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 10 | <b>CollegeEmail</b>  | varchar(150) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 11 | <b>HighestDegree</b> | varchar(50)  | latin1_swedish_ci |            | Yes  | NULL    |          |
| 12 | <b>EmailId</b>       | varchar(150) | latin1_swedish_ci |            | No   | None    |          |
| 13 | <b>Address</b>       | varchar(300) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 14 | <b>CountryId</b> 🔑   | int(11)      |                   |            | Yes  | NULL    |          |
| 15 | <b>StateId</b> 🔑     | int(11)      |                   |            | Yes  | NULL    |          |
| 16 | <b>CityId</b> 🔑      | int(11)      |                   |            | Yes  | NULL    |          |
| 17 | <b>Pincode</b>       | int(11)      |                   |            | No   | None    |          |
| 18 | <b>Level</b>         | varchar(50)  | latin1_swedish_ci |            | Yes  | NULL    |          |
| 19 | <b>NoOfEmployee</b>  | int(11)      |                   |            | Yes  | NULL    |          |
| 20 | <b>CompanyName</b>   | varchar(300) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 21 | <b>CompanyDetail</b> | text         | latin1_swedish_ci |            | Yes  | NULL    |          |
| 22 | <b>CompanyURL</b>    | varchar(300) | latin1_swedish_ci |            | Yes  | NULL    |          |
| 23 | <b>CreatedDate</b>   | date         |                   |            | Yes  | NULL    |          |



#### Role:

| # | Name        | Type        | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|-------------|-------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b> 🔑 | int(11)     |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>Name</b> | varchar(30) | latin1_swedish_ci |            | No   | None    |          |                |



## UserRole:

| # | Name  | Type         | Collation         | Attributes | Null | Default | Comments | Extra |
|---|---|--------------|-------------------|------------|------|---------|----------|-------|
| 1 | <b>UserName</b>  | varchar(100) | latin1_swedish_ci |            | No   | None    |          |       |
| 2 | <b>RoleId</b>    | int(11)      |                   |            | No   | None    |          |       |






## CompanyPhotos:

| # | Name   | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|--|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b>               | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>CompanyUserName</b>  | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |
| 3 | <b>Image</b>   | varchar(300) | latin1_swedish_ci |            | No   | None    |          |                |

## CompanyServices:

| # | Name   | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|--|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b>                | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>CompanyUserName</b>  | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |
| 3 | <b>ServiceTitle</b>  | varchar(30)  | latin1_swedish_ci |            | No   | None    |          |                |
| 4 | <b>ServiceDescription</b>  | text         | latin1_swedish_ci |            | No   | None    |          |                |

## Unit:

| # | Name   | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|--|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b>         | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>Name</b>  | varchar(30)  | latin1_swedish_ci |            | No   | None    |          |                |
| 3 | <b>Address</b>   | varchar(300) | latin1_swedish_ci |            | No   | None    |          |                |
| 4 | <b>CountryId</b>  | int(11)      |                   |            | No   | None    |          |                |
| 5 | <b>StateId</b>    | int(11)      |                   |            | No   | None    |          |                |
| 6 | <b>CityId</b>     | int(11)      |                   |            | No   | None    |          |                |
| 7 | <b>ZipCode</b>   | int(11)      |                   |            | No   | None    |          |                |
| 8 | <b>Username</b>   | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |

## Jobdetails:

| #  | Name                     | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|----|--------------------------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1  | <b>Id</b> 🔑              | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2  | <b>Title</b>             | varchar(50)  | latin1_swedish_ci |            | No   | None    |          |                |
| 3  | <b>Details</b>           | varchar(150) | latin1_swedish_ci |            | No   | None    |          |                |
| 4  | <b>NoOfVacancy</b>       | int(11)      |                   |            | No   | None    |          |                |
| 5  | <b>MinSalary</b>         | text         | latin1_swedish_ci |            | No   | None    |          |                |
| 6  | <b>MaxSalary</b>         | text         | latin1_swedish_ci |            | No   | None    |          |                |
| 7  | <b>CompanyUserName</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |
| 8  | <b>LastDate</b>          | text         | latin1_swedish_ci |            | Yes  | NULL    |          |                |
| 9  | <b>JobType</b>           | varchar(36)  | latin1_swedish_ci |            | No   | None    |          |                |
| 10 | <b>BondYear</b>          | int(11)      |                   |            | No   | None    |          |                |
| 11 | <b>CreatedDate</b>       | date         |                   |            | Yes  | NULL    |          |                |

## userjob:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments | Extra |
|---|-------------------|--------------|-------------------|------------|------|---------|----------|-------|
| 1 | <b>UserName</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |          |       |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |          |       |

## jobskillset:

| # | Name             | Type    | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|------------------|---------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b> 🔑      | int(11) |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑   | int(11) |                   |            | No   | None    |          |                |
| 3 | <b>Skillname</b> | text    | latin1_swedish_ci |            | No   | None    |          |                |

## application:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments | Extra |
|---|-------------------|--------------|-------------------|------------|------|---------|----------|-------|
| 1 | <b>UserName</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |          |       |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |          |       |

## resume:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments                      | Extra          |
|---|-------------------|--------------|-------------------|------------|------|---------|-------------------------------|----------------|
| 1 | <b>Id</b> 🔑       | int(11)      |                   |            | No   | None    |                               | AUTO_INCREMENT |
| 2 | <b>Username</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |                               |                |
| 3 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |                               |                |
| 4 | <b>ResumeFile</b> | varchar(200) | latin1_swedish_ci |            | No   | None    |                               |                |
| 5 | <b>IsSelected</b> | int(11)      |                   |            | Yes  | NULL    | 0 -> false, 1->true, 2->>null |                |

## aptitudeTest:

| # | Name               | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|--------------------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b> 🔑        | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑     | int(11)      |                   |            | No   | None    |          |                |
| 3 | <b>ExamName</b>    | varchar(50)  | latin1_swedish_ci |            | No   | None    |          |                |
| 4 | <b>ExamDetails</b> | varchar(500) | latin1_swedish_ci |            | No   | None    |          |                |
| 5 | <b>CutOff</b>      | int(11)      |                   |            | No   | None    |          |                |

## aptitudeResult:

| # | Name                    | Type         | Collation         | Attributes | Null | Default | Comments                      | Extra          |
|---|-------------------------|--------------|-------------------|------------|------|---------|-------------------------------|----------------|
| 1 | <b>Id</b> 🔑             | int(11)      |                   |            | No   | None    |                               | AUTO_INCREMENT |
| 2 | <b>AptitudeTestId</b> 🔑 | int(11)      |                   |            | No   | None    |                               |                |
| 3 | <b>Username</b> 🔑       | varchar(100) | latin1_swedish_ci |            | No   | None    |                               |                |
| 4 | <b>Marks</b>            | double       |                   |            | No   | None    |                               |                |
| 5 | <b>IsSelected</b>       | int(11)      |                   |            | Yes  | NULL    | 0 -> false, 1->true, 2->>null |                |

## telephonicInterview:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments                      | Extra          |
|---|-------------------|--------------|-------------------|------------|------|---------|-------------------------------|----------------|
| 1 | <b>TeleId</b> 🔑   | int(11)      |                   |            | No   | None    |                               | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |                               |                |
| 3 | <b>Username</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |                               |                |
| 4 | <b>IsSelected</b> | int(11)      |                   |            | Yes  | NULL    | 0 -> false, 1->true, 2->>null |                |

## personalInterview:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments                      | Extra          |
|---|-------------------|--------------|-------------------|------------|------|---------|-------------------------------|----------------|
| 1 | <b>Id</b> 🔑       | int(11)      |                   |            | No   | None    |                               | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |                               |                |
| 3 | <b>Username</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |                               |                |
| 4 | <b>IsSelected</b> | int(11)      |                   |            | Yes  | NULL    | 0 -> false, 1->true, 2->>null |                |

## selectedCandidates:

| # | Name               | Type         | Collation         | Attributes | Null | Default | Comments                      | Extra          |
|---|--------------------|--------------|-------------------|------------|------|---------|-------------------------------|----------------|
| 1 | <b>Id</b> 🔑        | int(11)      |                   |            | No   | None    |                               | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑     | int(11)      |                   |            | No   | None    |                               |                |
| 3 | <b>Username</b> 🔑  | varchar(100) | latin1_swedish_ci |            | No   | None    |                               |                |
| 4 | <b>Salary</b>      | int(11)      |                   |            | Yes  | NULL    |                               |                |
| 5 | <b>Designation</b> | varchar(30)  | latin1_swedish_ci |            | Yes  | NULL    |                               |                |
| 6 | <b>IsConfirmed</b> | int(11)      |                   |            | Yes  | NULL    | 0 -> false, 1->true, 2->>null |                |

## Rejected:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|-------------------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b> 🔑       | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |          |                |
| 3 | <b>Username</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |

## Inquiry:

| # | Name              | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|-------------------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | <b>Id</b> 🔑       | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | <b>JobId</b> 🔑    | int(11)      |                   |            | No   | None    |          |                |
| 3 | <b>UserName</b> 🔑 | varchar(100) | latin1_swedish_ci |            | No   | None    |          |                |
| 4 | <b>Message</b>    | varchar(800) | latin1_swedish_ci |            | No   | None    |          |                |
| 5 | <b>IsRead</b>     | tinyint(1)   |                   |            | No   | None    |          |                |



## Country:

| # | Name | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | Id   | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | Name | varchar(130) | latin1_swedish_ci |            | No   | None    |          |                |

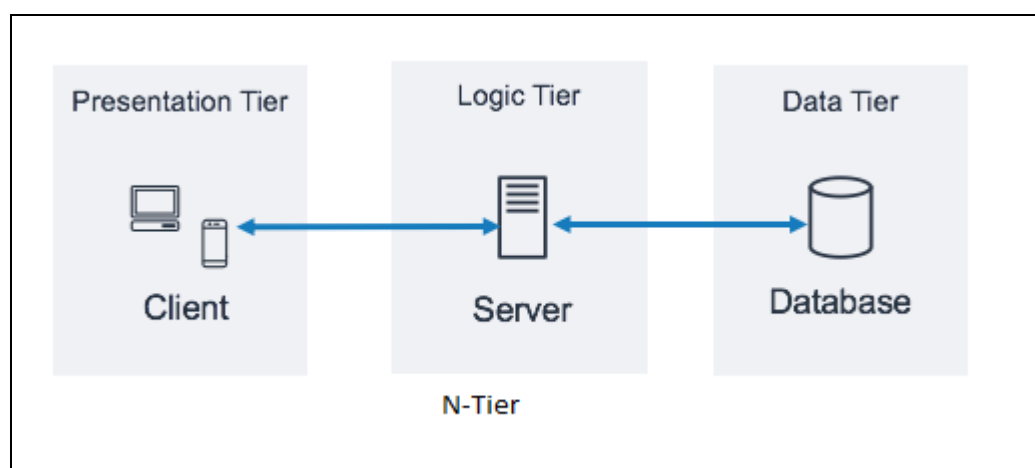
## State:

| # | Name      | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|-----------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | Id        | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | CountryId | int(11)      |                   |            | No   | None    |          |                |
| 3 | Name      | varchar(130) | latin1_swedish_ci |            | No   | None    |          |                |

## City:

| # | Name      | Type         | Collation         | Attributes | Null | Default | Comments | Extra          |
|---|-----------|--------------|-------------------|------------|------|---------|----------|----------------|
| 1 | Id        | int(11)      |                   |            | No   | None    |          | AUTO_INCREMENT |
| 2 | CountryId | int(11)      |                   |            | No   | None    |          |                |
| 3 | StateId   | int(11)      |                   |            | No   | None    |          |                |
| 4 | Name      | varchar(130) | latin1_swedish_ci |            | No   | None    |          |                |

## 6.2 Architecture Design



## 7 Testing

### 7.1 Unit Testing

This testing focuses on verification effort on the smallest unit of software design - the component or module. Using the component- level design description as a guide, important control paths are tested to uncover errors within the boundary of the module. The relative complexity of tests and the error those tests uncover is limited by constrained scope established for the unit testing. The unit testing focuses on internal processing logic and data structure with boundaries of the component. This type of testing can be conducted in parallel for multiple components.

#### LOGIN

| No. | Description                | Inputted Values                   |           | Expected Result   | Actual Result   | Pass / Fail |
|-----|----------------------------|-----------------------------------|-----------|---|---|-------------|
|     |                            | Email ID                          | Password  |   |   |             |
| 1.  | Check for login validation | <u>admin@gmail.co</u><br><u>m</u> | Adm@in123 | Redirect to Dashboard                                     | Redirect to Dashboard                                     | Pass        |
| 2.  | Check for login validation | <u>admin@gmail.co</u><br><u>m</u> | null      | Error:Please enter fields                                 | Error:Please enter fields                                 | Pass        |
| 3.  | Check for login validation | null                              | null      | Error:Please enter fields                                 | Error:Please enter fields                                 | Pass        |
| 4.  | Check for login validation | <u>admin@gmail.co</u><br><u>m</u> | admin12   | Error:Please enter small charters & any Special character | Error:Please enter small charters & any Special character | Pass        |

#### CHANGE PASSWORD

| No. | Description                          | Inputted Values |              |                  | Expected Result           | Actual Result              | Pass / Fail |
|-----|--------------------------------------|-----------------|--------------|------------------|---------------------------|----------------------------|-------------|
|     |                                      | Old Password    | New Password | Confirm Password |                           |                            |             |
| 1.  | Check for Change password validation | Adm@in123       | Adm@in1234   | Adm@in1234       | Redirect to home page     | Redirect to home page      | Pass        |
| 2.  | Check for Change password validation | admin123        | admin        | null             | Error:Please enter fields | Error:Plea se enter fields | Pass        |
| 3.  | Check for Change password validation | null            | Null         | null             | Error:Please enter fields | Error:Plea se enter fields | Pass        |

#### FORGOT PASSWORD

| No. | Description | Inputted Values | Expected Result | Actual Result | Pass / Fail |
|-----|-------------|-----------------|-----------------|---------------|-------------|
|-----|-------------|-----------------|-----------------|---------------|-------------|

|    |                            |                        |   |   |      |
|----|----------------------------|------------------------|---|---|------|
| 1. | Check for email validation | <u>admin@gmail.com</u> | if email is valid then user get email & then can reset password | if email is valid then user get email & then can reset password | Pass |
| 2. | Check for email validation | <u>admin@gmail.com</u> | if email is invalid then user not can reset password            | if email is invalid then user not can reset password            | Pass |

#### ADD JOB DETAIL:

| No. | Description           | Inputted Values                                  | Expected Result                  | Actual Result                    | Pass / Fail |
|-----|-----------------------|--|----------------------------------|----------------------------------|-------------|
| 1.  | Add new Job details   | Enter Job detail with proper login and click add | Redirect to List Job detail page | Redirect to List Job detail page | Pass        |
| 2.  | Check add Job details | Click on add button without filling form         | Enter Required field             | Enter Required field             | Pass        |

#### ADD APPLICATION:

| No. | Description   | Inputted Values                 | Expected Result                      | Actual Result                        | Pass / Fail |
|-----|---|---------------------------------|--------------------------------------|--------------------------------------|-------------|
| 1.  | User Apply particular / interested Job with upload resume | Upload resume in interested job | Send to particular job's company     | Send to particular job's company     | Pass        |
| 2.  | Check add user applied that job previously?               | Click on apply button           | Show message you are already applied | Show message you are already applied | Pass        |

#### ADD APTITUDE RESULT:

| No. | Description             | Inputted Values                                   | Expected Result                   | Actual Result                     | Pass / Fail |
|-----|-------------------------|---|-----------------------------------|-----------------------------------|-------------|
| 1.  | Admin add aptitude test | Enter test detail with proper login and click add | Redirect to List Test detail page | Redirect to List Test detail page | Pass        |
| 2.  | User applied            | Enter result                                      | If users                          | If users                          | Pass        |

|  |   |   |   |   |  |
|--|---|---|---|---|--|
|  | aptitude test<br>accordingly<br>insert result | data of user<br>in aptitude<br>result table<br>with proper<br>login<br>credential | marks is<br>greater than<br>cutoff they<br>will notify<br>via email | marks is<br>greater than<br>cutoff they<br>will notify<br>via email |  |
|--|---|---|---|---|--|

## 7.2 Integration Testing

Integration testing is a systematic technique for constructing the software architecture while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested components and build a program structure that has been dictated by design.

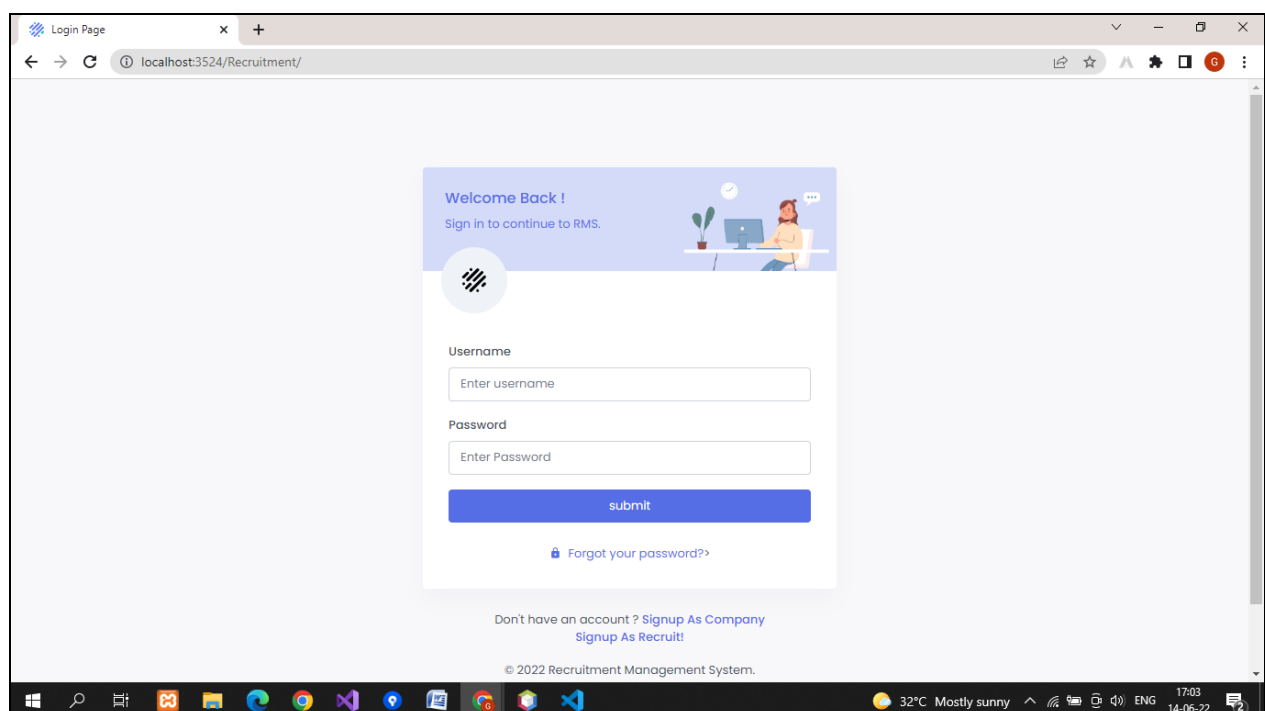
- **Top-down Integration :**

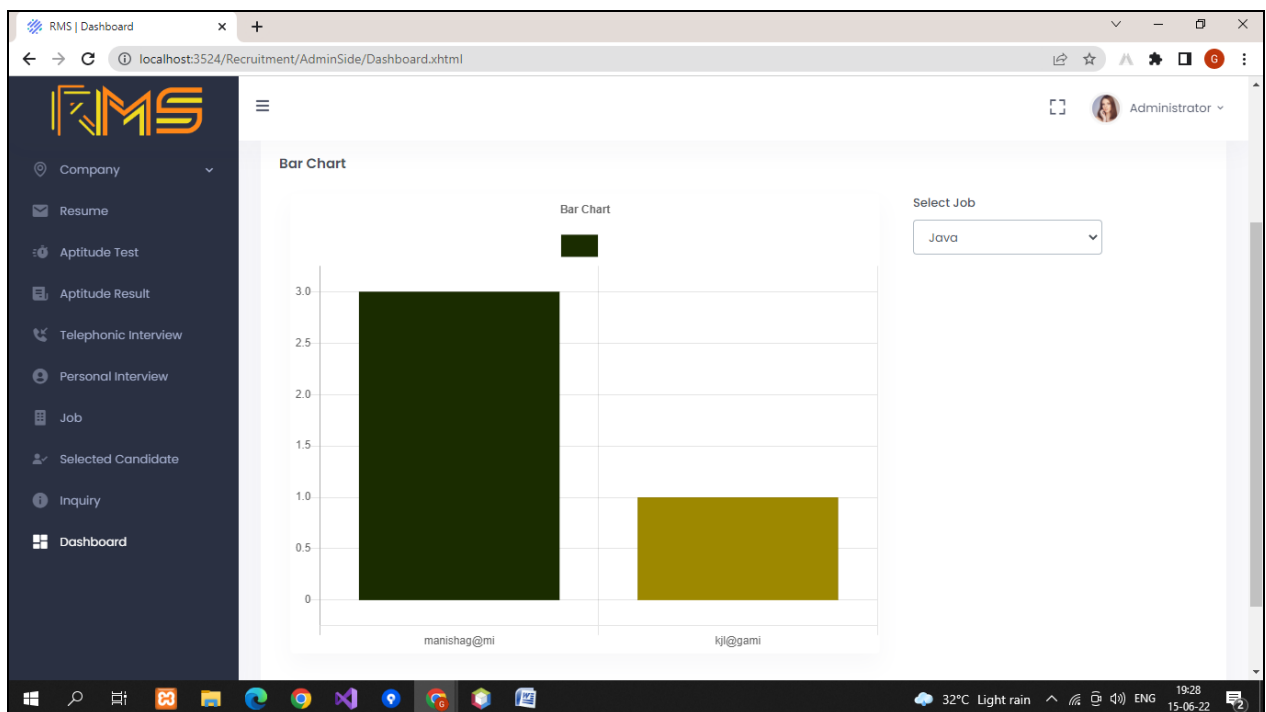
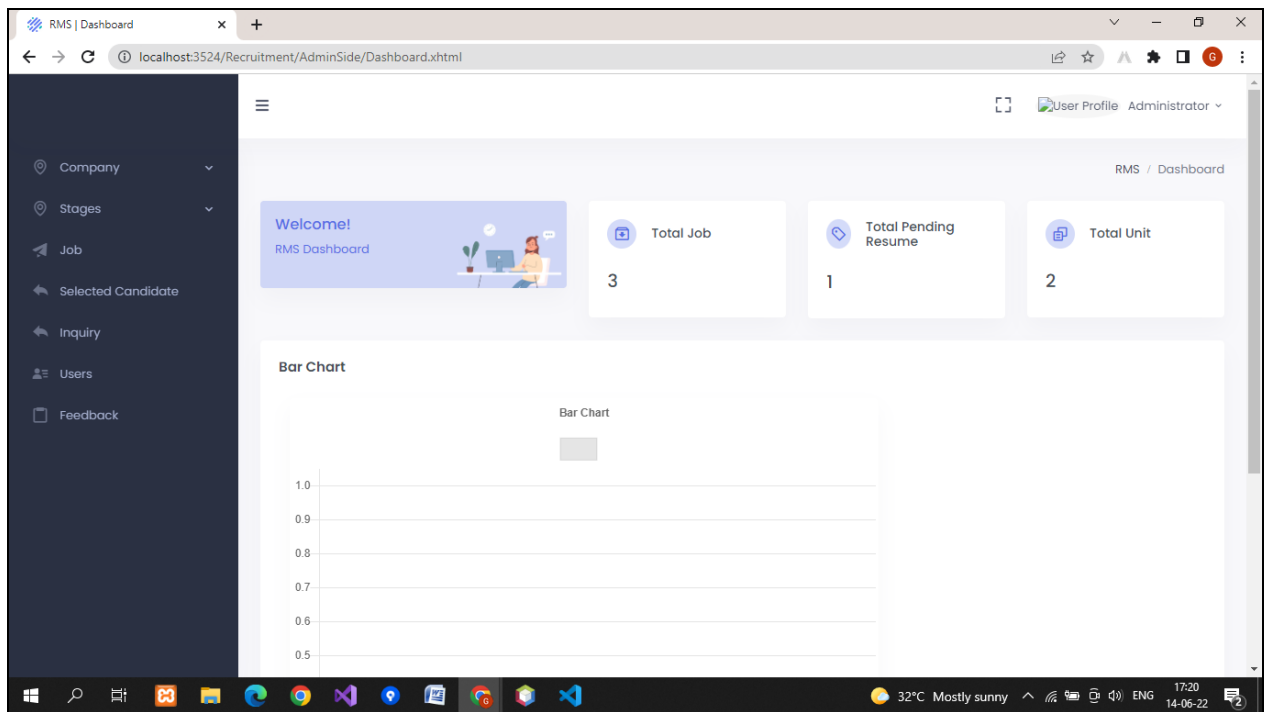
It is an incremental approach to construction of the software architecture. Modules are integrated by moving downward through the control hierarchy, beginning with the main control module.

- **Bottom-up Integration ;**

It begins construction and testing with atomic modules. Because components are integrated from the bottom up, processing required for components subordinate to a given level is always available and the need for stubs is eliminated.

## 8 Interface Design sitemap followed with page snapshots





Add Company

localhost:3524/Recruitment/AdminSide/AddCompany.xhtml

### Add Company

|                |   |
|----------------|---|
| Username: *    | <input type="text"/>                      |
| Password: *    | <input type="password"/>                  |
| PhoneNumber: * | <input type="text"/>                      |
| EmailId: *     | <input type="text"/>                      |
| Address:       | <input type="text"/>                      |
| CountryId: *   | <input type="text" value="null"/>         |
| StateId: *     | <input type="text" value="-- select --"/> |

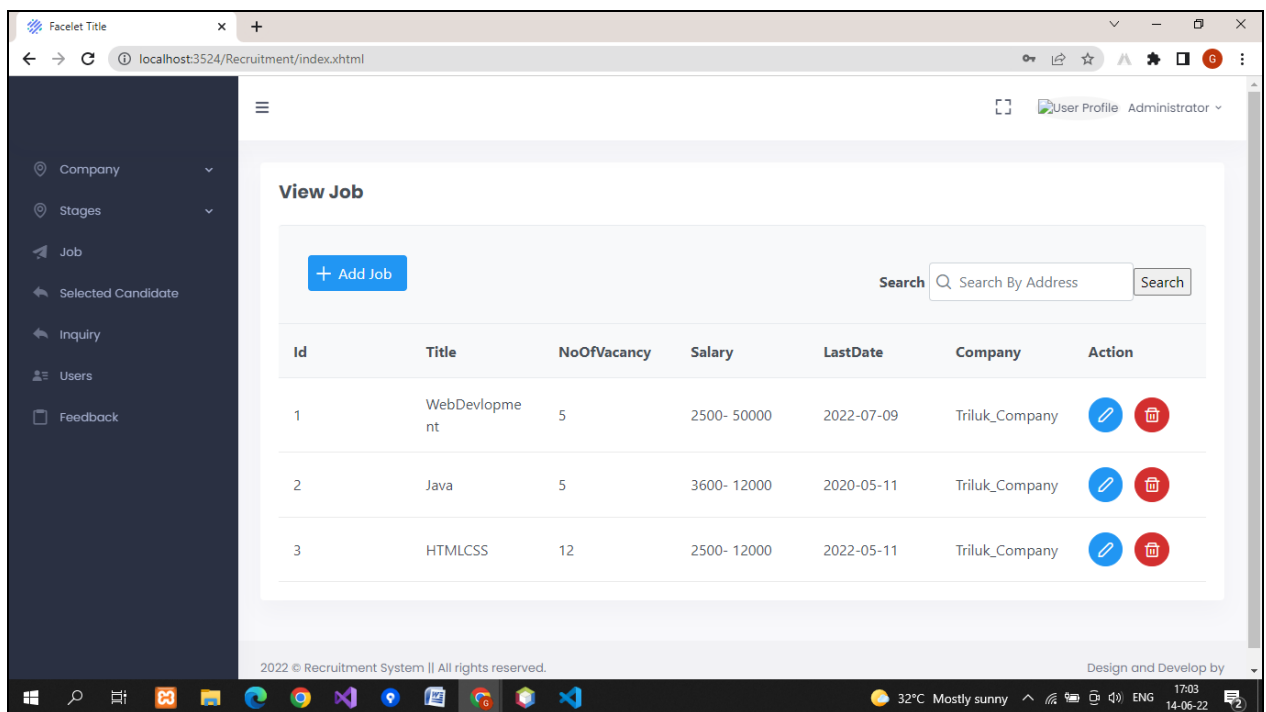
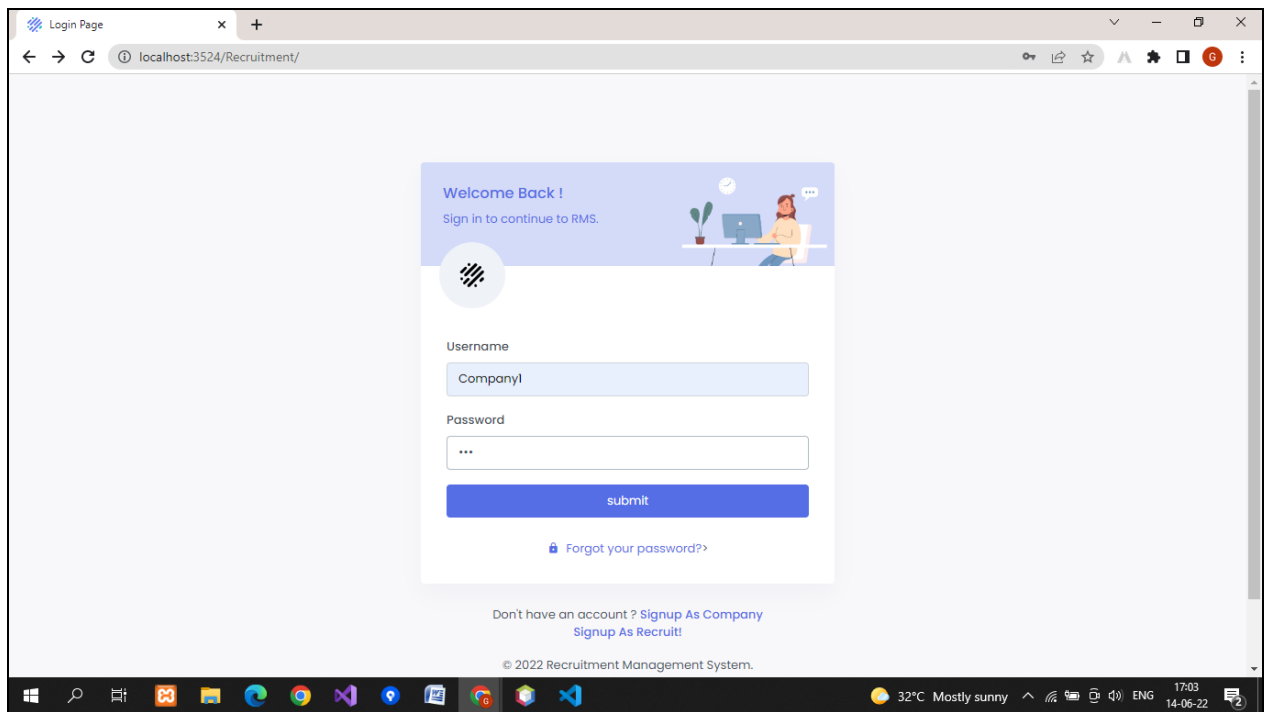
32°C Mostly sunny 17:03 14-06-22

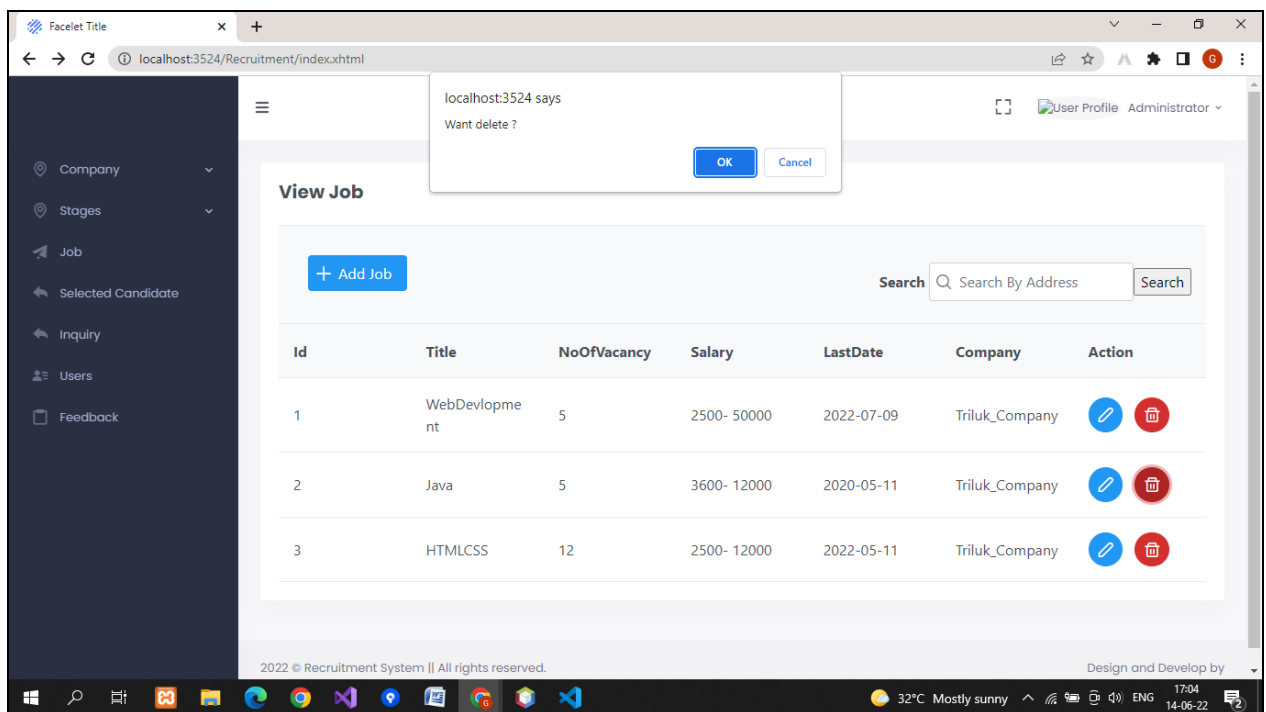
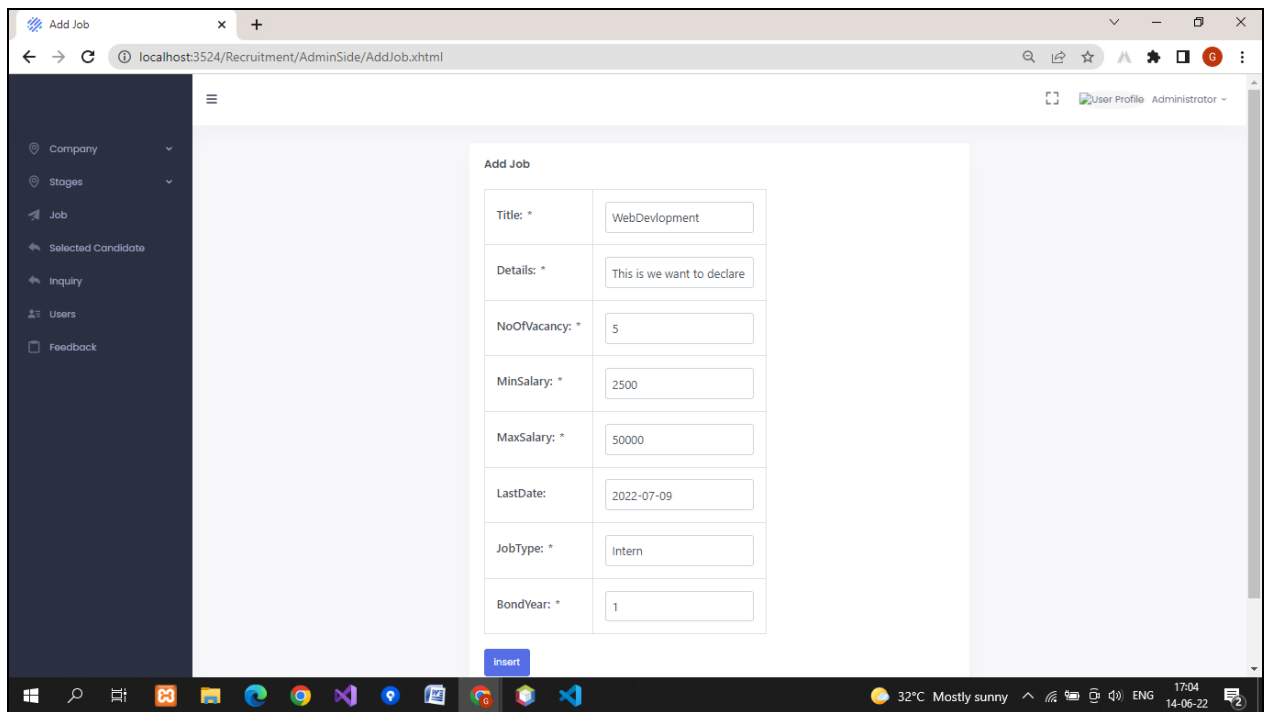
Add Company

localhost:3524/Recruitment/AdminSide/AddCompany.xhtml

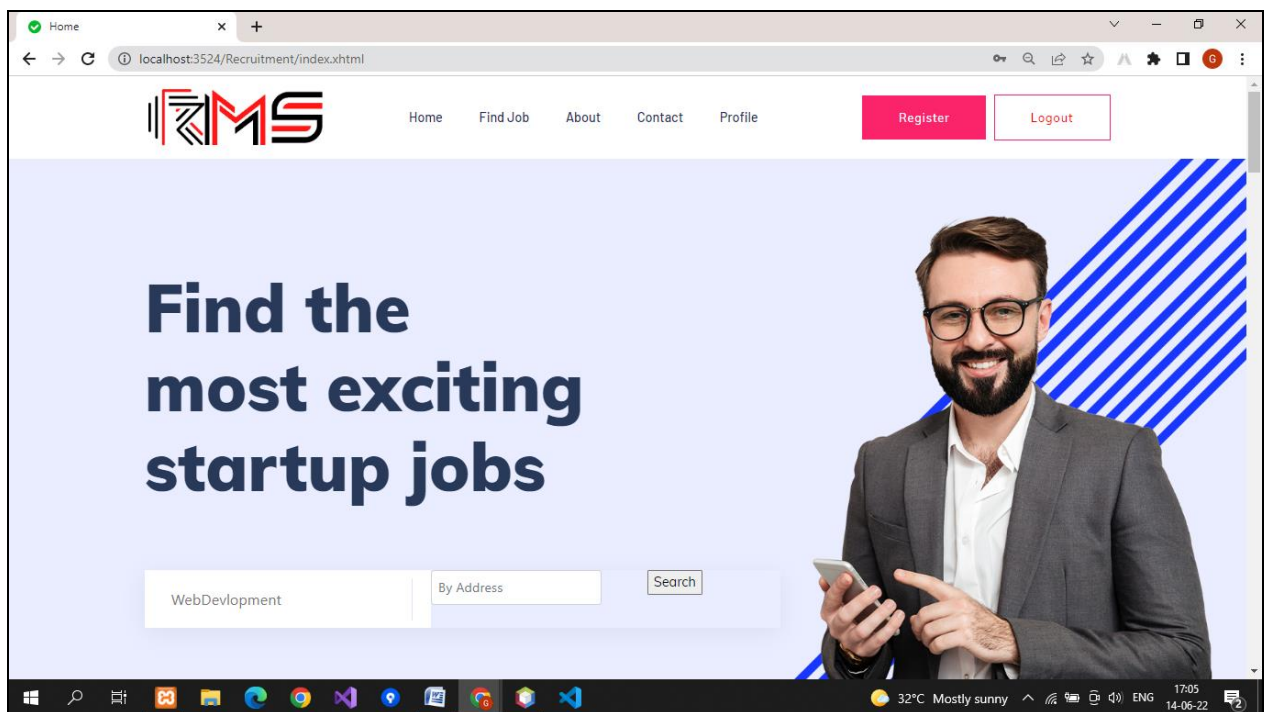
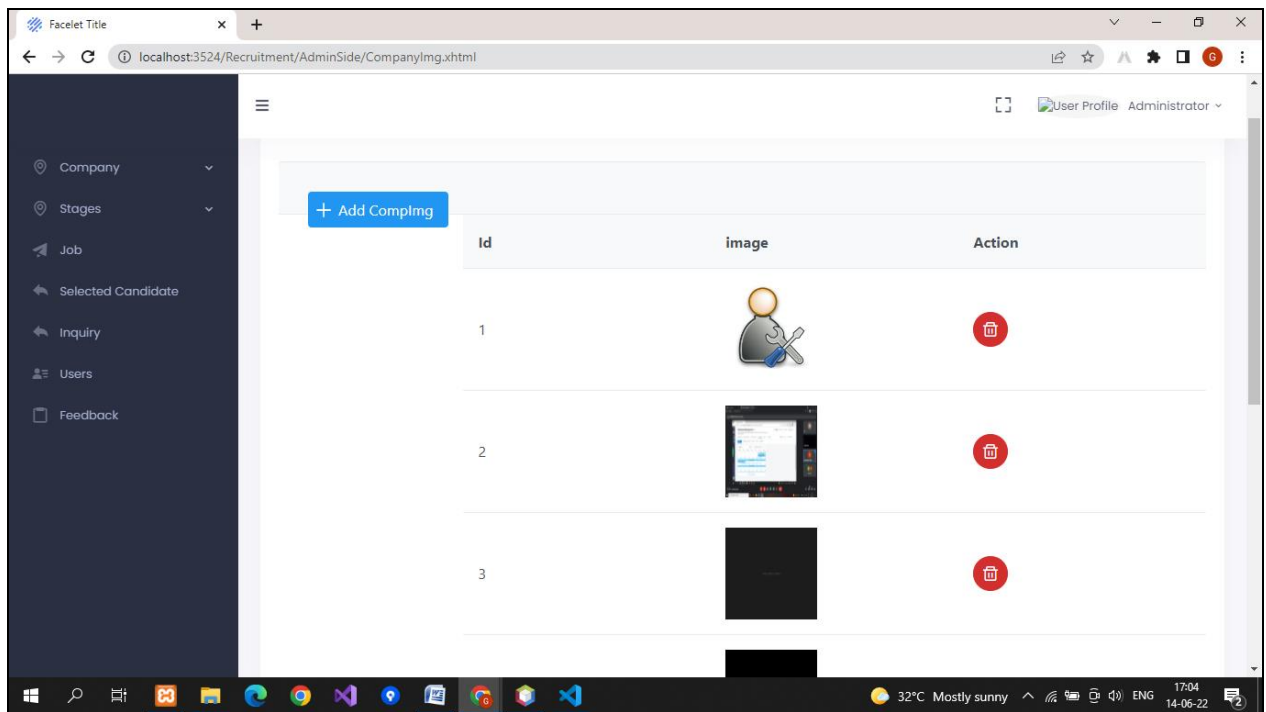
|                  |   |
|------------------|---|
| StateId: *       | <input type="text" value="-- select --"/> |
| CityId: *        | <input type="text" value="-- select --"/> |
| Pincode: *       | <input type="text" value="0"/>            |
| NoOfEmployee:    | <input type="text" value="0"/>            |
| CompanyName: *   | <input type="text"/>                      |
| CompanyDetail: * | <input type="text"/>                      |
| CompanyURL: *    | <input type="text"/>                      |
|                  | <input type="button" value="insert"/>     |

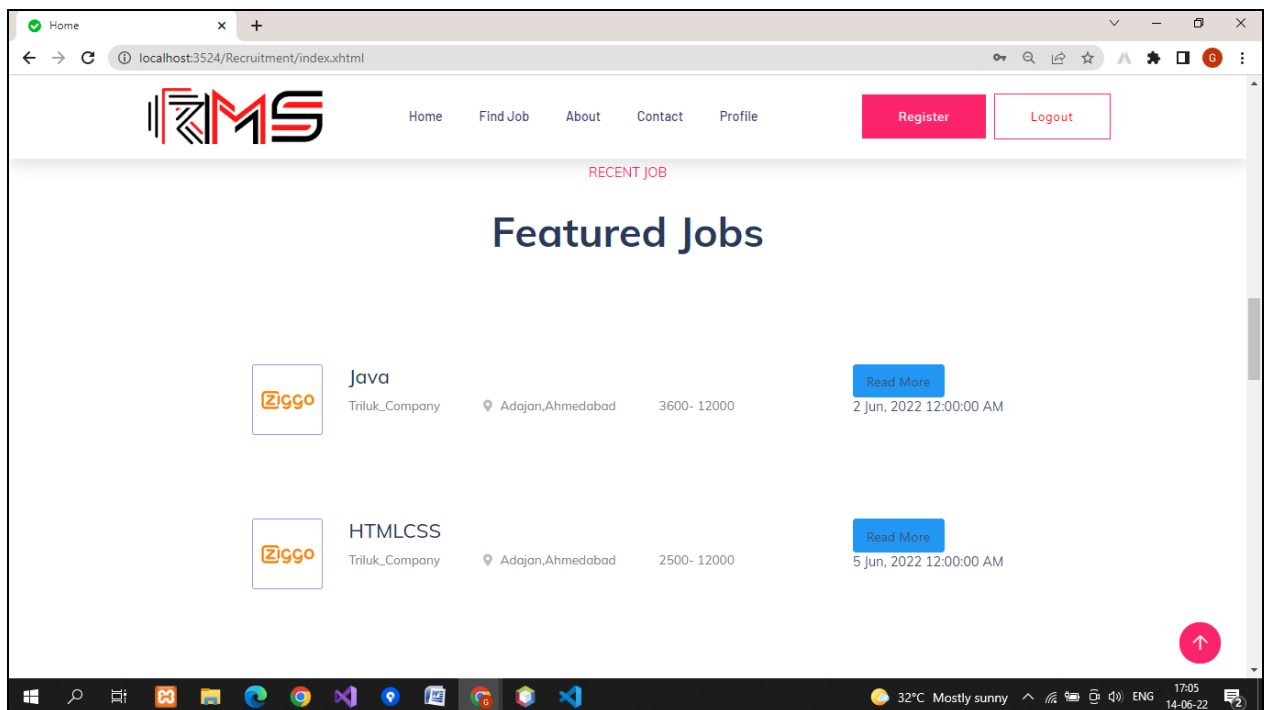
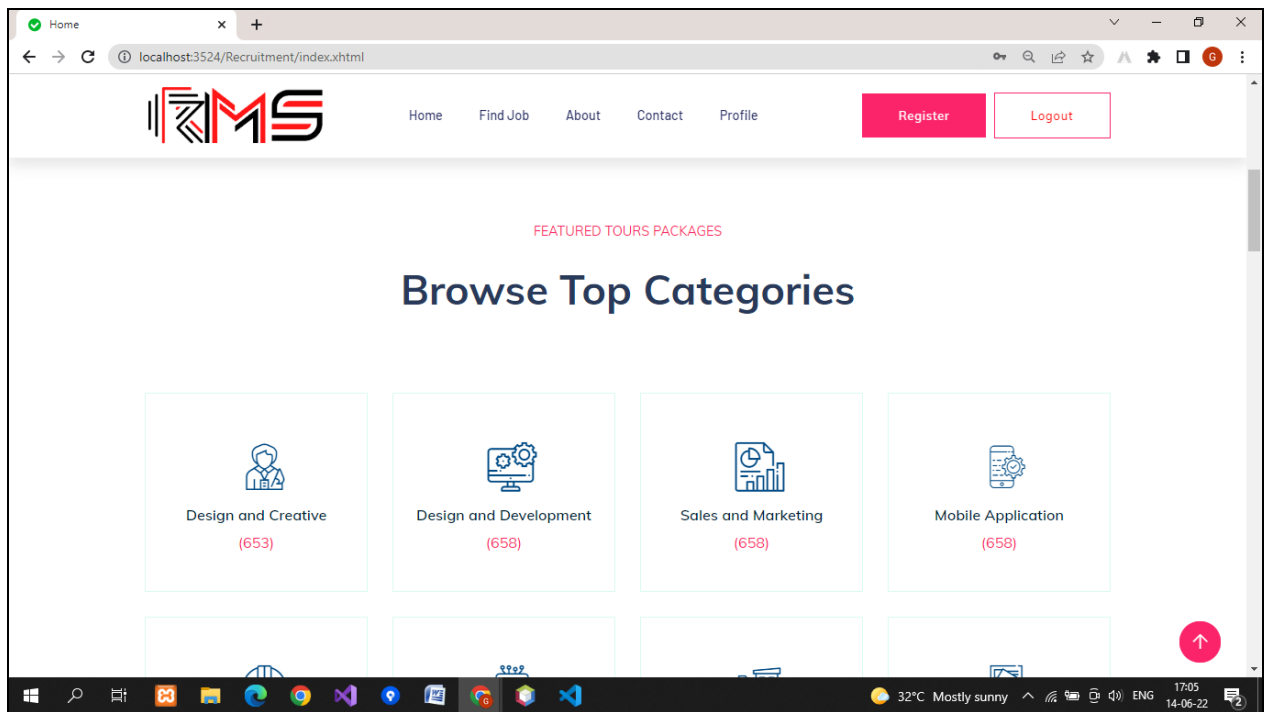
32°C Mostly sunny 17:03 14-06-22

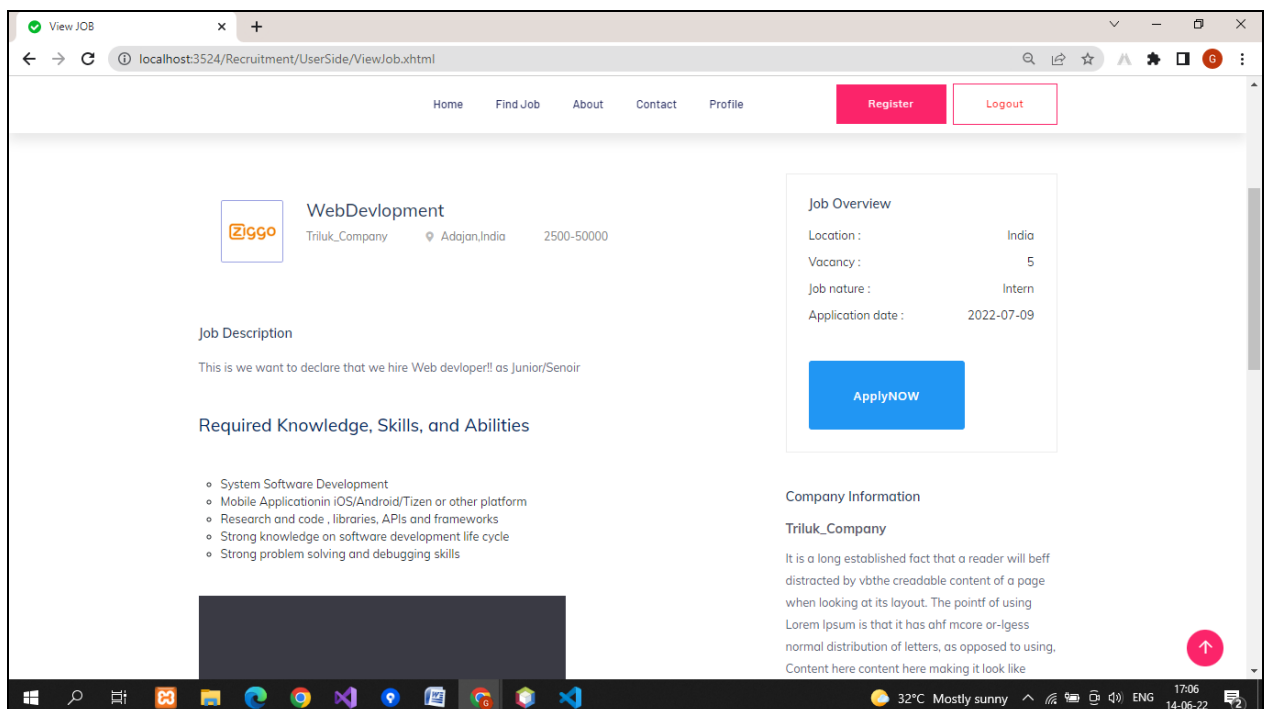
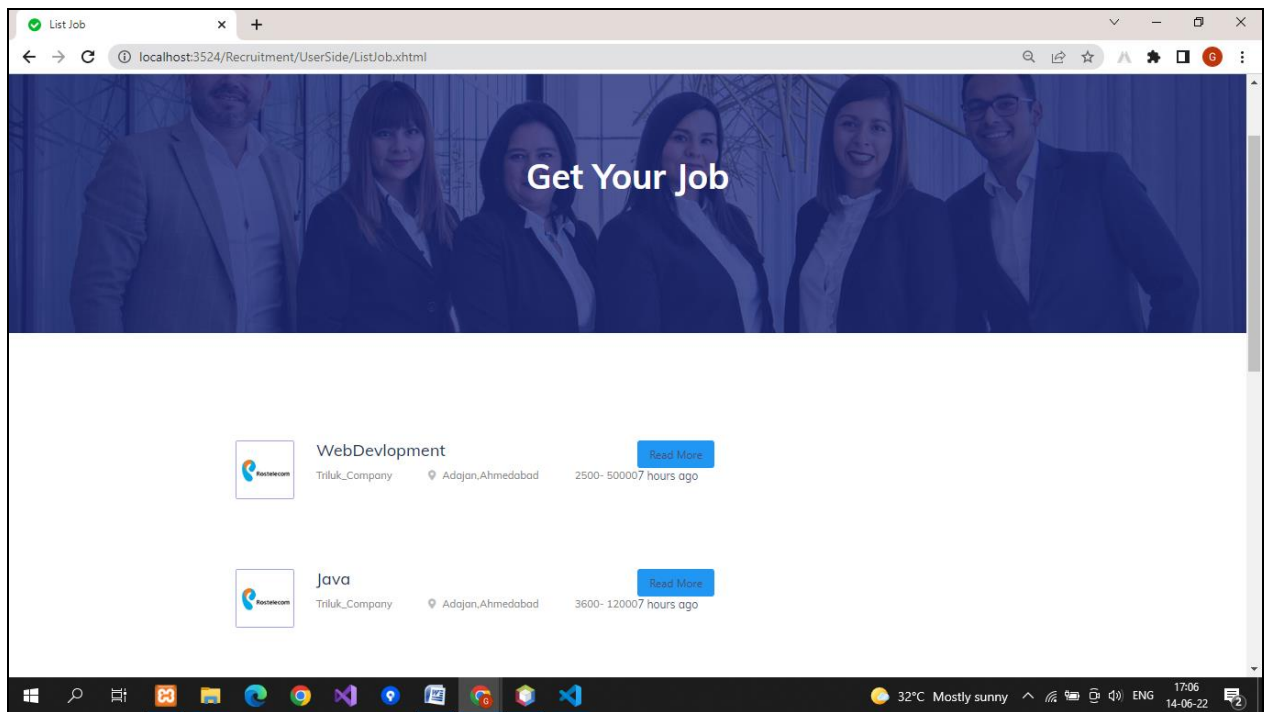


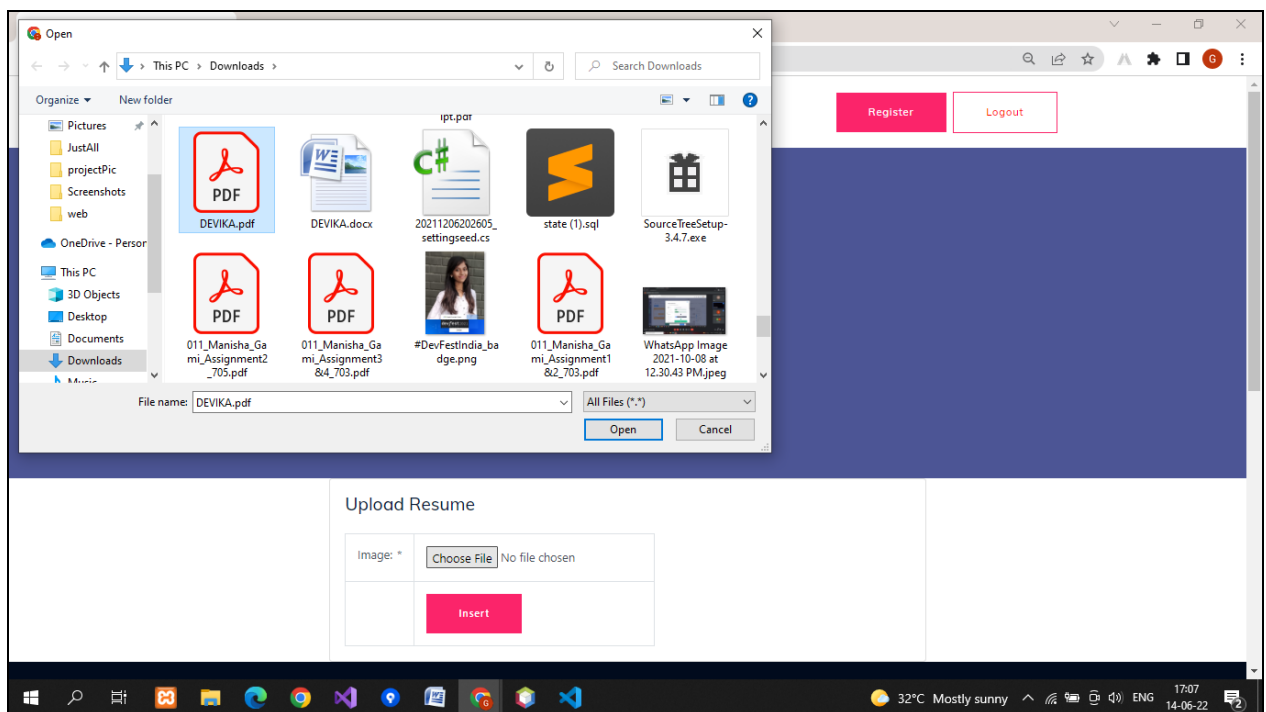
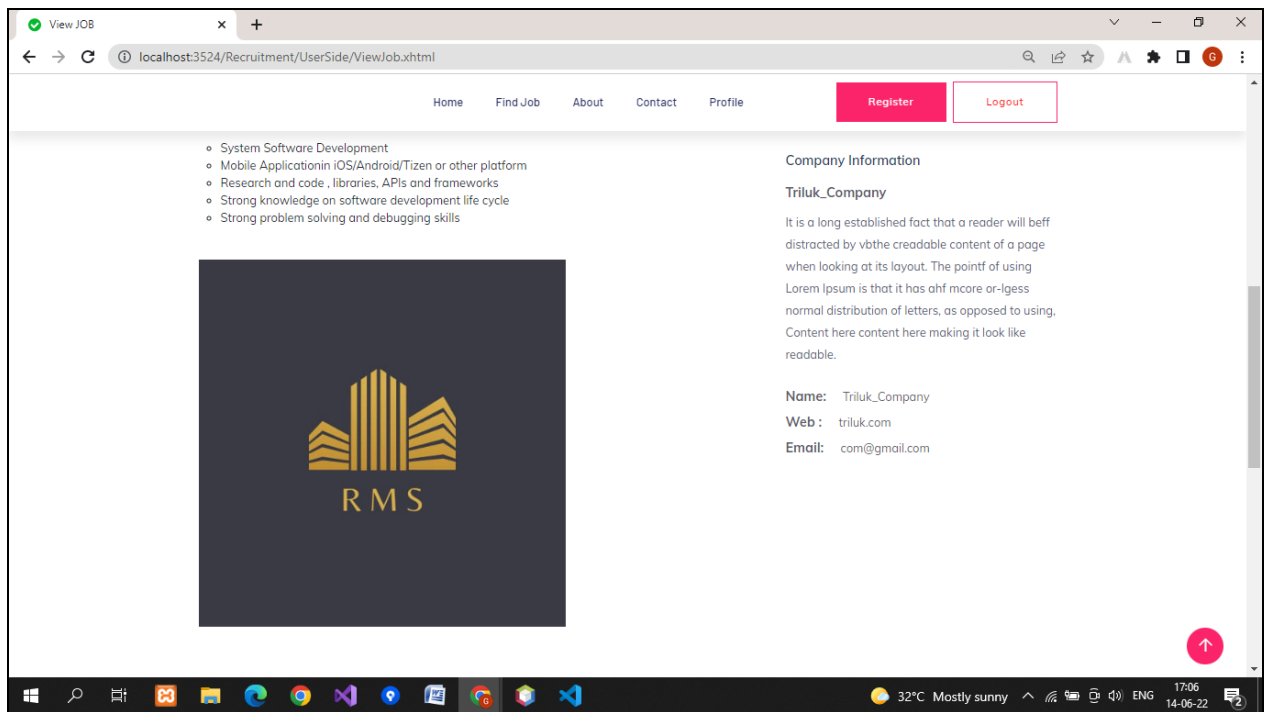




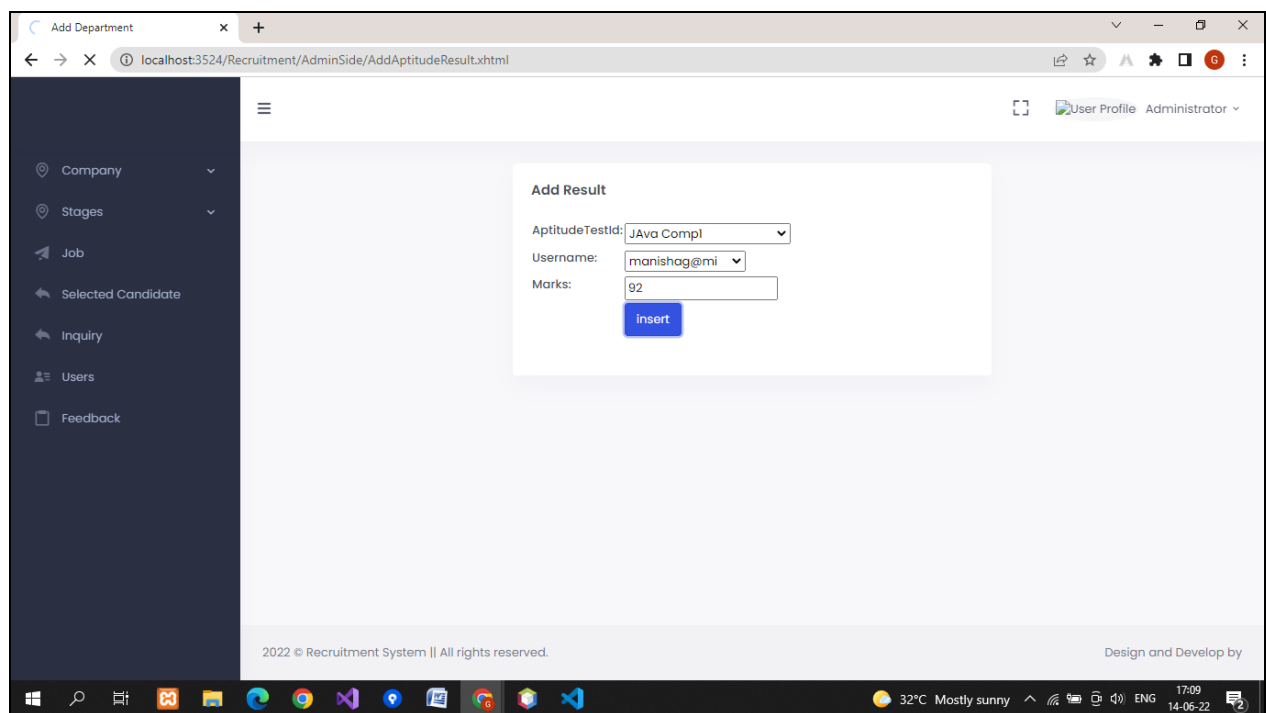
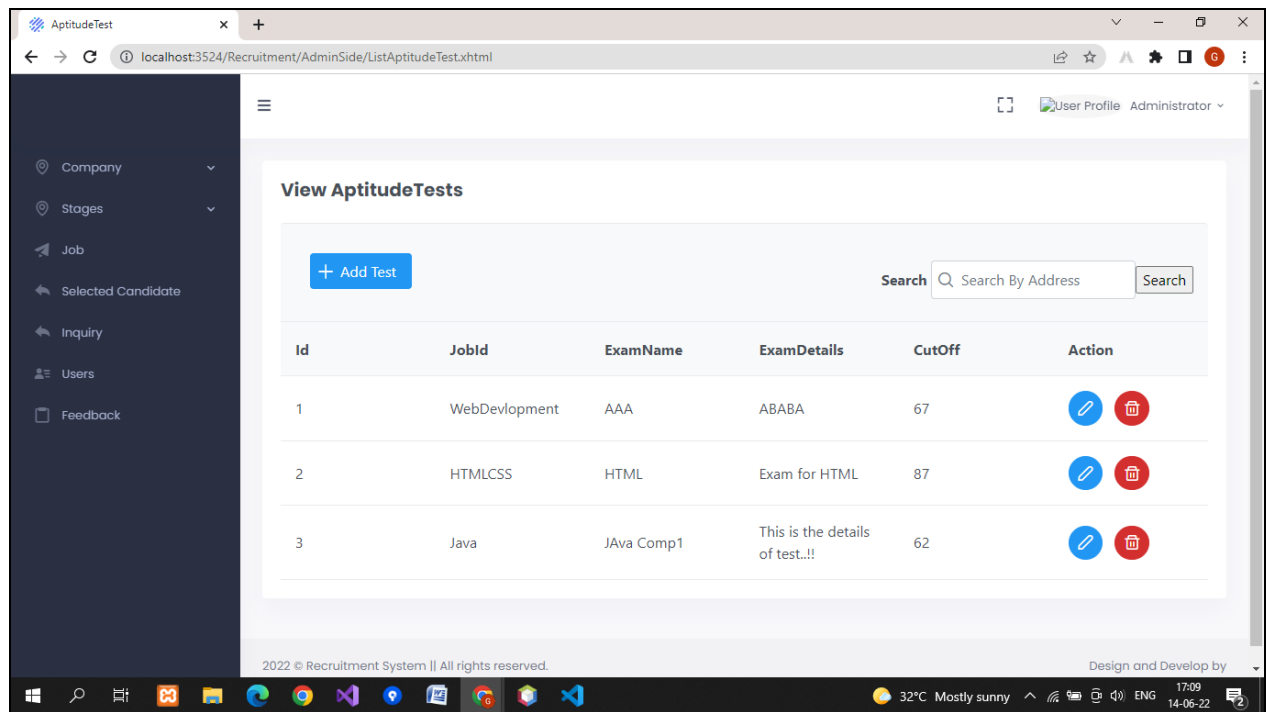












## 9 Future Enhancement

- Company and candidate can chat over the system itself.
- Different Companies can decide the order of hiring candidate by themselves.
- If the no of active user increases it can be shifted to cloud
- Company can conduct aptitude test online by their customised questions

## 10 Reference

-  <https://docs.oracle.com/javaee>
-  <https://www.primefaces.org/>
-  <https://stackoverflow.com/>
-  <https://jwt.io/introduction>