SUPERIOR College LAHORE

Faculty of Computer Science & IT

Final Year Project

PROJECT REPORT (Part-2)

Superior Online Job Portal

Project ID: **FYP-BITM-F18-015**

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Project Report

Superior Online Job Portal

Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature

APPROVAL

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Comments: _____

_____

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Date:_____ Signature:_____

PROJECT MANAGER

Comments: _____

_____

Date:_____ Signature:_____

HEAD OF THE DEPARTMENT

Comments: _____

_____

Date:_____ Signature:_____

Dedication

This work is dedicated to my parents who spent their whole life to give me better way of life and to mynew born daughter Khadija Ayyat.

This project is also dedicated to our mentor**Mr. Muhammad Arif** who encourages us to make our dream and thinking as reality.

Acknowledgements

I express my thanks and full-hearted gratitude to my respected teacher, supervisor and guide of my project **Mr. Muhammad Arif**, Department of Computer Science and I.T, Superior College, for his full guidance and entire support in orderto complete this project successfully. I am very much thankful to him for the constant encouragement and continuous inspiration that he has given to me.

Finally, I convey my real sense of gratitude and thankfulness to all my friends and family members for their unconditional support and encouragement during my project work without which I would hardly be capable of producing this huge work.

Executive Summary

The aim of this project is to develop an online search Portal for the CS & IT Dept. of the college. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This system can be used as an Online Job Portal for the Dept. of the college to manage the student information with regards to placement. Students logging should be able to upload their information in the form of a CV. Visitors/Company representatives logging in may also access/search any information put up by Students. As Companies can also list their requirements for the hiring and for the project based paid tasks/jobs.

The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the data has been planned. Using the constructs of MS-SQL Server and all the user interfaces have been designed using the ASP.Net technologies. The database connectivity is planned using the "SQL Connection" methodology. The standards of security and data protective mechanism have been given a big choice for proper usage. The application takes care of different modules and their associated reports, which are produced as per the applicable strategies and standards that are put forwarded by the administrative staff.

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Chapter 1

Introduction

Chapter 1: Introduction

This chapter is about the overview of project. This project is an online portal system. This system can be used as an Online Job Portal for the Placements providing to the un employees who are seeking for a job placement. Job Seeker logging into the system and he can should be able to upload their information in the form of a CV. Visitors/Company representatives logging in may also access/search any information put up by Job Seeker.

1.1. Background

Although, there are many public job portals servingfr job seekers and provider but having some limitations or standard which do NOT meet everyone's level. Like **Rozee.pk**, **Jobee.pk**&**LinkedIn** etc.So, we are going to introduce a job portal that helps superior's students to get jobs full time or half time and even project base. Also, this will make superior unique among academic institutions' World.This will be better than "**LinkedIn"**and also easy in use. Viewing available jobs, or applying for the job at the agency can be done for which job seekers has to go to the agency and check the available jobs at the agency. Job seekers check the list of jobs available and apply the job. Then the agency will show available jobs for the job seeker for his qualifications and then updates the jobs database

1.2. Motivations and Challenges

We see that students face difficulty in paying fee during the degree period and even also they become graduate. Although they have abilities and skills we well but still due to unavailability of a proper platform they are unable to find a suitable job. So, we'll overcome this gap and provide them better way to find job through superior's job channel(portal). Biggest challenge is Portal's inauguration and publicity among well-known companies.

1.3. Goals and Objectives

1.3.1. **Eliminate Unemployment**:

We see that students face difficulty in paying fee during the degree period and even also they become graduate. Although they have abilities and skills we well but still due to unavailability of a proper platform they are unable to find a suitable job. So, we'll overcome this gap and provide them better way to find job through superior's job channel(portal). Biggest challenge is Portal's inauguration and publicity among well-known companies.

1.3.2. **Making Superior Unique among all Universities**:

Superior College will be known as an institution which has guarantee to provide jobs to its students at any stage as well as keeping them up to dates with new technologies and making their relation strong with top class companies/ institutions

1.4. Literature Review/Existing Solutions

There are many existing jobs portals accessible which are giving opportunities to find jobs nearby you but still, there lagging time is unbearable like getting a job when you don't need it or knowing about a job when it is already occupied. So, all of these cons will be neglected in our portal

Fig:1.1. Compititors

1.5. Gap Analysis

From the belowtable “Table: Gap Analysis” it can be seen that all the existing software are doing almost same operations which are being done by traditional jobs seeking systems but our project is unique as we are making it easy for even students as well.

Name	Direct Communication	Option to edit old resume	Newly offered Courses	Mobile accessibility	College Supervision	Webinars	Certificates	Project Base Job Position
Linked in	×	×	×	×	×	×		
Jobee.pk	×	×		×	×	×		
Rooze.pk		×	×	×	×			
Punjab Job Portal	×	×	×		×			
Superior Online Job portal	✔	✔	✔	✔	✔	In plan	✔	✔

Table:1.1. Gap Analysis

1.6. Proposed Solution

The aim of the project is to merge the job seekers and the companies on a single platform. job seeker by logging in will upload their information in the form of CV. Visitors/Company representatives logging in can search any information uploaded by Job aspirants. This job portal is designed as a platform which will provide placement to the job seekers looking for job. This job portal will also provide an academic portion where students can enhance their professional skills and learning skills. Through this portion they will get a job easily… After the completion of this project we are sure that unemployment will decrease...Each and every person will get their desire job according to their skills…

1.7. Project Plan

Our goal is to keep things as simple as we can. We'll be using simple graphical user interfaces for interaction with users so that users of all types and age find it easy to use but at the same time user interfaces will be interesting enough to force a user to explore our application and don't find it sluggish with time.

1.8. Work Breakdown Structure

In our WBS, we divided our team into various modules and these modules will lead them to eventual results which would be collaborative. Basically, we are separating the undertaking among the individuals as indicated by their abilities as we are a team of three individuals.

WBS Deliverable	Activity to Complete the Deliverable	Duration (# of Days)
Project Plan	• Research on • requirements • problem statement	5
Software Requirement Specification Document	• Requirement Elicitation • Requirement Analysis	30
Architecture Diagram	• Architecture Design	1
Use Case Diagram	• UML Design	5
Fully Dress Use Case	• UML Design	4
Domain Model	• UML Design	1
Class Diagram	• UML Design	1
Operation	• UML Design	3
Sequence Diagram	• UML Design	5
Activity Diagram	• UML Design	2
State Machine Diagram	• UML Design	2
Entity Relationship Diagram	• Database Design	3
Software Design Document	• Architecture Design • UML Design	5
Interface	• User Interface Design (Web)	8
Interface	• User Interface Design (Web)	5
Interface	• User Interface Design (app)	5
Point of sale System	• Implementation • Testing • Deployment	150

Table:1.2. Work Break Down Structure

1.8.1. Roles & Responsibility Matrix

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
001	Specification Development	A-WBS#	Requirement gathering and Refinement of requirements	3 weeks (21 Days)	Gathering by (Yousaf) Refine by (Hassan)
002	Analysis of Specification	A-WBS#	Complete knowledge of the system for analysis	1 week (7 Days)	Analysis by leader (Yousaf)
003	Structure or design of System	A-WBS#	Creating Models for Portal and Application	2 weeks (14 days)	Models creation by the collaboration of all members
004	Implementations Development of source code	A-WBS#	Source Code development of Portal and app and API's Connection	3 weeks (21 Days)	Portal develop by (Hassan & Yousaf) and app by all group members
005	Testing	A-WBS#	Test case development and testing using tools	3 weeks (21 Days)	Test cases develop by (Zawar) Static testing by (name) and Tool testing by (name)

Table:1.3. Roles & Responsibility Matrix

1.8.2. Gantt Chart

Project Schedule	Dec 2018				Jan 2019				March 2019				May 2019				Summary	
Tasks:	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	Hours	Percent
Requirements	12	12	8	6													38	17.90%
Design			4	6	12	8											30	14.20%
Analysis					4	8	12	6									30	14.20%
Development							7	6	6	5							24	31.10%
Integration of module										6	6	2					14	6.60%
Testing										6	12	12					30	14.20%
Analysis (requirement ,design, changing ,etc)		4	4	4	4	4	4	4	4	4	4	4	4				4	1.90%
Hours	12	12	12	12	16	16	19	12	6	17	18	14	4				**170**	100.00%

Fig:1.2. Gantt Chart

1.9. Report Outline

Based on the given requirements, conceptualize the Solution Architecture. Choose the domain of your interest otherwise develop the application for ultimatedotnet.com. Depict the various architectural components, show interactions and connectedness and show internal and external elements. Design the web services, web methods and database infrastructure needed both and client and server

Chapter 2

Software Requirement Specifications

2.1. Introduction

In this chapter we are explaining that how our product will work, what will be the functions of the product, what is the scope of product and what are the requirements for the product.

2.1.1. Document Conventions

The content in this archive is of Calibri style and size is 12. Line dispersing is 1.5. All the content is composed in standard shape and straightforward English dialect. Information is spoken to in tables and as outline.

2.1.2. Intended Audience and Reading Suggestions

This report is composed for Project administrators, analyzers and engineers. This SRS contains every one of the necessities required for this venture and programming quality characteristics. We propose perusing this article in a basic succession altogether.

2.1.3. Product Scope

The fundamental modules or functionalities of our venture are that a students of superior may have job surety, also market knows about superior talent. Also, superior team can be updated with current market trend.

2.2. Overall Description

2.2.1. Product Perspective

This system can be used as an Online Job Portal for the Placements providing to the un employees who are seeking for a job placement. Job Seeker logging into the system and he can should be able to upload their information in the form of a CV. Visitors/Company representatives logging in may also access/search any information put up by Job Seeker.

2.2.2. Product Functions

Modules:

- Admin
- Job Seeker
- Job Provider
- Notification
- Search

2.2.2.1. Admin

- Login
- Logout
- Manage Job/Project Detail
- Assign/select a suitable and relevant student.

- Manage conduction of interview Detail
- Manage Complaints
- Manage ad

2.2.2.2. Job Seeker:

- Signup
- Login
- Logout
- Place Resume (CV)
- Search Job
- Search location
- View Job/Project Detail
- Apply for Job/Project
- Cancel Application

2.2.2.3. Job Provider

- Login
- Logout
- Post Ad
- Delete ad
- Edit ad
- Interview/Test

2.2.2.4. Notification

Employee:

- When employer post's new job meeting the skills of applicant he gets notified.
- Any update activity by employer related to job.

Employer

- List of employees matching requirements against a job will be created and Employer will be notified

2.2.2.5. Search

Entered Key words searched.

2.2.3. User Classes and Characteristics

Students:

They can logon to portal to upload their resumes, see new projects, seminars and webinars as well**.**

College:

Have login as admin, review pending posts, assigning projects to students and vice versa. Dealing with companies, arranging meetings and collaborations as well. Managing the portal.

Organizations:

Have logins, can post the jobs seats, projects and meetings

2.2.4. Operating Environment

The portal can be hosted on cloud or on premises as well. The hardware on which it will run will be dual core generation or higher with NVIDIA graphics installed with the operating system Microsoft windows/Servers OS.

2.2.5. Design and Implementation Constraints

Limitations Software advancement team gives their best exertion in building up the framework. With the end goal to keep up the unwavering quality and strength of framework, some structure and execution requirements are connected. Accessibility of an portal's app to the server could make the framework compact however because of time imperative it isn't conceivable. Framework will require a base memory of 512MB. Yet, it is prescribed to have a memory of 1GB. When planning interfaces of portal. Considering the organization's financial plan, we chose to make those interfaces in a basic sensible way utilizing reasonable innovation.

2.2.6. User Documentation

College, organization and students are involved as users, their data and personal info and whatever

2.2.7. Assumptions and Dependencies

1. Admin specialists will have a legitimate organization and secret phrase get to the project & job seat.
2. The gateway needs job distributor to have finish learning of Portal.
3. Entry is subject to access to web portal

2.2.8. User Interfaces

There will be a login interface(page) for the user where user can login with credentials. After that system will take them to the dashboard according to the type of login rights (as College's Admin, Students or External business companies)

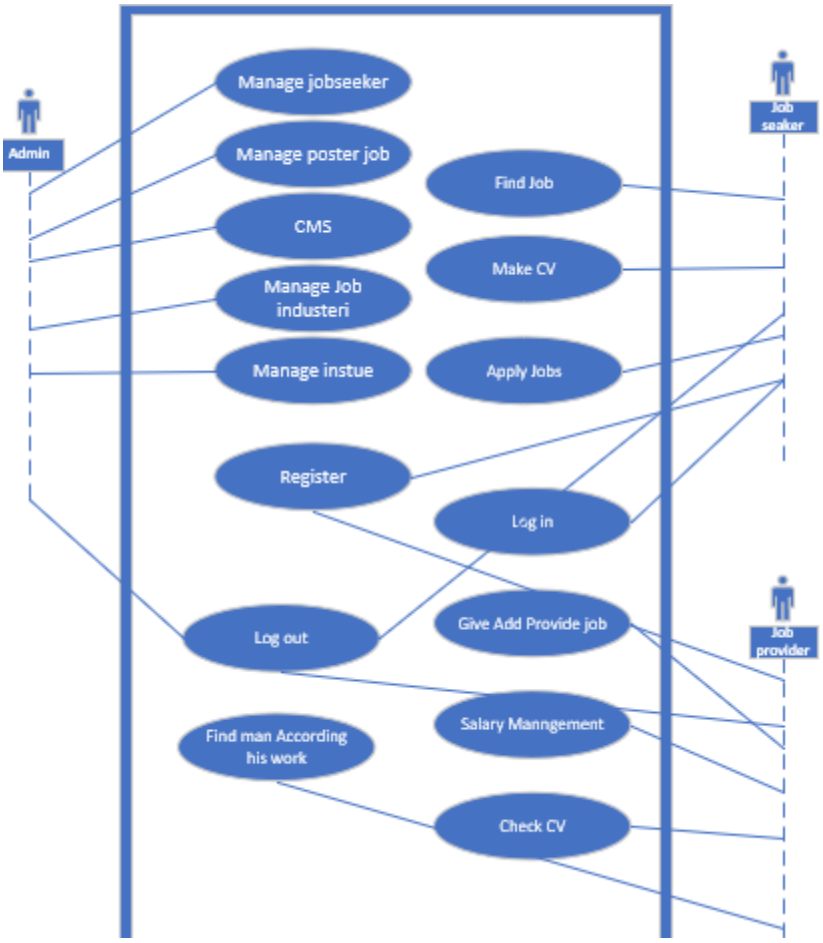

Table:2.1. User Interface

2.2.9. Hardware Interfaces

- All required equipment for the portal system is mentioned below;
- Minimum Processor*Intel Pentium 4,Intel core-i3*
- RAM: 512 MB or above.
- HD: More than 30 GB
- Monitor/LED , Keyboard and Mouse
- Hosted Server/Registered Domain
- Standard Browser is Google Chrome.
- All the requirements are same as hosting a standard portal (web based)

2.2.10. Software Interfaces

All the databases for the college management system will be configured using access 2018 – 2027. These databases include user information. These can be modified by the end user. The CMS database will include the user information. The user or activities information database will contain all the detail of the user or detail of all activities such as is, username and password. Flexibility of interface is dependent on its GUIs. GUI showed betterment of portal having objects, icons and access bars etc. For all kind of users it show different dashboard but some common too.

2.2.11. Communications Interfaces

The two gatherings ought to be associated through either by LAN or WAN for the correspondence. HTTP & FTP protocols are being used. Sender Communication Channels Receiver.

2.3. System Features

The systemfeaturesaredividedintotwomaincategories:corefeaturesandadditional features other requirement. Core features form the body of the application and include any features that are essentialtothefunctionalityofthesystem.Thesefeaturesmustbeimplementedin ordertohaveafully-functioningapplication.Additionalfeatures,however,arenotrequiredfor the app to function. They include any features which, if time permits, will be added to the applicationinordertoprovideextrafunctionality.

2.3.1. System Feature 1

User Registration and welcome

2.3.1.1. Description and Priority

Whentheapplicationisinstalledandrunfortheveryfirsttime,theuserispresentedwith an initialregistration/welcomescreen.Thisscreenpromptstheusertocreateanaccountonthe serverusingtheemailaddressassociatedwithhis/herGoogleaccount.Theuseralso enters a "Display Name", which will be the name that is shown as their handle within the groups.Completingthisprocesswillcreateandstoreanaccountfortheuseronthe server,enablingalloftheapplication'ssynchronizationcapabilities.

2.3.1.2. Stimulus/Response Sequences

Step1 applicationlaunchedfromthehomescreen

Step2 Theuserispromptedtoenteranemailaddressandadisplayname

Step3 Thisinformationsenttoserverandstoredinthedatabase

Step4 Registrationcompletedanduseristakentomainscreen

2.3.1.3. Functional Requirements

REQ-SF1-1: Valid Email Address

Theusercannotproceeduntilavalidemailaddressisentered.Theapplicationwillv erifythat theuser'sinputisconsistentwiththeformatofanemailaddress(i.e.xxxxx@xxxxx. xxx)

2.3.2. System Feature 2

Search job on the bases of some attributes like (age, qualification and etc.).

2.3.2.1. Description and Priority

The search job feature enable the user to search job which he or she want for example if user want to search job which required age is greater the 18 year then he/she just enter the age and enter the button system will automatically provide the resulted matches.

2.3.2.2. Stimulus/Response Sequences

Step1 User click the job menu at the menu bar

Step2 Theuserispromptedtoenterattributes to search

Step3 Thisinformationsenttoserverandsearch into database

Step4 Retrieve search data at the screen.

2.3.2.3. Functional Requirements

REQ-SF1-1: User Already Exist

User must be already login or signup if user not exist provide notification to login/signup the account

REQ-SF1-2: Enter Valid Data

User must enter valid data to search the job if not then prompt error massage data is invalid (Enter age like (10, 18, 50 etc.)).

REQ-SF1-3: Store History

System must able to store history of every user in database system and user just can view.

2.3.3. System Feature 3

Auto job found

2.3.3.1. Description and Priority

In auto job found system's feature the system will automatically provide the notification of new match found which are new user that create the new account in "Online Job Portal" system.

2.3.3.2. Stimulus/Response Sequences

Step1 User click the auto job found option in setting

Step2 System store the Setting and finding job.

Step3 Thisinformationsenttoserverandsearch into database

Step4 Retrieve search data and prompt notification.

2.3.3.3. Functional Requirements

REQ-SF1-1: User Already Exist

User must be already login or signup if user not exist provide notification to login/signup the account

2.3.4. System Feature 4

Chat with Job Provider.

2.3.4.1. Description and Priority

In chat feature of the system will enable users to chat with each other and they also can search some type of information.

2.3.4.2. Stimulus/Response Sequences

Step1 User click the chat icon at the provider profile.

Step2 System will provide chat panel and users write massage here.

Step3 Thisinformationsenttoserverand store into database

Step4 massage will appear at the second end of the chat panal.

2.3.4.3. Functional Requirements

REQ-SF1-1: User Already Exist

User must be already login or signup if user not exist provide notification to login/signup the account

REQ-SF1-2: Premium Account

User must have the premium account to chat with job provider if user don't have premium account then account page will appear at the user screen.

REQ-SF1-3: Valid Bank account Information

User must have to enter valid bank account information to make its account premium and system will verify given information.

2.3.5. System Feature 5

Setting Menu.

2.3.5.1. Description and Priority

Setting menu provide ability to change the account's setting like user can change its name or some details, Profile picture and notification options.

2.3.5.2. Stimulus/Response Sequences

Step1 User click the Setting Menu at menu bar.

Step2 System will provide setting panel and user click save button to save changes.

Step3 Thisinformationsenttoserverand store into database

Step4 massage will prompt at user end.

2.3.5.3. Functional Requirements

REQ-SF1-1: User Already Exist

User must be already login or signup if user not exist provide notification to login/signup the account

2.4. Other Nonfunctional Requirements

2.4.1. Performance Requirements

With a specific end goal to keep up a worthy speed at most extreme number of activitiespermitted from a specific user will be any number of users and can get to the framework whenever needed. Likewise, associations with the servers will be founded on the criteria of properties of the user like his area, and server will work 24X 7 times.

2.4.2. Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure. All tasks, logged data, refreshes, user activities are reinforcement.

2.4.3. Security Requirements

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that must choose their database partner carefully.Any adjustment (insert, update and delete) for the Database might be synchronized and done just by the System Admin.

2.4.4. Software Quality Attributes

- Reliability
- Availability
- Maintainability
- Portability

2.4.5. Business Rules

There are mostly three kinds of users utilizing the system:

- Admin
- External Companies(Employers)
- Students

Admin has the full authorization of controlling the system. Employees has authorization to add, issue, interview for a job. Students have access to post CVs and also attend webinars etc.

2.5. Other Requirements

Technical: Use of technical stuff and terms

Emotional Intelligence: For a job, hiring someone by checking emotional intelligence. Depend on Nature of jobs

Uniqueness: No other College has this option

Grow Up: This way growing superior and business

Chapter 3

Use Case Analysis

Chapter 3: System Analysis

System analysis is the process in which we process or profession of studying an activity or business in order to identify its goals and create such a system that will achieve the goals in an efficient way.

In analysis of a system we start with feasibility study after that requirement analysis and project planning begins. Designing part is started after the requirement analysis is complete and coding part begins after design part. Multiple tests are done on system when coding part is completed.

3.1. Use Case Model

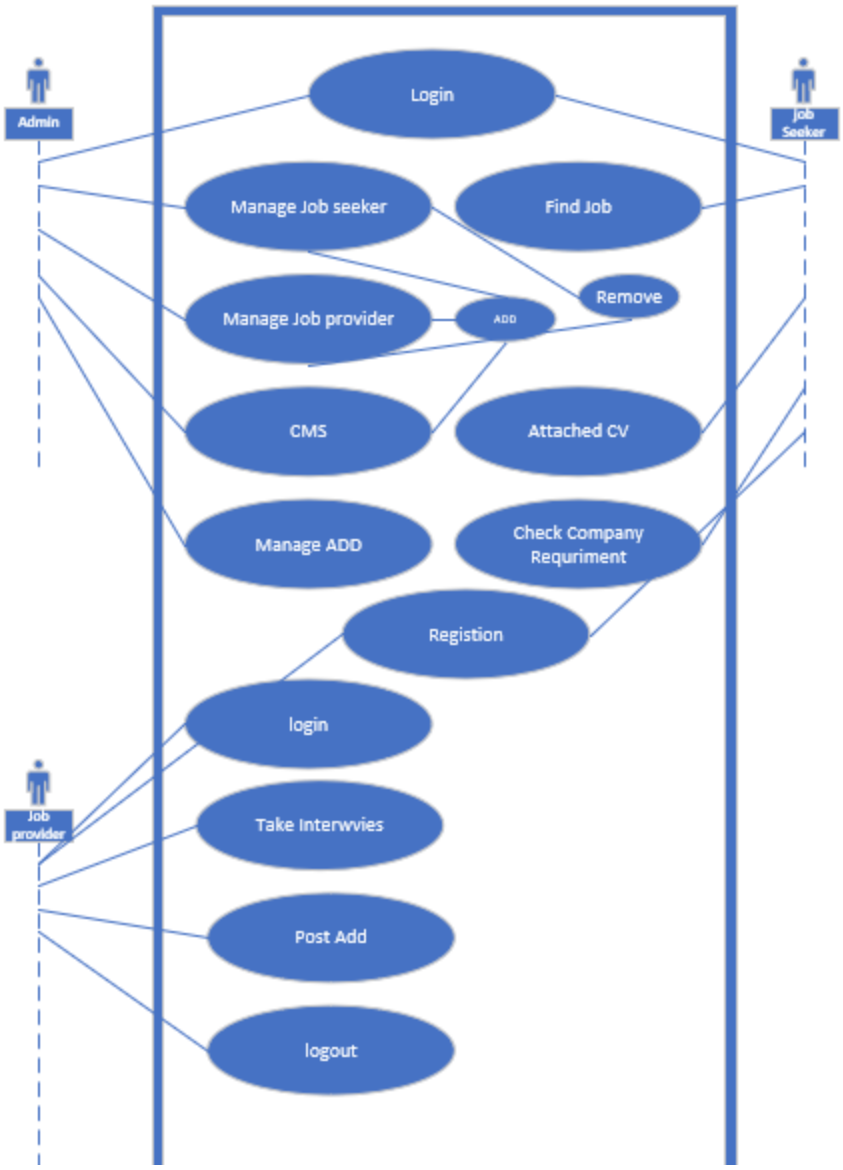

Fig:3.1. Fully Dressed Use case

Chapter 4

System Design

Chapter 4: System Design

4.1. Architecture Diagram

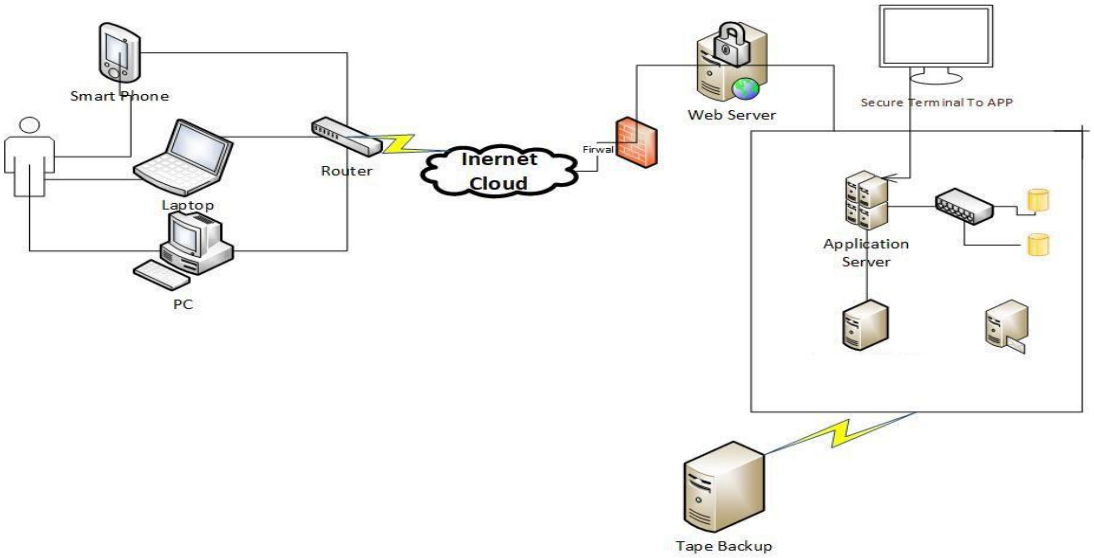

Fig: 4.1. Architecture Diagram

4.2. Entity Relationship Diagram with data dictionary

An entity-relationship diagram (ERD) is a data modeling technique that graphically illustrates an information system's entities and the relationships between those entities. An ERD is a conceptual and representational model of data used to represent the entity framework infrastructure.

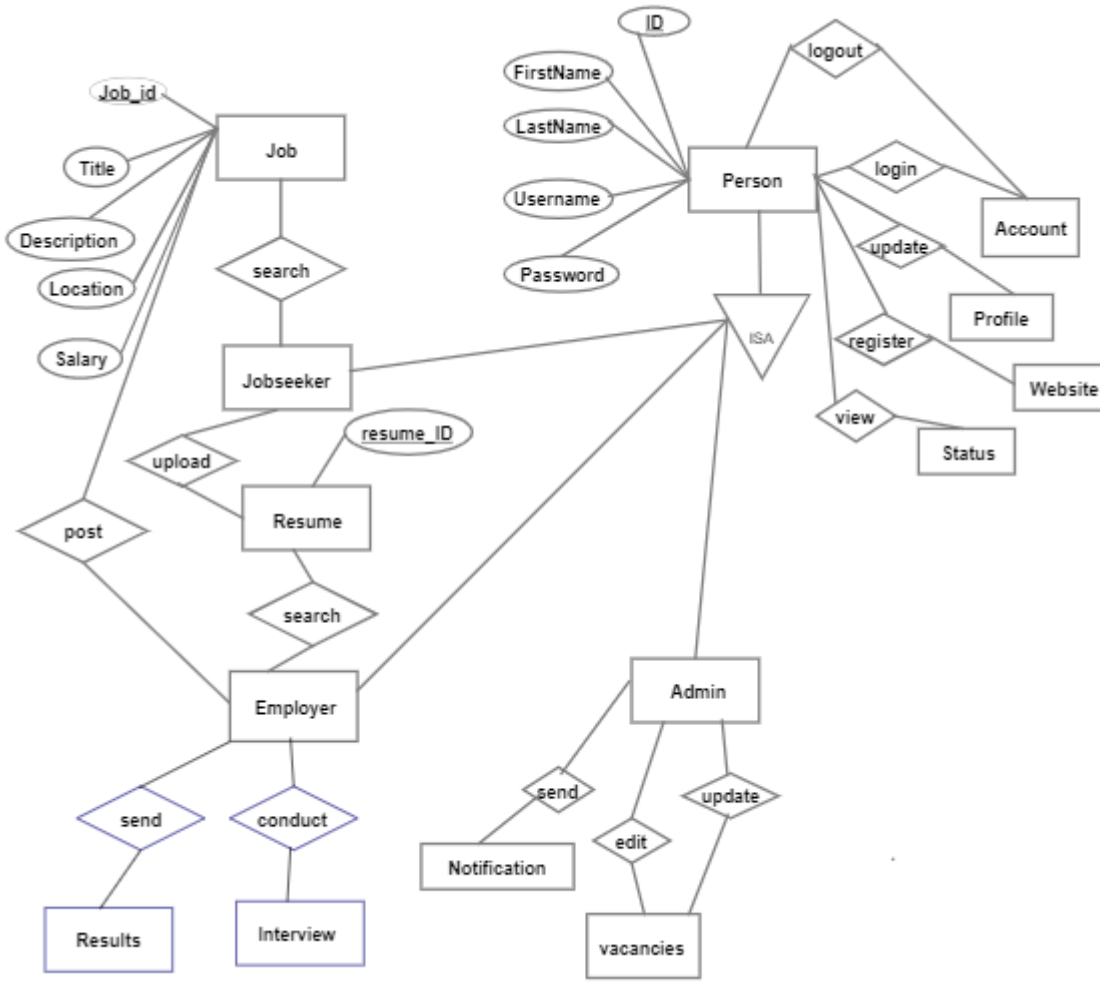

Fig:4.2. ERD Diagram

4.3. Class Diagram

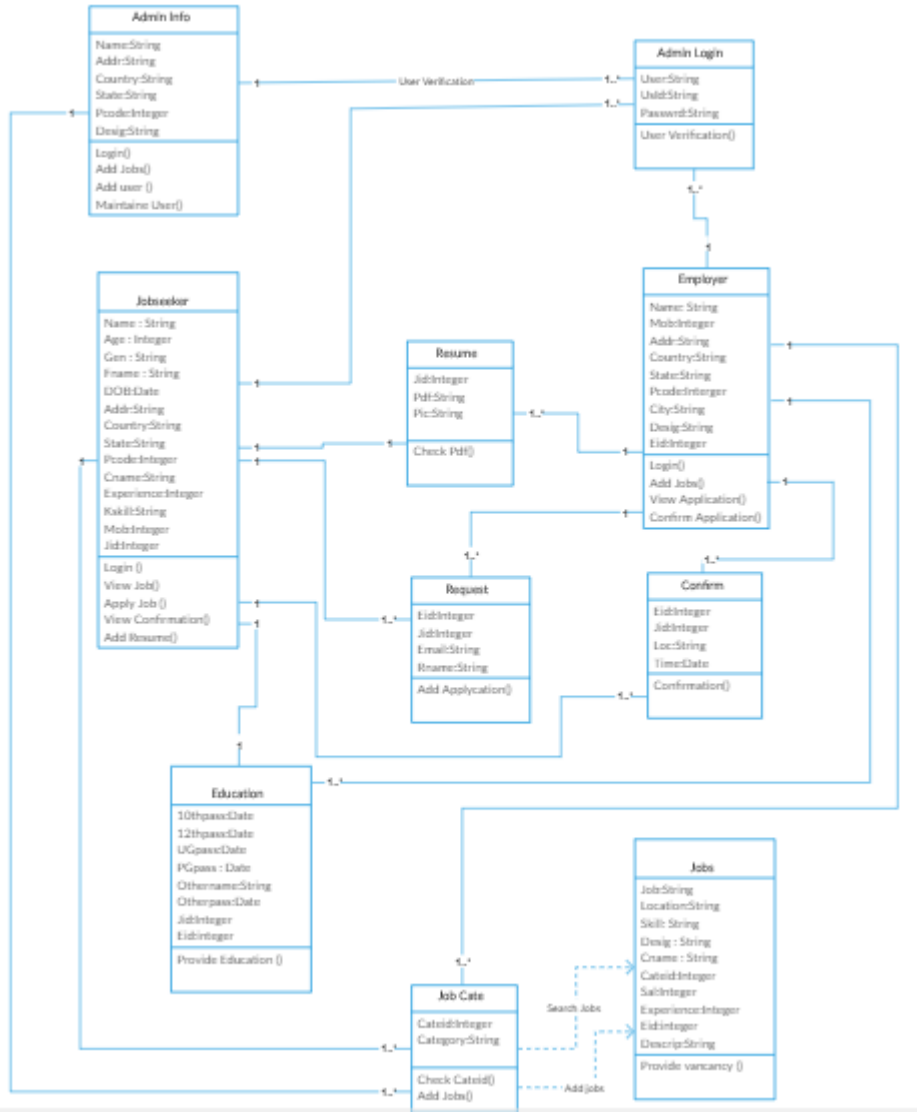

Fig:4.3. Class Diagram

4.4. Sequence / Collaboration Diagram

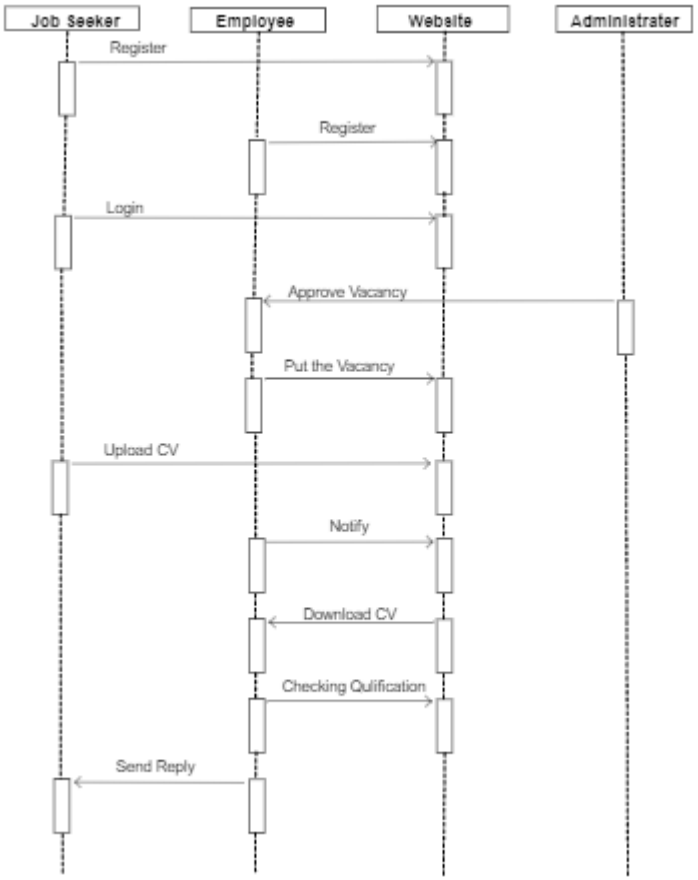

Fig:4.4. Sequence Diagram

4.5. Activity Diagram

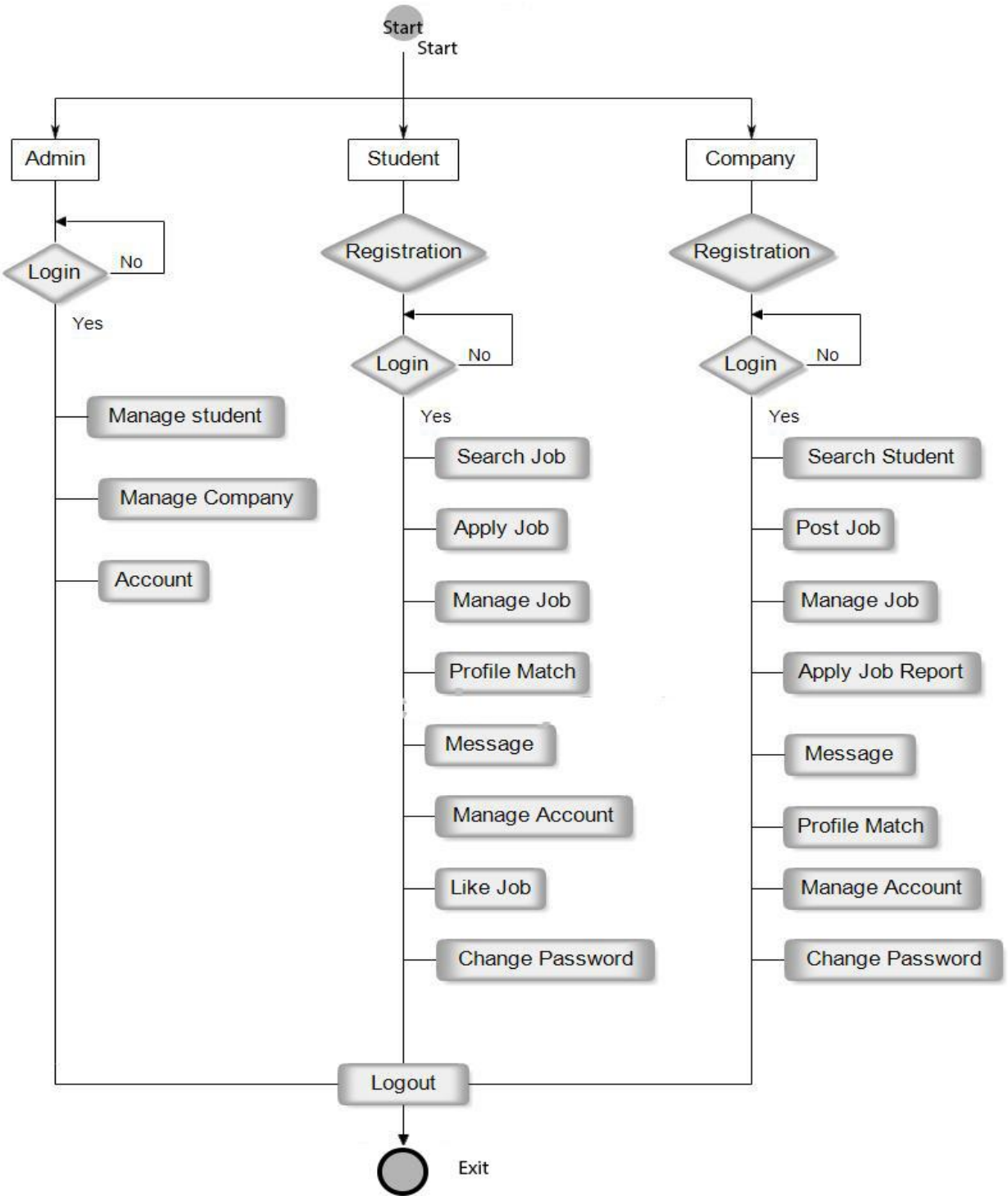

Fig: 4.5. Activity Diagram

4.6. State Transition Diagram

Admin state

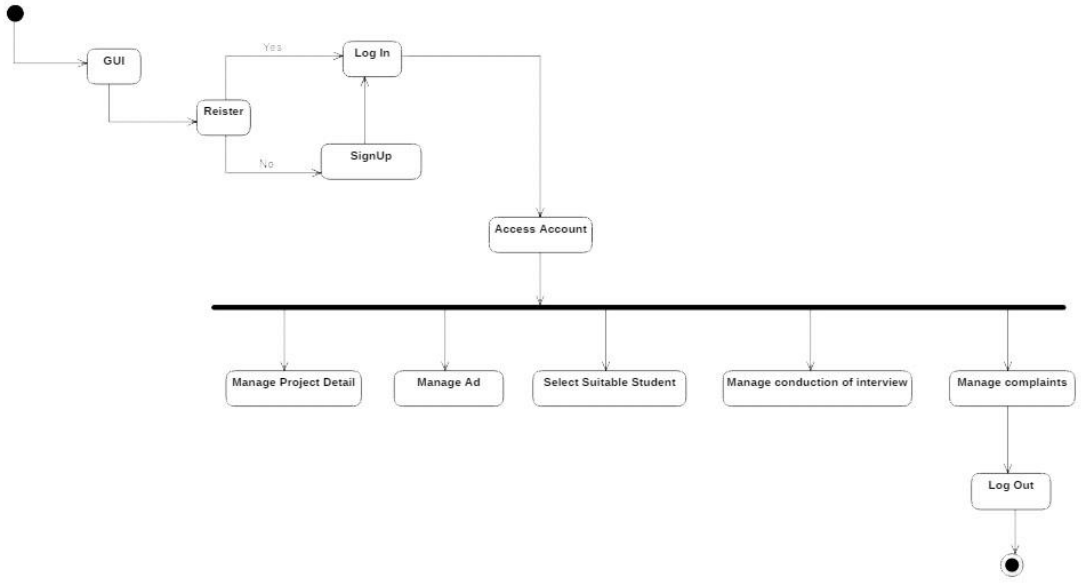

Fig:4.6.1. Admin's State Diagram

Job seeker state :

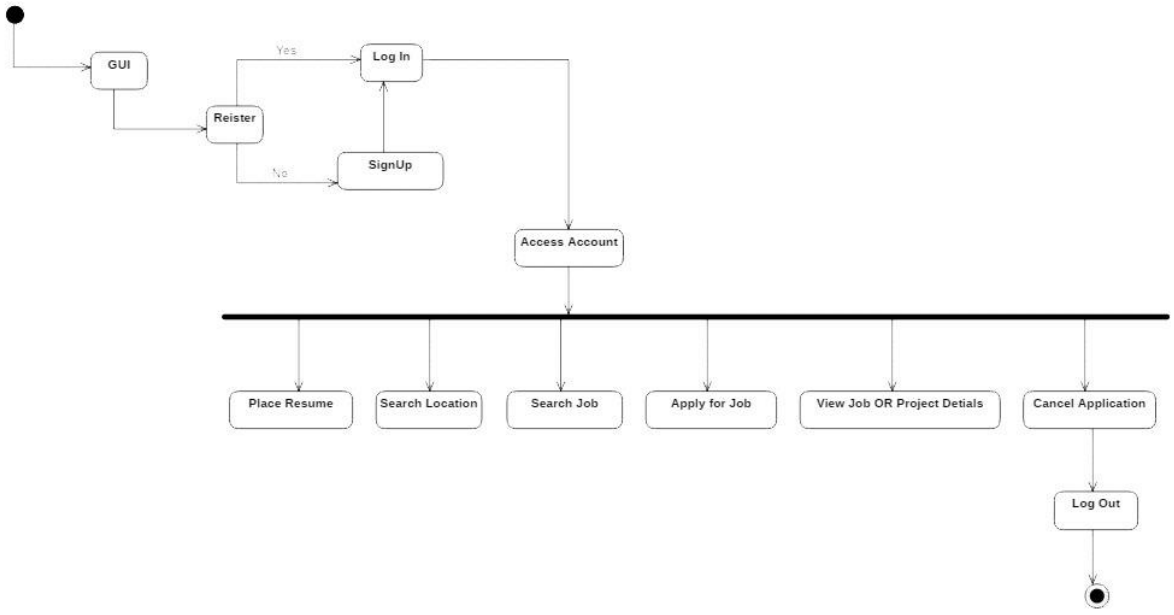

Fig:4.6.1. User's State Diagram

4.7. Component Diagram

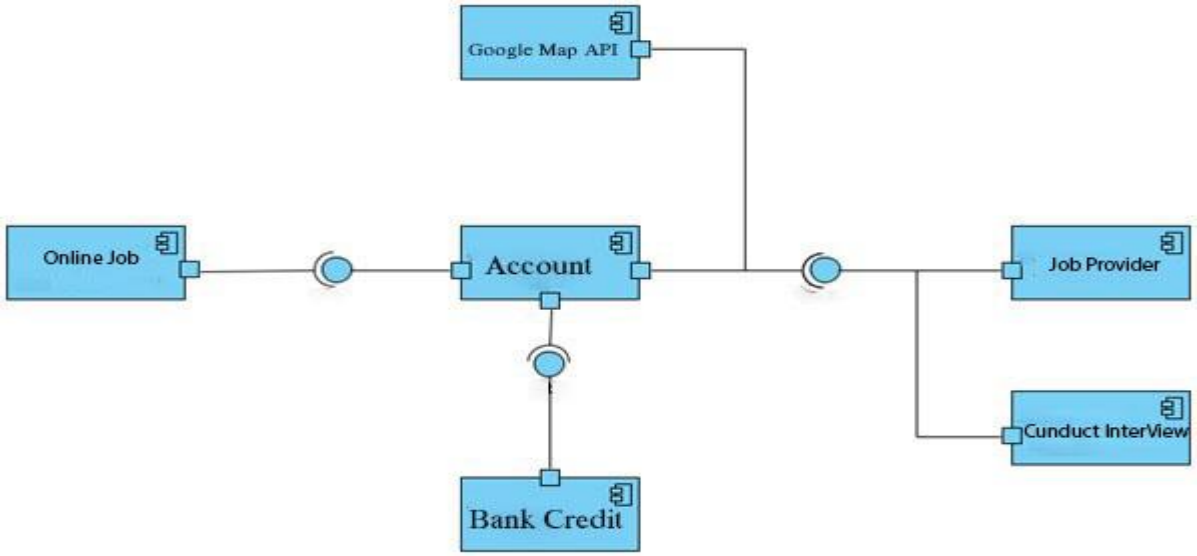

Fig:4.7. Compnent Diagram Diagram

4.8. Deployment Diagram

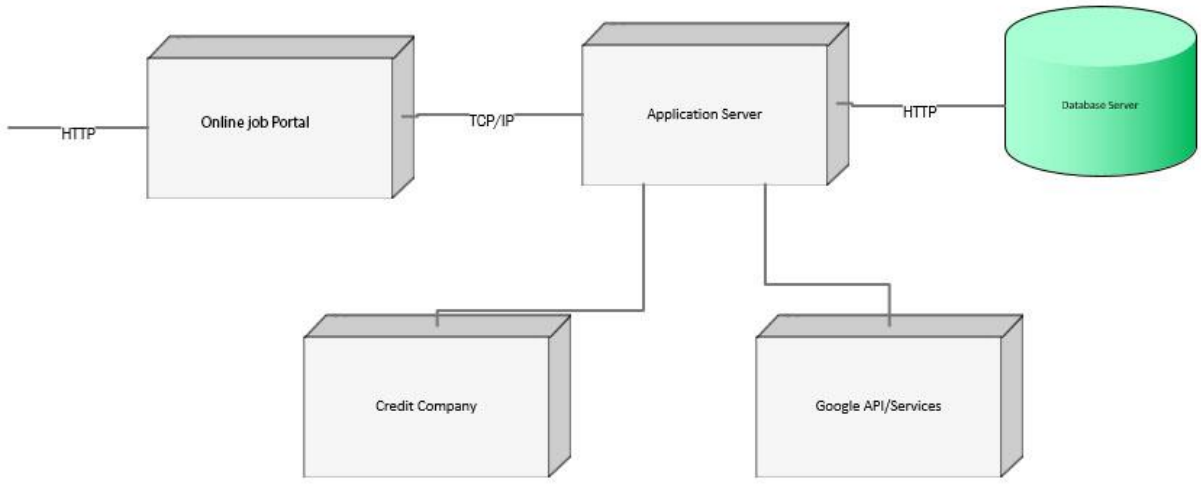

Fig:4.8. Deployment Diagram

4.9. **Data Flow diagram**

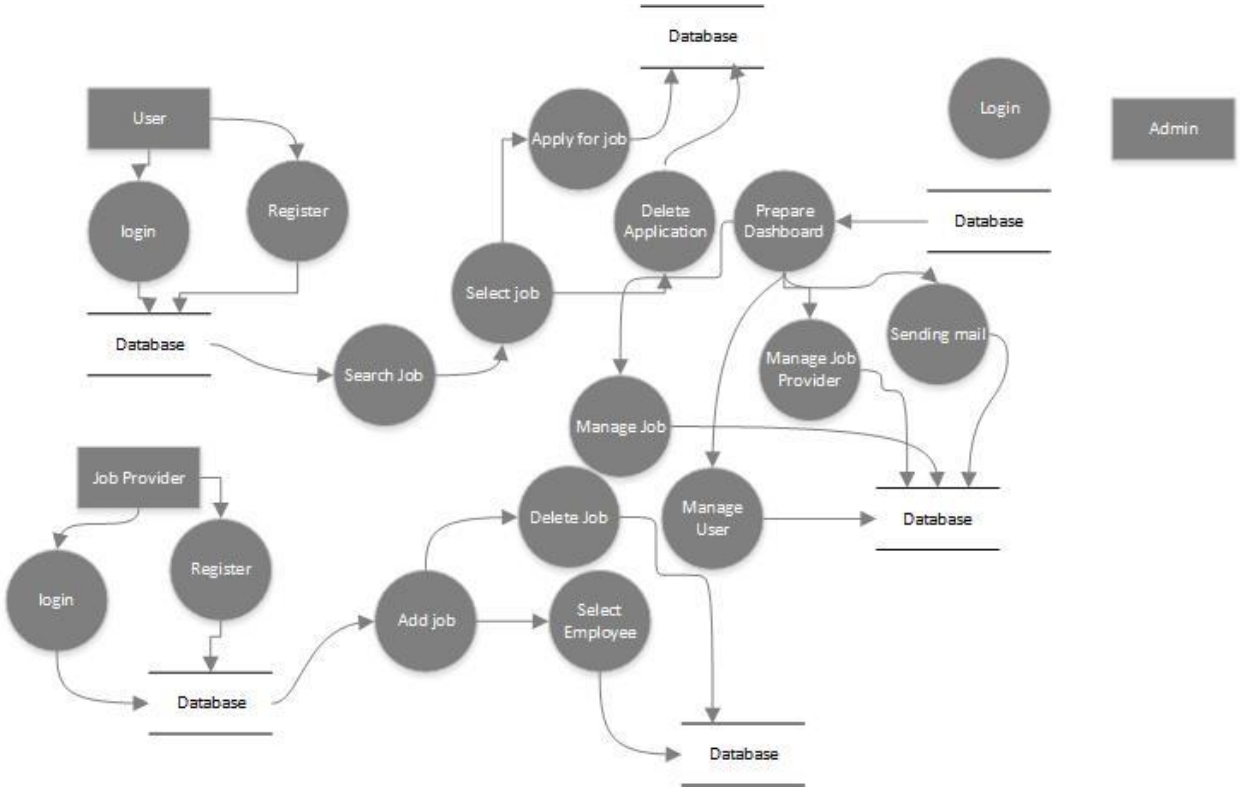

Fig:4.9. Data Flow Diagram

Chapter 5

Implementation

Chapter 5: Implementation

5.1. Important Flow Control/Pseudo codes

IF (New User)

INPUT User account data or some authentications

Search Job(On the bases of some attributes)

Accept-job()

Send-Request()

IF(User-Account==”Premium”)Then

User_access_chat_panal

End-IF

ELSE Then

Provide premium Account Options

IF(User Select!=null)Then

Store Data Into Database and check card info. Or aunthentications

END-IF

END-ELSE

END-IF

ELSE If(User Already Exist)

LogInAuthentication()

Search Job(On the bases of some attributes)

Accept-job()

Send-Request()

IF(User-Account==”Premium”)Then

User_access_chat_panal

End-IF

ELSE Then

Provide premium Account Options

IF(User Select!=null)Then

Store Data Into Database and check card info. Or aunthentications

END-IF

END-ELSE

END-ELSE-IF

5.2. Components, Libraries, Web Services and stubs

Properly Structured Website

This Online Job Portal System is easy to use. The design and the front end of our web page are user friendly so that any user can access and use our web service easily according to their needs.

Web Services

- Users straightforwardly perform activities
- 24 hour access

5.3. Deployment Environment

We need to forwards our domain ports of website so that it can we access on reliable browsers. Our online Job Portal system will exist and through the domain several people will access the portal. We need this domain service to facilitate our end users.

5.4. Tools and Techniques

Following are the tools which we have used in our project:

- **PHP** is a server-side scripting language designed for Web development.
- **HTML**is a standardized system for tagging text files to achieve font, color, graphic, and hyperlink effects on World Wide Web pages.
- **CSS** (Cascading Style Sheets) is used to provide layout and visual formatting to the HTML pages.
- **JavaScript** is an object-oriented computer programming language commonly used to create interactive effects within web browsers.

- **Bootstrap** is a free and open-source front-end framework for designing responsive websites and web applications.
- **MySQL** is an open-source relational database management system.
- **PhpMyAdmin** is a free and open source administration tool for MySQL.
- **Notepad++** is a text editor and source code editor for use with Microsoft Windows.

5.5. Best Practices / Coding Standards

There four pillars of Object Oriented programming (OOP) are listed below which are very helpful for the reducing or reuse of program code and mostly developers use them.

- Inheritance
- Polymorphism
- Abstraction
- Encapsulation

There are some best practices/ coding standers are listed below which can help to understand the code of the application. If we don't follow these practices or coding standers we can't understand code after few time.

- Proper commenting at every condition's scope.
- No more than one statement per line.
- Line length should not exceed 80 or 100 characters.
- Test class must start with the name of the class they are testing followed by 'Test'. E.g. `ServerConfigurationTest`.
- One character variable names should only be used in loops or for temporary variables.
- Do not ignore exceptions that you caught.
- Do not catch broad exception classes like `Exception` or `RuntimeException`.

Reference and Bibliography

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