A project report on

RECRUITEMENT PORTAL

Submitted in partial fulfillment of the requirement
For the award of the degree

MASTER OF COMPUTER APPLICATIONS
Of

Visvesvaraya Technological University
Belgaum, Karnataka
By

POORNA DINESH ACHARYA

1CR18MCA85

CMR INSTITUTE OF TECHNOLOGY
132, IT Park Road, Kundalahalli, Banglore-560037
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Under the guidance of

Internal Guide	**External Guide**
Dr. Anu Manchanda	**Ms. Vismaya Raj**
Associate Professor, MCA Department,	Product specialist,
CMR Institute of Technology,	Chainalytics
Bangalore.	Bangalore.

CMR INSTITUTE OF TECHNOLOGY
132, IT Park Road, Kundalahalli, Bangalore-560037
2019-2020

CMR INSTITUTE OF TECHNOLOGY
Department of Master of Computer Applications
Bangalore - 560 037

CERTIFICATE

This is to certify that the project work entitled

RECRUITEMENT PORTAL

Submitted in partial fulfilment of the requirement
for the award of the degree of
Master of Computer Applications of the
Viswesvarayya Technological University, Belgaum, Karnataka
bonafide work carried out by

POORNA DINESH ACHARYA

1CR18MCA85

during the academic year 2019-2020.

Signature of the Guide	**Signature of the HOD**	**Signature of the Principal**
Dr. Anu Manchanda	**Ms.Gomathi.T**	**Dr. Sanjay Jain**
Associate Professor, MCA	HOD**,** MCA	PRINCIPAL, CMRIT

<u>External Viva</u>

Name of the Examiners   Signature with date
1.
2.

chainalytics

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Poorna Dinesh Acharya** is doing her internship from 06-Jan-2020 and has completed 5 months duration as on 06-June-2020. She will be continuing to work here as **Intern Junior Product Specialist** till 31-July-2020 in our company at Bangalore office.

She has successfully completed the project **"Recruitment Portal"** from 06-January-2020 to 06-June-2020 during her internship with us.

Yours sincerely,

For Chainalytics,

Vanitha N Venkatraman
Human Resources Manager

Chainalytics Services Pvt Ltd
CIN: U74140KA2004PTC035232
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Whitefield Main Road, Bangalore – 560 066
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DECLARATION

I, **Poorna Dinesh Acharya,** student of 6th MCA, **CMR Institute of Technology**, bearing the USN **1CR18MCA85**, hereby declare that the project entitled **"RECRUITEMENT PORTAL"** has been carried out by me under the supervision of External Guide **Ms. Vismaya Raj**, Product specialist**,** and Internal Guide **Dr. Anu Manchanda**, **Associate Professor**, **Dept. of Master of Computer Applications** and submitted in the partial fulfillment of the requirements for the award of the Degree of Master of Computer Applications by the **Visvesvaraya Technological University** during the academic year 2019-2020.The reports has not been submitted to any other University or Institute for the award of any degree or certificate.

Place: Bangalore   POORNA DINESH ACHARYA

Date: (1CR18MCA85)

ACKNOWLEDGEMENT

I would like to thank all those who are involved in this endeavour for their kind cooperation for its successful completion. At the outset, I wish to express my sincere gratitude to all those people who have helped me to complete this project in an efficient manner.

I offer my special thanks to my external project guide Ms.Vismaya Raj Product Specialist, Chainalytics, Bangalore, and to my Internal Project guide Dr. Anu Manchanda , Department of MCA, CMRIT, Bangalore without whose help and support throughout this project would not have been this success.

I am thankful to Dr. SANJAY JAIN, Principal, CMRIT, Bangalore for his kind support in all respect during my study. I would like to thank Ms. G Chaitanya, Program Manager,Chainalytics , Bangalore, who gave opportunity to do this project at an extreme organization Most of all and more than ever, I would like to thanks my family members for their warmness, support, encouragement, kindness and patience. I am really thankful to all my friends who always advised and motivated me throughout the course.

POORNA DINESH ACHARYA
(1CR18MCA85)

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CHAPTER 1

INTRODUCTION

1.1 PROJECT DESCRIPTION

In the current era there's growth in employment rate and number of candidates appearing for the job interviews is also increasing. Among a vast number of candidates appearing for the hiring process, it is very important to choose the right candidate for the job profile in the company.

As the number of candidates appearing for the recruitement process is increasing, the manual recruitment process is not an efficient way to select the appropriate candidates. So there's a need to manage this recruitment process with the current technology so that the purpose of each interview rounds turn out to be very effective in filtering the right candidate for the right job profile.

The recruitement process has been a very significant step in selecting the right candidate for a company's job profile. And, selecting a candidate requires right measures to examine them so that among thousands of candidates appearing for the interviews should be analysed well before they sent to the further rounds.

There are various online portals which provides specific set of questions based on any particular topics. But creating a company specific portal helps the company recruiters and managers to sufficiently modify their interview strategy everytime according to their requirement.

The idea behind this project is to meet the companies requirement in selecting the right candidates during the interview process. And, the admin of the portal can add any right person as the recruiter depending on the job profile they are going to hire for. The set of questions that are going to be asked to the candidates can be decided by the company employees depending upon their expectations towards the candidate they would like to

have in their team.

The recruitment portal project aims at providing efficient and easy recruitement process. This also helps the candidates and recruiters to have transperancy in the recruitement process.

Objectives of the project :

- ❖ To provide one single platform for all recruitement needs
- ❖ To create personalized questions to candidates based on their job role selections
- ❖ Provides efficient way to communicate with the candidates regarding the interview results
- ❖ To provide transperancy between recruiter,admin and candidates
- ❖ Helps efficient utilization of time in selecting the candidates
- ❖ Correction of candidates answers are automated thereby avoids any errors.
- ❖ Personalize the interview process based on the company's job requirements

Users of the application :

- ❖ Admin
- ❖ Candidates
- ❖ Recruiters

Main Modules – Admin Side

- ❖ Candidates
- ❖ Recruiters
- ❖ Question template

Candidates – In this module the Admin will be able to view the candidates details and add or remove the job profile details for the candidates.

Recruiters – In this module the Admin will be able to add recruiters to for conducting the interview process by entering the recruiters office email ID. The Admin can also remove

the recruiters from this module.

Question template – This module allows the Admin to upload the questions for the recruitement process. The questions depends on the job profile that the candidates select.

Main Modules – Candidates side

- ❖ Personal details
- ❖ Qualification
- ❖ Skills
- ❖ Experience

Personal details :

This modules allows to provide the personal information of the candidate such as first name, last name, email address, communication address, contact number, country and date of birth.

Qualification:

This modules requires the candidate to provide his/her qualification details such as SSLC/PUC/Degree/Post graduation details etc.

Skills :

The candidates can provide various skills they have acquired through this module this helps the recruiters to evaluate the candidate based on their requirements.

Experience:

This module provides the candidates with the view to submit their job experience if any. It can be internship or job experience.

1.2 COMPANY PROFILE

Chainalytics company is a global supply chain consultant, analytical, and market intelligence firm with services across North America, Europe, and Asia-Pacific.

The company was founded in 2001 and the head quarters is located in Atlanta US. Mike Kilgore (Chief Executive Officer), Chris Caplice (Chief Scientist), Ken Justine (Chief Technology Officer are the key people of the organization. The company has a strength of 200+ employees as of 2020.

The company holds the upmost moral standard, instantly grant respect to those around them and treate each others views and opinions with the pride they deserve. Assertive in their tactic, appreciate and welcome the talent in others. Modest enough to confess the errors and unceasingly chase wisdom opportunies. Frequently bounce their resourcefulness to build value for the clienteles and collegues by focusing on what's best for them every time. The company form faith by using information to make conclusions and results as an alternative of depend on conventional knowledge or intuitive responses. Everything that is done symbolizes the companies principal standards.

Chainalytics' offices situated at Amsterdam, Atlanta, Bangalore, Denver, Helsinki, Milan, and Minneapolis show the company's global mix of intellectuals, engineers, and achievers, each owning not only global but deep provincial proficiency. And several Chainalytics specialists work across discipline – from transportations, packaging optimizations, and supply chain plan to supply chain actions and demand and supply design. This tractability delivers client teams the understandings and resolutions they want to familiarize with the most compound supply chain tasks.

Chainalytics industrialized a model-based benchmarking methodology which discourse the inadequacy by assimilating the best essentials of traditional benchmarking with progressive machine learning practices. To better recognize marketplace subtleties, Chainalytics gathers, regularizes, and examines transaction-level data by means of econometrric regression modelings.

Successively, Chainalytics integrates qualitative facts into the analysis to estimate the impression of several functioning strategies and performs. This exclusive method is introductory to the companies membership-based Supply Chain Intelligence service

contributions, comprising the Frieght Market Intelligence Consortium and Demand Planning Intelligence Consortium.

Chainalytic company's Managed Analytics Services (MAS) is an expert-led methodology for performing network design readings in a more economical and approachable fashion than iterating traditional, one-off, project based studies. As well, MAS allows resourceful and intuitive organization of transport activity across an entire system by providing expert-led analysis empowered by client reporting that offers end-to-end perceptibility into conveyance spend ,performenace, and agreement acquiescence.

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING AND PROPOSED SYSTEM

2.1.1 EXISTING SYSTEM

The existing system of recruitement process includes manual way of recruiting the candidates. The questions are given in papers and once the candidates completes writing the answers each candidate's answer papers are evaluated by the recruitement panel and the results will be announced once to the candidates.

This involves a lot of man power for the recruitement process and also consumes most of the time in correcting the papers. The candidates need to gather and wait in a place to hear the result announcement.

2.1.2 PROPOSED SYSTEM

The proposed system provides a enhanced way of recruiting the candidates with more efficient and effective way. The questions from the question banks are filtered based on the candidates interest in a particular job role and the as the candidate goes on submitting the answers the answers are evaluated and end the result of the test will be showed to the Admin and recruiters which helps them to make right decision regarding the further rounds.

Once the candidate is eligible for the further rounds the notification will be sent through the portal which helps the candidates to get responses of the results in the portal directly.

The proposed system helps to reduce the time in evaluating the candidate's answers and helps to provide quick results and responses.

Attend test – The portal allows the candidates to provide all their requires details and attend the interview rounds.

Evaluate the results – The recruiters will not have to spend much time in evaluating the results as the answers are evaluated in the backend process and the final results will be displayed to the users.

Add/Remove recruiters – The recruitement portal allows the admin to pick the right recuiter for the interview process and add them or invite them to the recruitement process through the recruitement portal.

2.2 FEASIBILITY STUDY

The proposed system carries more advantages when compared to the existing manul recruitement process. Also, the proposed system is a website dedicated to specific company which helps in personalysing the interview processes based on the companies requirement.

In more practical manner, the proposed system is more feasible to deploy and manage resources where are manual work in providing the question paper and correcting the answers would be more prone to errors.

Advantages of proposed system :

- ❖ Provides one single platform for all recruitement needs
- ❖ Creates personalized questions to candidates based on their job role selections
- ❖ Provides efficient way to communicate with the candidates regarding the interview results
- ❖ Provides transperancy between recruiter,admin and candidates
- ❖ Manage the interview process with ease
- ❖ Collect the candidates information is a more efficient way
- ❖ Helps efficient utilization of time in selecting the candidates
- ❖ Correction of candidates answers are automated thereby avoids any errors.
- ❖ Personalize the interview process based on the company's job requirements

Challenges of the proposed system:

- ❖ The institutions must have sufficient number of computer systems to provide each candidate with the system to attend the interview rounds
- ❖ Each systems need to have internet connection to connect to the portal and login to start with the interview rounds
- ❖ Resources such as servers and memory needs to be managed in the backend
- ❖ Regular mainatenance of the website needs to be carried out time to time
- ❖ The question templates need to be uploaded by the Admin based on the job role

Economic Feasibility :

The Economic1Feasibilities describes the cost of the operation i.e., To ivaluate whether the project can be completed within the estimated amount. With the use of open-source technologies that are available in the market, the projects are completed within the estimated budgect.

Technical Feasibility :

The Technologies Feasibilities describes that the latest web technologies are used in the project.

Operational Feasibility :

It focuses on the performance of thew software whether the software is capable of performing the desired operations and capable of solving the problems and whether it fulfils the requirements mentioned in the requirement analysis phase.

2.3 TOOLS AND TECHNOLOGIES USED

The development of a webs application requires certain set of tools and technologies to be used.

The below are the tools and technology used to develop the recruitement portal website.

Tools
- ❖ Visual Studio 2019
- ❖ Microsoft SQL server

Technologies used
- ❖ Razer view
- ❖ CSS
- ❖ Jquery
- ❖ Bootstrap
- ❖ C#
- ❖ The website is developed with the help of MVC architectural pattern which helps to separate the application into three logical components.
- ❖ Model consistes of Microsoft SQL server which acts as backend or database for the system
- ❖ View is developed using MVC razer view instead of using HTML.

CSS (CASCADING STYLE SHEETS) :

This laungage describes how the HTML elements have to be placed on the screen and how they have to be showed on the media. It helps to save more time in the work. It can be used to control the layout of the multiple web pages all at a time. The CSS file contains external style sheets.

BOOTSTRAP : Bootstrap is one of the most popularly used front-end framework and it is an open source project. It consists of CSS and Javascript design models for typography, form, button, navigations and other inferace related component.

RAZOR VIEW – it is a markup language that allows us to embed server-based code in the web applications using C# and VB.Net. This is not considered to be a programming language rather it is a markup language.

JQUERY – It is a javascript library. It is simplified javascript language. It helps to simplify the HTML traversal, event handling, animation, and Ajax internactions for fast web application development.

2.4 HARDWARE AND SOFTWARE REQUIREMENTS

The hardwares are the devices required for developing the web applications. The high performance hardwares help to maximize the performanace of the web applications and allows in increase of speed of the development process.

The softwares are the IDEs (Integrated Development Envirnment) that provides the environment for software development and also the databases which are used to store the application data. The below are the list of hardwares and software required for the web application development.

HARDWARE REQUIREMENTS

- ❖ RAM : 8GB RAM

- ❖ Hard disk space : 1TB hard disk (Recommended)

- ❖ Processor : Intel core i5

- ❖ Speed of Processor : 3.2 GHz or Higher

SOFTWARE REQUIREMENTS

- ❖ Operating system : Windows 10

- ❖ IDE (Integrated Development Envirnment) : Visual Studio 2019

- ❖ Database : Microsoft SQL server

- ❖ Back-end : C#

- ❖ Front-end : CSS, Bootstrap, Razor view

CHAPTER 3

SOFTWARE REQUIREMENTS SPECIFICATION

3.1 FUNCTIONAL REQUIREMENTS

❖ Description Of company and instructions to fill the form.

❖ Personal detail form: Contain fields like First name, Middle name, Last name, Alternate contact number, Gender (Dropdown), communication and permanent address, Nationality.

❖ Qualification form: Contain fields like Qualification type (dropdown with options 10th, 12th, Diploma, BE/BTech, MTech/MCA), Institute name, Stream, Percentage, Start year, End year, Board. On saving details candidates can edit or delete the qualification details or add new qualifications.

❖ Skills: Display 4 default skills (C#, DBMS, JAVA, Python) which candidates can rate themselves from 0 to 10, can also delete these default skills or add new skills. To add new skill candidates need to enter the skill and rate them.

❖ Certification form (optional): Contain fields like Specialization, Certification Serial number, Certificate vendor, Duration. On saving details candidates can edit or delete the certification details or add new certification.

❖ Experience form (optional): Previous Employee ID, Employer name, Address, Start date, End date, Employment type (drop down with options like full time, part-time or intern), Designation, Salary. On saving details candidates can edit or delete the experience details or add new experiences.

❖ Job Profile: Dynamically display all the available job profiles to candidates to select.

❖ Preview from: Display all the details entered by the candidate. Candidates should accept all the terms and conditions only when all the required forms are filled.

3.1.1 Recruiter Home Page:

❖ Home page consists of a search box where the recruiter can search candidates using candidate Email Id within his view scope. If the recruiter has permission to view all the candidates and the candidate exists then the candidate detail is displayed from where the recruiter can also navigate to view the complete details of the candidate or to the interview rounds page else the "No candidate found" message is displayed.

❖ In the home page recruiter can also view all the candidates, along with the selected and not selected candidates by choosing the filter. With each candidate there is a link to navigate to their rounds page.

❖ When a recruiter enters round page without searching or selecting the candidate from the filter then "kindly select a candidate first" message is displayed, else all the rounds of the recently searched candidate or selected candidate.

❖ On clicking the "Add new round" button, the recruiter can enter the details about the round conducted for the candidate by filling the form where the recruiter can add individual skill rating of the candidate (optional), overall rating of the conducted round, selected or not selected option, and the feedback of that round.

❖ Recruiter can edit the round detail only if he has conducted that particular round.

❖ On clicking on the particular round the recruiter can view the entire description of that round entered by any recruiter.

❖ If the selected option is "No" then the "Add new round" is removed and no more round details can be added for that particular candidate.

❖ Candidate details page you can view all the details related to the candidate that is searched or whose round details are currently being edited.

3.1.2 Admin Home Page:

❖ Home page: Display total no of candidate registered, number of available recruiters, and number of selected candidates. Display list of admin, recruiters and candidates admin can disable/ enable them.

❖ Recruiter page: Admin can add a new interviewer by clicking on add new interviewer and filling the form with details like Employee ID, Email ID, Name, Contact Number, job role (Admin/ Recruiter)and Department. Admin can search for a recruiter by Employee Id/ Name/ Email ID/ Contact Number/ Department. Admin can also change the view scope of multiple recruiters to All/Department and save changes.

❖ Candidate page: Admin can search candidates by Email Id/Name/ Contact Number.

❖ Admin can also change the job role for multiple candidates.

❖ Selected Candidates page: Admin can view and search selected candidates. Admin can also send customized mail to individual candidates.

❖ Job Role page: Add new job roles by clicking on add new job role and filling the form with details like Job Role name, description of it, department which the job role belongs to and currently available status. Admin can also delete or edit the existing job role.

❖ Import questions page: Admin can import question paper by selecting the department to which the questions are for then choose excel file with .xlsx extension only. File should have following columns

· Questions

· Option (A)

· Option (B)

· Option (C)

· Option (D)

· Correct Answers

· Category

· Set

· level

❖ Admin can switch roles from Admin to recruiter and vice versa.

3.1.3 Login page:

❖ To login, the user must enter Email ID and password.

❖ Remember Me: Remember the user last logged in for 6 months, if the user doesn't log out then the user will be directly navigated to his page. If the user logs out then the user has to re- enter their login credentials.

❖ If the user did not register then there is a link provided to register them.

❖ If the user forgets his/her password then there is a reset password link (Forgot password). The user needs to enter their email Id and continue after which a mail will be sent with a link to reset their password.

❖ If the user is recruiter or admin logs in for the first time he/she will be asked to changed their password

3.1.4 Register page:

❖ This page is only for the candidates to register.

❖ To register the candidates need to enter their Email ID, Name, password (pass should satisfy the conditions of Chainalytics password policies if not satisfied then the error message stating the conditions of the password policy will be displayed), confirm password with the entered password, primary contact number

3.2 NON- FUNCTIONAL REQUIREMENT

The non-functional requirements are known as the Quality Attributes. These requirements can be approximately satisfied during development of the web application. It shows how to application works once it has been developed.

- ❖ The storage requirements of the server should be scalable upto 2 TB
- ❖ The web application should use password encryption to ensure the reliability and safety of the user information
- ❖ The application should be capable of handling network traffic. i.e. the application should be able to handle multiple users access at a time
- ❖ The interoperability of the systems should be met. The database connectivy and server response needs to be managed efficiently.

3.2.1 Performance : The performance of a system is based on how quick the application works when there are more number of users accessing it. It may also include how fast the system can load the contents, ability to open multiple pages at one time. How quickly the data is being processed when the application is in use.

3.2.2. Reliability : It describes how the application is dependable to be used by it's users. It shows in which condition the application may fail to perform or the situation when it takes more time to load.

3.2.3 Maintainability : The applicatoin can be used by many users at once. The application is developed in such a way that any modules or sub modules can be added, updated, edited or deleted will not make much issue to the rest of the mudules which are in running mode.

3.2.4 Portability : When there are multiple number of people who would like to use the application. The application can be deployed and developed in other platforms and updated using the latest technology and version that are available.

CHAPTER 4

SYSTEM DESIGN

4.1 SYSTEM PERSPECTIVE

The System design is the method of representing the architecturs, component, interface, and data for systems to fulfill listed project requirements. System design could be understood as the application of system idea to software improvement.

Elements of a Organization

- ❖ Architecture - This is the conceptual mod`el that defines the structures, behaviors and more view of a system. The flowchart can be used to represent and demonstrate the architectural pattern.
- ❖ Modules – The modules are the components that manage one particular job in a structure. A mixture of the modules create the system.
- ❖ Components - This offers a specific task or group of connected tasks. They are made up of modules.
- ❖ Interfaces - This is the common border across which the constituents of a the system interchange data and relate.
- ❖ Data - This is the managing of data movement.

The system is developed with the help of MVC artitectural pattern. This MVC architecture splits an application into 3 logical mechanisms : the model, the view, and the controller. Individual component of this architecture is being built to manage specific traits of an application.

MVC components

- ❖ Model – The model component of the MVC artitecture corresponds to all the logic that is related to logic. This component can denote either the data that is being transmitted between the Views and Controllers components or any further data related to business logic.

- ❖ View – All UI logic of application is performed by the View compenent of MVC artchitecture

- ❖ Controller – The controller acts as an boundary amongst Model and View components for processing all the business logic and inbound requirements, handle facts by means of the Model compenent and interact with the Views to solidify the final output.

4.2 CONTEXT DIAGRAM / DATA FLOW DIAGRAM

The System context diagrams show a system as a whole and input and output from/to exterior factors.

System Context diagram represents all the exterior objects that may interrelate with a organism . Such a diagrams contain the system at the middle, with no particulars of it's inner configuration, enclosed by all it's interrelating structures, environments and events. The objective of the system context diagrams is to emphasis attention on outside aspects and occasions that ought be reflected in emerging a whole set of system requirements and restraints.

Data Flow Diagram Notations :
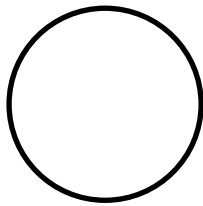
Process - This symbol represents a process in data from diagram

External entity – This symbol represents external entity/ user that interanct with the application
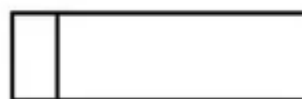
Data store – This symbol represents a data store which is a database where the data is stored and processed

.
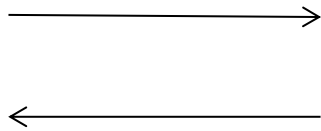
Data flow – This symbol represents the flow of data amongst the process, entity, and data store

LEVEL 0 – DFD

The below data flow diagram shows the overview or low level representation of the flow of data in the system. This connects the entity and the application system.
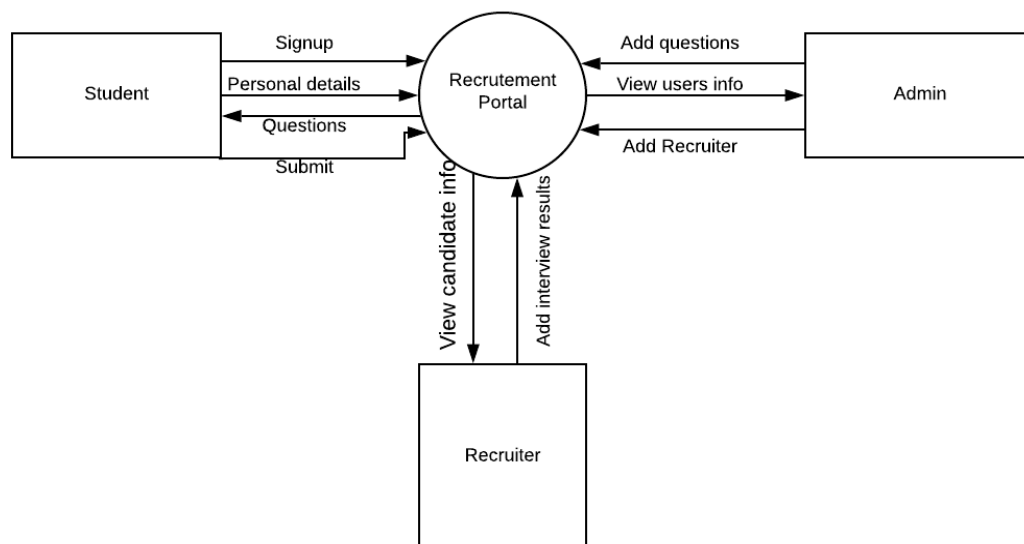
Figure 1 : Level 0 data from diagram of the system

DFD 1 – Data flow diagram of candidate
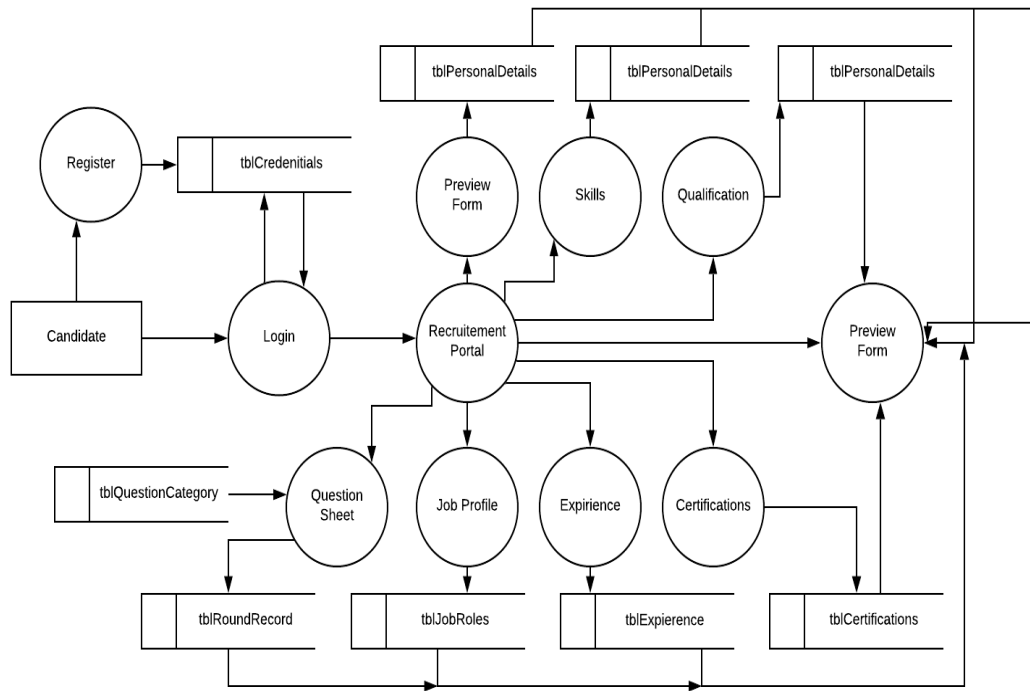
Figure 2 : Level 1 data from diagram of the candidate

DFD 1- Data flow diagram of Admin
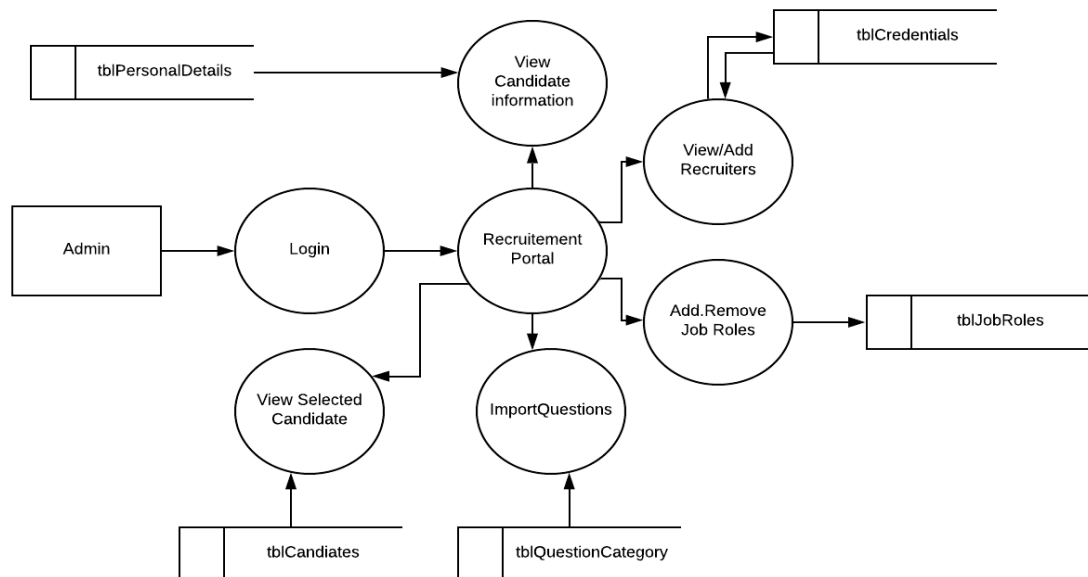
Figure 3 : Level 1 data from diagram of the Admin

The above data flow diagram shows the data flow for the Admin entity. The level 1 DFD shows the data flow in more explained manner than level 0 DFD. Once the admin logs into the system through the login process he will have access to further processes of the system. The respective datastores that are used for storing the particular process data are shows in the above diagram.

DFD 1 – Data flow diagram of Recruiter
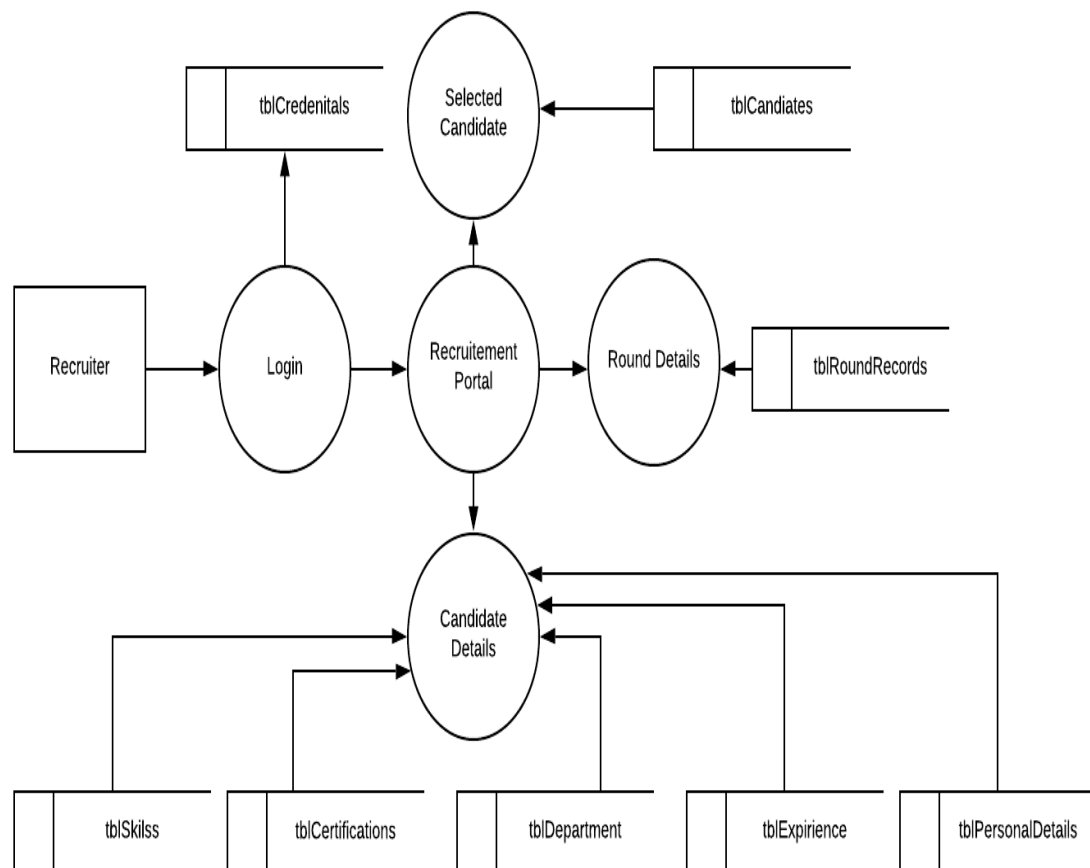
Figure 4 : Level 1 data from diagram of the Recuiter

The above diagram shows the various processes that runs for the recruiter entity. The recruiter as well as admin does not require any registration process. Once they login through the login process they will be navigating to the portal. The candidates details process requires data from multiple tables such as tblSkills, tblCerticicates, tblDepartment, tblExpirience, tblPersonalDetails.
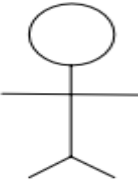
CHAPTER 5

DETAILED DESIGN

5.1 USE CASE DIAGRAM

A UML use case diagram is the basic form of system/software necessities for a new software. Use cases stipulate the predictable conduct (what), and not the precise process of making it occur (how). Use cases once stated can be symbolized both written and pictorial demonstration (i.e. use case diagram). A key concept of use case demonstrating is that it aids us project a system from the end user's viewpoint. It is an active practice for collaborating system performance in the user's terms by postulating all outwardly noticeable system conduct.

Use Case Diagram Notations

Notation	Name
	Use Case
	Actor
	Generalization

5.1.1 Use Case Diagram for Recruitement portal
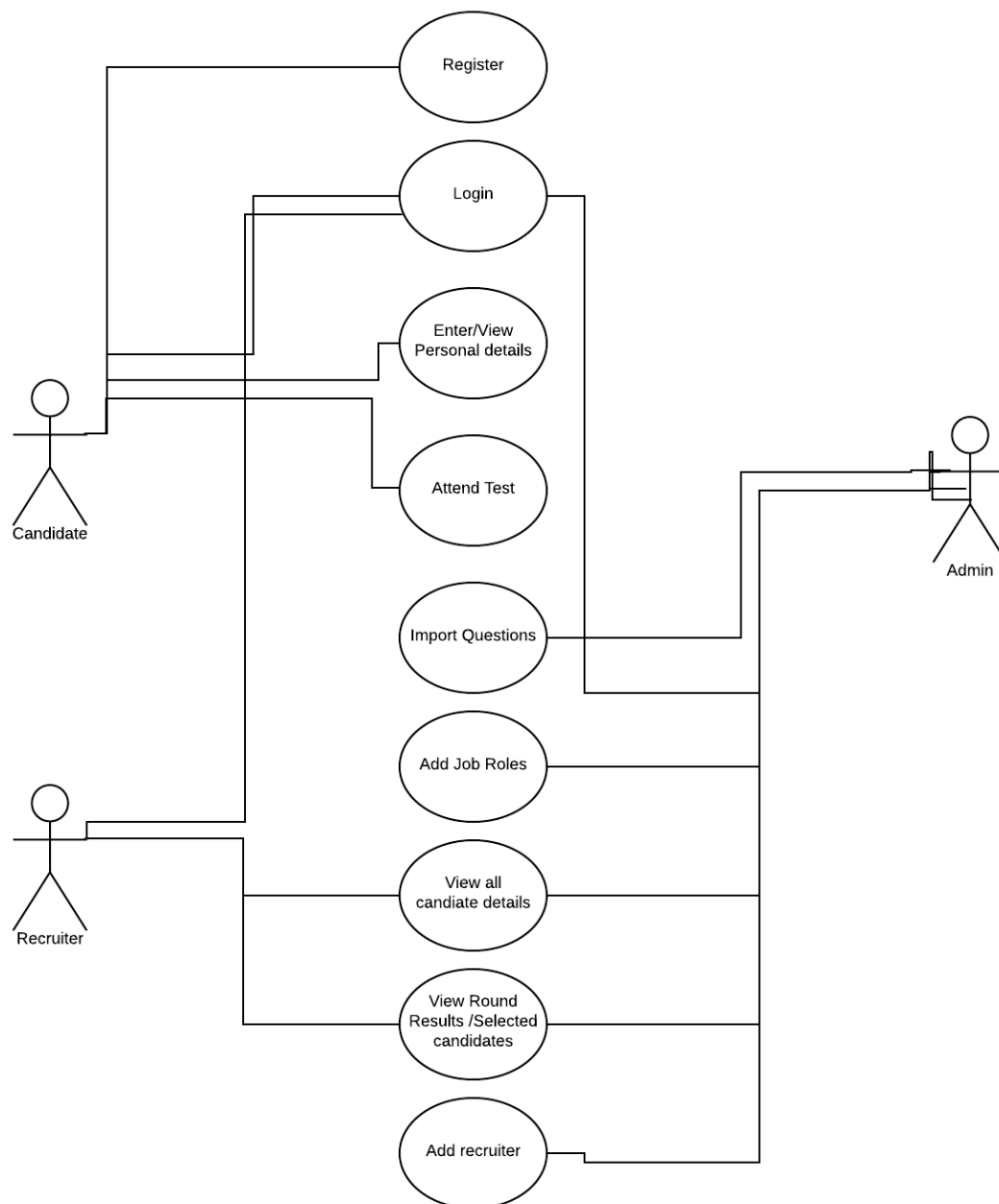
Figure 5 : Use-case diagram of the Recuitement portal

UML Description :

In the above diagram, Candidate, Admin and Recruiters are the actors.

Candidate functionalities are as follows :

- ❖ Logging in by providing email ID and password
- ❖ Add, edit or modify personal details such as name, date of birth, contact information, communication address etc.
- ❖ Add, edit or modify skills information that is newly acquired skills such as technical skills or manager skills JAVA, Python, SQL, Big data, Machine Learning etc.
- ❖ Add, edit or modify employement details such as any working experience in the company or R&D centers. The employment details can also include internship experience if any.
- ❖ Add, edit or modify certifications from any renowned associations. AWS certications, Big data computing Certifications from institutes such as NPTEL, Udemy, Khan Academy etc.
- ❖ Add, edit or modify job role that are available in the company such as Developer, Product specialist etc.

Admin's functionalities are as follows :

- ❖ Logs in with the Email ID and password which will be hardcoded
- ❖ View, add, remove or disable candidate accounts
- ❖ View, add, remove recruiters accounts
- ❖ Import questions from the system and post it to the candidates for the examination
- ❖ Add or remove job profiles according to the companies hiring requirements

Recruiter's functionalities are as follows :

- ❖ Logs in with the official Email ID and the default password set by the Admin
- ❖ Resets the default password set by the Admin
- ❖ Selects or rejects the candidates in each round
- ❖ Views the candidate selected in each round
- ❖ Views the information provided by the candidates

5.2 SEQUENCE DIAGRAM

Sequence diagram is also refered as event diagram that shows the interaction between the system objetcs. It shows the systems working order and focursed on the information exchange between the lifelines. The below diagrams shows the admin, candidate and recruiters operations.

5.2.1 SEQUENCE DIAGRAM FOR ADMIN

The below sequence diagrams show the communication amongst various objects of the admin entity.
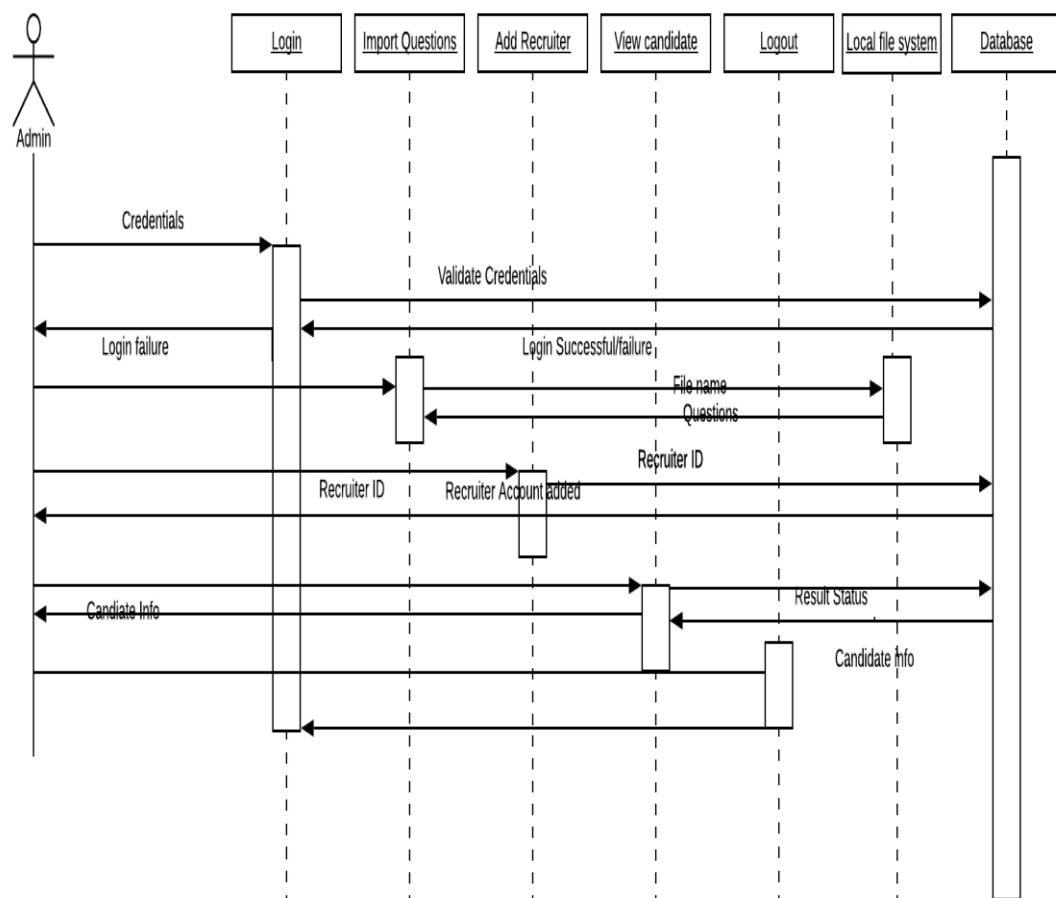
Figure 6 : Sequence diagram of Admin

5.2.2 SEQUENCE DIAGRAM FOR CANDIDATE

The below sequence diagrams represents the shows the order of information exchange among the various modules of the candidate login.
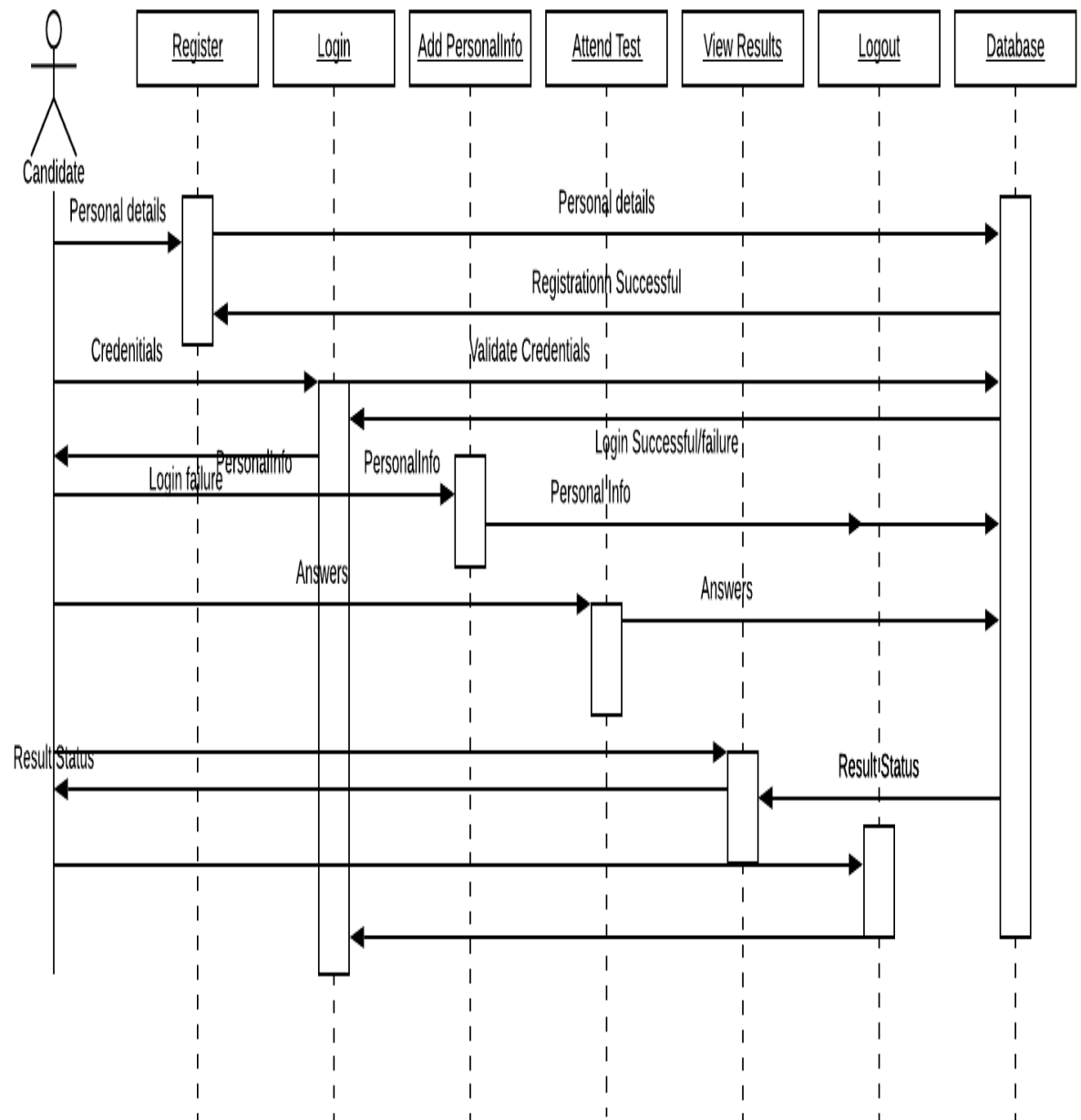
Figure 7 : Sequence diagram of candidate

5.2.3 SEQUENCE DIAGRAM FOR RECRUITER

Below figure is the sequence diagram of the recruiter entity represents the flow of data from one module to another module. The data is stored and retrieved from the database and provided through various views.
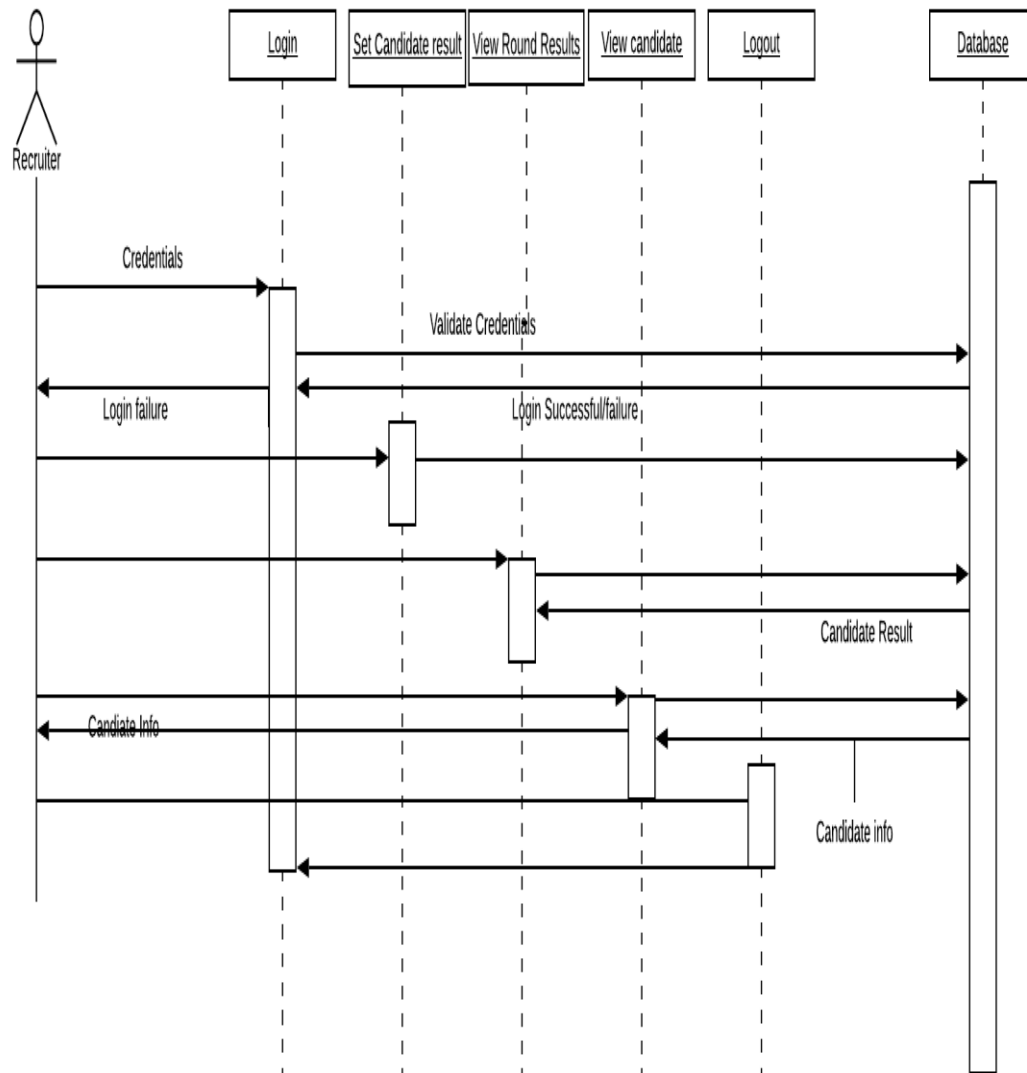
Figure 8 : Sequence diagram of recruiter

5.3 ACTIVITY DIAGRAMS

Activity diagrams are also knows as behavioral diagram. This shows the flow of controls in the system. It represents in which sequence the data flow in the system and also shows the conditions and decisions that are taken based on the decisions.

5.3.1 ACTIVITY DIAGRAM FOR ADMIN
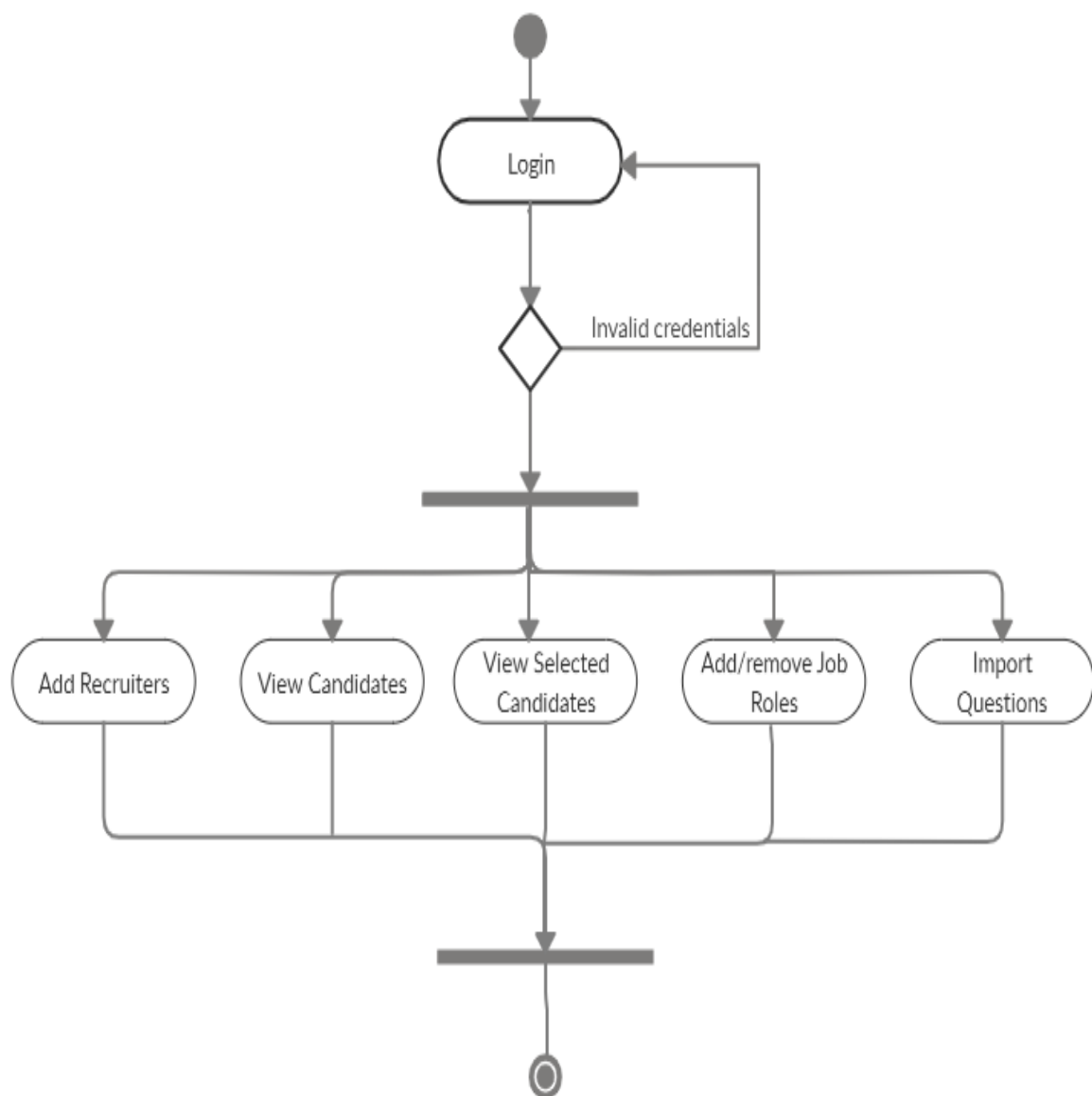
Figure 8 : Activity diagram for Admin

The above diagram shows the activity diagram of admin entity, the credentials provided by the admin is validated. If the credentials are valid then the the other processes will be available to the admin if not the control goes back to the login page again.

5.3.2 ACTIVITY DIAGRAM FOR CANDIDATE
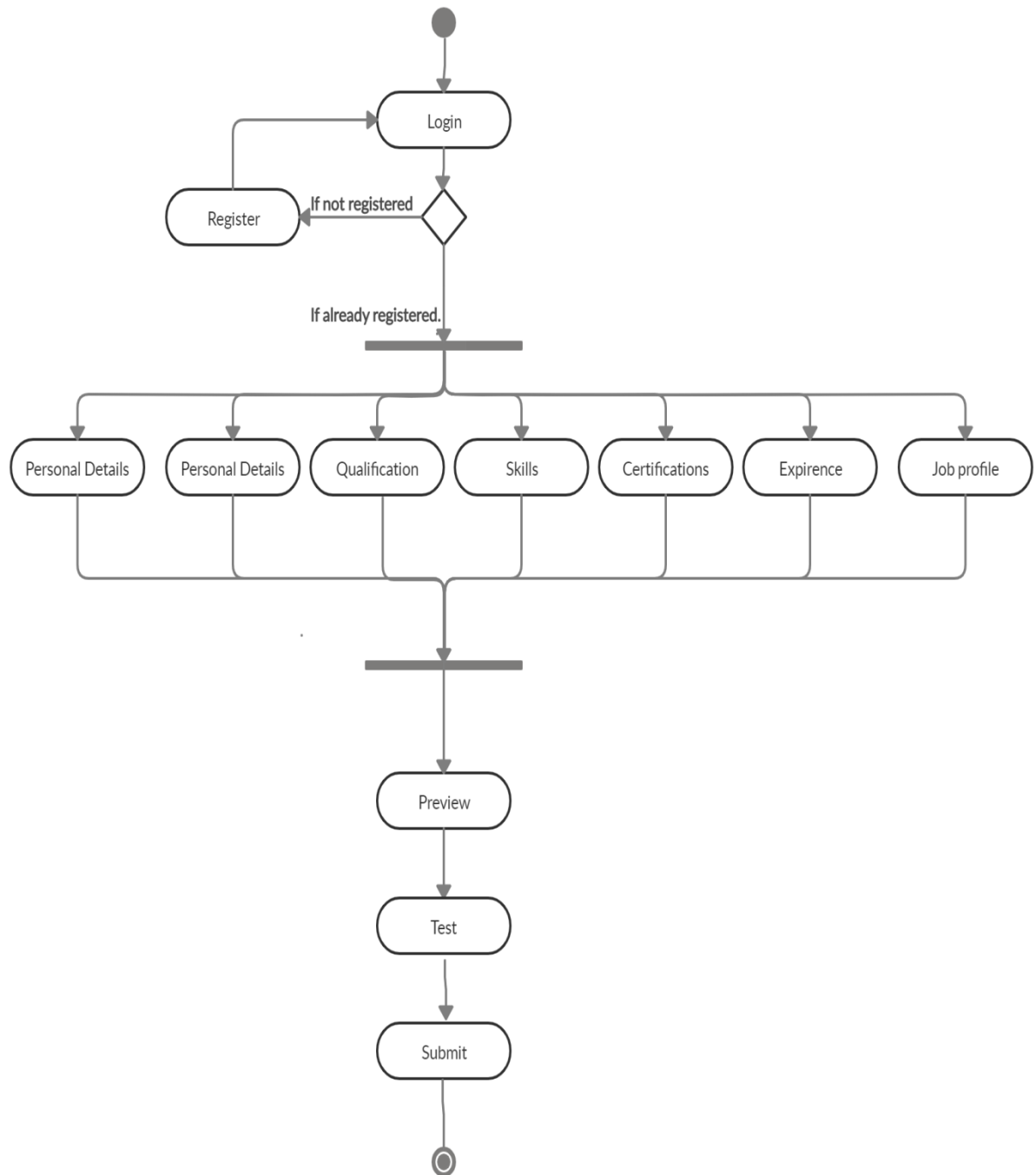
Figure 9 : Activity diagram for candidate

The above activity diagram shows the candidates flow of activity. When the candidate tries to login, the user will be validated and if candidate is not already registered with the portal then he/she will be navigated to the registration page, if not the candidate will be provided access to the further activities.

5.3.3 ACTIVITY DIAGRAM FOR RECRUITER
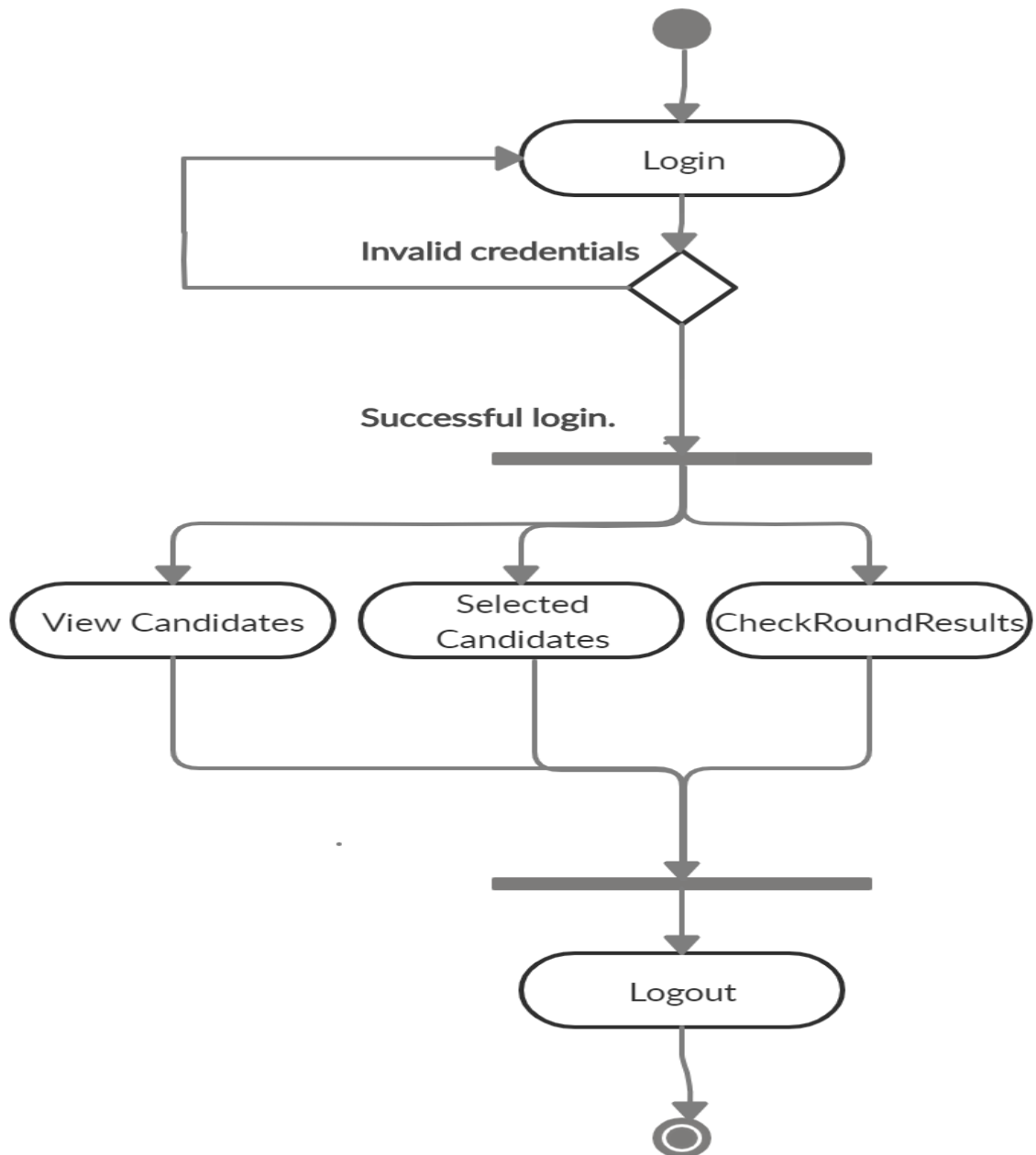
Figure 10 : Activity diagram of recruiter

5.4. ENTITY RELATIONSHIP (E-R) DIAGRAM

Entity Relationship Diagrams is the the E-R model that terms the organization of the database.

An ER model is a design or scheme of a database that can be applied as a database. The main constituents of E-R model are: entity set and relationship set.

E-R DIAGRAM NOTATIONS

The rectangle share denotes the entity
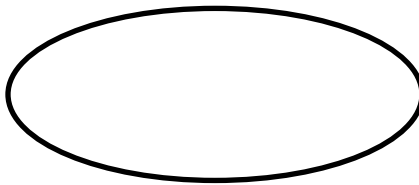
Eclipse denotes the Attibutes
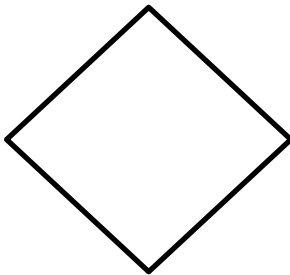
Rhombus denotes the Relationship

The line links attributes and Entities

5.4.1 ER Diagram for Recruitement portal

The below ER diagram represents database that contains relationship between all the entities. There are 9 entities and attributes for each entities as specified in the database and the relationship is described in the below ER diagram.
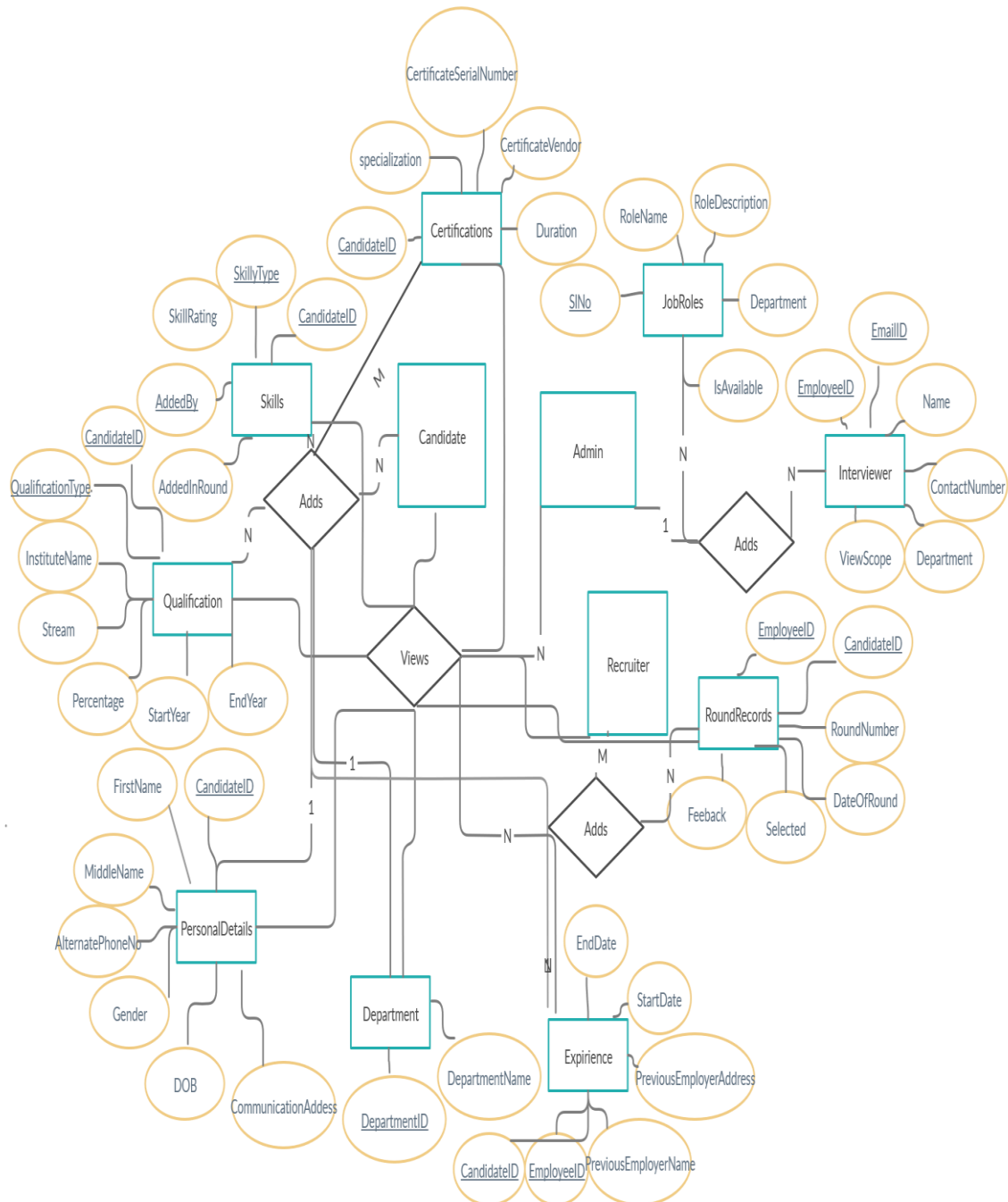
Figure 11 : E-R diagram for recruitement portal

CHAPTER 6

IMPLEMENTATION

Implementation is a stage where project developer makes plan according to the idea to make it real and to get suitable product. Design and Organizing is a basic part of any successful mission. To ample a project the implementation plan that atrocities the task is vital.

The usage procedure takes after programming development since it contains using a specific punctuation for encoding web structures or a programming language in a official language in PC histories. In spite of the fact that there are robotized campaigns to help with the development of HTML reports, an rigorous establishing in HTML enhances the web practitioner's capability.

6.1 SCREENSHOTS

1. HOME PAGE
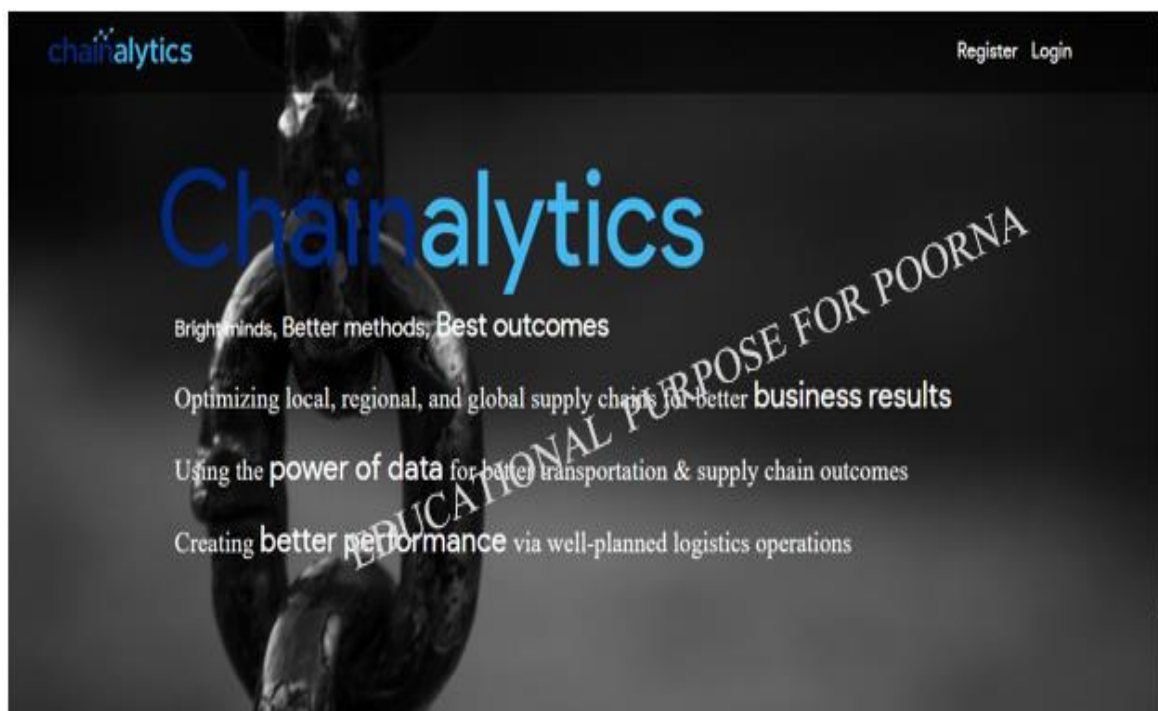
Figure 12 : Home page of recruitement portal

2. REGISTRATION PAGE

Figure 13 : Registration page of recruitement portal

3. LOGIN PAGE

Figure 14 : Login page of recruitement portal

4. CANDIDATE LOGIN – HOME PAGE

Figure 15 : Home page of candidate login

5. CANDIDATE'S PERSONAL DETAILS PAGE

Figure 16 : Personal details page of candidate login

6. CANDIDATE'S QUALIFICATION PAGE
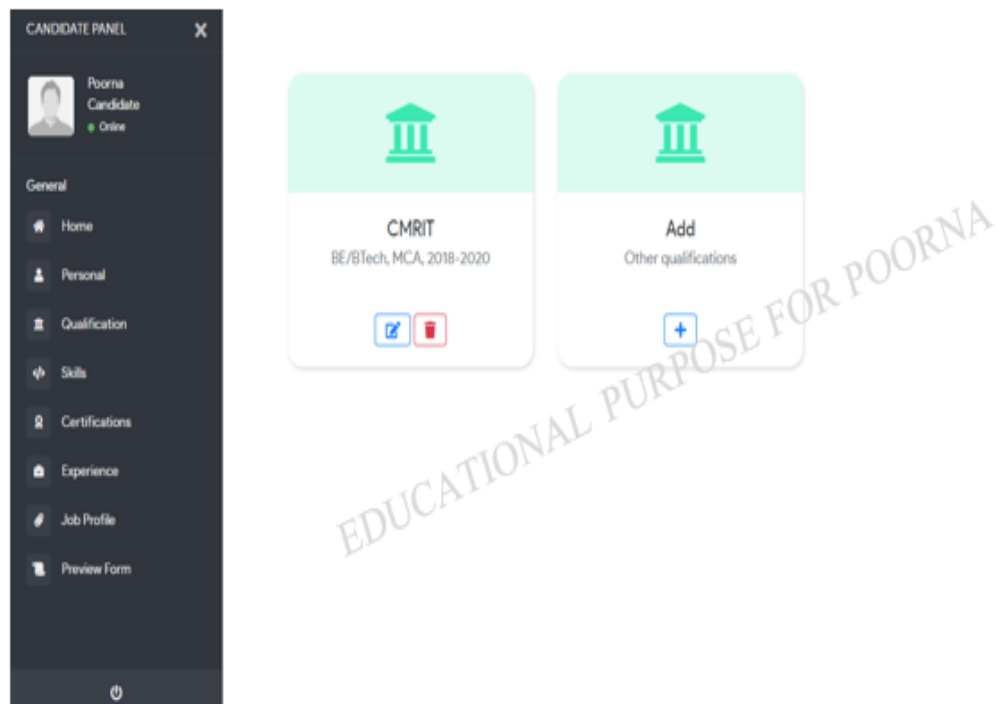
Figure 17 : Qualification page of candidate login
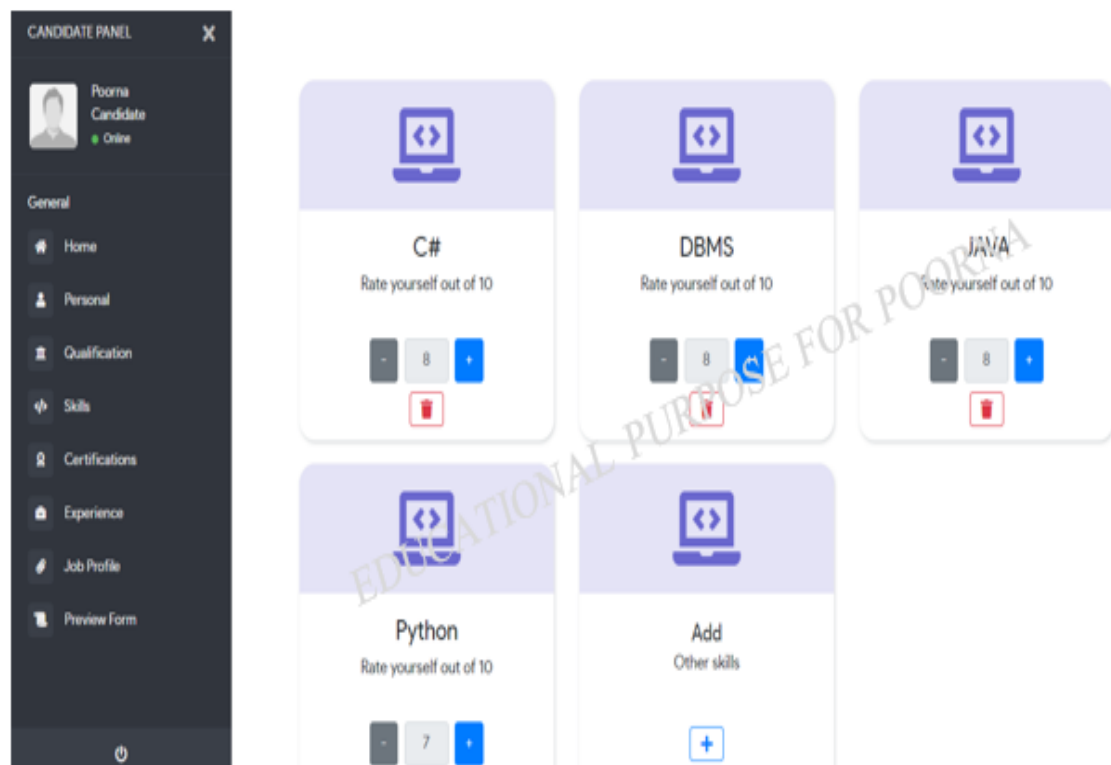
7. SKILLS PAGE

Figure 18 : Skills page of candidate login

8. CERTIFICATES PAGE
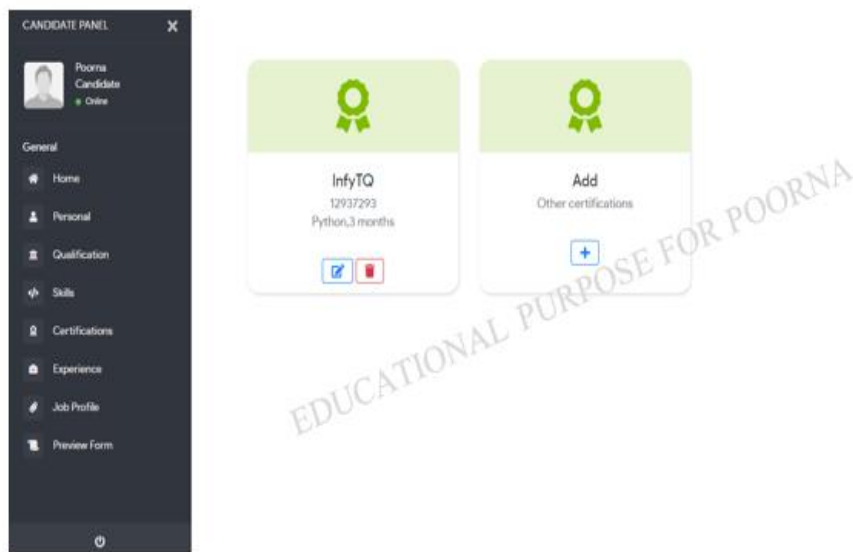
Figure 19 : Certificates page of candidate login

9. JOB PROFILE PAGE
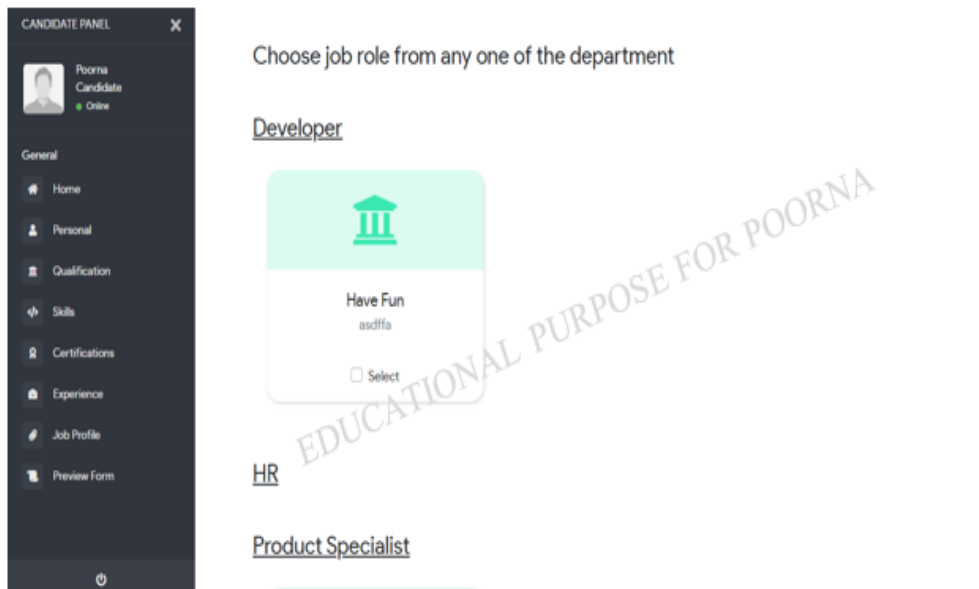
Figure 20 : Job profile page of candidate login

10. ADMIN HOME PAGE
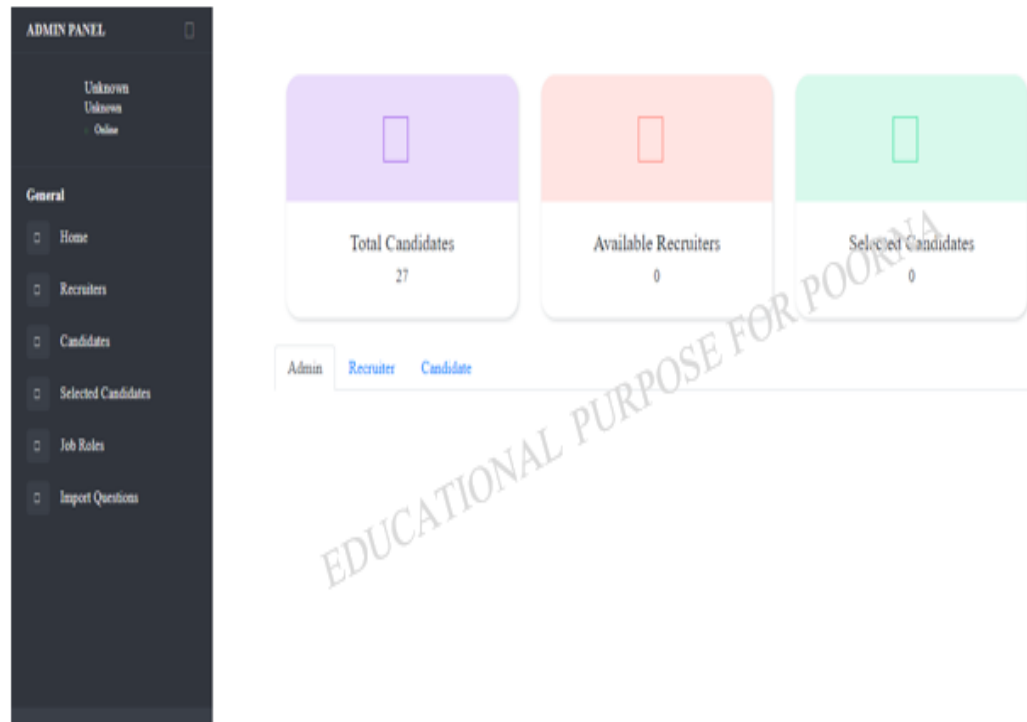
Figure 21 : Home page of Admin login
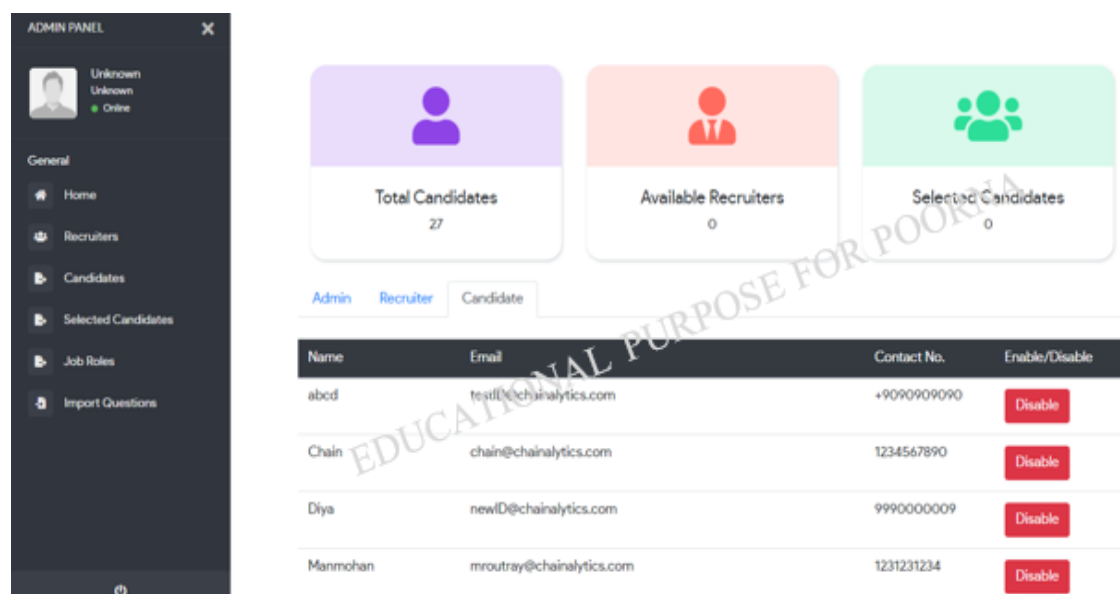
11. ADMIN HOME PAGE

Figure 22 : Home page of Admin login
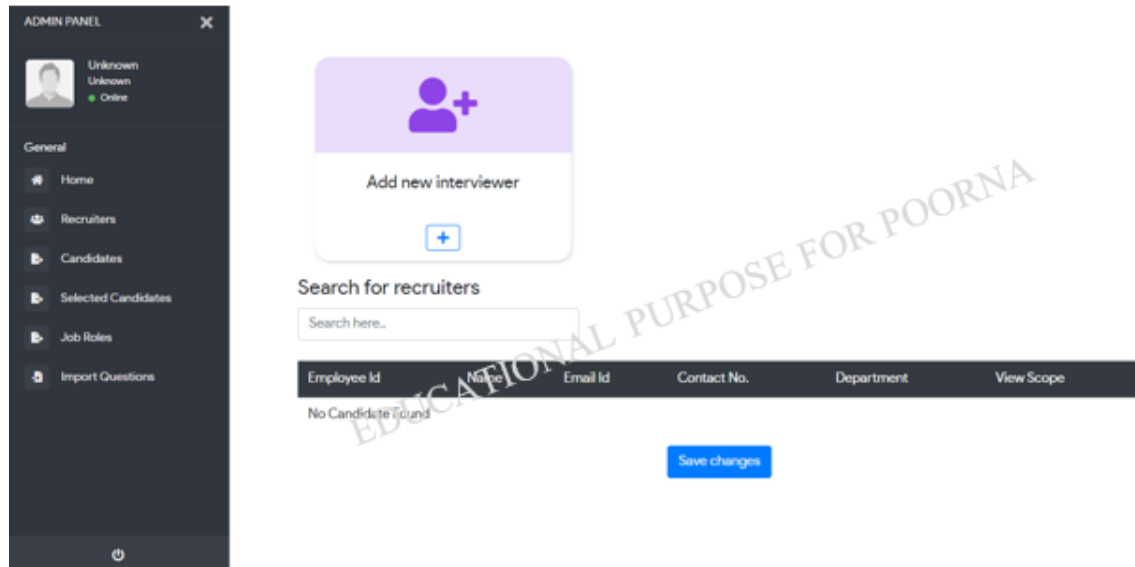
12. ADMIND'S ADD RECRUITERS PAGE

Figure 23 : Add recruiters page of Admin login

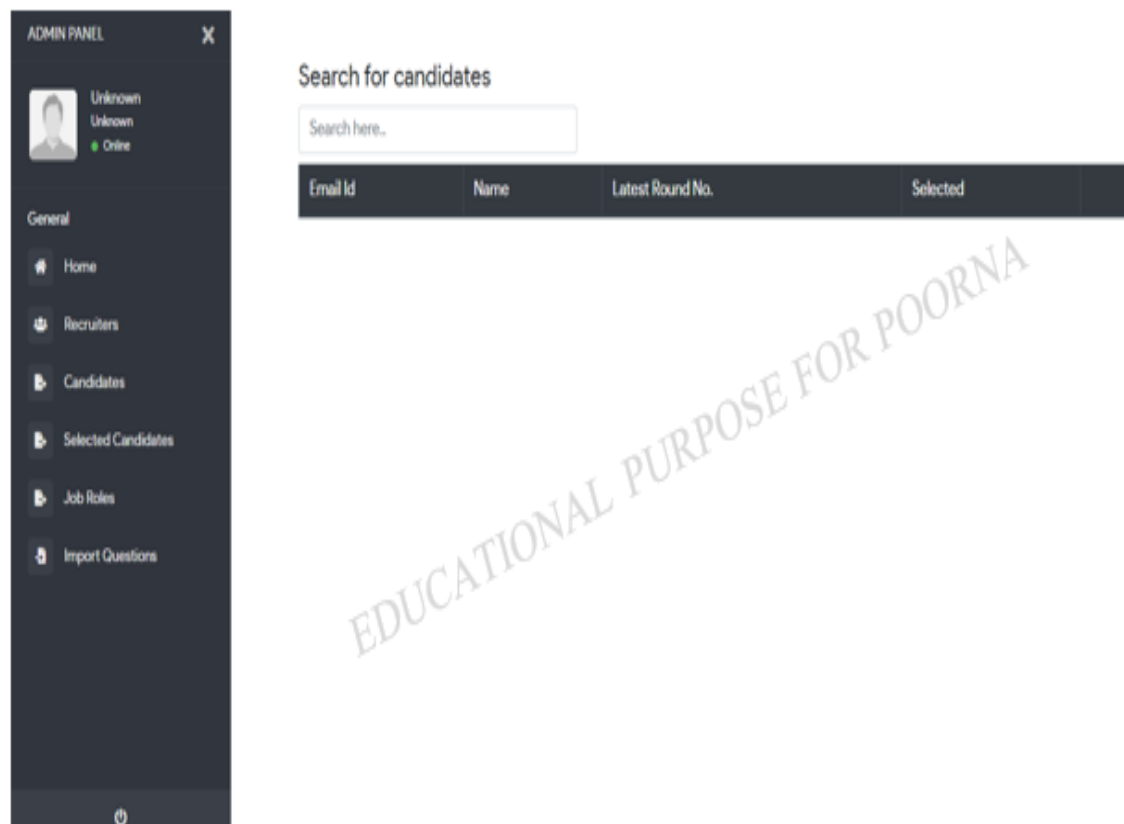## 13. ADMIN'S SEARCH CANDIDATES PAGE

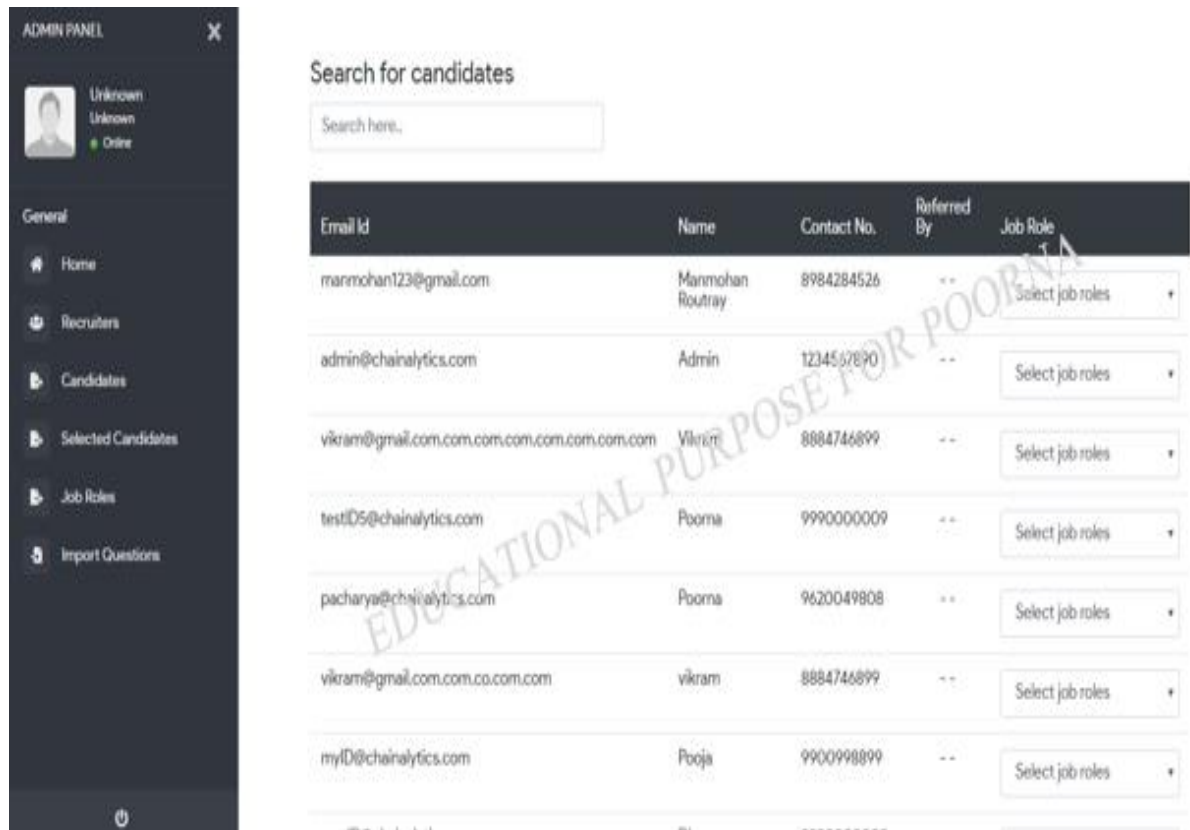**Figure 24 :** Search candidate page of Admin login

Figure 25 : Search candidate page of Admin login
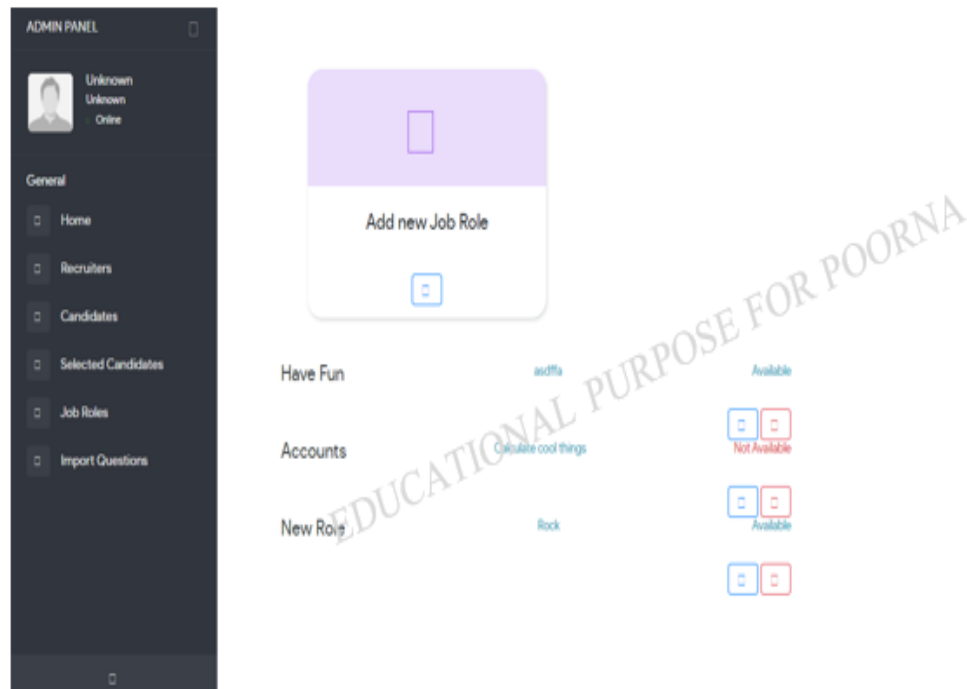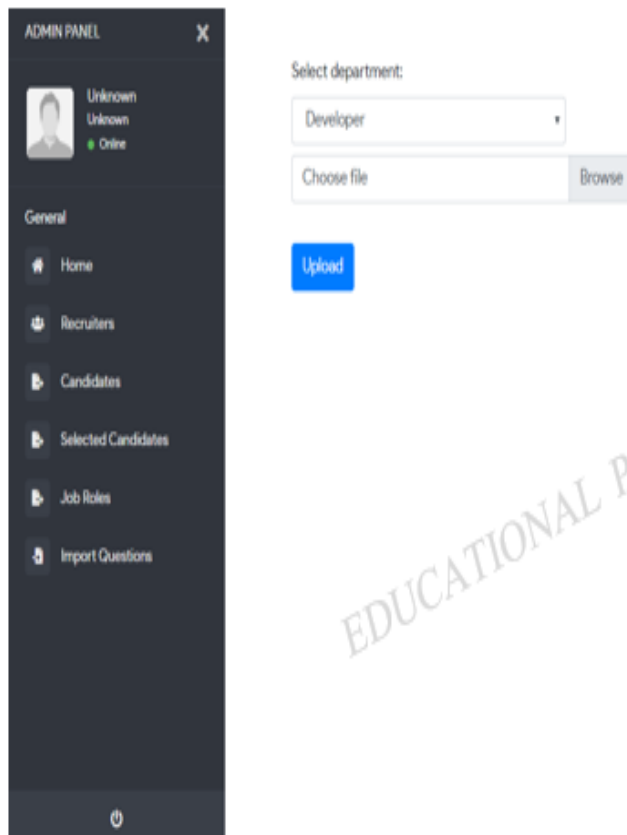
14. ADMIN'S ADD NEW JOB PAGE

Figure 26 : Add new job page of Admin login

15. ADMIN'S IMPORT QUESTIONS PAGE

Figure 27 : Import questions page of Admin login

CHAPTER 7

SOFTWARE TESTING

Software testing is the method of assessing the functionality of the software application with the intention to discover if the developing software fulfills the stated requirements or not and to recognize any faults to guarantee that the software that is developed i s defect-free so as to accomplish the quality of the software.

DIFFERENT TYPES OF TESTING:

Manual Testing : Manual testing is a method of testing software applications manually to know more about it, to understand what is and what is not functioning. This comprises validating the features stated in the software requirements documents. This often also contains the test engineers checking the software with their end handler's perception in mind. Manual testing strategies differ from fully scripted test cases, giving the testers detailed phases and outcomes as estimated. There are a lot of refined tools on in the marketplace to support manual testing.

Automation Testing : The Automation testing is a method of testing the software with the help of any automation tools to find the flaws. In this types of method, the testers execute test scripts and produce the test results automatically by using various automation tools. One of the famous automation testing tools for testing is Selenium. There is also Robot framework for acceptance testing, which is very user friendly and generates test reports and logs automatically.

TESTING METHODS :

Static Testing : Static testing is also known as Verification in testing. Verification is static method of examinaing   documentation and file. It is the procedure to make sure that if we are developing the software right i.e. to validate the requirements which we obtained from clients and to validate if we are developing the software as per the client's requirement or not. This comprises some activities such as Inspection, Review, Walkthrough.

Dynamic Testing : This is also called as Validation in testing. Validation is the process of dynamincally checking the actual softwares. It is a process, to check if we have built the right software i.e. to validate whether the software which we are developing is correct or not.

TESTING APPROCHES:

Below are the three testing approaches in software testing :

1. White Box Testing
2. Black Box Testing
3. Grey Box Testing

White Box Testing:

The white box testing is also known as Glass Box testing , Clear Box or Structural Testing. This is grounded on software application's inner code organization. In this white-box testing, interior persspective of the system, as well as programmig skills, are used to develop test cases. This testing approach is mostly performed at the unit level.

Black Box Testing:

Here the customer doesn't know about the inner practice of the testing programming. A percentage of the usually consumed testing policies are comparability separating, limit esteem examination, all-sets testing, fluff testing, model-based testing, and so forth. Usually for discovery analysers to discover bugs that were not followed among program accomplishment. The important interruption with this testing is that the analysers won't know nevertheless of whether some piece of the code has not been tried.

Grey Box Testing:

In grey/dim box testing procedure, the analyser approaches interior information structures1and calculations to for motivations1behind planning experiments, the testing thusly is done like discovery testing. Dark box testing is generally utilized by analysers in the event of coordination1testing, which is directed to test1the joint yield of two modules.

TEST CASES :

Testcase no.	Description	Expected output	Actual output	Status
TC_01	Register with already existing email address	Should give pop-up "Email-ID already exists"	Displayed pop-up with message "Email-ID already exists"	PASS
TC_02	Enter password with less than 8 characher length and without special character, number,Upppercase/lowercase	Should give error message"Password must consist of 1 Uppercase, 1	Displayed error message "Password must consist	PASS

	letter	Lowercase, 1 Number & 1 Special character"	of 1 Uppercase, 1 Lowercase, 1 Number & 1 Special character"	
TC_03	Clicking on login now! link in the registration form	Should navigate to login page	Navigating to the login page	PASS
TC_04	Click on 'Reset' button in 'Personal' page of Candidate login	Should clear all the text field of the page	Clears all the data in the text box	PASS
TC_05	Click on 'Save changes' button in 'Personal' page of Candidate login	Should show message "Personal details updated successfully "	Displayed message "Personal details updated successfully "	PASS
TC_06	Add certificate details in 'Certification' section of candidate	Should show pop-up "Certification details updated successfully"	Displayed message "Certification details updated successfully"	PASS

TC_07	Click on 'Forgot password' button, enter email ID and click 'Continue'	Should send a password reset link to registered email address	Displayed error message "An error occurred while processing your request.	FAIL
TC_08	Try to login without entering password	Should show error message "Password is required"	Displayed error message "Password is required"	PASS
TC_09	Enter invalid email ID (ex. testID999@gmail) while registration	Should show error message "Please enter a valid Email ID"	Displayed error message "Please enter a valid Email ID"	PASS
TC_10	In admin login, 'Candidates' tab Search for candidates using Email Id, Name, Contact number.(example: poorna)	Should show only records which inclues the email ID or name which includes 'Poorna'	Displayed only the records which incluedes email ID or name 'Poorna'	PASS

CHAPTER 8

CONCLUSION

In this era of technology, every small and big work is being dependent on technology which is very helpful in all the field starting from education till agriculture.The technology is the backbone of all the domain in these years. Trying to apply technology in various fields helps in the growth of individual as well as a company or organization.

The recruitement process for any company becomes very tedious if all the process and all the information has to be collected manually which is very time consuming and leads to less productivity. Making use of technology for the recruitement process makes it easy to manage all the rounds of interview during the recruitement process and helps the recruiters and managers of the company to have a look into all the candidates who are participating, and pick the right candidate which suits their specific requirements and needs.

The recruitement portal is a web application which aims at making the recruitement process smooth and quick. This requires the individual candidates to provide their various information such as personal information, educational information, skills, experience and certifications if any. Thus, these provided details are checked by the recruiters and the admin who can make decision based on the candidate's skills and efficiency in working towards required job profile.

CHAPTER 9

FUTURE ENHANCEMENT

- ❖ The current recruitement portal web application is specific to only one company. In future, this access can be extended to other companies as well who are looking for a sophisticated tool to handle their recruitement needs.
- ❖ The recruitement portal can be extended with the functionality to give assistance for students to prepare for the interviews by providing various informational contents and platforms to practice for the interviews.
- ❖ The features of connecting to the recruiters and managers directly through the web portal will also helps the candidates and recruiters have direct communication among them

APPENDIX A

BIBLIOGRAPHY

REFERENCE BOOKS:

❖ Software Engineering 9th edition, by Ian Somerville

❖ Object Orianted Modeling and Design with UML, edition 2, by James Rumbaugh and Michael Blaha.

REFERENCE WEBISITES :

❖ https://www.chainalytics.com/

❖ https://www.chainalytics.com/

❖ https://creately.com/

❖ https://www.tutorialspoint.com/

APPENDIX B

USER MANUAL

The web application provides a way to handle the recruitement process conveniently. Makes the best use of technology to overcome any problems and issues in during the recruitement process.

The following information helps the users in making use of the web application :
   ❖ Getting started :

   The users that is candidate, admin, recruiter need to login to access any particular functionality of the site.

   • Registering with the portal : Only the candidate has to register with the recruitement portal by providing the valid email ID, name, password and contact number. The recruiter and admin do not require registration. The admin will add the recruiter directly to the portal so that he can login with his office mail ID and a default password which will be changed later while logging into the portal (Please check the Registration screenshot for the reference).
   The below screenshot is the sample Registration page through which the candidates will register.
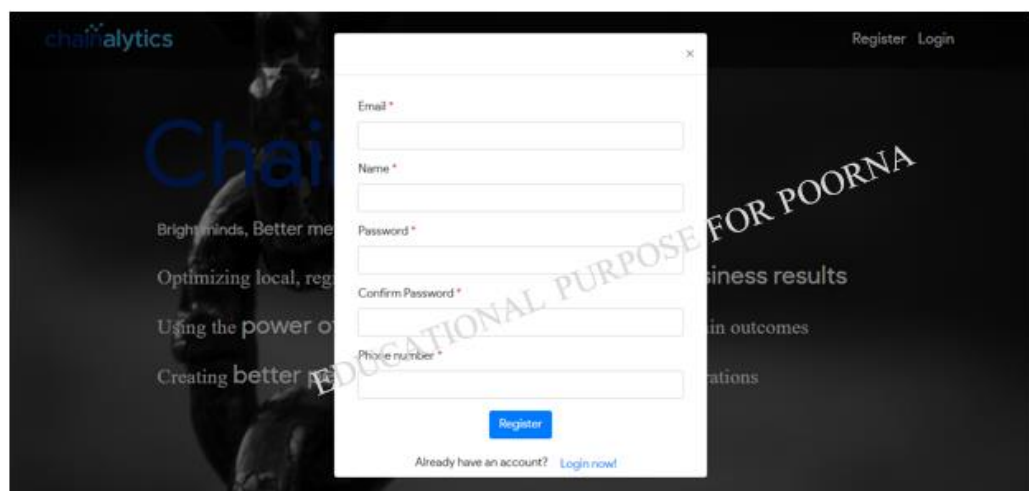
Figure 28 : Registration page of Recruitement portal

- Loggin into the portal : The candidate, admin as well as recruiter has to login with the valid credentials to access the portal. The user has to provide Email ID and password while logging into the portal.

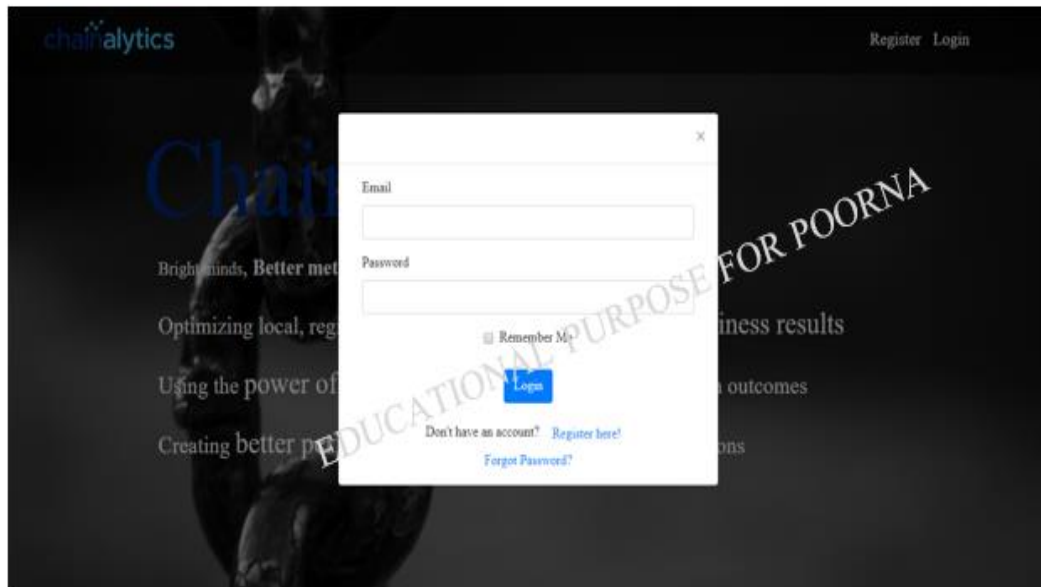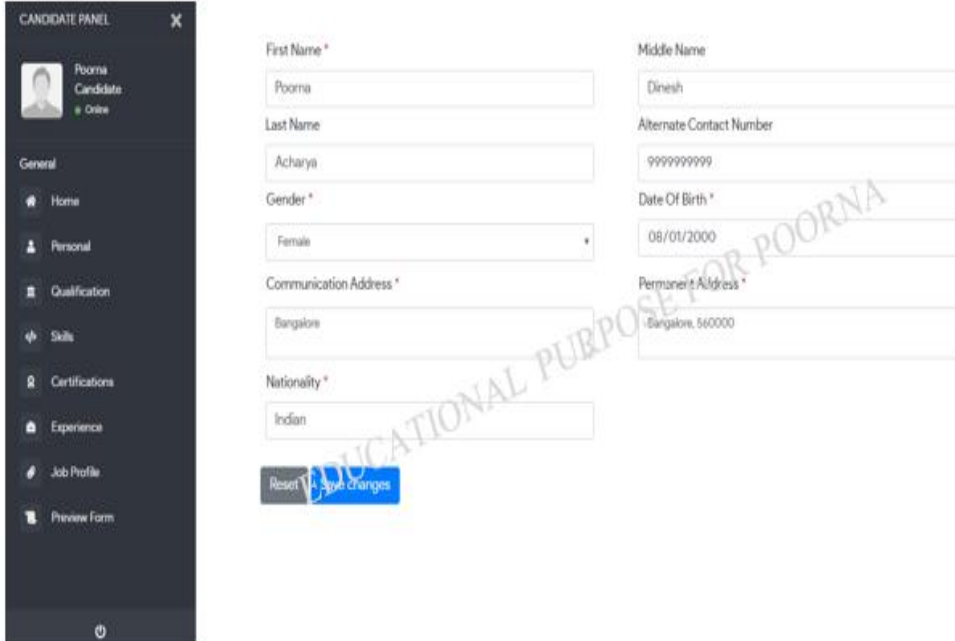 The below image shows the sample login page for the candidates. Recruiters as well as Admin

Figure 29 : Login page of Recruitement portal

❖ User specific options :

   Candidate :

- When the candidate logs into the portal, the Home page will be displayed which consists of Instructions and information about the company.
- The Personal page allows the candidates to provide their personal details such as communication address, date of birth etc.
- Skills page allows the candidates to enter their skills

The below sample page demonstrate where the candidate can view and enter their personal informations.

Figure 30 : Personal details page for candidates

Admin :

- The admin login has Recruiter page which provides the option to add recruiter to the portal.
- The Candidates page helps the Admin to get the primary details of the candidates who have registered for the recruitement drive.
- The Import questions page provides the admin with the functionality to add the questions for the interview process.