



# **An Undergraduate Internship Report on Online Job Portal**

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Science in Computer Science

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# Attestation

I hereby attest that I Zakia Sultana Suma (1530964) an undergraduate of Independent University Bangladesh, have completed the report and submitted it in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). I have been guided by respected faculty Md. Abu Sayed. I also certify that all my work is authentic and based on my research and experience gained from my internship. I also certify that all my work is original and has not been submitted earlier to this university or any other institution. All the sources of information used in this Project Report has been duly acknowledged in it.

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Signature

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Date

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Zakia Sultana Suma

# Acknowledgement

Firstly, I would like to thank the Independent University, Bangladesh (IUB) for offering an Internship program for me.

I would like to express my deepest gratitude to almighty Allah for giving me the strength and opportunity to finish the report within the scheduled time. From the core of our heart, I would like to express my deepest appreciation to all those who provided me the possibility to complete this report. A special gratitude I give to Md. Abu Sayed, whose contribution in stimulating suggestions and encouragement, helped me to coordinate my project especially in writing this report. The timely completion of this project is mainly due to the interest and dedication of the company.

I am also grateful to Decimal IT for recruiting me as an intern. I want to offer my utmost gratitude to Md Shibber Hossain (Decimal IT) for his Monitoring and guidance to fulfill my Internship.

# Letter of Transmittal

11th September, 2021

Md.Abu Sayed

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Subject: Report submission of the internship course.

Dear Sir,

I would like to take this opportunity to thank you for the guidance and support you have provided me with during the course of this report. Without your help, this report would not have been possible to complete. With deep gratitude, I also acknowledge the help provided by my on-site supervisor (external supervisor), Md Shibber Hossain, for providing me with utmost supervision during my internship in the company.

In this report I attempted my best to present all my experiences, learning and outcome out of this course of work.

I exceedingly acknowledge and recognize the importance of this course and I trust this report will accomplish your endorsement. I would really appreciate if you would enlighten me with your thoughts and views regarding the report. Also, if you wish to enquire about an aspect of my report, I will gladly answer your queries.

Thank you again for your support and patience.

Yours Sincerely,

Zakia Sultana Suma

ID:1530964

# Evaluation Committee

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# Abstract

This project is to develop a system using which job applicants and recruiters can communicate to each other. An online job portal is an application where the job seekers can register themselves at the website and search for jobs which are suitable for them where as the company can register at the website and put up jobs which are vacant at their company. The online job portal system is a package to be used by agencies to improve the efficiency of business. The system provides job catalogue and information to members and help them decide which jobs are suitable for them to apply. The admin can keep the jobs catalogue updated all the time so that the jobs get the updated information all the time.

In first chapter of the report there is an introduction about the project, background of the project, objectives, scope of the project. Chapter two describes the literature review where I will discuss about the research paper and journal, I had to go through to understand my project and to identify the problem I need to solve my undergraduate studies helps me to do this project. Chapter three describes the project management and financing of the project where I describe work breakdown structure, time distribution show in critical map diagram, gantt chart, activity wise resource allocation and about the budget. Chapter four describes about methodology where I describes about waterfall model which I used here, I also describe why use waterfall model. Chapter five describes body projects, where I describe in details about work description, six element analysis, feasibility analysis, problem, effects and constraints analysis. I also give here rich picture, erd diagram, activity diagram, use case diagram, sequence diagram and class diagram. Functional, nonfunctional requirements, input, output and architecture of the project also describes in this section. Chapter 6 describes about survey results and analysis. Chapter seven describes project as engineering problem analysis which includes sustainability of the project, social and environmental effects of the project, addressing ethics and ethical issues. Chapter 8 describes about what i learnt from this internship and what problem i faced and how i overcome those problems. Chapter nine describes about the future work for this project and finally the conclusion.

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# Chapter 1

## Introduction

### 1.1 Background of the Project

After completing study or running study every student's search job in any way. But it is difficult to search job using newspaper or any other way. And it is also difficult to apply to a particular job. It is so costly and time consuming. Not only student but also every person who is unemployed searches job and applies to job in some ways. So, the perfect solution is when a job user looks up all jobs using a web site or web application and they can apply a job using this system. And a company user also can post a new job. They can receive all documents and CV using this system. And they can call for interview and appoint a job wisher by themselves or through admin they can communicate with the candidates.

My proposed system is a web-based job portal. This web application is to be conceived in its current form as a dynamic site-requiring constant updates both from the seekers as well as the companies. On the whole the objective of the project is to enable jobseekers to place their resumes and companies to publish their vacancies. It enables jobseekers to post their resume, search for jobs, view personal job listings. It will provide various companies to place their vacancy profile on the site and also have an option to search candidate resumes. Mainly in this chapter I will discuss about the project.

### 1.2 Objectives

The objective of this project is to develop a system using which job applicants and recruiters can communicate to each other. An online job portal is an application where the job seekers can register themselves at the website and search for jobs which are suitable for them where as the company can register at the website and put up jobs which are vacant at their company. The online job portal system is a package to be used

by agencies to improve the efficiency of business. The system provides job catalogue and information to members and help them decide which jobs are suitable for them to apply. The admin can keep the jobs catalogue updated all the time so that the jobs get the updated information all the time.

## 1.3 **Scopes**

The online job portal system that is developed to provide services to job seekers and companies who will be looking for candidates for their vacancies. The basic scopes for the project are given bellow:

- Maintain job seeker and companies.
- Maintain uploaded resumes.
- Provide options to apply for job.
- Maintain job category, posted job's details, job vacancies.

# Chapter 2

## Literature Review

### 2.1 Relationship with Undergraduate Studies

For my internship program, I am assigned to do a project. While developing the project I find out that this project is fully related to the courses that I completed during my study. As my major is computer science and engineering, for that I had to enroll myself for courses like Database Management (CSE 303), Web Applications and Internet (CSE 309), System Analysis and Design (CSE 307). These mentioned courses are fully related with my project. This is why I can relate these courses to my project:

#### **Database Management (CSE 303)**

This course introduced the basics of structured data modeling, data designing, practical SQL coding experience using XAMPP server. Security of database was also one of the things that was being taught in this course. Also, it gave the idea of HTML, CSS, JavaScript, PHP, MySQL. For our course we built projects using this to understand and learn better. For my internship project I will use these languages to build a full responsive and functional website.

#### **Web Applications and Internet (CSE 309)**

This course taught us the basics of how websites work, front-end vs back-end, and how to use a code editor. We learnt elaborately about HTML, CSS, and JavaScript. From designing website to connecting it with database and server, this course gave us the chance to learn how actually a website is built. This course also introduced us with framework like bootstrap which makes designing very easy. As, I am working with the same technologies to create a website for my internship project, this course has been of great help.

### **System Analysis and Design (CSE 307)**

System analysis and design taught us the development of information systems through understanding and specifying in detail what a system should do and how the components of the system should be implemented and work together. It taught us to deal with problems through analyzing the requirements of information systems and designing such systems by applying analysis and design techniques. This course deals with the concepts, skills, methodologies, techniques, tools, and perspectives essential. For documenting my work, I have to use Use Case Diagram, six element analysis, UML diagram, gantt chart etc. I learnt these things from this course and which is helping me now in my internship project.

## **2.2 Related works**

In this section I will discuss about the research paper and journal I had to go through to understand my project and to identify the problem I need to solve. I have read several research papers about online job portal, how they identify problem, about their proposed solution, which development process they used and so on.

It is a research paper on Online Recruitment System by Saroj Kumar Rana<sup>1</sup>. They mentioned about the problem of traditional recruitment and selection process and then suggested some solution. This study aims to improve the recruitment and selection process of a company. There will also be an online database of qualified job applicants. They used waterfall method for their project. And the way this method works for their project makes me convinced to use that for my project too.<sup>[1]</sup>

Marjan Mansourvar and Norizan Binti Mohd Yasin have a paper on Online Job portal management system. The objective of their application is to develop a system to enable interaction between employers and applicants. The determination is to allow communication between the interested parties and complete the task of recruitment quickly. In their paper they highlighted the disadvantages of manual process and then proposed a system through which the recruitment will be very easy. Advantages of their website are:

- Faster and efficient system
- Wider range services available under one roof
- Highly Secure and Portable application
- Provides a facility for the Job Seekers to track their job details he has applied for
- Provides a facility for the Employer to search for required people very easily
- Provides efficient search mechanism using dynamic query generation.<sup>[2]</sup>

Mustafa Pinjari, Nishit De, Rutvij Kokne, Aamir Siddiqui, and Dnyanoba Chitre have also a paper on online job portal. In this project, they attempted to address the gap between the job seeker and the recruiter. This was done by taking into consideration the details provided by both, the job seeker and the recruiter, and, by applying a variety of different filters in order to cater to each and everyone's individual needs and wishes. The WISDM methodology is an effective model for the sole purpose of a web portal creation. The automated mailing system is quite an important feature implemented within the project in order to keep the involved parties informed about their status in the job portal, telling them everything such as-company to which they have applied, application status, designation, department and so on.[3]

Said Abdirahman Mohamed has a thesis on online recruitment application. The purpose of this thesis was to develop an online recruitment application through which two ends can meet. The ends are freshly-graduated jobseekers and employers. This project introduces the best possible ways possible how a jobseeker can apply for a job and view his/her applied jobs through the system. At the same time the system provides the employers with a channel to post their vacancies in their efforts of hunting new employees and checking if there is any application to their posted jobs. apply for jobs.[4]

The following four major parts were designed and implemented. Firstly, the analysis phase the overall direction of the project was identified. Secondly, the design of the graphical user interface was implemented. Thirdly, a MySQL database that connects and communicates with spring boot was built to store all required data. Finally, Thyme leaf which is a modern server-side java template engine was written to display the data in a human-friendly way to the users of this application.

The core features of this application for employers are posting jobs, editing jobs, deleting jobs and viewing applications. Other core features for jobseekers are viewing listed jobs in the system and applying for available jobs. In this application almost any employer can post a job online, the process is clear, easy to understand, less timewasting and user-friendly. Conversely, the process is very simple for jobseekers too, it makes quick and painless to apply for jobs.

# Chapter 3

## Project Management & Financing

Project management is the process of leading the work of a team to achieve goals and meet success criteria at a specified. To start a project, every company has to create a time-frame through which every aspect of the project has to be determined, planned and execute according to this plan or schedule. This works as a guideline for the company to track the progress of the project and to make sure the smaller goals and deadlines have been met. A guideline with diagrams is shown in the next figures mainly through the Work Breakdown Structure, and Gantt chart.

### 3.1 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a chart where the project tasks are illustrated to reflect their relations to each other and the project in general. It proposes a graphical nature that helps project managers predict results based on various scenarios. It is often described as a result-oriented tree that covers all project procedures in an organized way.

This WBS makes the deliverables more precise and concrete so that the project team knows exactly what has to be accomplished within each deliverable. In the mentioned WBS we have demonstrated how we divided our whole work into phases. We have seven phases. Each phase is categorized with different sub task. The initializing phase includes the project objective, review and approval from both project manager and clients. We divided the major groups in requirement analysis where requirements will be gathered from client. We analyze project scope in the planning phase. Designing and implementation are done in their assigned phases.

It is a helpful diagram for project because it allows to work backwards from the final deliverable of a project and identify all the activities needed to achieve a successful project. This also allows for better estimating of cost, risk, and time because we can work from the smaller tasks back up to the level of the entire project.



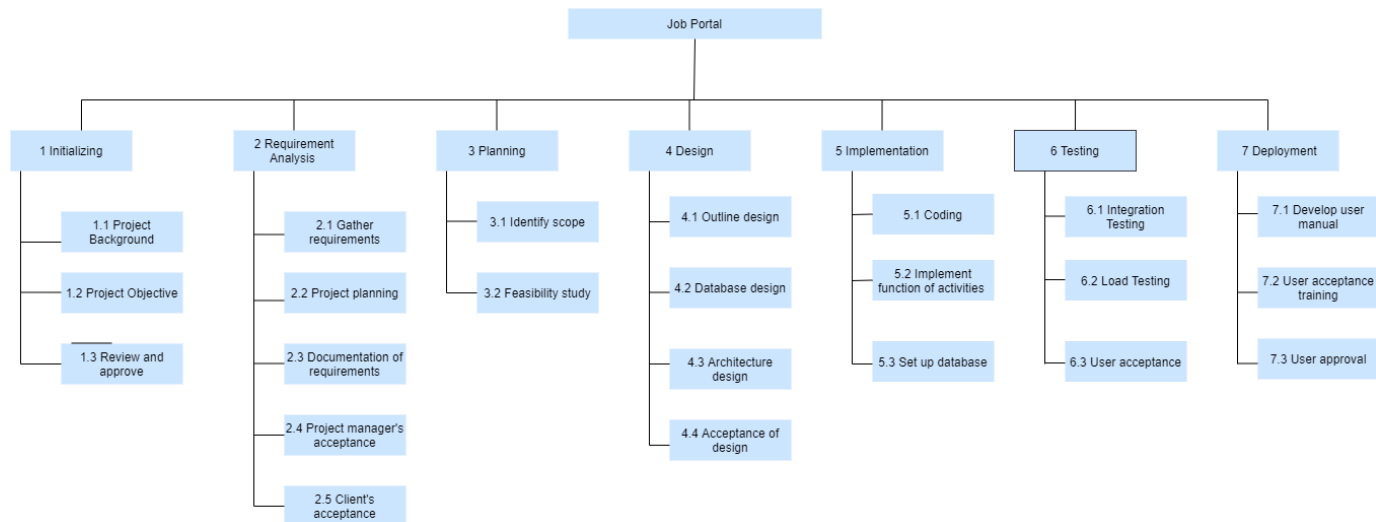


Figure 3.1: Work Breakdown Structure (WBS)

## 3.2 Process/Activity wise Time Distribution

The time distribution determines the approximate time taken to complete the project successfully, as seen in the critical path process timeline below. The critical path in a project schedule is the longest series of tasks that must be performed on time for the project to be completed on time. Critical path activity cannot begin until the preceding activity is completed. A project is well-defined task, which is a collection of several operations done in order to achieve a goal.

| Task Name             | Index | Duration (Days) |
|-----------------------|-------|-----------------|
| Initializing          | A     | 3               |
| Requirements Analysis | B     | 5               |
| Planning              | C     | 10              |
| Design                | D     | 9               |
| Implementation        | E     | 30              |
| Testing               | F     | 15              |
| Deployment            | G     | 7               |

## 3.3 Gantt Chart

A Gantt chart is a graphical depiction of a project schedule. It's is a type of bar chart that shows the start and finish dates of several elements of a project that include resources, milestones, tasks, and dependencies. Henry Gantt, an American mechanical engineer, designed the Gantt chart. For this project, a Gantt chart was used in the planning phase of the application. Gantt charts are commonly used for tracking project schedules, and they are especially useful in project management. To put it simply, they

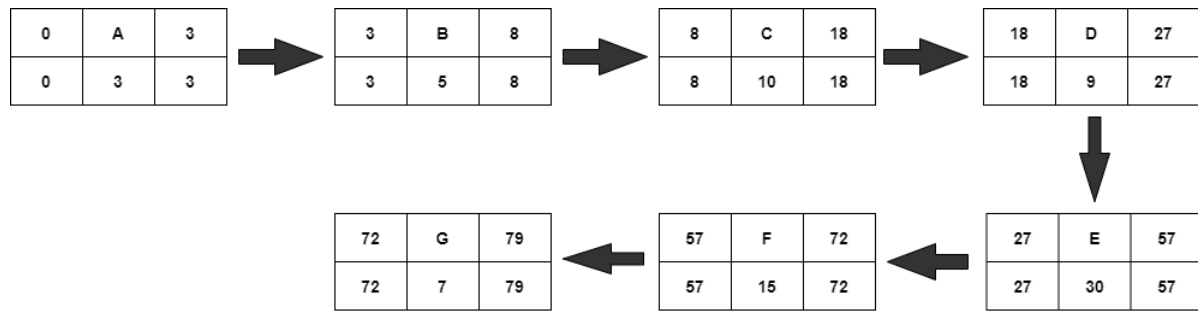


Figure 3.2: Activity Wise Time Distribution

illustrate and allow us to know what needs to be done, and when it needs to be done. It also shows additional information regarding the different tasks or sections of the project, such as how far have tasks progresses, how a group of tasks might depend or other groups of tasks, how important several tasks are, and resources are being used within the project. Simply put, a Gantt chart is a bar chart that provides a visual view of tasks scheduled over time. The development of the project has begun at 25th of June. Then after completing all the phases it ends at 1th of September.

### 3.4 Process/Activity wise Resource Allocation

The developers are the most important resource for this project, followed by the office computers and the servers needed for the project's implementation. Any employee of the organization is seen as a resource, so each has been given a specific task with a set of deadlines, and they have all worked together to complete the job. Following are the details of every step of the project:

- **Initializing:** This is the first period of the project, where the idea of the project was presented by the CEO of the company. Since this was an in-house product, no delay was made and the paperwork for the project was started.

- **Requirement Analysis:** During the first few weeks the CEO and the developers discussed the entire requirements for the completion of the project. For example, computer specifications, software/tech to be used to build the application, features and developers required.

- **Planning:** In this section of the development process, the developers and the CEO

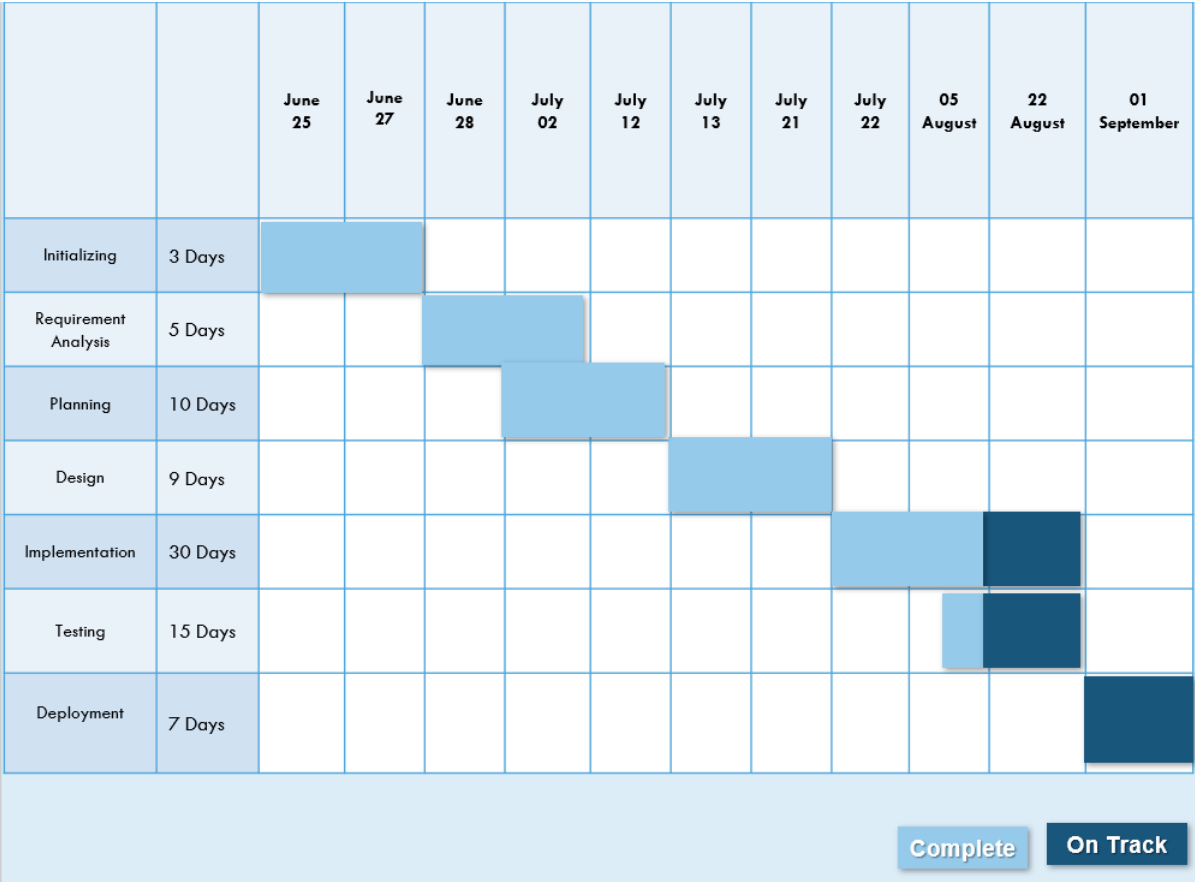


Figure 3.3: Gantt Chart

engaged in hours of discussion of how this project should be built from top to bottom, the approaches to be taken, creating smaller goals and setting deadlines for them.

- **Design:** In this phase few graphic designers were hired for designing the web pages of the application as well as the management team started working on the database design of the project.

- **Implementation:** At this stage, the designs for the web pages were complete and the developers started working on writing the code for the front end and back-end of the application, while the management team kept regulating whether all the deadlines were maintained.

- **Testing:** Testing started as soon as a feature was added to the site. Hence simultaneously the testing was being carried out by the developers. At the end of the implementation phase unit testing for the application started.

- **Deployment:** After the testing was truly completed, the team realized that it was behind schedule. For deployment, a VPS (Virtual Private Server) and a domain was bought to deploy the application on a live server.

## 3.5 Estimated Costing

Accurately estimating project costs is crucial to the success and completion of a project. The calculation is made based on the client's requirements, expectation, deadline, size of the website, functionalities and design of the website. The total costing of the project will be around 35000tk including the cost of domain and hosting.

| Task Name                              | Cost (Taka)  |
|--|--------------|
| Requirement analysis and specification | 2000         |
| Project planning                       | 3000         |
| Designing of website                   | 5000         |
| Implementation                         | 11000        |
| Testing                                | 6000         |
| Documentation                          | 3000         |
| Domain Hosting                         | 5000         |
| Total Budget                           | <b>35000</b> |

Table 3.1: Estimated costing of the project

# Chapter 4

## Methodology

The study mainly focuses on the development of online job portal. To develop the website, we followed waterfall model of SDLC Methodology. The waterfall model is a sequential development approach, in which development is seen as flowing steadily downwards (like a waterfall) through several phases.

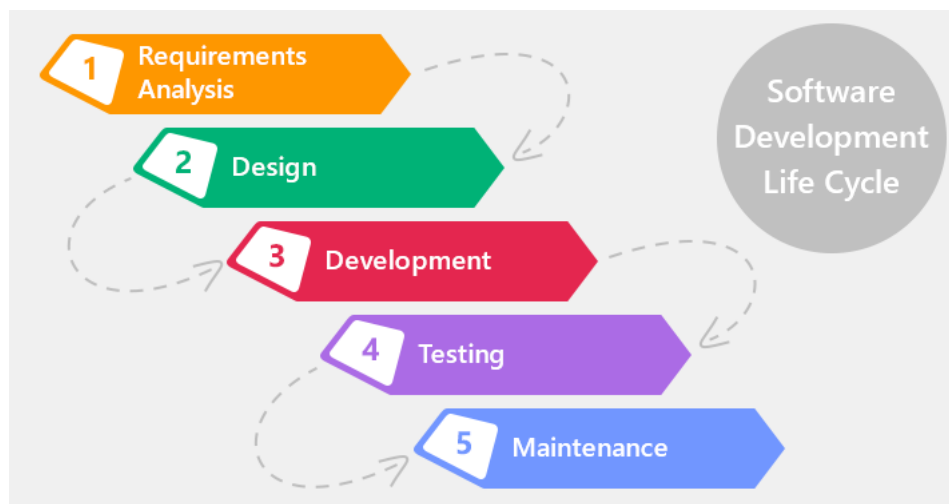


Figure 4.1: Waterfall Model

### **Requirements Analysis:**

Our group conducts some interviews to gather all the information that needed to develop the job portal. After conducting multiple interview, we share some ideas with each other and propose some approaches to develop the website.

### **Design:**

We aim to design the proposed system that is based on our interviews given by the management of different company. The proposed system is design to be user friendly for the applicants and companies as well.

**Development:**

We design the boundary of the proposed system and translate the design into codes in order to make the system valuable to use using Personal Home Page (PHP), HTML, CSS, Bootstrap, XAMPP Database, Visual Studio Code and JavaScript for the development of the proposed system.

**Testing:**

After testing the website and we begin to fix the error and bugs that we find while testing the project. Errors will be removed and changes will be made to run the website smoothly.

**Maintenance:**

Certainly, the system needs maintenance to ensure the success of the proposed system. In this stage, we focus on maintaining the functionality state to ensure the success of the proposed system. System updates will be implemented to enhance system's functionality.

**Why Waterfall for this project:**

This model is simple and easy to understand and use. It is easy to manage due to the rigidity of the model; each phase has specific deliverables and a review process. In this model phases are processed and completed one at a time. Phases do not overlap. Waterfall model works well for smaller projects where requirements are very well understood and as my project is small in size, that is why I decided to implement this model of sdlc methodology for my project.

# Chapter 5

## Body of the Project

### 5.1 Work Description

If we think about the current scenario, there is a rat race in each and every professional field. It is also true for job market. A Job Portal is a website dedicated for online information about recruiters as well as job seekers. It helps both the job seekers and recruiters finding the right organization for the employees. In the case of job seekers according to their educational qualifications, experience and their performance, the job portal shows a list of companies to the job seekers. And to the recruiters, provides the suitable candidates from a pool of lacks. So, a job portal is a perfect online area, where both the job seekers and the recruiters find their goals in the pursuit of the getting a top notice company for a suitable company.

This Online Job Portal has been developed on PHP and MySQL. This project has two sides of the user interface: The Admin Side and the Job Seeker Side.

The main objective for developing this project is to provide an online job search portal for employees about opportunities in different companies. It provides the candidates ability to register to this application and search for jobs. Admin will notify the candidate if he/she is qualified for the job.

This website can also help companies to announce or publicize their job openings/vacancies through this website.

## 5.2 System Analysis

### 5.2.1 Six Element Analysis

From the six-element analysis we come to know about the processes of the website. And what activity will be done under each process. What hardware will be needed to perform those activities, how user will access the website, where the data will be saved and what type of connection, they will need to access the website. This six-element analysis gives the main idea of the website.

| Process                    | Human   | Hardware<br>(Computing)                     | Software       | Database       | Connection<br>& Network |
|----------------------------|---|---|----------------|----------------|-------------------------|
| Login/<br>Register         | Admin will enter<br>email & password.                                   | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Manage<br>Companies        | Admin will add/<br>delete companies<br>and update their<br>information. | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Manage<br>Job<br>Vacancies | Admin can post<br>job vacancies.  | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Manage<br>Employee         | Admin will add/delete<br>employees and update<br>their information.     | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Manage<br>Category         | Admin will add/delete<br>category and update<br>their information.      | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |



| Process            | Human  | Hardware<br>(Computing)                     | Software       | Database       | Connection<br>& Network |
|--------------------|--|---|----------------|----------------|-------------------------|
| Login/<br>Register | Job Seeker<br>can create new<br>account & login.                         | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Job<br>Search      | Job Seeker<br>can search their<br>suitable job and<br>apply for the job. | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Popular<br>Job     | Job Seeker can<br>search popular<br>jobs through our<br>website.         | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Company            | Job Seeker also<br>can search<br>many companies.                         | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |
| Apply<br>for Job   | Job Seeker apply<br>for their<br>suitable multiple<br>jobs at a time.    | Keyboard,<br>Mouse,<br>Computer/<br>Laptop. | Web<br>Browser | Live<br>Server | Internet                |

Table 5.1: Six Element Analysis of the Project

### 5.2.2 Feasibility Analysis

In this part I will discuss about the feasibility study of my project. Feasibility study is the most important thing to find out the economic benefit and economic cost of my project. Feasibility works on the economic feasibility, operational feasibility and technical feasibility.

#### **Economic Feasibility:**

Economic feasibility study demonstrates the conservative advantages against the expenses will have done to build up the system. There are two parts in economic feasibility study.

#### **Economic Benefits:**

- User can freely use this job portal site. But this website's market value will increase rapidly when user will frequently visit this web site.

- Some cost for advertisement will be included. Company can advertise using the website. In this way website's market value will increase.

#### **Economical Costs:**

Economical cost is also important when developing a new system. There will be some costs to implement the system.

- As this project is about developing a website so, a domain name has to be bought and also storage for hosting.

#### **Operational Feasibility:**

When the testing will be performed, the operational scope of the system will be checked. It will be observed that the proposed system is very user friendly and since the system is built with enough help, even persons with little knowledge of windows can find the system very easy.

#### **Technical Feasibility:**

Technical feasibility is to assess whether the new system will perform satisfactorily and whether the association has the capacity to build a proposed system or not. For example, whether the innovation is required for the existing system, how troublesome it will be to assemble, and whether the firm has enough experience utilizing that innovation. Technical feasibility might include:

- Data and system will be accessible.
- Processes will be done in a particular speed.

**Legal Feasibility:**

So far, no new software has been purchased to develop this system. Hence no legal issue is here.

**5.2.3 Problem Solution Analysis**

Problem analysis is the process of understanding and defining the problem that needs to be solved. Problem solving identifies solutions that conform to the needs and constraints of the problem. There were a number of problems we faced while developing the project also was solved accordingly. Some of the problems were-

**Defining Requirements:****Definition:**

At the beginning of the project, when the requirements for the project was set, the survey and questionnaire did not involve too many people for the project. The sample size for the survey was low and also, I could not reach my targeted people.

**Solution:**

More participants needed to participate in the survey that was conducted, the application has to be viewed through the eyes of any possible users.

**Complication in implementing the project:****Definition:**

Even though the development team has great knowledge about development, but still there were some doubts about implementing the project according to the requirements.

**Solution:**

After consulting with the project manager and get approval from the clients we get the assurance that we are on the right tract. Though clients demanded for some changes. But still this problem has been solved.

### 5.2.4 Effect and Constraints Analysis

A constraint is a restriction on the degree of freedom a company can have in providing a solution. Constraints are effectively global requirements, such as limited development resources or a decision by senior management that restricts the way the development team develop a system. Constraints can be economic, political, technical, or environmental and pertain to project resources, schedule, target environment, or to the system itself.

Some of the constraints and its effects are described below:

**Budget Effect:**

This constraint has critical effect on how many employees for the project are hired and for how long the project can continue to be developed before reaching a conclusion to deadline.

**Time Effect:**

Both the budget and time constraint are interrelated to each other. Time strictly depends on the budget of the company for the particular project. For this project the given time was 4 months and 1st of September was decided to be the deadline.

**Scope Effect:**

Scope defines whether the requirements set for the project are met. During the development phase the developers needs to keep a close eye on the requirements of the project, if a deadline is too near the scope of the project can be stretched and delivered on a later date. This restricts the development team and has to undergo regular discussions, reviews and meetings to make sure the quality is up to the mark.

## 5.3 System Design

### 5.3.1 Rich Picture

This will provide the user more facility in the area of searching job or posting any jobs. My system is fully computerizing which means job seeker can login easily from anywhere and search or apply for the jobs as a result candidate don't send any CV physically and can save their valuable time. And on the other hand, companies can post their vacancies through admin. Admin will manage company, job vacancies, users, their employees, applicants and job category.

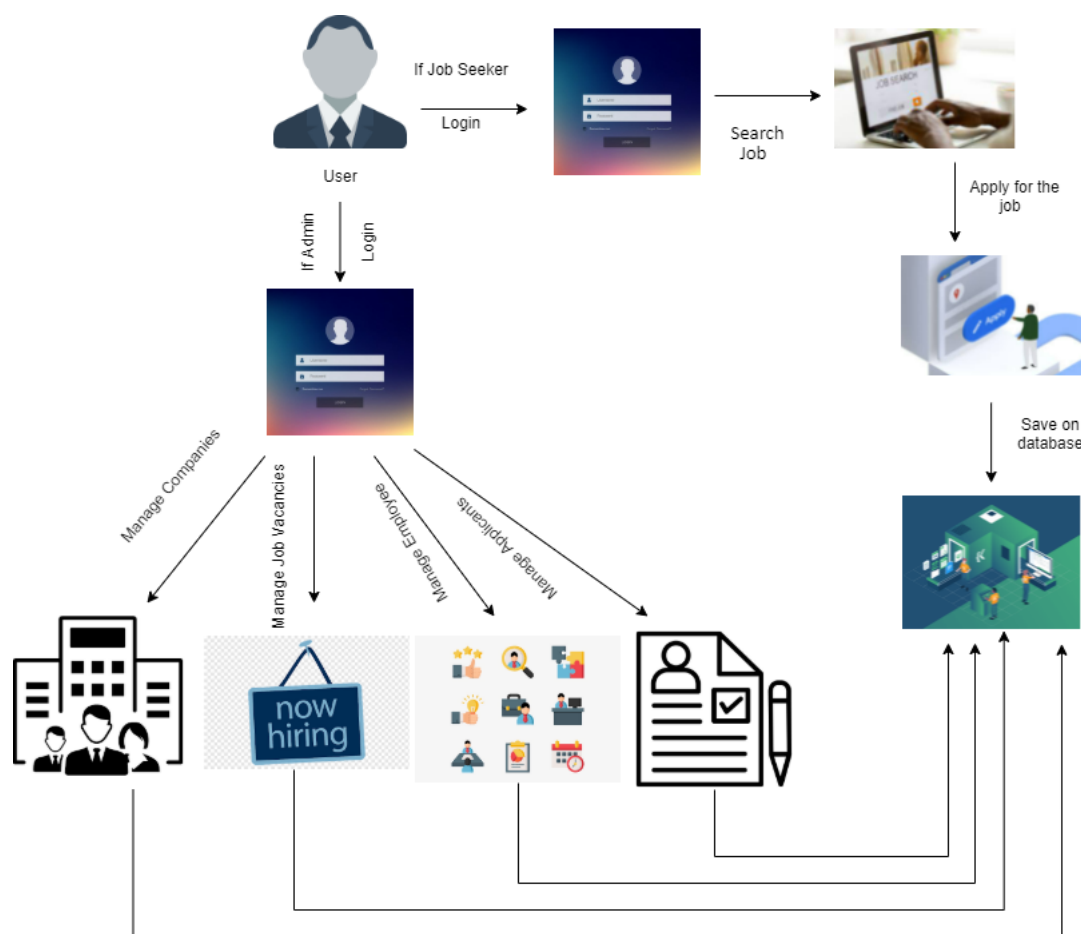


Figure 5.1: Rich Picture

### 5.3.2 UML Diagrams

#### Entity Relationship Diagram (ERD)

An entity relationship diagram (ERD), is also known as an entity relationship model. It is a graphical representation that represents relationships. ERD is used to analyze existing databases to find and resolve problems in logic or deployment. Drawing the diagram should reveal where it's going wrong. In the above database the following tables are tblapplicants, tblusers, tblemployees, tblattachementfile, tbljobregistration, tblcategory, tbljob, tblcompany. In the above ERD, relations between tables are shown. It represents what needs to perform each activity.

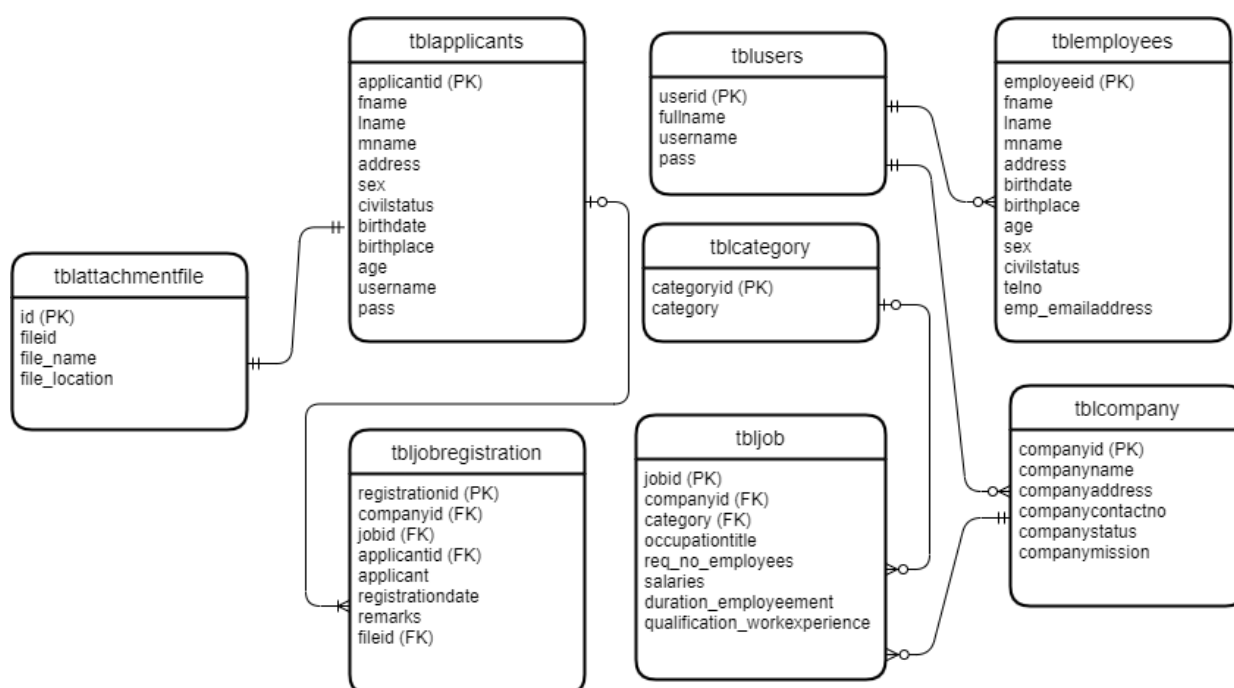


Figure 5.2: Entity Relationship Diagram (ERD)

### Use Case Diagram

Use case diagram mainly demonstrate how does the user interact with the system. It also represents the user functionality and how user uses this system. Here is given bellow the use case diagram. User (Admin) needs to login to perform his assigned activities. He will manage company, job vacancies, employees, applicant, category and user of the website.

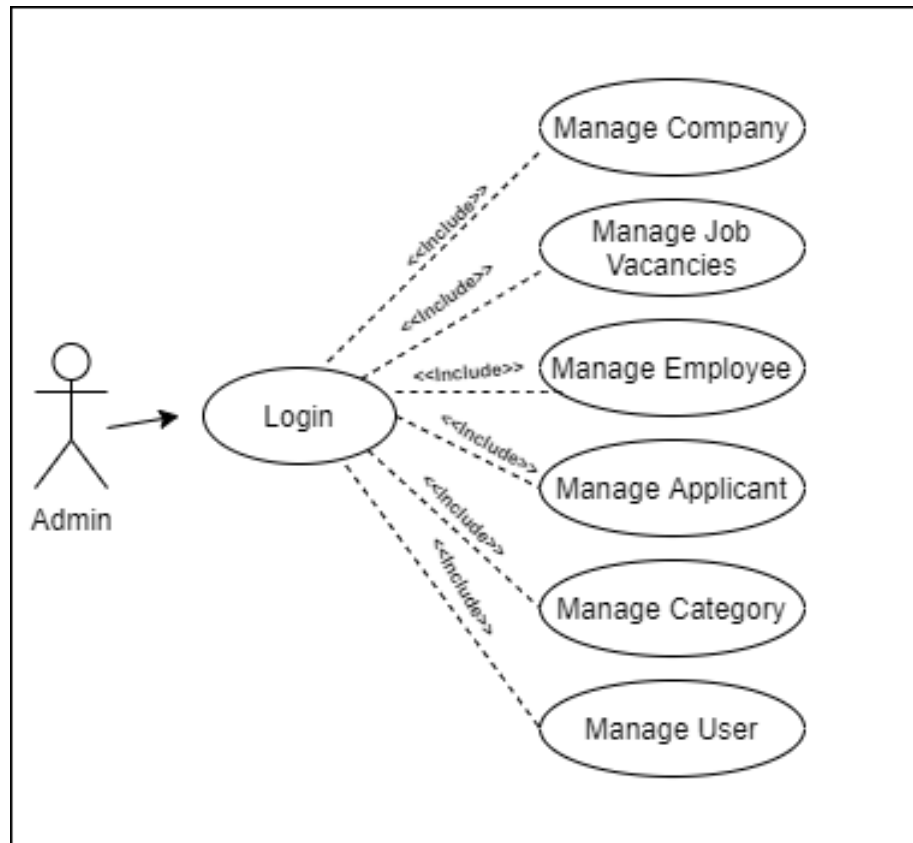


Figure 5.3: Use Case Diagram of Admin

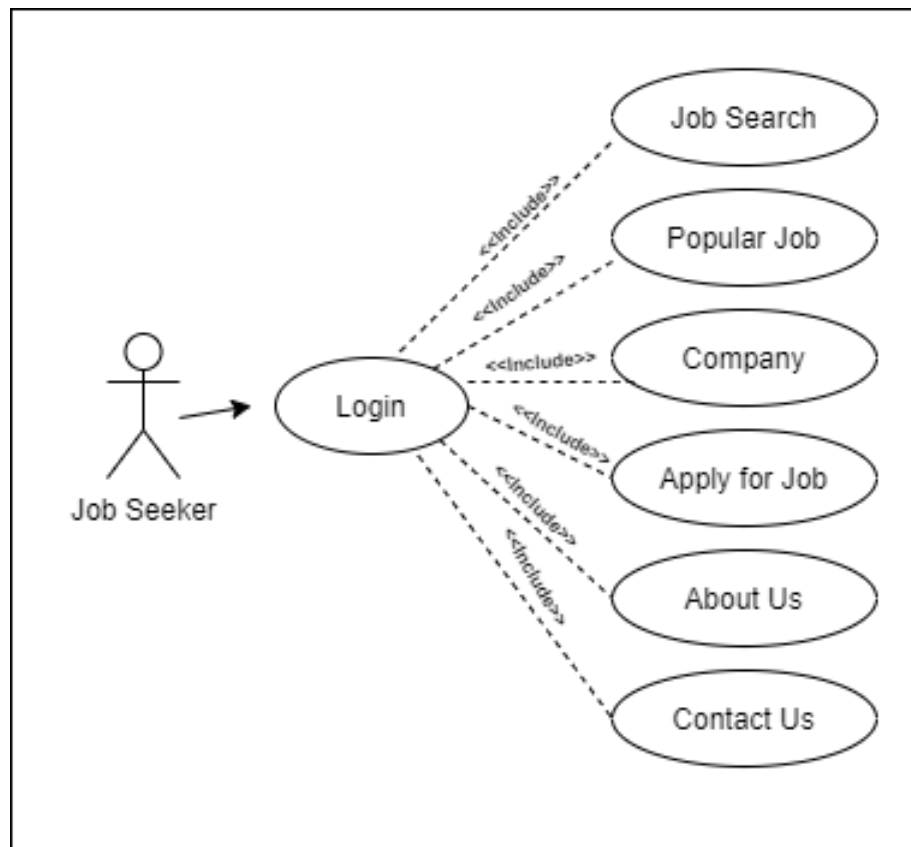


Figure 5.4: Use Case Diagram of Job Seeker

And for job seeker they need to log in. Job seekers can search for their desired job, see popular job, view different company and also can apply for the posted job. Job seekers can give feedback to the admin and express their problem and their concerns.



### Activity Diagram

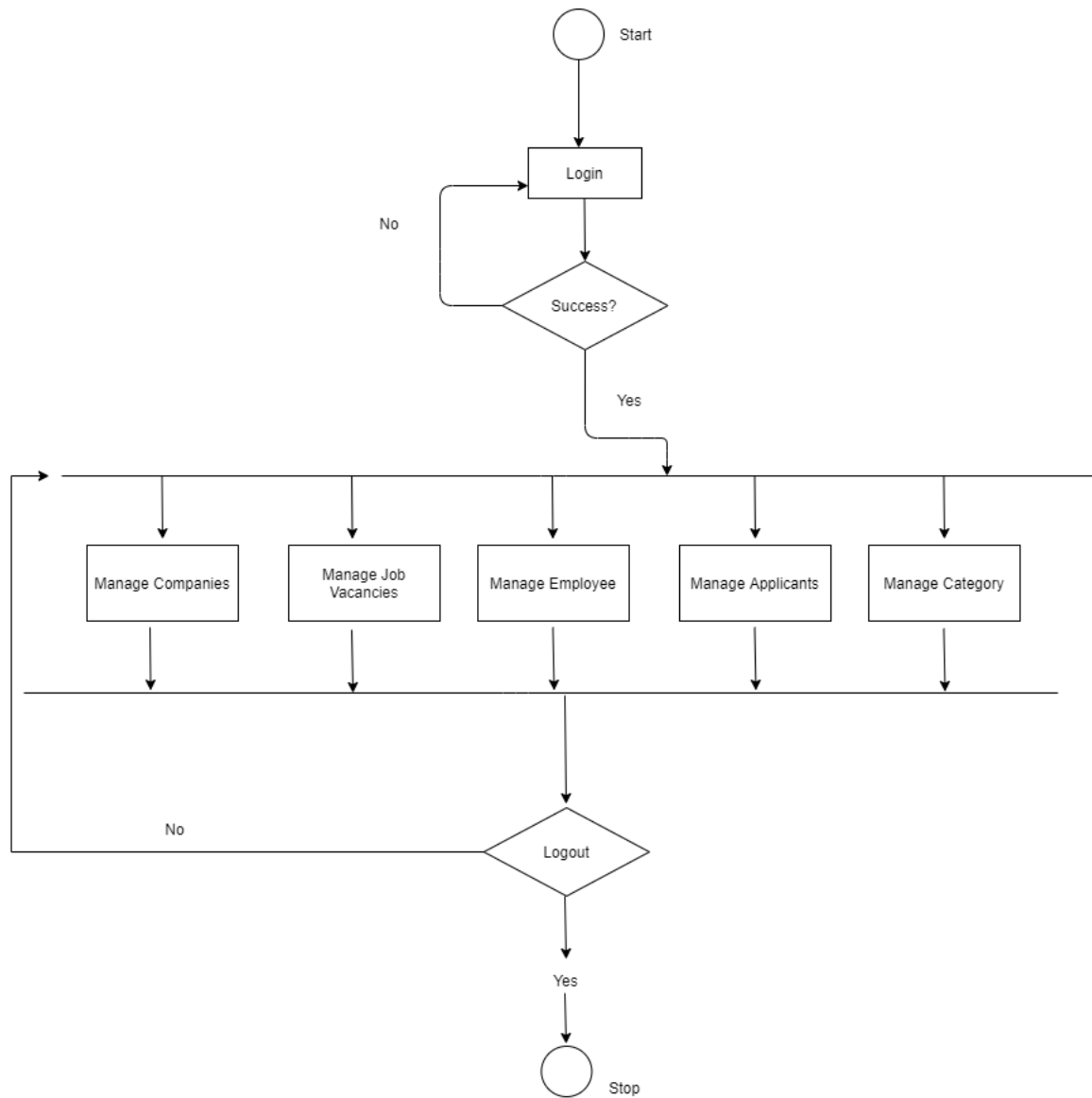


Figure 5.5: Activity Diagram of Admin

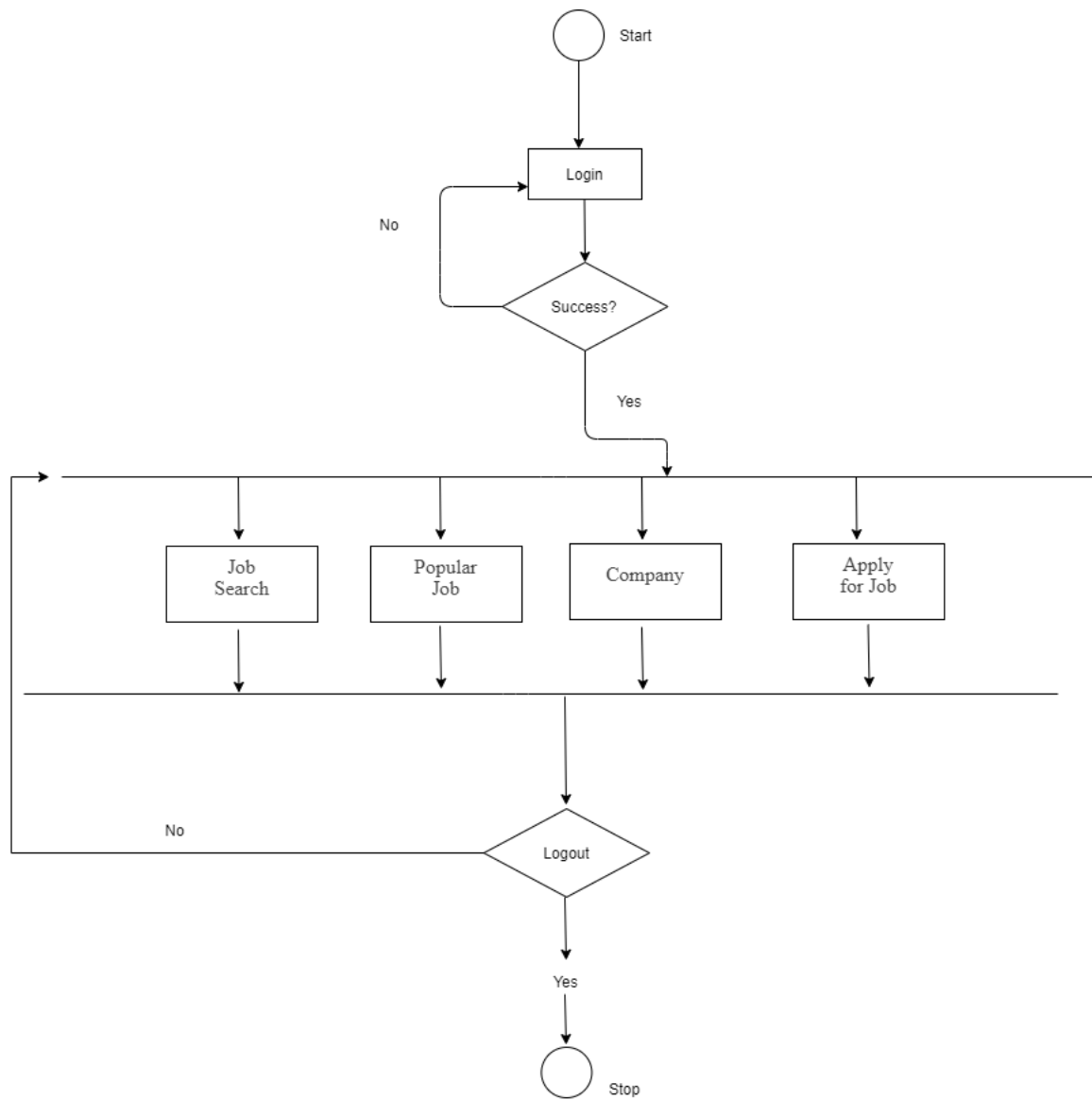


Figure 5.6: Activity Diagram of Job Seeker

### 5.3.3 Functional and Non-Functional Requirements

Functional requirements are specified at a high-level during foundations and then decomposed further into more specific, detailed requirements during exploration. Functional requirements mainly focus on the main functionality within a system. Job portal application fully automated. Here is given the list of functional requirements.

#### **Admin Side**

- Registration Facilities
- Login facilities
- Manage Companies
- Manage Job Vacancies
- Manage Employee
- Manage Applicants
- Manage Category
- Manage Users

#### **Job Seeker Side**

- Job Search
- Popular Job
- Company
- Hiring Now
- Apply for Job
- Job Seekers Profile
- About Us
- Contact Us

#### **Non-Functional Requirements**

Non-functional requirements are those features of requirements that tell us how well or what level of requirements is to be performed. Here is the list of Non-Functional Requirements:

- Accessibility for the system.
- Availability of the system.
- Deployment
- Failure Management
- Maintainability
- Privacy of the system.
- Portability requirements.

- Reliability requirements.
- Robustness.
- Testability.
- Recovery requirements.

## 5.4 Product Features

### 5.4.1 Input

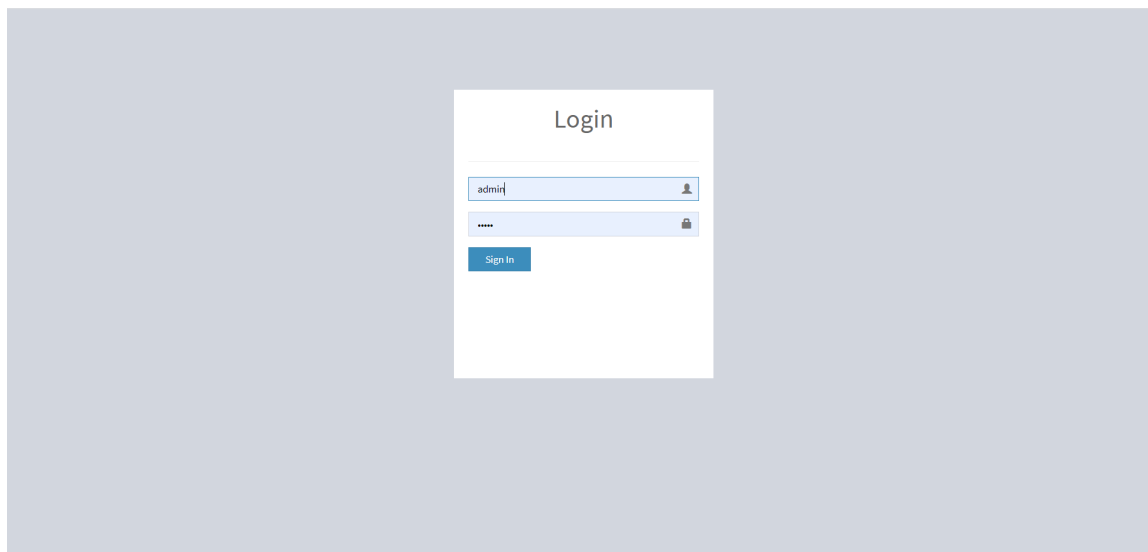


Figure 5.7: Admin Login Page

Admin can login & go to admin dashboard.

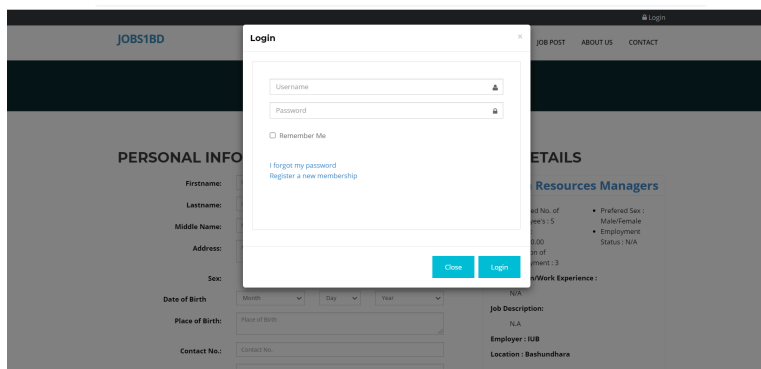


Figure 5.8: User Login Page

User can login or go to register page from this page.

### 5.4.2 Output

This is the homepage of the project. Everybody can access this for their use.

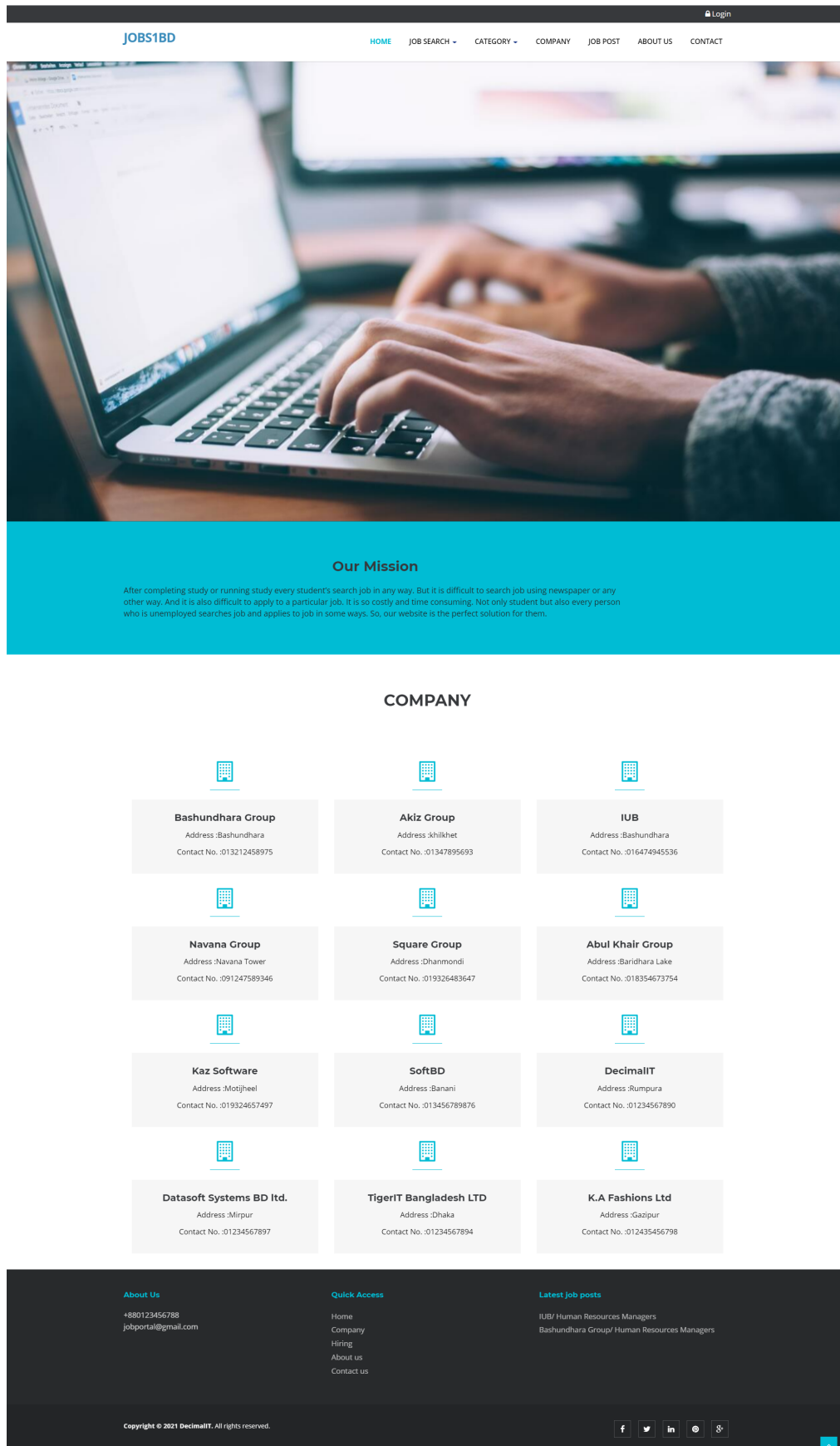


Figure 5.9: Home Page

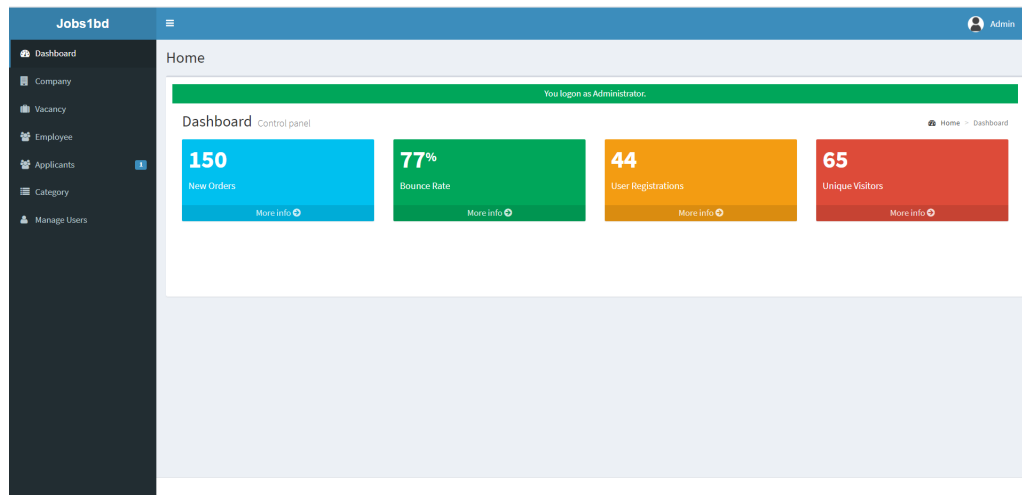


Figure 5.10: Admin Dashboard

This is the dashboard of admin. When admin login, he will see the dashboard. Admin can add delete companies and can edit their information. Admin can post the vacancy for the companies. Admin can select candidates according to the company's requirements.

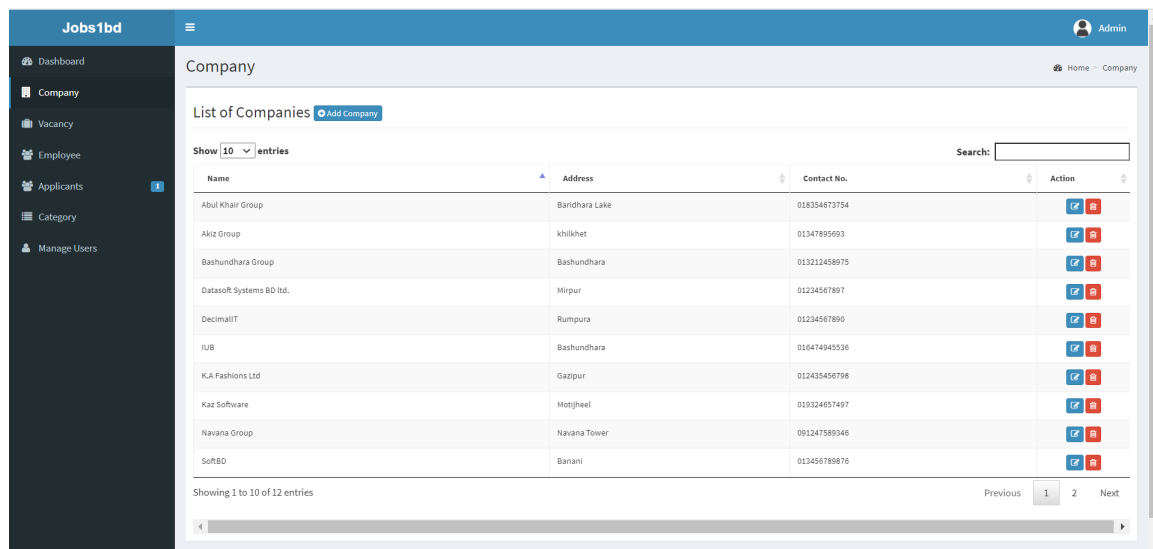


Figure 5.11: Company Dashboard

This is the page from where admin can add new companies and delete & edit their information.

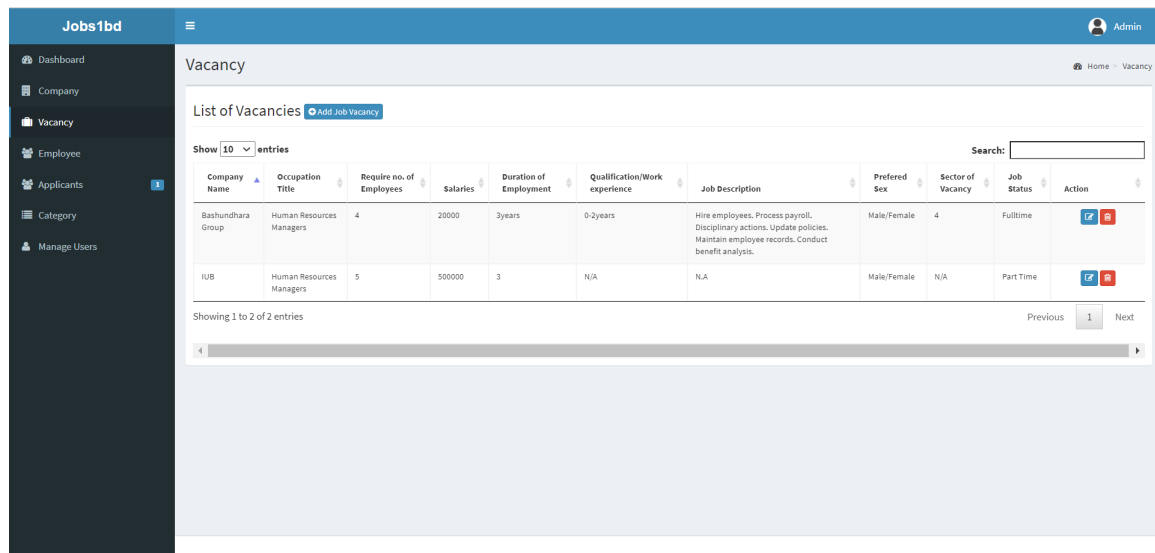


Figure 5.12: Vacancy Dashboard

This is the page from where admin can add new vacancies and delete & edit their information.

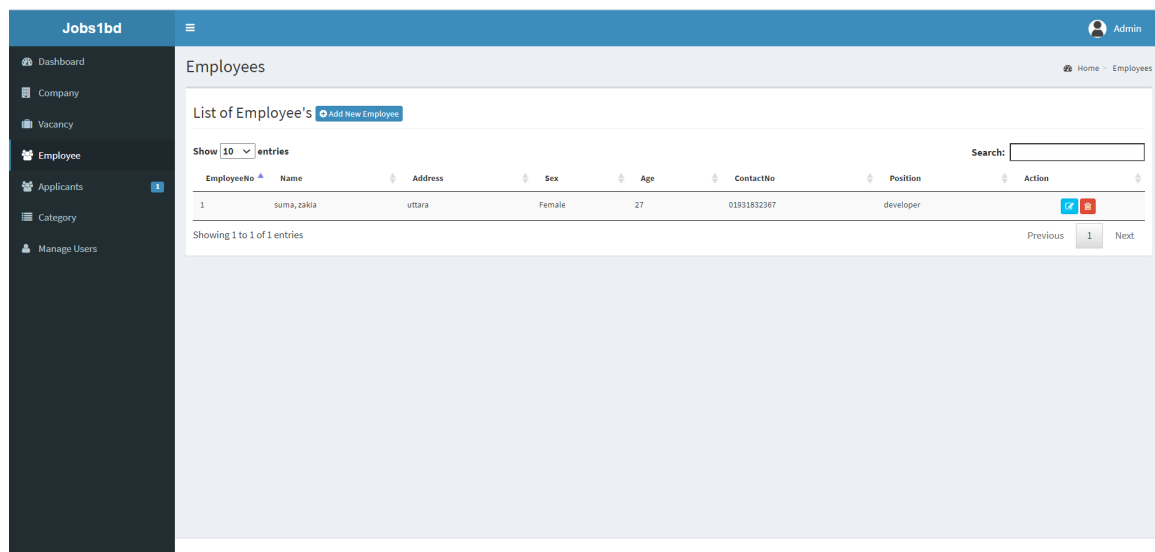


Figure 5.13: Employee Dashboard

This is the page from where admin can add new employees and delete & edit their information.



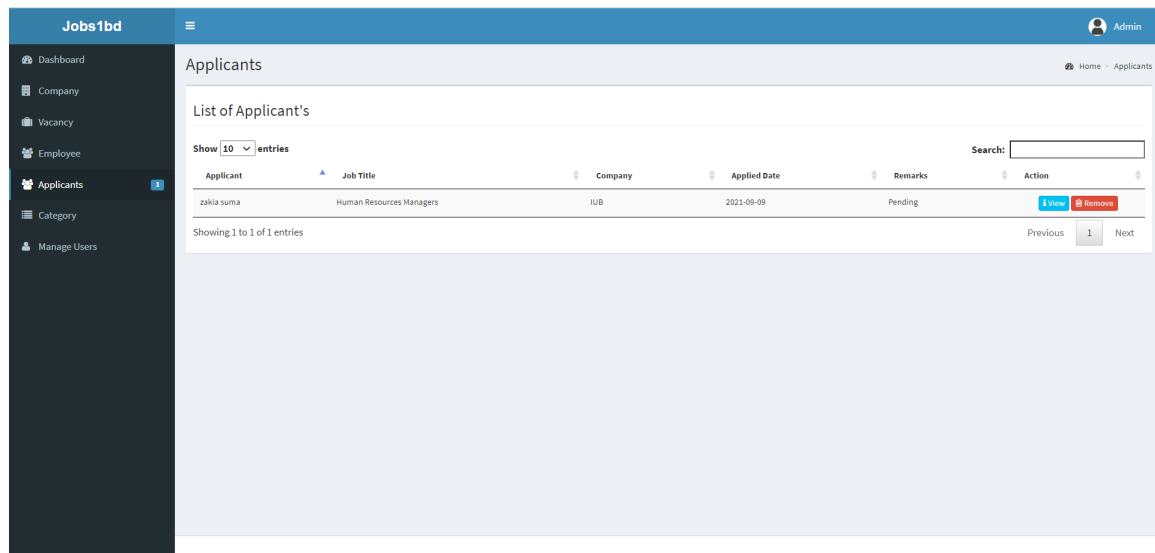


Figure 5.14: Applicants Dashboard

This is the page from where the admin can see a list of the applicants. For those applicants who apply for a job, this page shows their list.

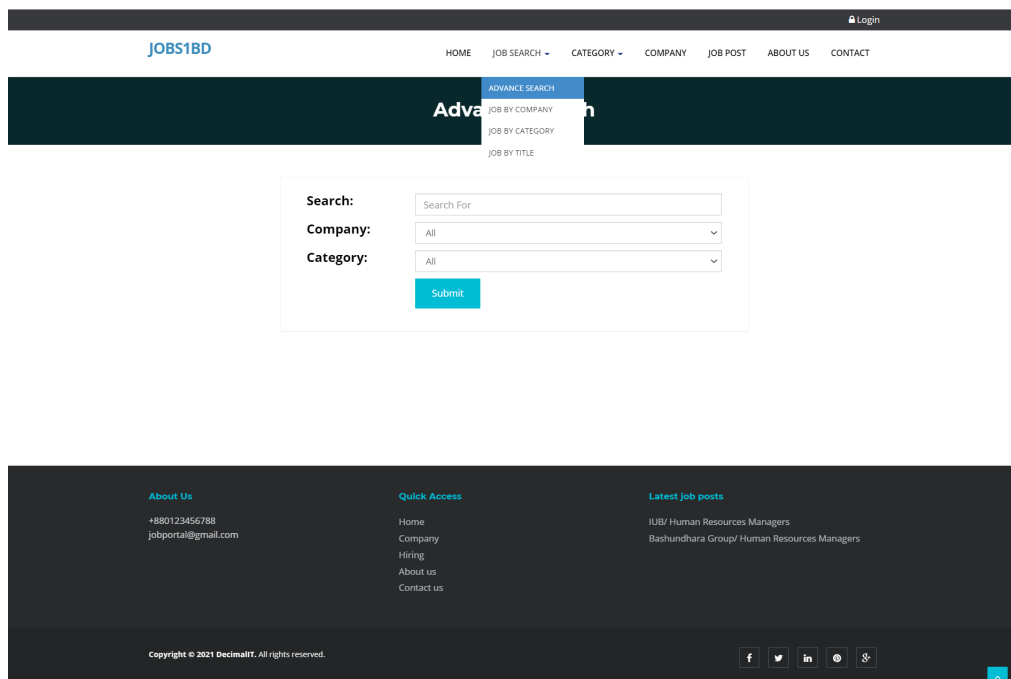


Figure 5.15: Search and Apply for Company

User can search for the companies to apply and check the details of the company. User also can search different types of job category and apply for the suitable jobs. Using our website user can apply to multiples jobs at a time.

Jobs1BD

HOME

JOB SEARCH

CATEGORY

COMPANY

JOB POST

ABOUT US

CONTACT

Login

Submit Application

PERSONAL INFO

Firstname:

Lastname:

Middle Name:

Address:

Sex:

☒ Female

☐ Male

Date of Birth

Month

Day

Year

Place of Birth:

Contact No.:

Civil Status:

Select

Email Address:

Username:

Password:

Educational Attainment:

☐ By Sign up you are agree with our [terms and condition](#)

JOB DETAILS

Human Resources Managers

Required No. of Employee's : 5

Salary : 500,000.00

Duration of Employment : 3

Preferred Sex : Male/Female

Employment Status : N/A

Qualification/Work Experience :

N/A

Job Description:

N.A

Employer : IUB

Location : Bashundhara

Date Posted : Sep 08, 2021

Attach your Resume here.

Attachment File:

Choose File

No file chosen

Back

Submit

About Us

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jobportal@gmail.com

Quick Access

Home

Company

Hiring

About us

Contact us

Latest Job posts

IUB/ Human Resources Managers

Bashundhara Group/ Human Resources Managers

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Figure 5.16: New Member Registration Page

New users can create their own profiles & apply for the posted jobs by uploading their resume.

The screenshot displays the 'User Profile' page on the JOBS1BD website. At the top, a dark navigation bar includes the site logo and links for HOME, JOB SEARCH, CATEGORY, COMPANY, JOB POST, ABOUT US, and CONTACT. A user notification bar indicates 'You are now successfully login!'. The profile section on the left shows the user's name 'zakia suma' and a list of links: Profile, Applied Jobs (highlighted), Accounts, and Messages (with a notification badge). The 'Applied Jobs' section features a table with columns for Job Title, Company, Location, and Status. A single entry is shown: 'Human Resources Managers' at 'IUB' in 'Bashundhara' with a status of 'Pending'. The footer contains three columns: 'About Us' with contact details (+880123456788, jobportal@gmail.com), 'Quick Access' with links to Home, Company, Hiring, About us, and Contact us, and 'Latest job posts' listing 'IUB/ Human Resources Managers' and 'Bashundhara Group/ Human Resources Managers'. Social media icons and a copyright notice are also present.

| Job Title                | Company | Location    | Status  |
|--------------------------|---------|-------------|---------|
| Human Resources Managers | IUB     | Bashundhara | Pending |

Figure 5.17: User Profile

This is the user profile page where user can check the job status whether he/she is selected or not and can check the interviews time and date.

### 5.4.3 Architecture

System architecture is a conceptual model of a system. It represents how user request to the system and how system response and their relationship and view process. Here is the system architecture:

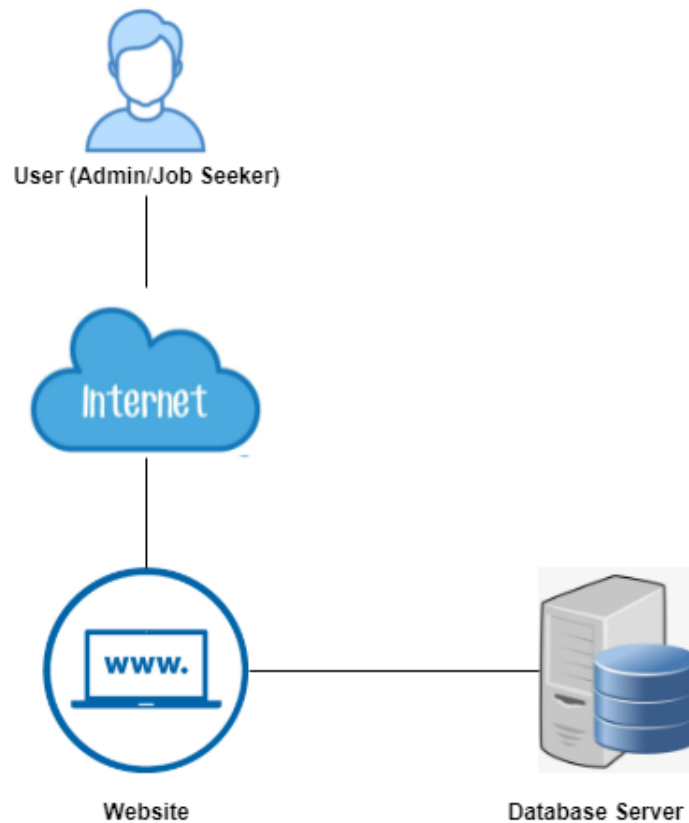


Figure 5.18: Architecture of the System

# Chapter 6

## Results & Analysis

### Overview

At the very beginning, I researched about the problem I want to solve. I went through several research paper, thesis, even existing site to gather more information. I thought about executing my knowledge in an appropriate way. I discussed about the problem with my supervisor and asked for his opinion. I made a plan on how I want to accomplished the project. I established a basic structure of the project. I took some suggestion from my supervisor to make some of my confusion about the functionality clear. I came up with what methodology should be use, what tools I would like to use, about the architecture. As requirements were very clear so, I thought of using waterfall model. I categorized my whole task through wbs, allocated time and resource of each activities, and estimated the costing. After finalizing system's outlook, managing data was a much-needed thing. Finally, I came up with the prototype with all the data where I tried to implement all the functionalities.

### Results

For this project I did several analyses to understand and elaborate my project better. From identifying the requirement from interviewing to deploy it to customer I picturized everything through the analyses. For the interview I prepared some open ended questionnaires for the interviewees to come up with a better solution. After that I was clear about its purpose and tried to implement every functionality. Its main purpose is to make the life easier for the job seeker and companies. If we think about any pandemic, as now, we are going through one, this website will save lots of time and its user-friendly quality will serve every purpose what I was thinking of about it. It will be a very useful project if I could really implement it as it is designed.

### **Strength of the Website**

The system has some great strength. Some of the strengths are mentioned below:

#### **Functionality**

This system mainly focuses on its functionality and requirements. After analyzing the requirements, the system was developed. And all the must have requirements was developed accurately. I also focused on the should have requirements and tried to develop those also.

#### **Security**

I have provided a strong security feature for the system. When user will access the system he or she will be properly authenticated and authorized. Without this user will not be able to access this system.

#### **User friendly and Robustness**

This system is more user friendly and robustness. There is no difficult part in this website so user can easily interact with this. If user makes any mistake the system will provide proper guideline by notification or error message.

#### **Responsive**

This system all functionality or feature supports any web browser. So, user can access this website from any browser.

#### **Weakness of the Website**

The only weakness I can think of is that sometimes this website's some functionality takes too much time to proceed and this lower the productivity of the website. Other than that, it works great.

# Chapter 7

## Project as Engineering Problem Analysis

### 7.1 Sustainability of the Project/Work

In my internship period, I have faced lots of difficulties to develop this website. Some are given below:

#### **New Environment Adapting**

At this corporate level, I had to adapt to this new environment and challenges. For the first few weeks, it was hard for me to understand the process. Day by day I learnt new languages for the recruitment of the project which was quite difficult for me. Implementing a system correctly can make a system look good and easy to use. I tried to make the website better using language what is widely in use now a days. And any browser can be used to access this kind of flexible website. But I have to say without the proper guidance of my supervisor, I would not be able to complete the project within the deadline.

#### **User Friendly Interface**

The most important thing is to develop a first loading user-friendly system. When we develop a project, we have to do many things to fulfill the project requirements. That's why We need to keep the web application as simple as possible so that users don't find any difficulties using it.

#### **Requirement Understanding**

While developing a website or web application we need to understand our client's requirements. As I am totally new in this sector it was difficult for me to understand the requirements. But I discussed this with my clients and also with my supervisor to gather

the information and more details about the requirements, and that helped me a lot.

## 7.2 Social and Environmental Effects and Analysis

Online job portal website is a simple, but effective website. They create space for employers and employees and provide easier access to a wide array of jobs in different sectors and skill levels. They also reduce job-matching costs and fees associated with middlemen and head-hunters.

Online job portals have also expanded equality of access to employment. Prior to their existence, social connections and informal networks were the dominant means of searching for employment. Equality of access to online portals can mitigate this implicit discrimination in access to both formal and informal jobs.

There has been little focus on understanding how job portals actually benefit job seekers in the developing world.

## 7.3 Addressing Ethics and Ethical Issues

This website will be fully secured for all users. No personal information will be leaked from the website. We will try to give the maximum level of security. Every user's password will be encrypted so that the admin cannot know the password. Only users can change their passwords and access their dashboard.



# Chapter 8

## Lesson Learned

### 8.1 Problems Faced During this Period

During the project development I have faced many problems. Clarity is one of the most important requirements for the successful completion of the project and the lack of it creates several project managements issues. A study states that about 39% of projects fail due to the lack of project planning and a clearly defined goal. During the first month it was hard to discover the type of the problem or what kind of problem job seekers face and how companies face problem to choose candidate for the vacancies and also how to resolve these issues. Also, there were other problems like figuring out how the interface will look and how to make it very simple and user friendly. There were some times wasted on how we will implement the idea and convert the idea into visible site.

Most of the time I used on discovering how the site will look and what functionality will be there. Also, during the pandemic, it was very difficult to keep up with work and the project. As a result, the progress was slowed down. During the lockdown it was very difficult to communicate with clients as most of them were not familiar with various tools like google meet or zoom. As a result, I had to predict and identify most of the requirements, and functionality of the project.

### 8.2 Solution of those Problems

I solved most of the problems. But if I could regularly discuss problems with my seniors, those problems would have been solved more easily. We arranged meeting on google meet weekly to discuss about the problem and its solution. And sometimes I googled to see some existing sites to solve my problems, to get idea. I went through several website, thesis, report and research paper to know how to solve specific problems

during development of project. After lots of efforts I was able to solve my problem. Even the knowledge I gained from my university helped me to go through this phase and handle any situation. Even after all these problems, I believe, I had a successful internship at Decimal IT.

# Chapter 9

## Future Work & Conclusion

### 9.1 Future Works

The project is still developing and need to be improved everyday with new requirements. As the company said, they would need more features on the website later depending on the requirements of the customers. In future we would try to implement new features for the admin and job seeker. when the admin creates a job post on our website job seeker will be notified by email or SMS.

For instance, features, such as a communication tool between the admin and job seekers could help in minimizing the processing time. Before submitting the application, the job seeker might need details about the specific requirements and tasks. At the same time, the employer might need the information about the submitted application. Therefore, creating a communication tool such as a chatting window could help both sides.

### 9.2 Conclusion

I have done my internship with great success. I was able to work in an sector that I had no prior knowledge about. I have gained new knowledge, skills, and met so many new people throughout my internship period. I got an insight into professional's skills.

The internship is also helpful to find out what my strengths and weaknesses are. This helped me to define what skills and knowledge I must improve in the future. During my internship period, I learned about JavaScript, Bootstrap etc. Now I know how i can make a responsive website. Since, I worked with a developer's team in Decimal IT now I know how to work within a team in a company and how to communicate with other team members of the team.

During my internship period, I have faced some challenges. Some of was technical and some of was non-technical. I solved these problems by understanding and analyzing the problem type, what actually causes these kind of problems. And now I can say that i know how to overcome any challenges and solve any kind of problem.

I would like to thank both my internal and external supervisors whose guidance and motivations have induced me to succeed in this project and for the endless projects to come in the future.

# Bibliography

- [1] S. K. Rana, “Job seeker behavior towards e-recruitment,”
- [2] M. Mansourvar and N. B. M. Yasin, “Development of a job web portal to improve education quality,” *International Journal of Computer Theory and Engineering*, vol. 6, no. 1, p. 43, 2014.
- [3] M. Pinjari, N. De, R. Kokne, A. Siddiqui, and D. Chitre, “Online job portal,” 2019.
- [4] S. A. Mohamed, “Online recruitment application,” 2020.