

**UNIVERSITY OF SAHIWAL**

**JOB WINNIG**

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**SUPERVhira**

**SUBMITTED BY:**

**Sabahat Kalid**

**MCSE-19-24**



**DEPARTMENT OF COMPUTER SCIENCES  
UNIVERSITY OF SAHIWAL**

## DEDICATION

*We dedicate this work to our supervisor MAM TAHIRA who showed complete trust in us and put unending efforts and cooperated with us in an amazing manner and to all those people who have soft heart and good wishes for us. And our beloved family for their immense help and cooperation in providing every need and require we had throughout the project and all those people who prayed for us and our friends too for their unending support in every matter and process, they were there for us. Our institution and our all teachers helped us to acquire this, guided us to reach this goal, we are heartedly thankful to all with lots of prayers and good wishes.*

## **DECLARATION**

It is declared that this is an original piece of my own work, except where otherwise acknowledged in text and references. This work has not been submitted in any form for another degree or diploma at any university or other institution for tertiary education and shall not be submitted by me in future for obtaining any degree from this or any other University or Institution.

Sabahat Khalid  
MCSE-19-24

## **CERTIFICATE OF APPROVAL**

It is certified that the project titled “Job Winnig” carried out by Sabahat Khalid, Reg. No.MCSE-19-24 under the supervision of Mam Tahira Unverl, is fully adequate in scope and in quality, as a final year project for the degree of MCS.

Supervisor:

-----  
Irfan Elahi  
Lecturer  
Department of Computer Sciences  
Barani Institute of Sciences Sahiwal

Internal Examiner 1:

-----  
Tayyaba Tariq  
Lecturer  
Department of Computer Sciences  
Barani Institute of Sciences Sahiwal

Internal Examiner 2:

-----  
Nuzhat Akram  
Lecturer  
Department of Computer Sciences  
Barani Institute of Sciences Sahiwal

Project Coordinator:

-----  
Imran Shahzad  
Lecturer  
Department of Computer Sciences  
Barani Institute of Sciences Sahiwal

Director Academics:

-----  
Dr Azeem Ahmed  
Director Academics  
Barani Institute of Sciences Sahiwal

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## **ABSTRACT**

In this competitive era, the education among the people is so increasing that the jobs for them are now decreasing. The companies even want the people who are best in their fields. At that time, it becomes difficult to find the people who are intelligent enough to be hired. The work for the companies also increases to find the people who can fulfill their requirements. Thinking about these problems, one can think about the process which can handle this process. This project is about the recruitment process which is done online. The recruitment process here is handled by the system. This project will allow the person to apply for a job in the company for the interested vacancy which would be available at the company. The person will be having the account after registration and will be then called the applied user. If he would be qualified, he would be interacting with the system for the updates. The project is created for fulfilling the requests of the company managers so that the recruitment module can be placed in the company's website and the users who visit the website can view the vacancies in the company and will be able to apply directly from remote place even. The vacancies will be posted by the administrator on the basis of needs of the manpower in the company. The admin will have all rights of handling this process except the evaluation process as it is the company specific and so the steps of the evaluation process cannot be predicted. It also includes the layers at the admin side so the privileges will have great impact on the functionalities given to the different levels of admin.

## **Table of Contents**

DEDICATION.....	ii
DECLARATION.....	iii
CERTIFICATE OF APPROVAL .....	iv
ACKNOWLEDGMENT .....	v
ABSTRACT .....	vi
1 INTRODUCTION.....	1
1.1 Overview .....	1
1.2 STATEMENT OF PROBLEM.....	2
1.3 PURPOSE OF THE RESEARCH/PROJECT .....	2
1.4 APPLICATIONS OF THE PROJECT.....	2
1.5 THEORETICAL BASES AND ORGANIZATION .....	2
1.6 SUMMARY .....	3
2 LITERATURE REVIEW / EXISTING SYSTEM .....	4
2.1 RELATED TECHNOLOGIES .....	5
2.1.1 Related Technology 1: ASP.NET .....	5
2.1.2 Related Technology 2: Bootstrap .....	6
2.2 RELATED PROJECTS .....	7
2.2.1 Bayrozgar.....	7
2.2.2 Rozee.pk.....	8
2.3 RELATED STUDIES .....	9
2.4 THEIR LIMITATIONS AND BOTTLENECKS .....	11
2.5 SUMMARY .....	11
3 TOOLS AND TECHNIQUES .....	12
3.1 Tools .....	12
3.1.1 Visual Studio Code: .....	12
3.1.2 Apache (XAMPP).....	13
3.1.3 Notepad++: .....	13
3.2 Techniques .....	14
3.2.1 HTML .....	14
3.2.2 JavaScript .....	14
3.2.3 Bootstrap.....	15
3.2.3 PHP: .....	17
3.3 SUMMARY .....	18

<b>4</b>	<b>METHODOLOGIES .....</b>	<b>19</b>
<b>4.1</b>	<b>DESIGN OF THE INVESTIGATION .....</b>	<b>20</b>
<b>4.1.1</b>	<b>Use Case Diagrams .....</b>	<b>20</b>
<b>4.1.2</b>	<b>Activity Diagram .....</b>	<b>22</b>
<b>4.1.3</b>	<b>Data Flow Diagram .....</b>	<b>24</b>
<b>4.1.4</b>	<b>Class Diagram .....</b>	<b>25</b>
<b>4.1.5</b>	<b>Sequence Diagram .....</b>	<b>27</b>
<b>4.1.6</b>	<b>ER-Diagram .....</b>	<b>28</b>
<b>4.2</b>	<b>ANALYSIS PROCEDURES .....</b>	<b>29</b>
<b>4.2.1</b>	<b>Requirement Gathering .....</b>	<b>30</b>
<b>4.2.2</b>	<b>Agile Methodology .....</b>	<b>30</b>
<b>4.3</b>	<b>IMPLEMENTATION PROCEDURE .....</b>	<b>33</b>
<b>4.3.1</b>	<b>Details about Hardware .....</b>	<b>33</b>
<b>4.3.2</b>	<b>Details about Software/ Algorithms .....</b>	<b>34</b>
<b>4.4</b>	<b>VERIFICATION OF FUNCTIONALITIES .....</b>	<b>34</b>
<b>4.4.1</b>	<b>Admin Functionalities .....</b>	<b>34</b>
<b>4.4.2</b>	<b>Users Functionalities .....</b>	<b>34</b>
<b>4.4.3</b>	<b>Non Functional Requirements .....</b>	<b>34</b>
<b>4.5</b>	<b>DETAILS ABOUT SIMULATION / MATHEMATICAL MODELING</b>	
	36	
<b>4.6</b>	<b>Summary of All Your Methodologies .....</b>	<b>36</b>
<b>4.7</b>	<b>SUMMARY .....</b>	<b>36</b>
<b>5</b>	<b>SYSTEM TESTING .....</b>	<b>37</b>
<b>5.1</b>	<b>OBJECTIVE TESTING .....</b>	<b>37</b>
<b>5.2</b>	<b>USABILITY TESTING .....</b>	<b>38</b>
<b>5.2.1</b>	<b>Testing Content .....</b>	<b>38</b>
<b>5.3</b>	<b>SOFTWARE PERFORMANCE TESTING .....</b>	<b>38</b>
<b>5.3.1</b>	<b>Type of Performance Testing Process .....</b>	<b>39</b>
<b>5.4</b>	<b>COMPATIBILITY TESTING .....</b>	<b>39</b>
<b>5.5</b>	<b>LOAD TESTING .....</b>	<b>40</b>
<b>5.5.1</b>	<b>Need of Load Test .....</b>	<b>41</b>
<b>5.5.2</b>	<b>System Testing .....</b>	<b>41</b>
<b>5.6</b>	<b>SECURITY TESTING .....</b>	<b>42</b>
<b>5.6.1</b>	<b>Penetration Testing .....</b>	<b>43</b>
<b>5.6.2</b>	<b>Rick Assessment .....</b>	<b>43</b>



<b>5.7</b>	<b>INSTALLATION TESTING .....</b>	<b>43</b>
<b>5.7.1</b>	<b>Features of Installation Testing .....</b>	<b>43</b>
<b>5.8</b>	<b>TEST CASES .....</b>	<b>43</b>
<b>5.8.1</b>	<b>FORMAL TEST CASES.....</b>	<b>44</b>
<b>5.8.2</b>	<b>IN-FORMAL TEST CASES.....</b>	<b>44</b>
<b>5.9</b>	<b>Test Case #: 1.....</b>	<b>45</b>
<b>5.10</b>	<b>Test Case #: 2.....</b>	<b>45</b>
<b>5.11</b>	<b>Test Case #: 3.....</b>	<b>45</b>
<b>5.12</b>	<b>SUMMARY .....</b>	<b>46</b>
<b>6</b>	<b>RESULTS AND CONCLUSION .....</b>	<b>47</b>
<b>6.1</b>	<b>PRESENTATION OF THE FINDINGS .....</b>	<b>47</b>
<b>6.1.1</b>	<b>Hardware results.....</b>	<b>47</b>
<b>6.1.2</b>	<b>Software results.....</b>	<b>47</b>
<b>6.2</b>	<b>DISCUSSION OF THE FINDINGS.....</b>	<b>47</b>
<b>6.2.1</b>	<b>Comparison with initial GOAL .....</b>	<b>48</b>
<b>6.2.2</b>	<b>Reasoning for short comings.....</b>	<b>48</b>
<b>6.3</b>	<b>LIMITATIONS .....</b>	<b>48</b>
<b>6.4</b>	<b>RECOMMENDATIONS.....</b>	<b>48</b>
<b>6.5</b>	<b>SUMMARY .....</b>	<b>48</b>
<b>6.6</b>	<b>CONCLUSION .....</b>	<b>48</b>
<b>7</b>	<b>FUTURE WORK .....</b>	<b>49</b>
	<b>REFERENCES .....</b>	<b>50</b>

## List of Figures

<i>Figure 2.1 Bayrozgar.....</i>	<i>7</i>
<i>Figure 2.2 Feature.....</i>	<i>8</i>
<i>Figure 2.3 Kickstart.....</i>	<i>8</i>
<i>Figure 2.4 Offices .....</i>	<i>9</i>
<i>Figure 4.1 Use Case Diagram of User .....</i>	<i>21</i>
<i>Figure 4.2 Use Case Diagram of Admin .....</i>	<i>22</i>
<i>Figure 4.3 Activity Diagram.....</i>	<i>24</i>
<i>Figure 4.4 Data Flow Diagram.....</i>	<i>25</i>
<i>Figure 4.5 Class Diagram .....</i>	<i>27</i>
<i>Figure 4.6 Sequence Diagram.....</i>	<i>28</i>
<i>Figure 4.7 ER-Diagram of System.....</i>	<i>29</i>
<i>Figure 4.8 Requirement Gatherings of Agile Method .....</i>	<i>30</i>
<i>Figure 4.9 Agile Methodology .....</i>	<i>33</i>

## List of Tables

<i>Table 5.1 Test Case for Admin.....</i>	<i>45</i>
<i>Table 5.2 Test case for User .....</i>	<i>45</i>
<i>Table 5.3 Test Case for Employ.....</i>	<i>46</i>

## **List of Abbreviations**

# Chapter 1

## INTRODUCTION

This web-based portal basically concerned with different job services provided by different companies. It is also concerned with details of jobseekers. Jobseeker can view the list of different jobs and can apply for jobs. Then the company going to select the required job seekers for their qualification and update the database. The portal going to follow different company's policy. There is an admin to manage all things. The project would help us ineffective and systematic keeping that is storing and retrieving user data. the project will be able to report so that the admin can decide on the basis of that report.it provide the recruitment of people with all the necessary tools to schedule the interview and application to register and apply for jobs and interview to view the interview details. It provides the user with all the necessary privileges to access and modify the data intended for them. It doesn't entirely replace the existing system, but it mostly atomizes the recruitment process and all the data USD. The project would help in effective and systematic record keeping that is storing and retrieving of useful data. Project will be able to give the report so that management can make decisions based on those reports.

### 1.1 Overview

The name, Job portal is a free job listing website template that gets your fresh project started in close to no time. It is a mobile-ready, cross-browser compatible and high performing tool for building job portals and job boards of any niche and industry. Even if you are creating a generic job listing page, you can do that, too, with the help from Job Portal. Offer job seekers to find the exact employment they desire with the sophisticated and professional looking website that you can realize with Job Portal. With the advanced search option, they can speed up their hunt and study jobs that are to their likings only. In addition to that, Job Portal comes with animations, parallax effect, on scroll content loading and post-a-job page. There is also a fully active contact page with Google Maps, social icons and blog for content marketing. Help those in need with a banging job listing website based on the free template, Job Portal. This is a sample proposal for Job Portal development.

- o Job Management- Add/Delete/Edit jobs and jobs applications.
- Job Seeker's Panel:
- o Manage Resume- Submit/View/Edit/Delete

Resume. O View Company Profiles- Job Seekers can view profiles of different. This is a sample proposal for Job Portal development FEATURES LIST Admin

## **1.2 STATEMENT OF PROBLEM**

The old system requires applicants to search through print and visual media for job opportunities. Applicants need to apply for jobs using conventional methods and appear for interview on a specified date at a specified location. Employers need to advertise the vacancies and sort all applicant details, conduct selection procedures and complete the formalities. This approach is tedious and requires much effort and resources.

## **1.3 PURPOSE OF THE RESEARCH/PROJECT**

The online job portal that is developed provide jobseekers with different jobs information like:

1. Online applying for jobs
2. Search for jobs
3. Supported by well-designed database and web-based design.
4. A friendly user interface is provided to facilitate different services.
5. This system tends to replace the existing manual system for the recruitment process which is a time consuming, less interactive and highly expensive.
6. The main features of this system will be creating vacancies, storing Applicants data, Interview process initiation for the applicant and finally Hiring of the applicant.

## **1.4 APPLICATIONS OF THE PROJECT**

Making a single web portal for desktop and mobile responsive screens. Providing facility to both user and jobseekers to search for jobs and provide the facilities to employer post their jobs and jobseeker can easily view them and apply for them.

## **1.5 THEORETICAL BASES AND ORGANIZATION**

The website provides three panels the Admin Panel, Jobseeker Panel, and Employer the main purpose of this system are:

**Admin Panel:**

In admin panel we managed all the records and handle the employers and Jobseekers.

**Employer Panel:**

In the employer panel, Employers have authority to upload the new jobs

**Jobseeker Panel**

In jobseekers panel, jobseeker can view the new jobs and can apply for the job.

**1.6 SUMMARY**

In this chapter, there is completely online job apply system and management system to upload the new jobs using personal web-browser or android cellphone also. Only Admin can have all the hold, user that may be any company owner, any kind of business man only be able to place order. Admin can see all the records add or delete the record.

## **Chapter 2**

### **LITERATURE REVIEW / EXISTING SYSTEM**

Job applicant faking, that is, consciously misrepresenting information during the selection process, is ubiquitous and is a threat to the usefulness of various selection tools. Understanding antecedents of faking is thus of utmost importance. Recent theories of faking highlight the central role of various forms of competition for understanding why faking occurs. Drawing on these theories, we suggest that the more applicants adhere to competitive worldviews (CWs), that is, the more they believe that the social world is a competitive, Darwinian-type of struggle over scarce resources, the more likely they are to fake in employment interviews. We tested our hypothesis in three independent studies that were conducted in five different countries. Results show that CWs are strongly associated with faking, independently of job applicants' cultural and economic context. More specifically, applicants' CWs explain faking intentions and self-reported past faking above and beyond the Dark Triad of personality, competitiveness and the six facets of conscientiousness. Also, when faking is measured using a response randomization technique to control for social desirability, faking is more prevalent among applicants with strong vs. less strong CWs. Taken together, this research demonstrates that competition is indeed strongly associated with undesirable applicant behaviors[1]

Hospitality undergraduates enter today's workforce plagued by the fear of procuring a job in their chosen hospitality career. Hospitality management graduates' unemployment rate hovers around an estimated 6.0%. A multitude of studies have been done to examine and explore attractive knowledge, skills, and abilities and attributes needed from quality graduates, but a paucity of studies have been used to understand marketing and presenting tactics for future hospitality graduates. This study seeks to explore strategies and actions that are currently being utilized or that could be designed and implemented to improve hospitality students' position in their competitive job market. When these favorable strategies and/or gaps are identified, attempts can be made to execute them in future academic programs, which can ultimately enhance hospitality management students' job placement success. Academic programs can use this information to combat teaching issues that challenge the process of educating 21st-century millennial students[2]



## **2.1 RELATED TECHNOLOGIES**

### **2.1.1 Related Technology 1: ASP.NET**

ASP.NET is a web development platform, which provides a programming model, a comprehensive software infrastructure and various services required to build up robust web applications for PC, as well as mobile devices. ASP.NET works on top of the HTTP protocol, and uses the HTTP commands and policies to set a browser-to-server bilateral communication and cooperation. ASP.NET is a part of Microsoft .Net platform. ASP.NET applications are compiled codes, written using the extensible and reusable components or objects present in .Net framework. These codes can use the entire hierarchy of classes in .Net framework. ASP.NET is used to produce interactive, data-driven web applications over the internet. It consists of a large number of controls such as text boxes, buttons, and labels for assembling, configuring, and manipulating code to create HTML pages.

The ASP.NET application codes can be written in any of the following languages:

1. C#
2. Visual Basic.Net
3. Jscript
4. J#

#### **ASP.NET Web Forms Model:**

1. ASP.NET web forms extend the event-driven model of interaction to the web applications.
2. The browser submits a web form to the web server and the server returns a full markup page or HTML page in response.
3. All client side user activities are forwarded to the server for stateful processing.
4. The server processes the output of the client actions and triggers the reactions.
5. HTTP is a stateless protocol.

ASP.NET framework helps in storing the information regarding the state of the application, which consists of:

1. Page state
2. Session state

The page state is the state of the client, i.e., the content of various input fields in the web form. The session state is the collective information obtained from various pages the user visited and worked with, i.e., the overall session state. To clear the concept, let

us take an example of a shopping cart. User adds items to a shopping cart. Items are selected from a page, say the items page, and the total collected items and price are shown on a different page, say the cart page. Only HTTP cannot keep track of all the information coming from various pages. ASP.NET session state and server side infrastructure keeps track of the information collected globally over a session. The ASP.NET runtime carries the page state to and from the server across page requests while generating ASP.NET runtime codes, and incorporates the state of the server side components in hidden fields. This way, the server becomes aware of the overall application state and operates in a two-tiered connected way. The ASP.NET Component Model. The ASP.NET component model provides various building blocks of ASP.NET pages. Basically it is an object model, which describes:

1. Server side counterparts of almost all HTML elements or tags, such as <form> and <input>.
2. Server controls, which help in developing complex user-interface.

For Example, the Calendar control or the Grid view control.

ASP.NET is a technology, which works on the .Net framework that contains all web-related functionalities. The .Net framework is made of an object-oriented hierarchy. An ASP.NET web application is made of pages. When a user requests an ASP.NET page, the IIS delegates the processing of the page to the ASP.NET runtime system. The ASP.NET runtime transforms the .aspx page into an instance of a class, which inherits from the base class page of the .Net framework. Therefore, each ASP.NET page is an object and all its components i.e., the server-side controls are also objects.

### **Back-End Code:**

When using ASP.NET your back-end code, such as business logic and data access, is written using C#, F#, or Visual Basic. Because ASP.NET extends .NET, you can use the large ecosystem of packages and libraries available to all .NET developers. You can also author your own libraries that are shared between any applications written on the .NET platform.

## **2.1.2 Related Technology 2: Bootstrap**

Bootstrap is a free and open source front end development framework for the creation of websites and web apps. The Bootstrap framework is built on HTML, CSS, and JavaScript (JS) to facilitate the development of responsive, mobile-first sites and apps.

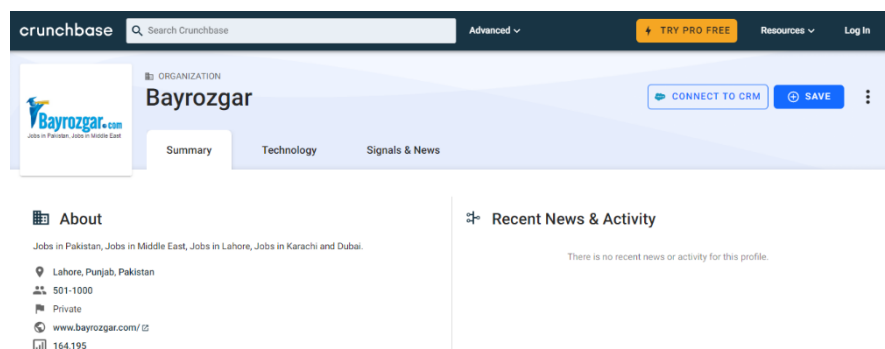
Responsive design makes it possible for a web page or app to detect the visitor's screen size and orientation and automatically adapt the display accordingly; the mobile first approach assumes that smartphones, tablets and task-specific Mobile apps are employees' primary tools for getting work done and addresses the requirements of those technologies in design. Bootstrap includes user interface components, layouts and JS tools along with the framework for implementation. The software is available precompiled or as source code. Mark Otto and Jacob Thornton developed Bootstrap at Twitter as a means of improving the consistency of tools used on the site and reducing maintenance. The software was formerly known as Twitter Blueprint and is sometimes referred to as Twitter Bootstrap. In computers, the word bootstrap means to boot: to load a program into a computer using a much smaller initial program to load in the desired program (which is usually an operating system). In the physical world, a bootstrap is a small strap or loop at the back of a leather boot that enables you to pull the entire boot on and in general usage, bootstrapping is the leveraging of a small initial effort into something larger and more significant. There is also a common expression, "pulling yourself up by your own bootstraps," meaning to leverage yourself to success from a small beginning.

## 2.2 RELATED PROJECTS

Projects that are related to our project work are given below:

### 2.2.1 Bayrozgar

The first website that relate to our project is bayrozgar as shown in Figure 2.1.



**Figure 2.1 Bayrozgar**

Bayrozgar is the leading platform for professionals to discover innovative companies, connect with the people behind them, and pursue new opportunities. Over 55 million professionals—including entrepreneurs, investors, market researchers, and

salespeople—trust Bayrozgar to inform their business decisions. And companies all over the world rely on us to power their applications, making over a billion calls to our API each year

This website provides the feature to show the feature of Bayrozgar company as shown in Figure 2.2.

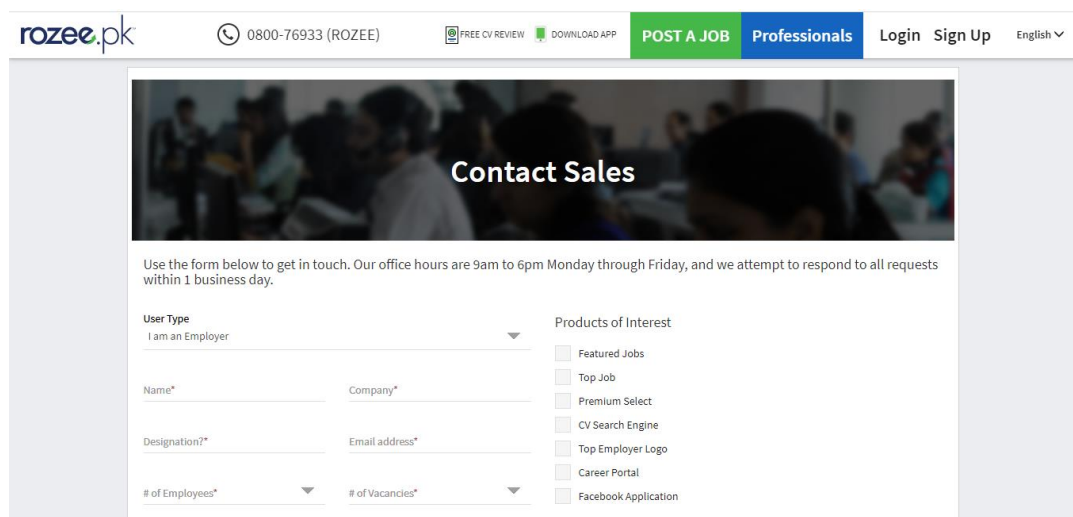


**Figure 2.2 Feature**

We believe that diversity fosters the discovery of new solutions and surfaces old problems that need answers. We want to democratize access to opportunities so that people and companies with different perspectives can accelerate innovation for a better future.

## 2.2.2 Rozee.pk

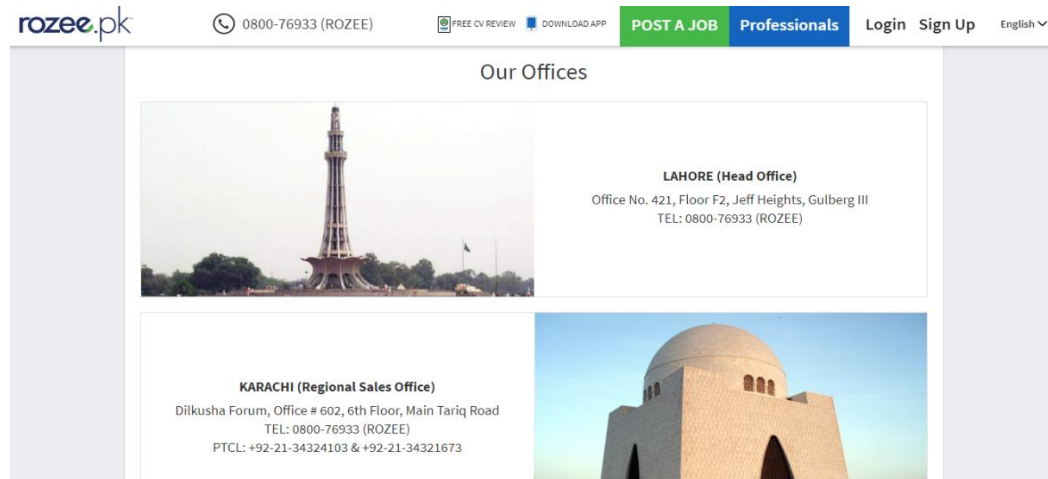
The second website that relates to our project is Rozee.pk as Shown in Figure 2.3.



**Figure 2.3 Kickstart**

ROZEE.PK is Pakistan's number one online job site which connects talent with opportunity. ROZEE.PK provides services to the job seekers and employers by providing them one platform for job searching and hiring, respectively. ROZEE.PK has a huge database of thousands of search able CVs . We provide services to more than 50,000 employers.

The Offices of this company is shown if users wants to visit as button shown in Figure 2.4.



**Figure 2.4 Offices**

ROZEE.PK is a service of Naseeb Networks, Inc., a Silicon Valley new media company. Mr. Monis Rahman, President and CEO Naseeb Networks has previously founded and run several companies ranging from Internet startups to chip design consultancies. He has raised venture capital for two Internet startups in Silicon Valley, and has nine patents to his credit. Mr. Rahman started his career at Intel Corporation where he was a key member of Intel's microprocessor design team. He completed his undergraduate degree in Electrical and Computer Engineering from the University of Wisconsin - Madison and did graduate work at Stanford University. He has been featured by numerous magazines and newspapers including New York Times, CNN, InfoWorld, Red Herring, Infoweek, The Chicago Tribune, The Miami Herald, The Oakland Tribune, The San Francisco Chronicle, and Spider.

## **2.3 RELATED STUDIES**

**The related studies are:**

**Work engagement, social support, and job satisfaction in Portuguese nursing staff: A winning combination**

Job Demands-Resources model assumes the mediator role of work engagement between social support (job resource) and job satisfaction (organizational result). However, recent studies suggest that social support can be considered as a moderator variable in the relationship between engagement and job satisfaction in nursing staff. The aim of this study is to analyze the moderator role of social support, from supervisor and from co-workers, in the relationship between work engagement and job satisfaction in a Portuguese nursing sample. We conducted a cross-sectional and correlational study assessing a final sample of 215 participants (55.56% response rate, 77.21% women). Moderation analyses were carried out using multiple and hierarchical linear regression models. Job satisfaction was significantly predicted by work engagement and social support from supervisor and from co-workers. The significant interaction in predicting job satisfaction showed that social support from co-workers enhances the effects of work engagement on nurses' satisfaction. A climate of social support among co-workers and higher levels of work engagement have a positive effect on job satisfaction, improving quality care and reducing turnover intention in nursing staff.

#### **Schedule control, supervisor support and work engagement: A winning combination for workers in hourly jobs**

The changing natures of both work and the lives of the U.S. workforce have created an array of challenges for organizations attempting to foster work engagement. To accommodate the work and family needs of an increasingly diverse workforce, many firms are offering flexible work solutions to employees. However, the distribution of these types of organizational resources is unequal, with workers in lower-wage hourly jobs having the least access to any form of flexibility. The purpose of this paper is to examine the relationship of schedule control, as a form of flexible work practice, and work engagement among workers employed in hourly retail jobs. Authors tested a model whereby the relationship between schedule control and work engagement is mediated by schedule satisfaction and perceived supervisor support. A sample of 1343 full-time hourly retail workers was used to address the study's purpose. Hypothesized relationships were fully or partially supported. Implications for research and practice are discussed. This study explores the mechanisms linking schedule control with work engagement among an hourly retail workforce. Schedule control is hypothesized to contribute to engagement by enhancing schedule satisfaction and supervisor support. Schedule control contributes to work engagement through perceived schedule satisfaction and perceived supervisor support.

## **2.4 THEIR LIMITATIONS AND BOTTLENECKS**

1. High Cost, Low Return
2. Lack of Privacy
3. Insufficient Infrastructure

## **2.5 SUMMARY**

In order to complete this project, a literature review is needed. It has played an important role as the early phase in developing this project. This chapter discusses the information from the website, and research that has been done. From the research in the internet, the literature review is meant a process and documentation of the current relevant research literature regarding a particular topic or subject of interest. Further, in this chapter we have discussed about related technologies i.e. backend web languages.

## Chapter 3

### TOOLS AND TECHNIQUES

In this chapter, we will discuss all the tools in detail used in our work. This includes software and simulation tools or any other thing which we aided in our project. If multiple software tools are used, we will use subheadings and go in detail of each one of them. Our project is web based, so different software's are used.

#### 3.1 Tools

Following Software tools are used in Co-Working Space Management System:

##### 3.1.1 Visual Studio Code:

Visual Studio Code is a free source code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js and C++. Instead of a project system, it allows users to open one or more directories, which can then be saved in workspaces for future reuse. It supports a number of programming languages and a set of features that differs per language. Unwanted files and folders can be excluded from the project tree via the settings. Many Visual Studio Code features are not exposed through menus or the user interface but can be accessed via the command palette. Visual Studio Code can be extended via extensions, available through a central repository. This includes additions to the editor and language support. A notable feature is the ability to create extensions that add support for new languages, themes, and debuggers, perform static code analysis and add code linters using the Language Server Protocol. Visual Studio Code includes multiple extensions for FTP, allowing the software to be used as a free alternative for web development. Code can be synced between the editor and the server, without downloading any extra software. Visual Studio Code allows users to set the code page in which the active document is saved, the newline character, and the programming language of the active document. This allows it to be used on any platform, in any locale, and for any given programming language.



### **3.1.2 Apache (XAMPP)**

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, Maria DB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

### **3.1.3 Notepad++:**

Notepad++ is a source code editor. It features syntax highlighting, code folding and limited auto completion for programming, scripting, and markup languages, but not intelligent code completion or syntax checking. As such, it may properly highlight code written in a supported schema, but whether the syntax is internally sound or compliable, cannot be verified. As of version 7.6.3, Notepad++ can highlight the elements of 78 syntaxes, some of them are mentioned below:

1. CSS
2. HTML
3. Python
4. XML
5. Java
6. JavaScript
7. SQL

The language list also displays two special-case items for ordinary plain text: "Normal text" (default) or "MS-DOS Style", which tries to emulate DOS-era text editors.

Notepad++ has features for consuming and creating cross-platform plain text files. It recognizes three newline representations (CR, CR+LF and LF) and can convert between them on the fly. In addition, it supports reinterpreting plain text files in various character encodings and can convert them to ASCII, UTF-8 or UCS-2. As such, it can fix plain text that seem gibberish only because their character encoding is not properly detected.

Notepad++ also has features that improve plain text editing experience in general, such as:

1. AutoSaved
2. Finding and replacing strings of text with regular expressions
3. Guided indentation
4. Line bookmarking

5. Macros
6. Simultaneous editing
7. Split screen editing and synchronized scrolling
8. Line operations, including sorting, case conversion (Uppercase, lowercase, camel case, sentence case), and removal of redundant whitespace
9. Tabbed document interface

## **3.2 Techniques**

Following techniques are used in Co-Working Space Management System:

### **3.2.1 HTML**

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `<img />` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

### **3.2.2 JavaScript**

JavaScript often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it for client-side page behavior and all major web browsers have a dedicated JavaScript

engine to execute it. As a multi-paradigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has application programming.

Interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM). However, the language itself does not include any input/output (I/O), such as networking, storage, or graphics facilities, as the host environment (usually a web browser) provides those APIs. JavaScript engines were originally used only in web browsers, but they are now embedded in some servers, usually via Node.js. They are also embedded in a variety of applications created with frameworks such as Electron and Cordova. Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ gr early in design. JavaScript is the dominant client-side scripting language of the Web, with 95% of websites using it for this purpose. Scripts are embedded in or included from HTML documents and interact with the DOM. All major web browsers have a built-in JavaScript engine that executes the code on the user's device.

### **3.2.3 Bootstrap**

Bootstrap is a HTML, CSS & JS Library that focuses on simplifying the development of informative web pages. The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight. Bootstrap also comes with several JavaScript components in the form of jQuery plugins. They provide additional user interface elements such as dialog boxes tooltips, and carousels. Each Bootstrap component consists of an HTML structure, CSS declarations, and in some cases accompanying JavaScript code. They also extend the functionality of some existing interface elements, including for example an auto-complete function for input fields. The most prominent components of Bootstrap are its layout components, as they affect an entire web page. The basic layout component is called "Container", as every other element in the page

is placed in it. The first beta version was released on 10 August 2017. Mark suspended work on Bootstrap 3 on September 6, 2016, to free up time to work on Bootstrap 4. Bootstrap 4 was finalized on January 18, 2018.

### **3.2.3.1 Bootstrap 2 And 3**

On January 31, 2012, Bootstrap 2 was released, which added built-in support for Glyphicons several new components, as well as changes to many of the existing components. This version supports responsive web design meaning the layout of web pages adjusts dynamically, taking into account the characteristics of the device used. The next major version, Bootstrap 3, was released on August 19, 2013. It redesigned components to use flat design and a mobile first approach.

### **3.2.3.3 Bootstrap 5 Alpha**

Bootstrap 5 Alpha was officially released on 16 Jun 2020, although an experimental version of the package, created by Material Design for Bootstrap based on a developer version of the Alpha already surfaced the web weeks before. Version 5 Alpha is currently the latest version of the package.

#### **Major changes include:**

1. Dropping jQuery in favor of vanilla JavaScript
2. Rewriting the grid to support columns placed outside of rows and responsive gutters
3. Migrating the documentation from Jekyll to Hugo
4. Dropping support for IE10 and IE11
5. Moving testing infrastructure from QUnit to Jasmine
6. Adding custom set of SVG icons
7. Adding CSS custom properties
8. Improved API
9. Enhanced grid system
10. Improved customizing docs
11. Updated forms

#### **Changes that are coming soon:**

1. RTL support
2. Implementing an off canvas menu

### **Changes that are being evaluated:**

1. Sass module system
2. Increased usage of CSS custom properties
3. Embedding SVGs in HTML instead of CSS

### **3.2.3 PHP:**

PHP stands for Hypertext Preprocessor. This confuses many people because the first word of the acronym is the acronym. This type of acronym is called a recursive acronym. The goal of the language is to allow web developers to write dynamically generated pages quickly. PHP executes on the server. PHP script is embedded within a Web page along with its HTML. Before the page is sent to a user that has requested it, the Web server calls PHP to interpret and perform the operations called for in the PHP script. An HTML page that includes a PHP script is typically given a file name suffix of PHP. PHP executes on the server, while a comparable alternative, JavaScript, executes on the client. PHP is an alternative to Microsoft's Active Server Page (ASP) technology. As with ASP, the PHP script is embedded within a Web page along with its HTML. Before the page is sent to a user that has requested it, the Web server calls PHP to interpret and perform the operations called for in the PHP script. Hypertext Preprocessor (or simply PHP) is a general-purpose programming language originally designed for web development. It was originally created by Rasmus Lerdorf in 1994 the PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page but it now stands for the recursive initialism PHP: Hypertext Preprocessor. PHP code may be executed with a command line interface(CLI),embedded into HTML code, or used in combination with various web template systems, web content management system and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in a web server or as a Common Gateway Interface (CGI) executable. The web server outputs the results of the interpreted and executed PHP code, which may be any type of data, such as generated HTML code or binary image data. PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control.

### **3.3 SUMMARY**

In this chapter we discuss about Tool & Techniques that we use in our projectS. As already mentioned almost all the numbers of tools & techniques in the creation of this web site, the major ones that most inspiration of the web site are computer on which the web site is created and the electronic device on which the website will run. And in software the major contribution are done by Unity, which acts as the backbone and the base which supports other software's such as Google chrome, Opera, Mozilla Firefox which help consumer in using application and the creativity and decreasing the workload as well. Whereas the XAMPP, Notepad visual studio code acts as base for the creation of application in which we design the website.

## Chapter 4

### METHODOLOGIES

Software development methodology is a process or series of processes used in software development. The design of software is essentially a skill, but it usually requires a structure which will provide a guide or a methodology for this task. A methodology can be defined as the underlying principles and rules that govern a system. A method can be defined as a systematic procedure for a set of activities. Thus, from these definitions, a methodology will encompass the methods used within the methodology. Different methodologies can support work in different phases of the system life cycle, for example, planning, analysis, design and programming, testing and implementation. Svoboda (1990) developed the idea of a methodology further by proposing that there should be at least four components:

1. A conceptual model of constructs essential to the problem
2. A set of procedure suggesting the direction and order to proceed
3. A series of guidelines identifying things to be avoided
4. Collection of evaluation criteria for assessing the quality of the product.

The conceptual model is needed to direct or guide the designers to the relevant aspects of the system. The set of procedure provides the designer a systematic and logical set of activities to begin the design task. The evaluation criteria provide an objective measurement of the work done against some established standard or specifications. A software design methodology can be structured as comprising of the software design process component and the software design representation or diagrammatic component. The process component is based on the basic principles established in the methodology while the representation component is the "blueprint" from which the code for the software will be built. It should be noted, that in practice, the design methodology is often constrained by existing hardware configuration, the implementation language, the existing file and data structures and the existing company practices, all of which would limit the solution space available to develop the software. The evolution of each software design needs to be meticulously recorded or diagrammed, including the basis for choices made, for future walk-through maintenance. The detail descriptions of methodologies used in our project are as follows. An Analysis model defines a set of

required properties of the system under development. Analysis model operates as a link between the ‘system description’ and the ‘design model’.

## **4.1 DESIGN OF THE INVESTIGATION**

Project design is an early phase of the project where a project's key features, structure, criteria for success, and major deliverables are all planned out. The point is to develop one or more designs which can be used to achieve the desired project goals. Stakeholders can then choose the best design to use for the actual execution of the project. The project design phase might generate a variety of different outputs, including sketches, flowcharts, site trees, HTML screen designs, prototypes, photo impressions. Following are some designs which describe our system work flow and activity. By adding this design, it's now easy to understand the system and its working. In these designs, we have explained the system more simply. In these designs includes activity diagram, use cases of system and class diagram.

### **4.1.1 Use Case Diagrams**

Use case diagrams are considered for high level requirement analysis of a system. When the requirements of a system are analyzed the functionalities are captured in use cases. Use case diagrams specify the events of a system and their flows. But use case diagram never describes how they are implemented. Use case diagram can be imagined as a black box where only the input, output and the function of the black box is known. These diagrams are used at a very high level of design. Then this high level design is refined again and again to get a complete and practical picture of the system. So, we can say that use cases are nothing but the system functionalities written in an organized manner. Now the second things which are relevant to the use cases are the actors. Actors can be defined as something that interacts with the system. The actors can be human user, some internal applications or may be some external applications. So, in a brief when we are planning to draw a use case diagram we should have the following items identified in use case diagram:

1. Functionalities to be represented as a use case.
2. Actors.
3. Relationships among the use cases and actors.



#### 4.1.1.1 Use Case Terminology

A use case describes a sequence of actions that provide something of measurable value to an actor.

##### 1. Actors:

An actor is a person, organization, or external system that plays a role in one or more interactions with your system.

##### 2. Associations:

An association exists whenever an actor is involved with an interaction described by a use case. Associations are modeled as lines connecting use cases and actors to one another.

##### 3. System Boundary:

A rectangle around the use cases, called the system boundary, to indicate the scope of the system.

#### 4.1.1.2 Use Case Diagram of User

The use case diagram of the user is shown in Figure 4.1 Use Case Diagram of User

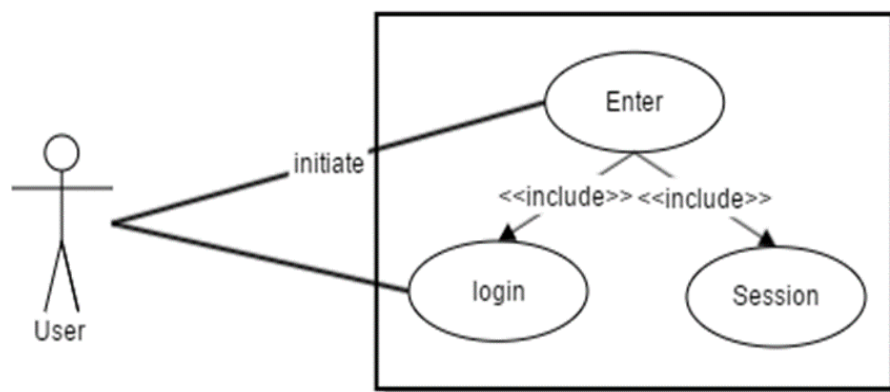


Figure 4.1 Use Case Diagram of User

#### 4.1.1.3 Use case diagram of Admin

The use case diagram of the admin is shown in Figure 4.2.

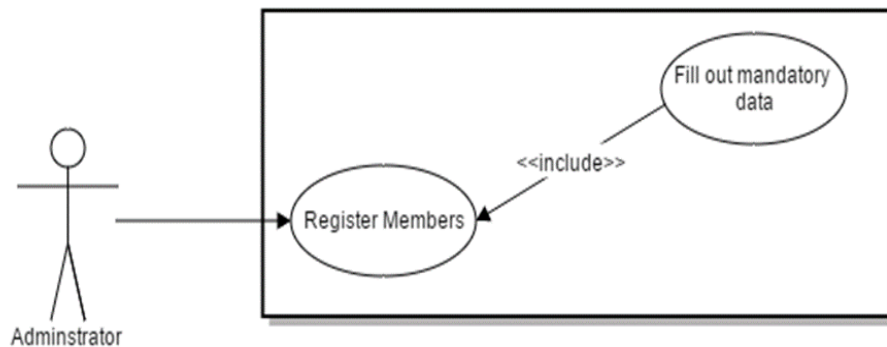


Figure 4.2 Use Case Diagram of Admin

#### 4.1.2 Activity Diagram

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all type of flow control by using different elements such as fork, join, etc.

##### 4.1.2.1 Purpose Of Activity Diagram

The basic purpose of activity diagrams are similar to other four diagrams. It captures the dynamic behavior of the system. Other four diagrams are used to show the message flow from one object to another but activity diagram is used to show message flow from one activity to another. The purpose of an activity diagram can be described as

1. Draw the activity flow of a system.
2. Describe the sequence from one activity to another.
3. Describe the parallel, branched and concurrent flow of the system.

##### 4.1.2.2 Initial State or Start Point

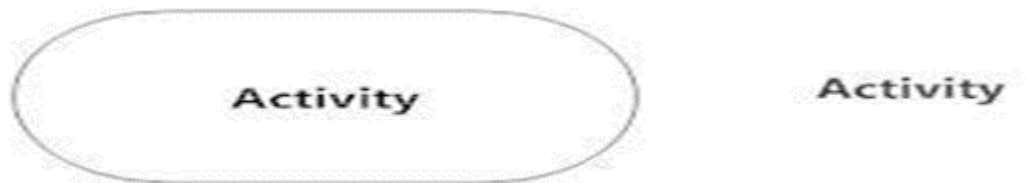
A small filled circle followed by an arrow represents the initial action state or the start point for any activity diagram. For activity diagram using swim lanes, make sure the start point is placed in the top left corner of the first column. This symbol for the initial state.



Start Point/Initial State

#### 4.1.2.3 Activity or Action State

An action state represents the non-interruptible action of objects. You can draw an action state in Smart Draw using a rectangle with rounded corners. This symbol use to represent activity.



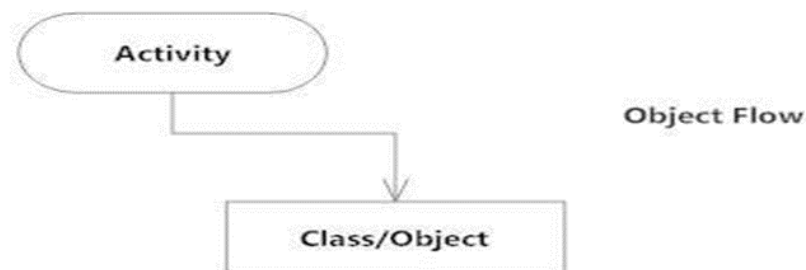
#### 4.1.2.4 Action Flow

Action flows, also called edges and paths, illustrate the transitions from one action state to another. They are usually drawn with an arrowed line.



#### 4.1.2.5 Object Flow

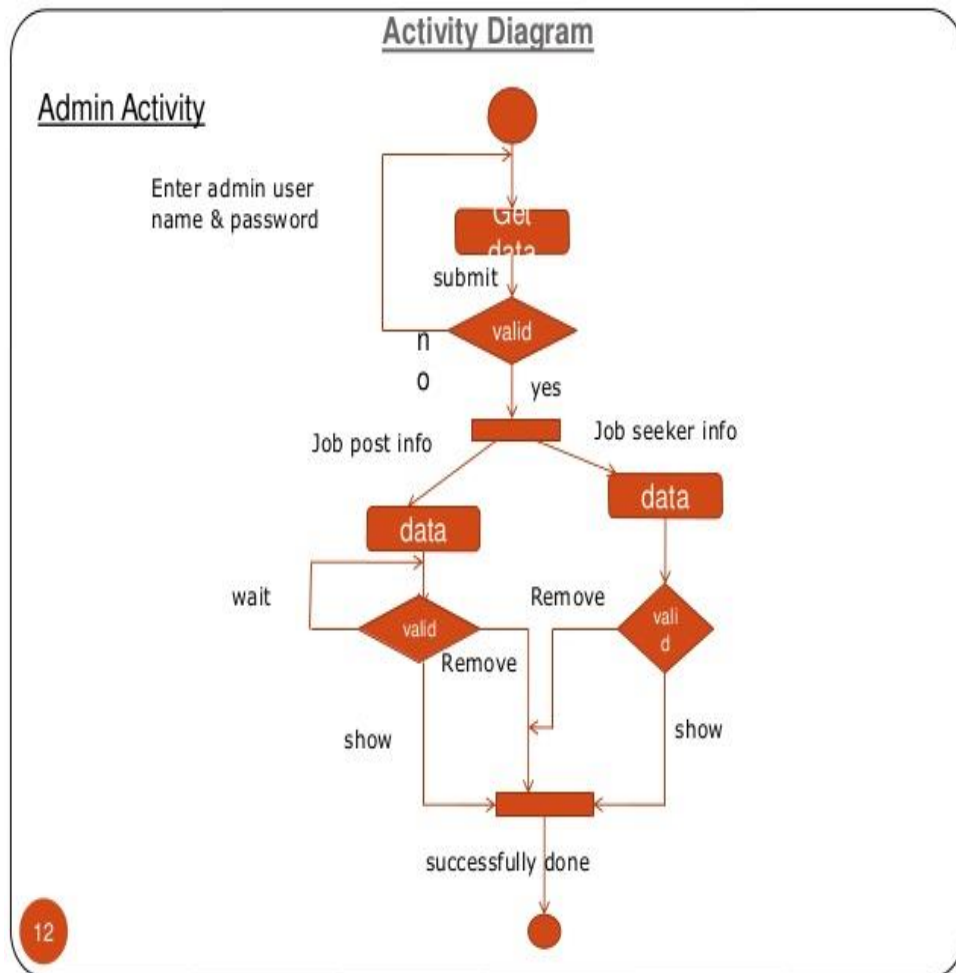
Object flow refers to the creation and modification of objects by activities. An object flow arrow from an action to an object means that the action creates or influences the object. An object flow arrow from an object to an action indicates that the action state.



#### 4.1.2.6 Decision and Branching

A diamond represents a decision with alternate paths. When an activity requires a decision prior to moving on to the next activity, add a diamond between the two activities. The outgoing alternates should be labeled with a condition or guard expression. You can also label one of the paths "else."

The activity diagram of our system is shown in Figure 4.3.



**Figure 4.3 Activity Diagram**

### 4.1.3 Data Flow Diagram

Data Flow Diagram (DFD) is a graphical representation of the “flow” of data through an information system, modeling its process aspects. A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of process or information about whether processes will operate in sequence or in parallel. The figure display the data flow diagram. Also known as DFD, Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. Data flow diagrams can be divided into logical and physical. The logical data flow diagram describes flow of data through a system to perform certain functionality of a business. The physical data flow diagram describes the implementation of the logical data flow.

The data flow diagram of our system is shown in Figure 4.4.

## Flow Chart - Job Portal System

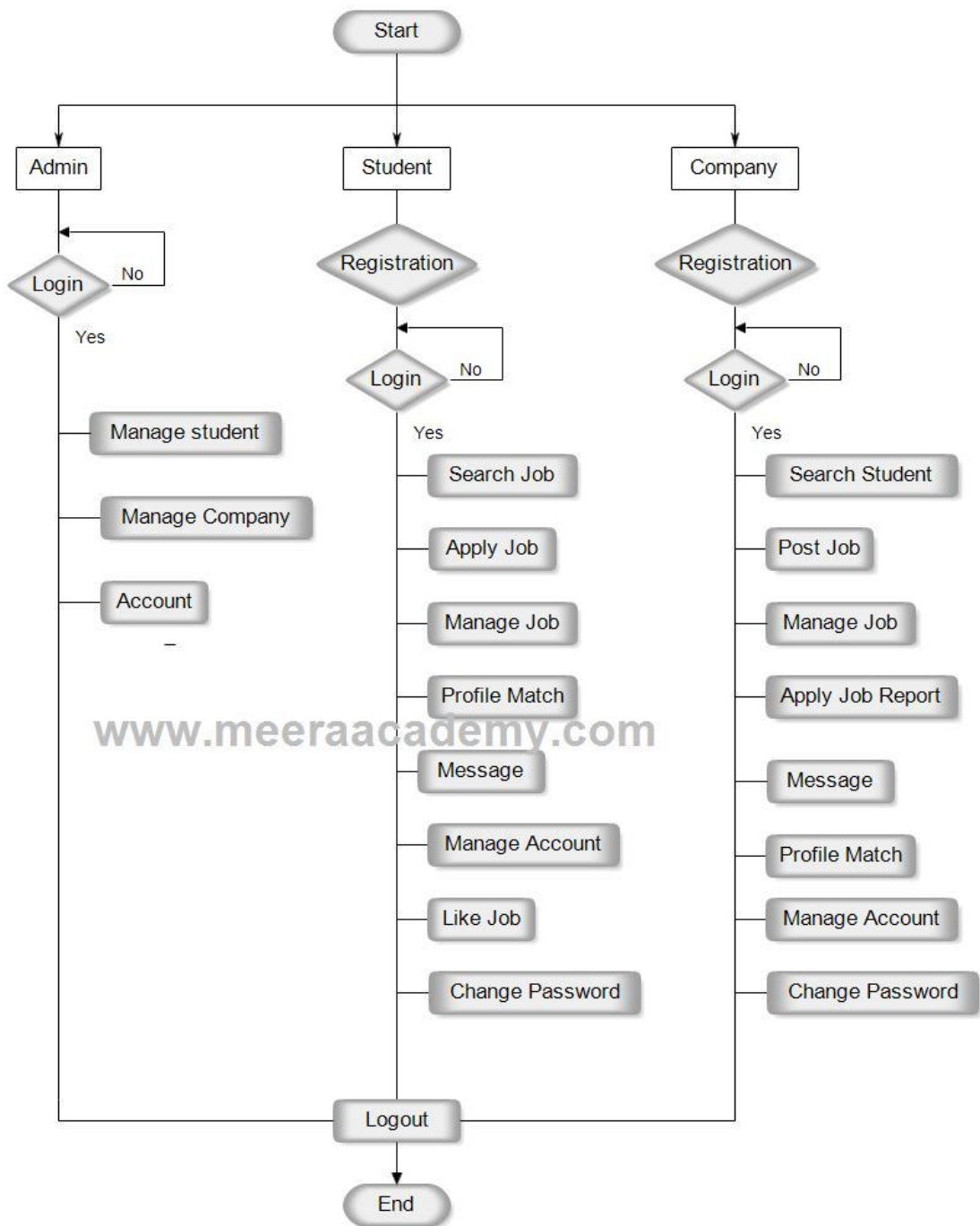


Figure 4.4 Data Flow Diagram

### 4.1.4 Class Diagram

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

A UML class diagram is made up of

1. A set of classes
2. A set of relationships between classes

#### **4.1.4.1 Class**

1. A description of a group of objects all with similar roles in the system, which consists of Structural features (attributes) define what objects of the class "know"
2. Represent the state of an object of the class
3. Are descriptions of the structural or static features of a class Behavioral features (operations) define what objects of the class "can do"
4. Define the way in which objects may interact
5. Operations are descriptions of behavioral or dynamic features of a class

#### **4.1.4.2 Class Notation**

A class notation consists of following parts.

1. . The name of the class appears in the first partition.
2. Attributes are shown in the second partition. Class attributes contains following parts
3. The attribute type is shown after the colon.
4. Attributes map onto member variables (data members) in code.
5. Operations are shown in the third partition. They are services the class provides.
6. The return type of a method is shown after the colon at the end of the method signature.
7. The return type of method parameters are shown after the colon following the parameter name.
8. Operations map onto class methods in code.

The class diagram of our system is shown in the Figure 4.5.

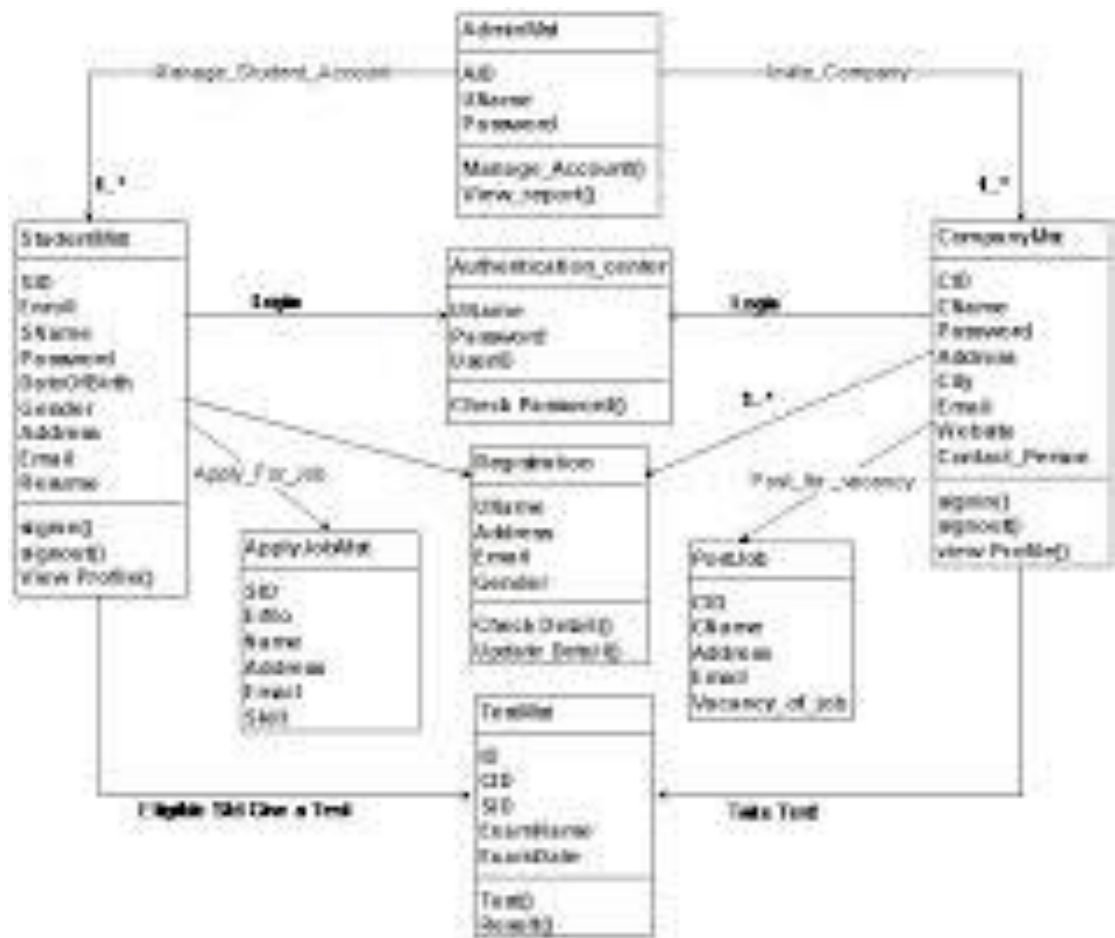
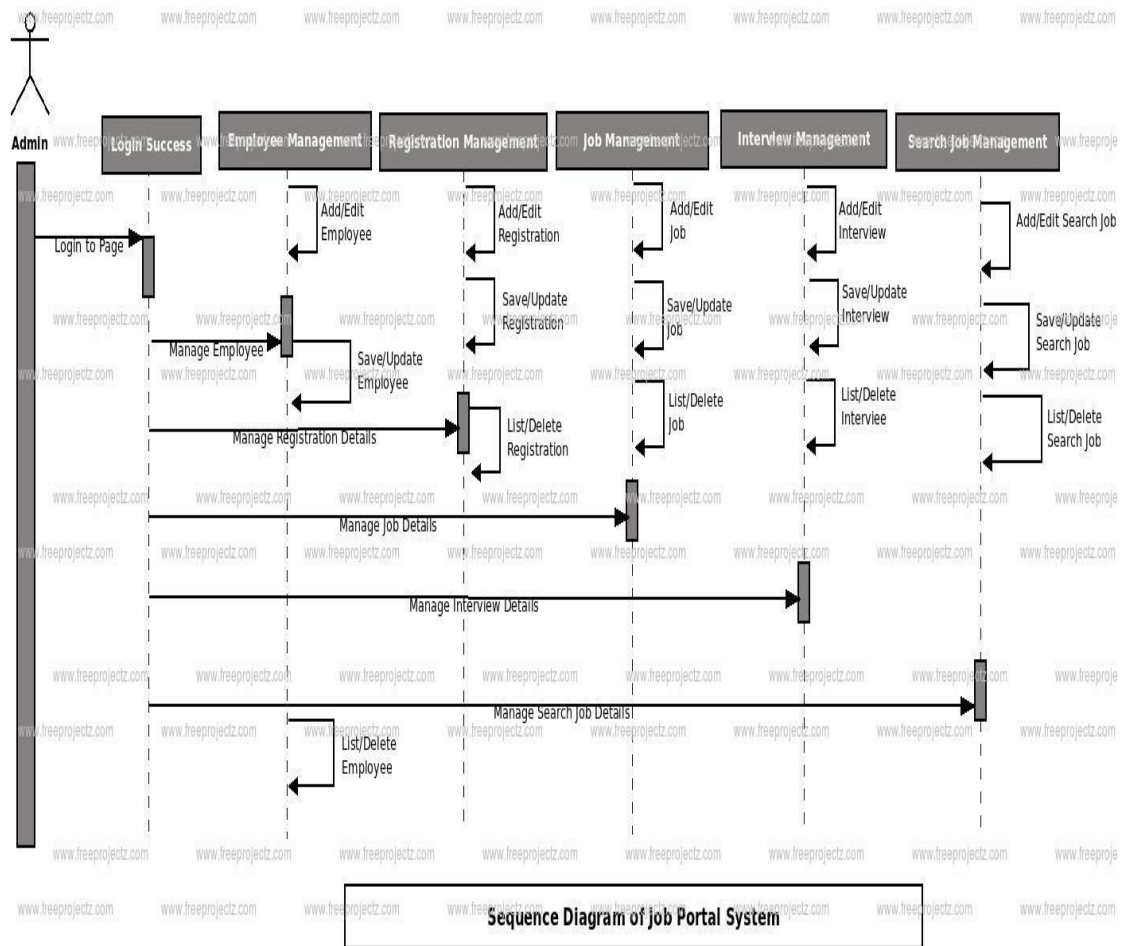


Figure 4.5 Class Diagram

#### 4.1.5 Sequence Diagram

A sequence diagram simply depicts interaction between objects in a sequential order i.e. the order in which these interactions take place. We can also use the terms event diagrams or event scenarios to refer to a sequence diagram. Sequence diagrams describe how and in what order the objects in a system function. UML has introduced significant improvements to the capabilities of sequence diagrams. Most of these improvements are based on the idea of interaction fragments. Objects calling methods on themselves use messages and add new activation boxes on top of any others to indicate a further level of processing. If an object is destroyed (removed from memory), an X is drawn on bottom of the lifeline, and the dashed line ceases to be drawn below it. It should be the result of a message, either from the object itself, or another. A message sent from outside the diagram can be represented by a message originating from a filled-in circle (found message in UML) or from a border of the sequence diagram (gate in UML).

The sequence diagram of our system is shown in Figure 4.6.



**Figure 4.6 Sequence Diagram**

#### 4.1.6 ER-Diagram

An Entity–relationship model (ER model) describes the structure of a database with the help of a diagram, which is known as Entity Relationship Diagram (ER Diagram). An ER model is a design or blueprint of a database that can later be implemented as a database. The main components of E-R model are: entity set and relationship set. An ER diagram shows the relationship among entity sets. An entity set is a group of similar entities and these entities can have attributes. In terms of DBMS, an entity is a table or attribute of a table in database, so by showing relationship among tables and their attributes, ER diagram shows the complete logical structure as shown in Figure 4.7 ER-Diagram of System.



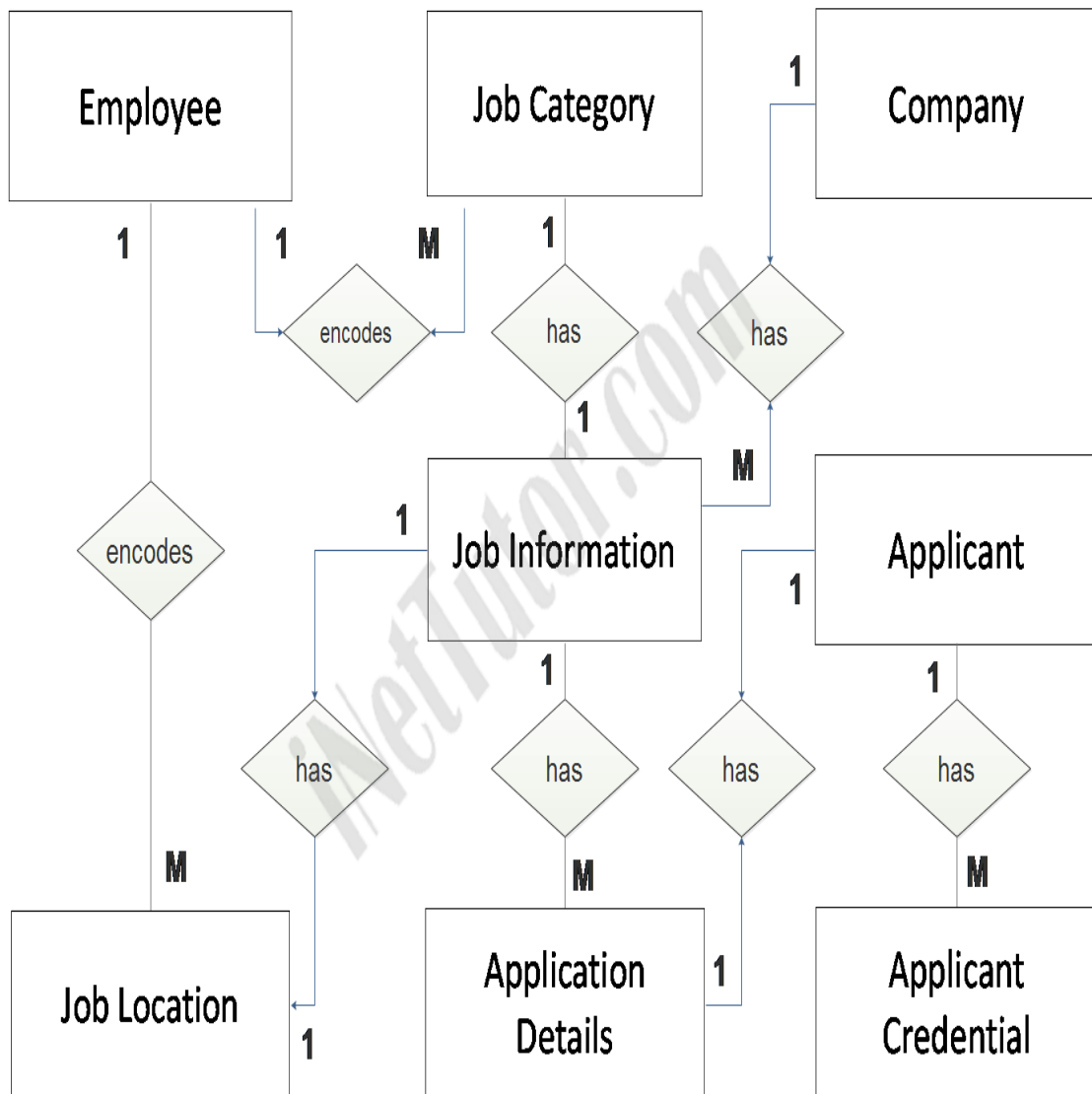


Figure 4.7 ER-Diagram of System

## 4.2 ANALYSIS PROCEDURES

The purpose of procedure analysis technique is to prepare for the implementation of selected solution concepts, as a result of value stream reinvention, reengineering or redesign. Changes in activity work flows almost always affect the policies and procedures which govern the current way the activity is performed. The purpose of this technique is to prepare for implementation and/or to prepare to pilot selected solution concepts, as a result of reengineering. Activity work flows are always affected by reengineering. Typically, there are procedures and/or policies that govern the current way the activity is performed in enterprises.

1. Confirm understanding of the solutions.
2. Confirm understanding of required actions to enable change.

3. Analyze existing procedures and policies, and determine changes required.
4. Draft new policies and procedures, and/or draft interim policies and procedures
5. Prepare recommendations.
6. Make recommendations and obtain sponsor and/or stakeholder approval.

We used the Agile Method in our system which is highly accurate and helping in development of our system.

#### 4.2.1 Requirement Gathering

A requirement can be defined as a condition or capability that must be processed by a product or an application. Techniques that can be used for collecting requirements are as follows:

1. By questionnaire and survey
2. By interview
3. By observations
4. Using software tools
5. Using techniques for decision making
6. Focus on facilitated consumer
7. Use of prototype

The Requirement Gathering of Agile Method is shown in Figure 4.8 Requirement Gatherings of Agile Method

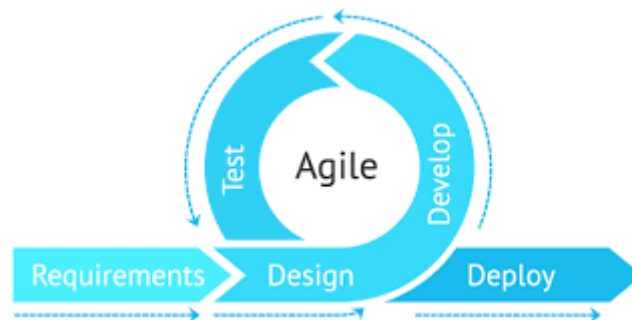


Figure 4.8 Requirement Gatherings of Agile Method

#### 4.2.2 Agile Methodology

AGILE methodology is a practice that promotes continuous iteration of development and testing throughout the software development lifecycle of the project. In the Agile model, both development and testing activities are concurrent, unlike the Waterfall model. The Agile software development methodology is one of the simplest and effective processes to turn a vision for a business need into software solutions. Agile is a term used to describe software development approaches that employ continual

planning, learning, improvement, team collaboration, evolutionary development, and early delivery. It encourages flexible responses to change.

The agile software development emphasizes on four core values.

1. Individual and team interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

Agile is a project management approach that focuses on rapid life cycle development of a product through short iterations. It features frequent demonstrations and check-ins with customers to get immediate feedback to be used in the next iteration. When it comes to creating a product, teams are given a list of guidelines, or specs, of what the customer wants and they go off of that. From those specs, they create steps to complete the product and follow those until there's a final product and that then gets taken to the customer. What sets Agile apart though is the process. Say in two weeks' time, the customer comes in to look at the product to see how progress is coming and making sure it is going in the right direction. In this process, it sounds more time consuming but it is actually the opposite. The Agile approach requires much more interaction with the customer and more frequent feedback. Therefore, teams have better specs to go on with each step. It becomes more and more popular as companies are struggling to keep up with the ever-changing requirements in their projects and the constant moving targets that exist with customers. It also doesn't require all the design and planning that goes into traditional project management.

#### **4.2.2.1 Benefits of Agile Method Over Waterfall Method**

The main benefit is the ability to change dynamically to the customers' wants and needs. A focus on the features that are the highest value to the customer. A short-fixed timeline that allows for immediate feedback from the customer and the ability to move deliverables into production. It also is very beneficial for the teams who will be using it. Agile works well with small dedicated team members and lets the team load balance workloads. For example, you may need a developer and a designer for particular project and if a person has the right experience they could be doing either type of work on an agile team. Because Agile has more frequent check-ins and demonstrations with the business, this allows for changes to be made at a much faster pace, which is good news

for smaller teams--letting them get feedback faster and making it easier for them to adjust to the wants and needs of the customer. The downside to this is that if the customer is not as available for these demonstrations, then a waterfall approach is better. For the Agile approach, we would need customers to be available throughout our project. Whereas in a waterfall approach, we may need them early on in our planning phase but we can get away with them being less available as the project progresses. Remember in Agile, because we are constantly prioritizing based on value, the only ones who can accurately set the priorities for the project is the customer.

#### **4.2.2.2 Agile Software Development Principals**

Agile Software Development is based on twelve principles:

1. Customer satisfaction by early and continuous delivery of valuable software.
2. Welcome changing requirements, even in late development.
3. Deliver working software frequently (weeks rather than months)
4. Close, daily cooperation between business people and developers
5. Projects are built around motivated individuals, who should be trusted
6. Face-to-face conversation is the best form of communication (co-location)
7. Working software is the primary measure of progress
8. Sustainable development, able to maintain a constant pace
9. Continuous attention to technical excellence and good design
10. Simplicity—the art of maximizing the amount of work not done is essential
11. Best architectures, requirements, and designs emerge from self-organizing teams
12. Regularly, the team reflects on how to become more effective, and adjusts accordingly

The development of Agile Methodology is shown in Figure 4.9 Agile Methodology



**Figure 4.9 Agile Methodology**

### **4.3 IMPLEMENTATION PROCEDURE**

Implementation is the process of building the web according to its design. The present chapter discusses deeply the implementation of the system, highlighting the testing exercise and describing some of the main component of the system's Graphical User Interface (GUI). It will give an output from the programming language and other tool used to develop the system. Documentation in the new system provides adequate information and instructions that enable the user to use the system effectively by reviewing and updating the new system while the implementation has to do with the testing of the new system for its functionality.

- 1. Plan**
- 2. Design**
- 3. Develop**
- 4. Test**
- 5. Release**

#### **4.3.1 Details about Hardware**

Requirements of the software should be transformed into an architecture that describes the software's top-level structure and identifies its components.

### **4.3.2 Details about Software/ Algorithms**

In development of this web application, performance of software matters a lot. We should come up with the best performance of our software to get the best output and results. Following software are being used in this application.

1. XAMPP
2. Notepad++
3. HTML/CSS
4. Microsoft Visio

## **4.4 VERIFICATION OF FUNCTIONALITIES**

### **4.4.1 Admin Functionalities**

1. Admin can register new user.
2. Admin can get reservations of all the users
3. Admin can take visitor request.
4. Admin can generate bill on one click
5. Admin can print/Email online payment bill
6. Admin can search specific user history
7. Admin can check all previous record of user
8. Admin can detect if any fault occur in system

### **4.4.2 Users Functionalities**

1. User can login
2. User can check our Gallery
3. User can check our workspace.
4. User can reserve itself through online payment.
5. User can also just book there visit tour

### **4.4.3 Non Functional Requirements**

Non-functional requirement is a specification that describes the system's operation capabilities and constraints that enhance its functionality. These may be speed, security, reliability, etc.

#### **4.4.3.1 Availability**

Availability is the ratio of time a system or component is functional to the total time it is required or expected to function.

1. Application must be responsive and available at every time
2. Application must be work on time efficiently.

#### **4.4.3.2 Reliability**

The system shall provide storage of all databases on redundant computers with automatic switchover. The system shall provide for replication of databases to off-site storage locations.

1. System should be reliable
2. System should not produce an incorrect output

#### **4.4.3.3 Maintainability**

Making changes or upgradeability in the site will not be that much difficult. By having some knowledge of programming, some features of the application might be converted to a new version.

1. System should perform a successful action within a given time.

#### **4.4.3.4 Portability**

1. Easy to access anywhere any time

#### **4.4.3.5 Security**

1. Users data must be secure

#### **4.4.3.6 Performance**

The product shall be based on web and has to be run from a web server. The product shall take initial load time depending on internet connection strength which also depends on the media from which the product is run. The performance shall depend upon hardware components of the client/customer.

The Performance of our system is in the sense that

1. System should be fast
2. System should support the capability to use multi user environment
3. System must perform well

#### **4.4.3.7 Consistency**

When an admin is updating information, consistency must hold there.

#### **4.4.3.8 Database Requirement**

In this section, the database requirements for this website are mentioned: We use phpMyadmin for the Database Management system.

### **4.5 DETAILS ABOUT SIMULATION / MATHEMATICAL MODELING**

Modelling and simulation allow the designer to integrate into the projects a large proportion of the system's implicit specification. We are done with the logic view of the system. Here we are going to see the software interface design and how the software looks like. And how it perform the task.

### **4.6 Summary of All Your Methodologies**

In this chapter, we have discussed about all the methodologies that we used in our project development including implementation, and software requirements. We have also discussed about agile model that we have used as a process model during development of Co-Working Space Management System. Analysis procedures are the activities that describe software development as a process in the production of software. It is the software process. This process has four main activities software specification, Software design and implementation, Software validation.

### **4.7 SUMMARY**

The summary of this chapter is we discussed about the methodology which includes team architecture a simple mechanism which describes all the infra-structure of project i.e. project's planning, its implementation; design phase etc. Details about two basic modules i.e. Admin, Employer and jobseekers module. Further in this chapter, we have discussed procedures i.e. functional and non-functional requirements the timing i.e. in Details about Simulation.



## **Chapter 5**

### **SYSTEM TESTING**

In this chapter, we will discuss the testing phase of developed application in different manner to know that how much efficient and effective Website is. A process of performing as application or program with the intention of finding errors and whether the website is fulfilling user needs. It can also be defined as the ability of a program in meeting the required or desired results. In many methodologies of software engineering, a separate phase is called phase of testing which is performed after the completion of the implementation. There is a benefit in using this approach that it is hard to see one's own mistakes, and a fresh eye can find observable errors much faster than the person who has read the material many times. Testing of the software ensures that either the required functionality or expected results are developed or not? Testing has been completed in different phases at completion of every unit before going to next phase. Therefore, all of the functionality of the system is tested after each unit completion so there is no chance of errors remaining in the system. Software testing makes sure that the testing is being done properly and the system is able to be used. Hence the system is ready for use. Testing gives good coverage of the software being developed and good coverage means that the testing has been done to cover the various areas of the software which includes functionality of the application, compatibility testing of the application with the OS of the machines on which it is installed, performance testing to test the performance of the application as per action performed and load testing to make sure that the system is reliable and should not crash or there should not be any blocking issues when software is being used.

#### **5.1 OBJECTIVE TESTING**

The main goal of the objective testing is to ensure the quality of software delivered. Major goal of objective testing is to test whether all the components of the system have functionality correctly. Software Testing has different goals and objectives. Software Testing has different goals and objectives. The major objectives of Software testing are as follows: Finding defects which may get created by the programmer while developing the software. Gaining confidence in and providing information about the level of

quality. An objective test is a test that has right or wrong answers and so can be marked objectively. Objective tests are popular because they are easy to prepare and take, quick to mark, and provide a quantifiable and concrete result.

## **5.2 USABILITY TESTING**

This testing is carried out to measure how much the system is user friendly and easy to use. Is the GUI (Graphical User Interface) is easily understood by its users. Usability testing refers to evaluating a product or service by testing it with representative users. Typically, during a test participants try to complete typical tasks while observers watch, listen and takes notes. The goal is to identify any usability problem, collect qualitative and quantitative data and determine the participant's satisfaction with the product. The primary purpose of a usability test is to gather the data needed to identify usability issues and improve a website or app's design. Even the best web design and development teams can benefit from usability testing as the tests indicate trouble spots for users and the areas where they are getting stuck or confused.

During a usability test we

1. Find out how satisfied participants are with your Web site or other product
2. Identify changes required to improve user performance and satisfaction
3. And analyze the performance to see if it meets your usability objectives

This system is user friendly and easy to use. Every person can use it easily. Some products are customized to check the usability of the system.

### **5.2.1 Testing Content**

1. Content should be legible and easy to understand. There must be no grammatical error and spelling errors.
2. Menus, buttons or Links to different pages should be consistent and visible to all pages.

## **5.3 SOFTWARE PERFORMANCE TESTING**

Software performance testing is the practice of determining whether a given application has the capacity to perform in terms of scalability and responsiveness under a specified workload. Responsiveness refers to the ability of a given application. to meet pre-determined objectives for throughput, while scalability is the number of activities

processed within a given time. Performing this type of testing is a key factor when ascertaining the quality of a given application.

### **5.3.1 Type of Performance Testing Process**

1. Load testing checks the application's ability to perform under anticipated user loads. The objective is to identify performance bottlenecks before the software application goes live.
2. Stress testing involves testing an application under extreme workloads to see how it handles high traffic or data processing. The objective is to identify the breaking point of an application.
3. Endurance testing is done to make sure the software can handle the expected load over a long period of time
4. Spike testing Tests the software's reaction to sudden large spikes in the load generated by users.
5. Volume testing under Volume Testing large amount of data is populated in a database and the overall software system's behavior is monitored. The objective is to check software application's performance under varying database volumes.

## **5.4 COMPATIBILITY TESTING**

Compatibility testing is carried out to check the compatibility of the software on different platform. A capability assessment is a test of your intellectual capacity; your cognitive ability. An intelligence test consists of various capability assessments with different problems. These tests have become popular because they provide an indication of ability to resolve various problems quickly and adequately. Compatibility testing is a type of software testing used to ensure compatibility of the system/application/website built with various other objects such as other web browsers, hardware platforms, users (in case if it's very specific type of requirement, such as a user who speaks and can read only a particular language), operating system.

1. The initial phase of compatibility testing is to define the set of environments or platforms the application is expected to work on.
2. The tester should have enough knowledge of the platforms/software/hardware to understand the expected application behavior under different configurations.

3. The environment needs to be set-up for testing with different platforms, devices, networks to check whether your application runs well under different configurations.
4. Report the bugs. Fix the defects. Re-test to confirm Defect fixing.
5. This type of testing helps find out how well a system performs in a environment that includes hardware, network, operating system and other software etc. It is basically the testing of the application or the product built with the computing environment. It tests whether the application or the software product built is compatible with the hardware, operating system, database or other system software or not.

#### **Hardware**

It checks the software to be compatible with hardware devices. Laptop and tablet are used as a hardware device in SEN. It is compatible with laptop.

#### **Operating System**

It checks the software compatible with operating system.

#### **Software**

It checks that developed application is compatible with other software

#### **Browser**

A browser is an application program that provides a way to look at and interact with all the information on the World Wide Web. This includes Web pages, videos and images. Many people will use web browsers today for access to the internet and is seen almost as a necessity in how many navigate their daily life.

#### **Network**

A network, in computing, is a group of two or more devices that can communicate. In practice, a network is comprised of several different computer systems connected by physical and/or wireless connections.

## **5.5 LOAD TESTING**

Load testing is carried out to know the behavior of the system under the specific expected load. Load testing is the process that simulates actual user load on any application or website. It checks how the application behaves during normal and high loads. This type of testing is applied when a development project nears to its completion. Load testing is a kind of Performance Testing which determines a system's

performance under real-life load conditions. This testing helps determine how the application behaves when multiple users access it simultaneously. This testing usually identifies - The maximum operating capacity of an application. The objective is to identify the breaking point of an application. Endurance testing is done to make sure the software can handle the expected load over a long period of time. Spike testing tests the software's reaction to sudden large spikes in the load generated by users.

### **5.5.1 Need of Load Test**

Some extremely popular sites have suffered serious downtimes, when they get massive traffic volumes. E-commerce websites invest heavily in advertising campaigns, but not in Load Testing to ensure optimal system performance, when that marketing brings in traffic.

#### **5.5.1.1 Test Plan**

A process of performing as application or program with the intention of finding errors and whether the application is fulfilling user needs.

#### **5.5.1.2 Unit Testing**

The software units in an application are modules and routines that are assembled and integrated to perform a specific function. Unit testing focuses first on modules, independently of one another, to locate errors. This enables, to detect errors in coding and logic that are contained within each module. The various controls are tested to ensure that each performs its action as required. Commonly used method is White-Box Testing method. Every time a component of the program is changed, it can be run for testing that is the biggest and famous benefit of this testing phase. Issues that arise during this phase, allowing being resolved as quickly as possible. Unit testing is familiar by software developers. It allows them to test their application units before moving them to testers for formal testing.

### **5.5.2 System Testing**

To test the complete application, system testing has been used. It is beneficial to check whether the application meets its requirements and fulfill Quality Standards.

#### **5.5.2.1 Integration Testing**

Integration testing allows the software developers to integrate all of the components/units of the application within a program and then test them in a group. Basically, this testing level is used to catch the defects in the user interface between the functions/modules. It is useful to determine how logically and efficiently all the units/

components are running together. Here the streaming module and encoding module options are integrated and tested. This testing provides the assurance that the application is well integrated functional unit with smooth transition of data.

#### **5.5.2.2 User Acceptance Testing**

User acceptance of an application is the key factor for the success of any application. The application under consideration is tested for user acceptance by constantly keeping in touch with the application users at time of developing and making changes whenever required.

### **5.6 SECURITY TESTING**

Security testing is carried out to disclose the weakness in the software. Security testing is a type of software testing that intends to uncover vulnerabilities of the system and determine that its data and resources are protected from possible intruders. The goal of security testing is to identify the threats in the system and measure its potential vulnerabilities, so the system does not stop functioning or is exploited. System testing is protection testing that test security methods in the system to avoid invalid intrusions. The system stores secret and sensitive information that is susceptible to invalid intrusions. An intrusion to obtain secret information may cause severe economic damage the organization. There are many reasons for such intrusion

1. Hackers do it for fun.
2. Some people pass secret information for their own benefit.

Security testing is carried out to disclose the weakness in the software. The goal of security testing is to identify the threats in the system and measure its potential vulnerabilities, so, the system does not stop functioning or is exploited. It also helps in detecting all possible security risks in the system and help developers in fixing these problems through coding. It involves identifying network and system weaknesses, and later provides solutions for reducing these risks. This scanning can be performed for both Manual and Automated scanning.

### **5.6.1 Penetration Testing**

This kind of testing simulates an attack from a malicious hacker. This testing involves analysis of a particular system to check for potential vulnerabilities to an external hacking attempt.

### **5.6.2 Risk Assessment**

This testing involves analysis of security risks observed in the organization. Risks are classified as Low, Medium and High. This testing recommends controls and measures to reduce the risk.

## **5.7 INSTALLATION TESTING**

Installation testing is carried out to install the software. Installation testing is check that software application is successfully installed & it is working as expected after installation. This is testing phase prior to end users will firstly interact with the actual application. Moreover, with the assistance of installation testing the team of testers is able to validate the quality as well as the correctness of the installation process and ensure that the users receive optimum user experience.

### **5.7.1 Features of Installation Testing**

The importance of installation testing in software development life cycle (SDLC) can be understood from the above explanation. However, the significance of this process is not limited to these aspects only, and it can be further elaborated into following features:

1. It is an activity based testing.
2. This type of testing is executed during Operational Acceptance Testing.
3. Performed
4. Identifies and detects bugs and issues during software installation.
5. Helps deliver optimum user experience.
6. Its process may include partial or full upgrade installation.

## **5.8 TEST CASES**

A test case is prepared for each test to be performed. The test cases result in the development of test reports, which will be used for analysis of test output. There exists

number of methods for testing software through software tools. For the following test cases, we use the white box testing technique. If we stick to the definition, "white box test" also known as transparent, glass box, or structural test; is a testing technique that evaluates the code and internal structure of a program.

White box testing involves looking at the structure of the code. When the internal structure of a product is known, tests can be performed to ensure that internal operations are performed according to specification. And all the internal components have been properly exercised. In software engineering, a test case is a specification of the inputs execution conditions, testing procedure, and expected results that define a single test to be executed to achieve a particular software testing objective, such as to exercise a particular program path or to verify compliance with a specific requirement. Test cases underlie testing that is methodical rather than haphazard. A battery of test cases can be built to produce the desired coverage of the software being tested. Formally defined test cases allow the same tests to be run repeatedly against successive versions of the software, allowing for effective and consistent regression testing.

#### **5.8.1 FORMAL TEST CASES**

In order to fully test that all the requirements of an application are met, there must be at least two test cases for each requirement: one positive test and one negative test. If a requirement has sub-requirements, each sub-requirement must have at least two test cases. Written test cases should include a description of the functionality to be tested, and the preparation required to ensure that the test can be conducted. A formal written test-case is characterized by a known input and by an expected output, which is worked out before the test is executed. The known input should test a precondition and the expected output should test a post condition.

#### **5.8.2 IN-FORMAL TEST CASES**

For applications or systems without formal requirements, test cases can be written based on the accepted normal operation of programs of a similar class. In some schools of testing, test cases are not written at all but the activities and results are reported after the tests have been run. In scenario testing, hypothetical stories are used to help the tester think through a complex problem or system. These scenarios are usually not written down in any detail. They can be as simple as a diagram for a testing environment or they could be a description written in prose. The ideal scenario test is a story that is motivating, credible, complex, and easy to evaluate. They are usually different from



test cases in that test cases are single steps while scenarios cover a number of steps of the key.

## 5.9 Test Case #: 1

**Test Case Name:** Admin

**Software:** Job Winning

**Test Description:** This test can verifies that admin can register, maintain and update the data.

**Testing Environment:** It can be easily executed on every browser.

**Test ID:** 1

**Table 5.1 Test Case for Admin**

Preconditions	To get accurate result.
Actions	Admin can register successfully
Expected Results	The expected results to get 100% output
Result	100%

## 5.10 Test Case #: 2

**Test Case Name:** Employer

**Software:** Job Winning

**Test Description:** This test can verifies that user can login, upload the new jobs.

**Testing Environment:** It can be easily executed on every browser.

**Test ID:** 2

**Table 5.2 Test case for User**

Preconditions	To get accurate result.
Actions	Employer can easily upload new jobs successfully
Expected Results	The expected results to get 100% output
Result	100%

## 5.11 Test Case #: 3

**Test Case Name:** Jobseekers

**Software:** Job Winning

**Test Description:** This test can verifies that jobseekers can signup/login and can apply for the job.

**Testing Environment:** It can be easily executed on every browser.

**Test ID: 3**

**Table 5.3 Test Case for Employ**

Preconditions	To get accurate result.
Actions	Jobseekers can signup/login and can easily apply for job
Expected Results	The expected results to get 100% output
Result	100%

## **5.12 SUMMARY**

In this chapter, we have done testing of the developed system. Testing is very important to ensure accuracy of the project. Testing of the software ensures that either the required functionality is developed or not? Compatibility testing, objective testing and many other techniques are used to test the project. At the end, there are some of the test cases that show the system is working properly or not. We used white box testing technique to test the internal code segment of the project relevant to the project.

## **Chapter 6**

### **RESULTS AND CONCLUSION**

We feel very proud after making of our final year project successfully. Before Our project is only a humble venture to satisfy the needs to manage their project work. Several user-friendly coding has also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the college/university. The objective of software planning is to provide a frame work that enables the admin to manage Co-Working Space.

#### **6.1 PRESENTATION OF THE FINDINGS**

Our project is only a humble venture to satisfy the needs to manage their project work. Several user-friendly coding has also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the college/university. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses. This will include a little brief description and details of the findings in a comparative way. The main purpose of the project whether achieved or not in a way that how it is being presented in front of the users.

##### **6.1.1 Hardware results**

Split the project in major parts and discuss the results for each part.

##### **6.1.2 Software results**

Again, split the project in different parts discuss the results for each part.

#### **6.2 DISCUSSION OF THE FINDINGS**

Elaborate your findings/results and provide a critical analysis. Comparisons with some standards or other authentic work done.

### **6.2.1 Comparison with initial GOAL**

What you initially claimed and what you achieved in the end.

### **6.2.2 Reasoning for short comings**

Most probably there will be some results not in line with your goal, explain the reasons for this e.g. Hardware/recourses unavailability, time constraints e.t.c.

## **6.3 LIMITATIONS**

The goals/results you achieved if some constraints have or if they are for some specific conditions, explain all these.

## **6.4 RECOMMENDATIONS**

What your recommendations would be to someone who wants to carry on with your work where you left it or wants to improve it.

## **6.5 SUMMARY**

Summary of the results.

## **6.6 CONCLUSION**

What is the strongest and most important statement that you can make from your observations? If you met the reader at a meeting six months from now, what do you want them to remember about your paper? Refer back to problem posed, and describe the conclusions that you reached from carrying out this investigation, summarize new observations, new interpretations, and new insights that have resulted from the present work. Include the broader implications of your results. Make sure you do not repeat word for word of any part of project report above.

## **Chapter 7**

### **FUTURE WORK**

In this chapter, you will explain that on basis of your finding and achievements what improvement do you think can be implemented in future or you would like to do.

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