Web-based system for linking fresh graduate employability and industry demand

Dlkhwaz Othman Mohammed

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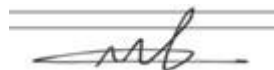4. The Library has the right to make copies of the thesis for academic exchange.

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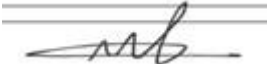
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Web-based system for linking fresh graduate employability and industry demand

Dlkhwaz Othman Mohammed

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Bachelor of Computer Science (Software Engineering)

School of Computing
Faculty of Engineering
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DEDICATION

This thesis is dedicated to my beloved brothers and sisters, especially my dearest mother, who stays by me when things seem hopeless and taught me that the best sortof knowledge to have been information gained for its own sake.

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I'd want to express my gratitude to DR. Mohammed Shihab, my project supervisor, for his support, direction, and willingness to share his knowledge with me throughout the creation of this project. This thesis would not have been the same if it hadn't been for his continual attention and encouragement. I'd also like to offer my heartfelt gratitude to my family for their unwavering support throughout my life, particularly during my university life.

I have the opportunity to finish this thesis because of their unwavering love and prayers. My dearest brothers and sisters, especially my darling mother, who stays by me when things appear grim and taught me that the best kind of knowledge to have that which is gained through experience.

ABSTRACT

Web-based system for linking fresh graduate employability and industry demand is built for Students to assist the local Kurdish community's young enlightened and passionate souls, allowing them to reach their full potential and, in turn, contribute to the betterment and development of our community. The system will assist students in gaining skills and building a résumé by volunteering. The volunteer opportunity system will help students to gain more skills and self-confident through volunteer, the system will provide many volunteering programs that help recently graduated or current students improve their skills in a place where they can develop. Volunteering allows students to receive hands-on experience in a new and exciting situation while also allowing them to specialize their talents in team work. According to Deloitte's research, 82 percent of hiring managers prefer volunteers, and 85 percent are willing to overlook other CV flaws if a candidate has volunteered. Students with volunteer experience not only boost their portfolios, but they also successfully stand out among other potential applicants when it comes to fill these open positions. The System will assist students in learning to operate in a group, which is a crucial skill for the workplace. Students will benefit from the system in terms of improving their resumes and job prospects. Volunteering allows students to try out a new industry before making a long-term commitment. It's also a great chance to get some hands-on experience in a new profession.

ABSTRAK

Sistem berasaskan web untuk menghubungkan kebolehpasaran graduan baru dan permintaan industri dibina untuk Pelajar membantu jiwa muda yang tercerahkan dan ghairah komuniti Kurdish tempatan, membolehkan mereka mencapai potensi penuh mereka dan seterusnya menyumbang kepada peningkatan dan pembangunan komuniti kita. Sistem ini akan membantu pelajar dalam memperoleh kemahiran dan membina resume dengan sukarela. Sistem peluang sukarelawan akan membantu pelajar untuk memperoleh lebih banyak kemahiran dan keyakinan diri melalui sukarelawan, sistem ini akan menyediakan banyak program sukarelawan yang membantu pelajar yang baru tamat pengajian atau pelajar semasa meningkatkan kemahiran mereka di tempat di mana mereka boleh berkembang. Sukarelawan membolehkan pelajar menerima pengalaman langsung dalam situasi baharu dan menarik di samping membolehkan mereka mengkhususkan bakat mereka dalam kerja berpasukan. Menurut penyelidikan Deloitte, 82 peratus pengurus mengupah lebih suka sukarelawan, dan 85 peratus bersedia untuk mengabaikan kelemahan CV lain jika calon telah menawarkan diri. Pelajar yang mempunyai pengalaman sukarelawan bukan sahaja meningkatkan portfolio mereka, tetapi mereka juga berjaya menonjol di kalangan pemohon berpotensi lain apabila mengisi jawatan terbuka ini. Sistem ini akan membantu pelajar dalam belajar untuk beroperasi dalam kumpulan, yang merupakan kemahiran penting untuk tempat kerja. Pelajar akan mendapat manfaat daripada sistem ini dari segi menambah baik resume dan prospek pekerjaan mereka. Sukarelawan membolehkan pelajar mencuba industri baharu sebelum membuat komitmen jangka panjang. Ia juga merupakan peluang yang baik untuk mendapatkan pengalaman langsung dalam profesion baharu.

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LIST OF ABBREVIATIONS

ERD	-	Entity Relation Diagram
GUI	-	Graphic User Interface
HTML	-	Hyper Text Markup Language
SDLC	-	Software Design Life Circle
SDD	-	Software Design Documentation
SRS	-	Software Requirement Specification
UI	-	User Interface
OS	-	Organization Staff
ANN	-	Artificial Neural Network
GA	-	Genetic Algorithm
PSO	-	Particle Swarm Optimization

LIST OF SYMBOLS

δ	-	Minimal error
D, d	-	Diameter
F	-	Force
v	-	Velocity
p	-	Pressure
I	-	Moment of Inertia
r	-	Radius
Re	-	Reynold Number

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CHAPTER 1

INTRODUCTION

Overview

Idris Nechirvan Idris in Iraq's Kurdistan Region, Idris is a famous philanthropist and environmentalist. In 2013, he established the Rwanga Foundation with an ambitious objective to provide quality education to every high school student and a group of extremely smart, passionate, flexible, Goal-Driven university students who care about their community "We want to foster a learning culture among the youth so that they can play an important role in society." (2020, Idris Nechirvan). Rwanga Foundation has volunteer opportunities. Fearful poverty makes it impossible to focus on learning! Rwanga Foundation's main goals are to provide basic requirements to vulnerable populations in order for them to survive, complete their education, and enhance their abilities. Rwanga Foundation is dedicated to assisting those in need in integrating into society and becoming a contributing member of society for a better future. Its aim is to provide services, build capacities, and design policies to guarantee that all people have simple access to education and to raise educational standards in KRI, Iraq, and the rest of the world. Rwanga's strategic aim is to produce platforms for students to discover their talents and realize their full potential, to introduce the latest technology, such as an e- learning system, into the educational process in order to meet advanced international standards, and to instill a culture and passion for learning, particularly among the youth. Rwanga Foundation is a self-organized series of local events that bring people together to share an experience and learn from one another in the spirit of spreading good ideas. Rawanga is aimed to assist adolescents in achieving their educational goals by providing a high-quality volunteer opportunity. Its mission is to protect people from being self-doubting, ack of communication and a little experience to first entry job. while also improving their overall knowledge and well-being from our System. The organization composed of three general departments: decide, commit and success.

1.1   Introduction

Over the last decade, volunteering has grown in popularity. The number of people willing to contribute their time to a charity grew. Adults and students can volunteer in a variety of ways, from short-term to long-term, project or organization-based. Volunteering has been shown to improve the moral growth of college students. Volunteering programs in the workplace empower employees to flourish and take charge of their jobs. The majority of the students took part in team activities and are expected to become tomorrow's leaders. If you volunteer or work for the organization as an employee, it can change your profile. Volunteering builds students' human capital, improving their job prospects (Miller, Rocconi, & Dumford, 2018) and adding to their resumes (Handy et al., 2010). My goal is to recognize the importance of volunteering and wants to prepare the students for their future. Therefore, a new system will be established so students can find volunteering programs in their desired fields and beliefs. The goal is to create a Student Volunteering Program System that will help students to find work as a volunteer and connect with the organization and programs. Ensure students get benefit from the system and settling on comprehensive plan for improving the system. The system must be computerized and user-friendly. Establishing a database so that employees handle student data across the system, Creating the online form so that the student does not manually construct such progress. Volunteering boosts students' leadership abilities, critical thinking skills, self-confidence, and conflict resolution abilities greatly during their undergraduate years (Kilgo, Sheets, & Pascarella, 2015). Many activities have been designed by the Web-based system for linking fresh graduate employability and industry demand to provide students with a way to overcome their self-doubt about their abilities in order to find work. Volunteering is the key. According to Deloitte's research, 82 percent of hiring managers prefer candidates who have volunteered, and 85 percent are ready to forgive other CV problems if a prospect has volunteered. These programs help recently graduated or current students improve their abilities in a place where they can develop. Volunteering allows students to receive hands-on experience in a new and exciting situation while also allowing them to specialize their talents in team work. "The only qualifications for volunteering are energy and positivity." (Jeanne Segal, 2020). Volunteer opportunity system is built for students which are described as an "rewarded, structured act performed voluntarily for the benefit of strangers. (Musick

& Wilson, 2008)". Students with volunteer experience not only boost their portfolios, but they also successfully stand out among other potential applicants when it comes time to fill these open positions. According to an employer "As an employer, I've read hundreds of CVs, and the 'volunteering' line is always what makes me pause and read a little more closely. Volunteers have a number of favourable personality traits that they may not be aware of. The difficulty is that while many people volunteer, not everyone believes it is worthwhile to include on their resume.". Students' academic progress can also be aided by the system. Through community service, students gain real-world experience and acquire key habits such as leadership, problem-solving, and time management. Students can apply what they've learned in class to real-life circumstances by volunteering. To put it another way, service-learning opportunities can give the same skill-building benefits as student internships, with the added benefit of positively touching the lives of others. Through service learning, which can be gaining through volunteering job. High school students can give back to their communities while also diversifying their resumes for college applications and learning about potential job options. Volunteering can give students a behind-the-scenes look at what it's like to work in a specific job on a regular basis. According to a researcher, this exposure can help students figure out if they're on the proper route and narrow their focus if they're exploring multiple professions. "If you want to be a doctor, you should work in a hospital during the summer and volunteer in a hospital during the winter," (Stewart, 2017) advises. " If you want to be a teacher, you usually want to be a camp counsellor." Volunteering can also assist students avoid wasting time and money in college by providing training them for a job they will not enjoy. "It's a good thing if they don't like it," (Stewart, 2019). "It's better to find out as soon as possible. Volunteering allows students to try out a new industry before making a long- term commitment. It's also a great chance to get some hands-on experience in a new profession. You can volunteer directly at an organization that does the type of work you're interested in in some industries. The fact that volunteer work is unpaid does not mean the skills you develop are easy. The method can also help students improve their current skills and put them to good use in the community. For example, if you work in sales, you can serve as a volunteer advocate to raise awareness for a cause you care about while also honing your public speaking, communication, leadership, and marketing skills.

in conclusion, Volunteering is an easy and entertaining way to discover new interests and passions. Volunteering for a cause that you care about and can be a relaxing and energizing vacation from your university, school, or family duties. Volunteering can also help you renew your creativity, excitement, and vision, all of which can be used to your personal and professional lives. Many students volunteer in order to carve out time for activities that aren't related to their studies. Volunteering has a significant impact on one's life. It is an activity in which people and groups of people collaborate to benefit the community as a whole. It can help you improve your personal skills by helping others. Volunteering can help people develop their social skills, make new friends, improve their job profile, and advance in their careers. "Volunteering is a fantastic way to learn new skills," (Jennifer Tao,2019). As a result, volunteering can give students a sense of pride and identity. People are more positive about their lives and future goals when they feel good about themselves.

1.2   Problem Background

The Kurdistan Region (KRG) has been through a lot since 1991, from war to economic collapse and crises, and the young generation has been affected. It has shaped the minds and perspectives of this generation, which is growing up with hopes and dreams of being able to allow their inner creativity, inner passion, and life-changing ideas come to life with only a helping hand to assist them along the path.

There is saying that if you have finished university, you have a job. in reality, almost 53% of college graduates are unemployed. The average college graduate takes three to six months to find work after graduation. A student who has gained a career-search strategy and has prior work experience has a significant advantage. Otherwise, her resume might be lost for a specific position if she doesn't do something. The main problem is that the current education guide Students do not all work their way through college This has caused students lack of experience when they graduate. Many job vacancies, require some depth of experience, when they offer an entry-level position. Even if you have a bachelor's degree and a general understanding of your field, it isn't enough. According to a recent analysis of roughly 4 million job advertising posted on

LinkedIn since late 2017, 35% of "entry-level" openings required years of relevant employment experience. Over 60% of entry-level software and IT Services employment, for example, required three or more years of experience and knowledge. In other words, it looks that entry-level jobs are not suited individuals who have recently graduated from college. Kate Morgan (Kate Morgan, 2021). Beside that with experience some jobs require valuable skills, some of which can only be gained when you work. Those with no work experience start the job market with a resume that they got no enough skills. When it comes to taking positions, employers look for specific skills. They ignore a weak resume. Soft skills, is what employers is look for in graduated students, "Personal, interpersonal skills teamwork, listening, and communication – so-called "soft skills" (Khasanzyanova, 2017). May not appear to be as important as technical abilities at first glance, yet they have a significant influence in the workplace "While companies may train individuals in technical abilities, teaching soft skills is much more challenging" (Sophie Miles, 2021). Along with little work experience. A lack of communication occurs as a result of the same issue that falls back to that same fact no matter how small the job will be, students need a strong communication skill and confident to fulfil the employers reequipments. "Most of the problems that have arisen in the past might have been avoided with appropriate communication." (Cornelius Charles, 2020). Last but not least, when students graduate, they discover that they have lost interest in their majors, which makes it difficult for them to find work. These issues all accrues from the fact when they finish high school, they don't have any resources, knowledge, or a structure to assist them in determining their objective learning what they are interest in order to pursue that field at collage. The importance of "interest" in the learning process has been recognized for decades. "The level of a person's curiosity has long been acknowledged to have a significant impact on learning" (Subramaniam, 2009). They believe that a person's interest influences their attention, goals, and levels of learning, however Schraw and Lehman (2001) believe that "it influences what we study and how well we learn it." advertising posted on LinkedIn since late 2017, 35% of "entry-level" openings required years of relevant employment experience. Over 60% of entry-level software and IT Services employment, for example, required three or more years of experience and knowledge. In other words, it looks that entry-level jobs are not suited individuals who have recently graduated from college. Kate Morgan (Kate Morgan, 2021).

Based on the problems listed earlier, several solutions are proposed in order make the system easier for university graduate students even the organizations who offer volunteer jobs. This project will be focusing on developing a website that will give the opportunity volunteering jobs to students in all around Kurdistan. To assist the local Kurdish community's young enlightened and passionate souls, allowing them to reach their full potential and, in turn, contribute to the betterment and development of our community. I am who acting under a system called volunteer opportunities, have taken it upon myself to have a positive impact on their knowledge of future prospects, which can have a significant impact on their decisions and future. The system will have a search feature which help graduate students to search for the available volunteering jobs/programs related to their specialize so it will be good for their resumes by adding to their experience in their chosen field. Volunteerism shows to employers that you are well-rounded and interested in the community for job-seeking grads. The system will help many graduates who are just getting started and have zero experience, but being able to talk about volunteer work can help you stand out and show that you will be a good employee. Secondly, the system will help students to gain more skills and self-confident through volunteer, the system will provide many volunteering programs that help recently graduated or current students improve their skills in a place where they can develop. Volunteering allows students to receive hands-on experience in a new and exciting situation while also allowing them to specialize their talents in team work. Because of the wide number of volunteering options presently available in a variety of contexts, volunteering can assist students in determining which professions they are more or less well suited to. According to IVR research project, gaining skills (88 percent) and having job experience (83 percent) are two of the most important motivating factors for students who volunteer. Many applicants can talk about their university courses and what they learned, but potential employers already have that information and experience. Teamwork, empathy, communication, commitment, and leadership are just a few of the crucial skills you'll get through volunteering, all of which are qualities employers seek and experiences you may discuss during an interview. Your stories and background will stand out regardless of your volunteer experience. (NobleHour, 2019). Thirdly, the system will help students to work in a team which's one of the important skills for working. "Every position and team in a company is interconnected," Israele says. " "Employees who can collaborate effectively with others and understand their viewpoints are more likely

to come up with innovative solutions quickly and successfully." Fourth, the system will help students improve their resumes and employment prospects. According to a survey by the Corporation for National and Community Service, volunteering is connected to a 27 percent better likelihood of employment. Employers are 82 percent more inclined to choose a candidate with volunteer experience on their résumé, and 85 percent more willing to overlook resume flaws. Finally, the system will help high school students to find their learn objective through the available programs that they apply for in the website. volunteering job will assist students to find out which major they are patient about to study in college "Volunteering assists students in becoming more qualified, employable, and successful in achieving their learning goals" (G. Compass,2020).

1.3   Project Aim

My main aim here is to impact the targeted community positively. to enable and unleash the power of the youth that could lead to a better leader of tomorrow and a More passionate and innovative community.

1.4   Project Objectives

The objective of Web-based system for linking fresh graduate employability and industry demand to provide numbers of skilled and unskilled volunteers so they can interact and learn from each other.

1)   To develop a Web-based system for linking fresh graduate employability and industry demand in Kurdistan.

2)   To develop a system for better opportunities for students where they experience learning and prepare them for independent adults in the community.

3)   To Design an online volunteering program job, related to students specialize.

4)   To Design an online volunteering program system, where students can apply for it.

1.5   Project Scope

1)   This project scope will focus on Kurdistan.

2)   The system will maintain volunteer seekers and volunteering program records.

3)   Users for this system include graduate students and organization staff that provided the volunteer programs.

4)   The project scope focuses on the users that are using PC device and features that will help in developing and preparing the system to function.

5)   It satisfies the user requirements.

6)   Volunteer opportunities system will allow student to volunteer where they establish connection and trust with various organization.

7)   Most importantly teach students to develop leadership, communication skills, make the professional contacts in the community, as well they can learn the techniques for their career and developing partnership between students and the organization.

1.6   Project Importance

The importance of this project is to help better the future of our nation and expand the minds of younger generations for the betterment of their own lives. The system will help them to open their minds to new opportunities while at the same time teaching them the basics of what is performed in real life working. Through my findings and research, I can help hundreds of students make better choices in their lives and career path. Volunteers are valuable in human resources where they can provide stretch to people and focuses to projects for which paid employees may not have time,

expand levels of the services despite limitations, it's important to improve an organization with the community, and it's helpful to provide specialized knowledge and skills. In addition, Volunteer program is the key in maximizing the benefits and also to minimizing the challenges of working with volunteers. Learning and developing new skill and understanding workforce and social life of communities. Also, they will experience the real world through these volunteering opportunities.

1.7   Report Organization

For Final Year Project (FYP) 2, there will be six (6) chapters, this semester will include 3 of them which are introduction, literature review and methodology. The system will be introduced in the first chapter. It will go over the company's history, the project's goal, the objective, and the project's introduction. In the second chapter, the process goes deeper into the organization's history, present processes, and systems. presently in use in this chapter, moreover, in the second chapter the system go deeper that compare NextPhase with the existing system. In addition, will continue the process and explain the technologies that will be used in the development of the proposed project system. The approach employed in this project, as well as its justification, will be discussed in Chapter 3. based on the methodology used in addition, this chapter will include activities that require cooperation. each stage.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

In the chapter, the Web-based system for linking fresh graduate employability and industry demand named NextPhase is discussed pertaining to have an adequate comprehension of the system. Besides, this very chapter enables us to specify the key units that play a crucial function in the progress of this system. To research and compare compatible systems to the NextPhase system which has the identical components and procedures. The research and comparison have been done to modify these procedures in order to figure out the issues that have been examined in chapter one with unique technologies and promising concepts to manufacture the project. In fact, it can upgrade all of its function in the NextPhase system because this comparison covered up the whole interface design and experiences. The system is important for students as "Volunteering is vital to society and non-profit organizations (NPOs) since it allow them to provide services" (Wilson, 2012).

Student volunteering is a developing trend in volunteerism that benefits students, colleges, non-profit organizations, and society in general. Many institutions encourage students to volunteer to benefit the community while also pursuing their own goals. Indeed, volunteering can help students gain new skills and increase their employability, as well as assist universities in fulfilling their overall goals while also helping the community and non-profits achieve their needs (Haski-Leventhal et al., 2010a). Student volunteering can be seen of as a trio of collaborations including students, universities, and non-profits, in which each stakeholder contributes to and benefits from the collaboration's success (Cooper, 2014). Volunteering increases students' personal capital, enhancing their career prospects and adding to their resumes (Miller, Rocconi, & Dumford, 2018). (Handy et al., 2010). Second, pupils gain important life skills and have the opportunity to grow as individuals. Volunteering

boosts students' leadership abilities, critical thinking skills, self-confidence, and conflict resolution abilities greatly during their undergraduate years (Kilgo, Sheets, & Pascarella, 2015). Two further benefits are interpersonal communication skills and self-efficacy (Cunningham, Tunch, & Gallacher, 2013). Young people are highly motivated by the possibility to get work-related experience, skills, and qualifications that will aid them in their studies and careers (Eley, 2003). For example, in the United Kingdom, "learning new skills" was the second most important motivation for volunteering among 16- to 24-year-olds1 (Low, Butt, Ellis Paine, & Davis Smith, 2007), and in Canada, more than half of 15- to 19-year-olds said they volunteered to broaden their employment opportunities (Low, Butt, Ellis Paine, & Davis Smith, 2007). (Hall, Lasby, Gumulka, & Tryon, 2006). Students, communities, educational institutions, and corporations all benefit from volunteering (Holdsworth & Quinn, 2010; NCCPE, n.d.).

2.2 Case Study (If any)

There're many originations that help Students to find a suitable job or volunteering jobs here's some of them:

2.2.1 Case Study: Recruitment Agencies

Recruitment agencies are one of the traditional methods used for finding a suitable job for students or even ordinary people and still used in Ghana. Recruitment agency is an organization that helping to find a matching job. After registering with the agency and providing all personal and pertinent information required to apply for a job, the agency searches for open vacancies. A client is alerted when their application for a job has been accepted. JobHouse Recruitment Agency and Mon-Tran Ghana Ltd are two instances of recruitment agencies in Ghana.

2.2.2 Case Study: Unisky Group of Companies' Online Recruitment System

Asamoah Evans presented an established system to Sunyani Polytechnic in 2016. The system was developed to enhance the Unisky Group of Companies' existing system. The system was created with the goal of replacing Unisky Group of Companies' manual or traditional 11 methods of staff recruitment with a computerized or electronic system. (Asamoah, 2016) As The system's characteristics are as follows:

- Job vacancies are displayed.

- Job seekers register.

- application data is stored.

- Interview process is initiated.

- Interviews are scheduled.

- Interview results are stored for the applicant and finally the applicant gets hired.

2.2.3 Case Study: University of Ghana Research

In 2014, Bernice Anatama Bangfu of the University of Ghana conducted a survey on the use of the Internet for job searching. The majority of job seekers polled said internet job search was more productive than alternative or traditional job search methods, according to the study's findings. The two greatest factors affecting the use of the Internet for job search over any alternative job search methods were discovered to be ease of use and enhanced possibilities of landing a job faster and easier. (2014, Bangfu).

2.3 Current System analysis in Kurdistan

The current system is such that is all paper-written record, later the organization staff would store the data into computer using Microsoft excel. After the organizations will contact the students for interviewing process in order choose the candidate. The process was too long and time consuming since there were too many unnecessary steps. Previously organization staff would post flyers about volunteering position at the social media while the students had to submit their CV and manually fill a form then submit them to staff. The system encounters some issues such as recruiting not enough volunteers at the same time. The interviewing process of volunteers where there was a conflict of schedule for students because university time. The difficulty that recruiting volunteers with right expertise or skills.

2.4 Current System Analysis in General

The existing system is set up in such a way that users will have access to more features that are more user-friendly. This page covers some of the studies conducted by several researchers in an effort to understand the concept of manual, traditional, or volunteer job procurement. Finding a volunteer work usually includes a combination of approaches, such as personal relationships, direct phone calls to businesses, and visits to a job agency office (Mansourvar and Mohd, 2010).

Before the Internet became widely utilized as a job search tool, students used to spend a lot of time seeking for volunteer job openings in their field (Mansourvar and Mohd, 2014). The current system saves students time and money that they would have spent manually visiting companies to look for employment openings. As well as the time and money spent by organizations on making posters and paying radio stations for announcements. Secondly, the Origination has the ability to browse and search for qualified job candidates. Thirdly, the user will be able searches for suitable job by keywords such as region, city, date, category, status. At the same time users can search for suitable companies by keywords such as region, city, date, category, status. Fourthly, Organizations can quickly locate a large number of qualified students and receive contact information for them. This means that companies or enterprises will

be able to recruit a bigger pool of candidates. Fifthly, it is fast and efficient. This implies that when organizations or employers post or publicize job openings on the website, students can quickly check them and submit their CV. Finally, both job providers and students' information can be controlled by the administrator.

2.5 Reviewing Similar System to Web-based system for linking fresh graduate employability and industry demand

There are three similar systems that are currently being discussed. There are different features for these 3 similar systems and applications. This section deals with the background information acquired on different Web-based system for linking fresh graduate employability and industry demand. This information is utilized to compare and develop the Volunteering Opportunities System with Similar systems.

2.5.1 Reed.Co.Uk

Reed.co.Uk is an application/Website that you can search for a job based on your location and field, user will get full information to the organization and the job before applying. User can register and manage their account by adding their personal detail including their resume. Moreover, user will be able to add status according to their availability or unavailability. Also, user can save a certain job.

- The factures of the application are:

- Search for a job

- Enter a title

- Enter your location

- Enter Their Status

- Get full organization information

- Apply for a job

- Save a certain Job

- Manage your account

- Add your Resum e to your Account
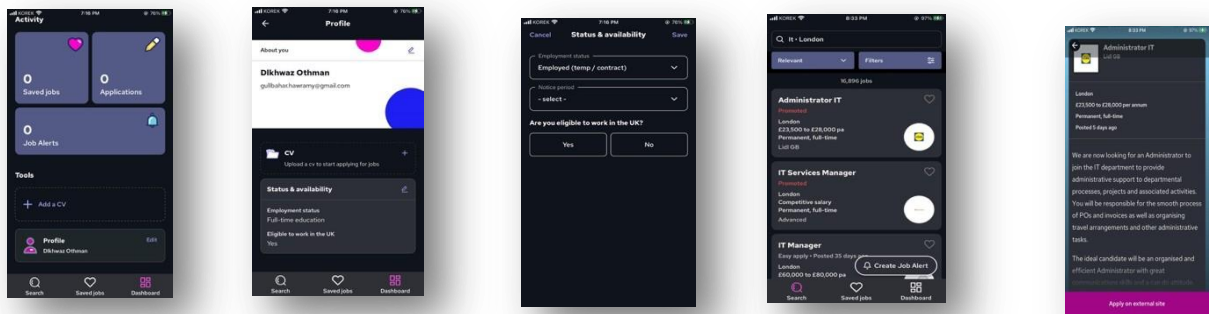
Figure 2-1: The UI display the actions of Reed.Co.Uk

2.5.2 Reed.Co.Uk

Catchafire is a professional volunteer subscription service available online. COVID-19 basics, Finance and operations, fundraising, human resources, marketing and communications, professional development, program management, and technology are some of the areas where you can help are among the services provided. Catchafire is a platform that connects professionals who want to volunteer their time with NGOs that require their expertise. The important features of Carchafire are:

- Both Volunteers and organization can register to the website.

- Organization can post their opportunities in the website.

- Volunteers can manage their profile by their adding skills, experience and passionate.

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- Volunteers' seekers are able to search and browse opportunities based on their talents, purpose, and area and time commitment.

- Submit a two-step application and a quick phone interview to ensure that you're both a good fit.

- Non-profits use Catch-fire marketplace to ask questions and advertise needs for short-term projects, so volunteers with skills and no skills would be able to apply and learn from one another
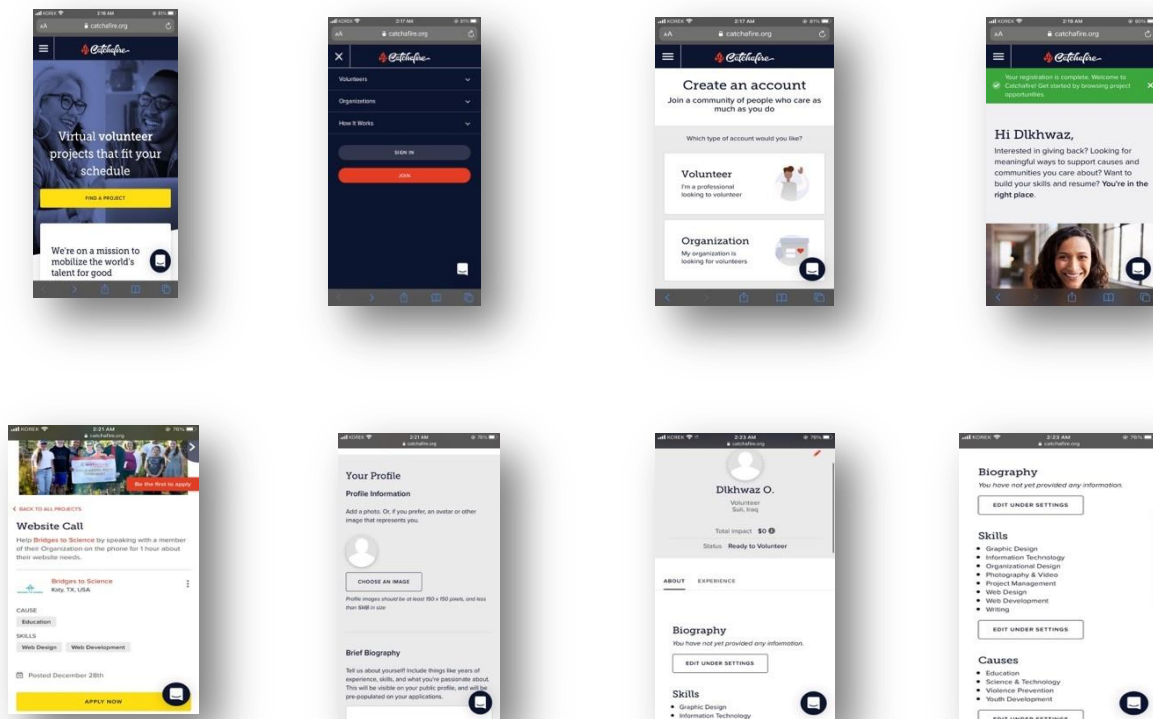
Figure 2-2: The UI display the actions of Catch-Fire

2.5.3 Job portal

The system has two links: "Company" and "Candidate," which allow recruiters and job searchers to register as new users and login to the system, respectively. This page also has a "Search Job" button that permits job seekers to search for job openings without logging into the system. Users will be able to look for and view open positions that have been registered or saved in the system. Filters are also available on this page

to assist users in finding what they're looking for more easily and quickly. Organizations can use filters or skills to look for job seekers who have registered in the system. The page shown below will allow recruiters to look for applications.

2.6   Comparison between existing systems

The contrasts and similarities of the three existing systems with NextPhase will be discussed in this section. The platform, technologies, functionality, security features, and other components of the NextPhase comparison comprise, among others, three existing applications/websites. The tasks are performed by all systems for the same reason. There are, however, a variety of approaches. As shown In Table 2-1.

Table 2-1: Shows the Comparison of Similar Systems and proposed system.

Features	Reed.co.uk	CatchaFaire	Job Portal	NextPhase
Deployment	Mobile Application/We	Website	Website	Website
Specific Functions	1. Allow users to search for a job based on location, field. 2.User can apply for a job User can upload their resume. 3.User can view the jobs full detail before applying.	1.Allow organization to register. 2.Allow volunteer to register. 3.Helping students to search for volunteering jobs based on their skills and field. 4.Allowing users to manage their account by adding their resume.	1.Organization will be able to register. 2.Organization will be able to search for a candidate. 3.Organization will be able to view candidate profile 4.Organization will be able to leave feedback. 5.Organization will be able to post a job	1.two types of 1.1registration: 1.2student 2.organization student will be able to search for volunteering jobs based on their skills, field and location 3.Student will be able to search for internship based on their skills, field and location. 4.Student will be able to search for organization. 5.Student will be able to view organization full detail. 6.Allowing students to apply for a real- world project.

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				7.Allowing users to manage their account by adding their resume. 8.Organization will be able to post a volunteering job 9.Students will be able to put status to their account 10.Organization will be able to post opportunities
Technology	Mobile Application Technology/ Web technology	Web technology	Web technology	Web technology
Platform	Android & IOS	Windows & Mac	Windows & Mac	Windows & Mac
Connectivity	Online	Online	Online	Online/Offline
Security features	OTP Verification	OTP Verification	OTP Verification	OTP Verification. Authentication. Authorization. Password Hashing. Data Validation.
User Friendly	YES	YES	YES	YES

2.7 Literature Review of Technology Used

This section addresses the technologies for the development of the NextPhase System, some of which are as follows:

2.7.1 Front End Technologies

The front-end technology of a website is the visitor. This is a user's perspective of a system. DevOps, backend technology, and backend technology are all responsible for delivering data quickly. WebFonts is a technology that allows users to access fonts

on demand via the Internet without having to install them. React, Vue.js, HTML5 Boilerplate, Flutter, and Angular are some of the most popular front-end technologies. Because this is a website project, the recommended languages to use are html, CSS, and PHP.

HTML, is a markup language that tells the browser what the headline, text, and that fantastic image you'd like to include are. Markup language is a computer-readable language used to design webpages and make the text you use more dynamic.

CSS, is a language for expressing how web pages should look. It enables the presentation to be customized for different devices, including huge displays, small screens, and printers.

JavaScript, is a text-based computer language that may be used to generate interactive web pages on both the client and server sides.

2.7.2   Back End Technologies

Backend systems manage databases and data processing components, and are programmed to launch operating system software in response to front-end system requests and actions. To put it another way, the back-end system is respondingto the front-initialization. end's Ruby on Rails, Laravel, Django, Phoenix, Spring Boot,and Express are some of the most popular back-end technologies. The back-end development for this project will primarily be done in Mysql and PHP.

PHP, previously known as a "personal home page" It's a popular a scripting language that is free and open-source for creating both static and dynamic websites and web applications.

MySQL, is a free, open-source database that enables successful database management by connecting databases to software. It is a dependable, powerful, and a reliable solution with advanced capabilities.

2.7.3   XAMPP

XAMPP, is a simple, lightweight Apache distribution that makes it extremely easy for developers to set up a local web server for testing and deployment. XAMPP is likewise multi-platform, supporting Linux, Mac OS X, and Windows. XAMPP was chosen due of its mobility. The following components make up XAMPP:

- PHP
- MYSQL

2.7.4   Visual Studio Code

Visual Studio Code is the text editor used to create the system. VS Code is a cross-platform programming environment that works with a wide range of operating systems, as well as the web and the cloud. It makes it easier for users to navigate the interface, allowing them to write code fast and precisely. This is a free Microsoft source code editor.

2.7.5   OTP Authorization

One Time Password, also known as One Time Pin, One Time Authorization Code (OTAC), or Dynamic Password, and it is a type of password that is only used once. is a type of one-time password. If you're using a computer or another digital device, like as in iOS or Android mobile apps, an OTP is only good for one login trial or transaction. When compared to a static password, OTP is hundreds of millions of times safer. This adds an extra layer of security and makes gaining access to illegitimate data, systems, or online accounts more difficult. After a cluster time, such as 60 seconds, the One-Time Password (TOTP) fluctuates.

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2.7.6 Password Hashing

Password hashing, also known as hashed password, is a one-way transformation that transforms one string into another. Hashing is commonly used for security and authentication. It is safe to use hash in your password because if your system is hacked, the hacker will only be able to view the encrypted hash formed by your password, not your password

2.8 Chapter Summary

In this chapter, the existing system domain is illustrated, and the NextPhase System's future status is described. Furthermore, the investigations look at how the NextPhase System differs from other similar systems in order to improve its functionality and overall performance. The NextPhase System is a website-based program that meets certain standards. Furthermore, this chapter describes its benefits and why the critical technologies utilized to construct this website are required in order to develop the intended website. After understanding users' needs and the processes in the existing system. In order to create a Web-based system for linking fresh graduate. employability and industry demand. The main priority was computerized the system and eliminate the long process of manual applying for volunteering position that has shown ineffective and outdated. Ensure the GUI is user friendly and show all the necessary details. It will be easy for student to apply and browse volunteering position anywhere and anytime. Organization can easily send and add new volunteering position. Therefore, creating an efficient and user-friendly system also the main objective was making interactive application easy to use where selecting, searching, posting of a wide range of positions easier.

CHAPTER 3

SYSTEM DEVELOPMENT METHODOLOGY

3.1   Introduction

Methodology is an important and crucial factor that must be focused on to ensure a planned and efficient growth process. It's a software development method. It also serves as a roadmap to ensure that the system's development stays on track. The process of constructing a system will be easier to organize with a methodology, minimizing the system development cost, maximizing the development duration, and fulfilling the objectives through time management.

This chapter discusses the methodology used in the development of the Web-based system for linking fresh graduate employability and industry demand. It iscritical to select a methodology that is appropriate for the project because it will determine how the project development process will be carried out, beginning with thefirst phase and ending with the production of a working system. In its most basic form,software development methodology is a way for the purpose of planning, organizing, and managing the development of a system. Methodology also refers to the specific outputs and artifacts that development teams produce and complete.

3.2   Overview of Methodology Choice

The most appropriate process model for developing Web-based system for linking fresh graduate employability and industry demand is iterative development. This is due to the fact that iterative development is based on the methodical repetition of small cycles known as iterations. Its goal is to build a favourable product that will meet the needs of the people. This project followed the Software Development Life Cycle (SDLC), which began with a simple implementation and gradually increased in complexity and feature set until the final system was completed. It demonstrates that

an iterative model does not begin with a complete set of requirements. According to the Software Development Life Cycle, In the creation of software, there are five stages (SDLC). The steps include Requirement Analysis, Design, Implementation, Testing, and Evaluation.
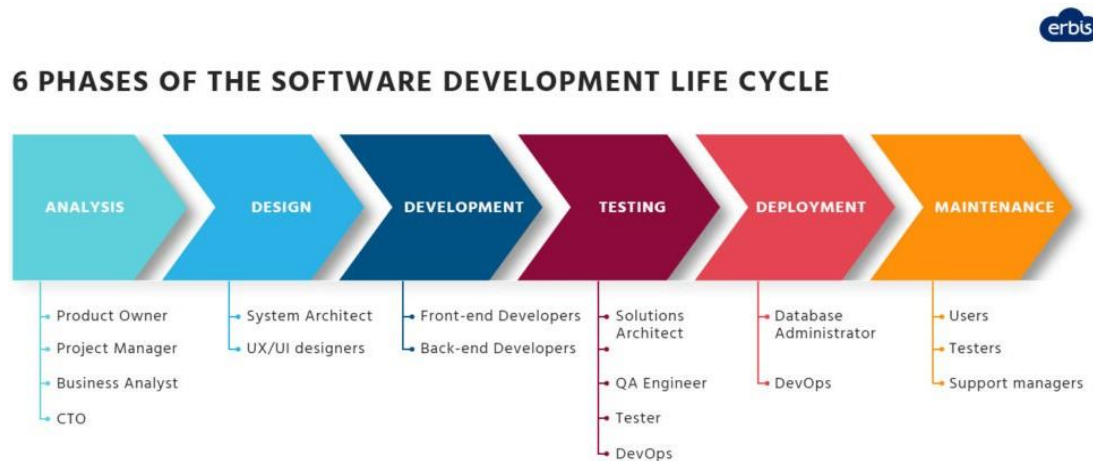
Figure 3-1: Software Development Life Cycle

The SDLC is a staged approach to analysis and design that claims that the best way to create systems is to follow a series of analyst and user activities.

Analysis, the first and most important stage of the system development life cycle is recognizing difficulties and formulating plans. The success of the project hinges on this stage. A specialist determines the need for a new or enhanced system. The relevant information is acquired from the client in order to design the system to meet the client's requirements.

Design, this phase simulates how a system would work. The system design is then turned into source code during the implementation phase. During this phase, all of the system's components are put into place. This phase is completely reliant on the system document that was created during the analysis phase. The analyst's recommendations are taken into consideration when designing the system. It is the most essential stage in the development of a system. The analyst uses the knowledge obtained earlier to complete the logical design of the information system in this step

of the SDLC. To ensure that data entering the information system is accurate, the analyst develops precise data input processes. In addition, the analyst uses good form and screen design principles to ensure that the information system receives valuable input.

testing process, which involves comparing the system to the specifications to ensure that it is meeting the criteria. Although the system has been completed and obtained management and user approval, it is not yet ready for adoption due to the need to complete the testing procedure. After a successful test, the system is ready to use. It is a crucial stage in the real success of a system. According to the IEEE Standard for Software Unit Testing, "software testing is the process of examining a software item to detect deviations between existent and necessary conditions (that is, faults) and to evaluate the software item's features."

evolution, which involves system modifications and changing client needs. "Systems analysts serve as liaisons between suppliers and information technology experts because they frequently write user requirements into technical specifications." (Shelly, Gary, Cashman, Thomas, 2012).

3.2.1   Iterative development

iterative development process does not follow a rigid process as it was cyclical. The initial planning not required to be well-defined and proceed to iteration of each phase of SDLC with extensive testing until the system behave as the developer desires. This step of iteration allows the developers to reviewed and changed the previous cycle until its meet all the requirements. There are five steps in iterative development which start with Planning and Analysis, Design, Implementation, Testing and Evaluation.

3.2.1.1   Planning and Analysis

The step of planning and analysis is where the project's planning is stated. The project's goals, scope, and context were all established at the beginning. During this phase, it is also necessary to compare the existing Volunteering Job Opportunities.

Estimating the resources is also required, as well as a Gantt chart that displays all of the tasks. Important dates must be provided. Aside from that, a questionnaire survey of the community is being conducted. To collect the requirements, the Web-based system for linking fresh graduate employability and industry demand will be used. users' viewpoints.

3.2.1.2   Design

The major goal of the design phase is to set technical requirements for the system's architecture. The requirements for the Web-based system for linking fresh graduate employability and industry demand will be defined when the online survey has been analysed. Then there's the use case for the project can also be determined and UML diagrams produced. At the same time, the functional and non-functional needs are documented. SRS. After that, the design phase begins. During this phase, the system's initial design is completed. The design, architecture, database, and user interface are all determined. The Software Design Specification (SDS) is a document that describes the software that is (SDD).

3.2.1.3 Implementation

Following the completion of the previous phases, the implementation phase will begin. During this phase, the code will be written utilizing the technologies and tools chosen during the system's development. HTML, CSS, JS, PHP, and Mysql were used in this project to create the Web-based system for linking fresh graduate employability and industry demand. To verify that there are no errors, the implementation and testing phases will be repeated side by side. If there are any errors in the code, it can be rewritten till it meets the requirements and then moved on to the next iteration after testing.

3.2.1.4 Testing

During the testing phase, potential problems and issues for Web-based system for linking fresh graduate employability and industry demand may be discovered.

Furthermore, user acceptance testing thoroughly tests all of the functionalities (UAT). A completed report will be generated at the end of this phase, indicating that the system has been tested.

3.2.1.5 Evaluating

The purpose of the evaluation phase is to move the software product from the development community to the user community. When the Web-based system for linking fresh graduate employability and industry demand is released to the end user, a problem frequently arises, requiring the development team to create a new product and amend the problems to satisfy the user's needs. Before the system is properly released, it must be ensured that all user manuals, system reports, and relevant diagrams are in.

3.3   Justification of using Iterative Development

Iterative development was chosen as the best process model for developing the Web-based system for linking fresh graduate employability and industry demand because it allows the system to adapt to changes as they occur during development. It is simple to ensure that the current iterations are progressively better than earlier iterations because it uses the iterations idea. It can also aid in improving the quality and predictability of software development by providing immediate feedback between iterations.
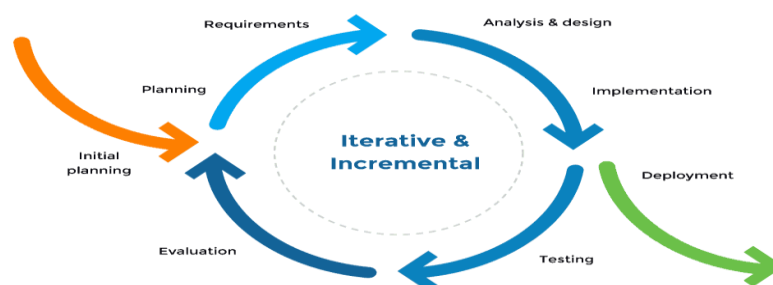

Figure 3-2: Iterative Development Phases

3.4   Technology Used Description

In this section, we'll go through in detail research on technology and software that was used to construct the VOS. HTML, CSS, JS AND PHP and the tools that will be utilized to construct the proposed system will be discussed in this part.

3.4.1   HTML

HTML, or HyperText Markup Language, allows users to create and organize sections, paragraphs, and using elements, tags, and attributes.

3.4.2   CSS

CSS (Cascading Design Sheets) is a programming language for styling and laying out web pages, including changing the font, color, size, and spacing of text, breaking it into multiple columns, and adding animations and other decorative features.

3.4.3   JavaScript

JS a scripting language for creating dynamically updated material, controlling multimedia, animating graphics, and pretty much anything else JavaScript is a multi-paradigm programming language.

3.4.4   PHP

PHP Previously known as a "personal home page," It's a widely used open-source scripting language for constructing web applications both static and dynamic websites and web applications.

3.4.5   MySQL

MYSQL, a relational database management system, was created by MySQL AB, a Swedish company (RDBMS). This program's primary function is to save and retrieve data requested by other programs.

3.5   Hardware and Software Requirement Analysis

The system requirements for this project include both hardware and software. Input and output are examples of tasks, as are computing, processing, and storing. Hardware refers to any physical devices, such as sensors or computer equipment, that are used to conduct a variety of jobs. Software, on the other hand, is a set of instructions. that instructs a computer on how to carry out specified tasks such as developing code and constructing a system. In order to construct the Web-based system for linking fresh graduate employability and industry demand, both components are required. Moreover, A program, for example, is software that you install on your computer and has its own code. It's the programs and applications you utilize on a physical device. Like operating systems and etc.

3.5.1   Software Justification

Software needs that match the minimum specification while also meeting the preference requirement.

Table 3-1: Software Specification

Software	Device Speciation
Software	Device Speciation
OS Edition	Windows 10 Pro
Integrated Development	Visual Studio Code, XAMPP
Environment	MySQL
Database Management System	HTML, CSS, JS AND PHP
Framework	Google Chrome
Web Browser	Draw.io, Creately
Visual Modelling & Design Tool	Balsmaiq, Figma
High Fidelity Prototype	To create the presentation slide.
Microsoft Power Point 2016	To document project report, SRS

3.5.2   Hardware Justification

Hardware justification is critical in software development to ensure that it can run at its best in any given user context.

Table 3-2: Hardware Specification

Hardware	Device Speciation
Processor	Intel(R) Core(TM) i5-4300U
CPU @ 1.90GHz	2.50 GHz
Installed RAM	8.00 GB
Installed HDC	500GB
System Type	64-bit operating system, x64-
based processor	
Input device	Mouse, Keyboard

3.6   The method used

There are two forms of data collection which is qualitative and quantitative. Quantitative research use numbers and graphs. It's employed to either test or confirm ideas and assumptions. Quantitative research measures people's activities, opinions, attitudes, and other characteristics in order to generate broad generalizations based on a bigger group. In quantitative research, quantifiable data is used to express facts and identify trends. Statistical and mathematical instruments are used to derive the results of this type of research. Quantitative data will be used to determine the purpose of a problem and its prevalence by attempting to quantify it by looking for effects that can be extended to a larger population. This data collection technique includes online, print, mobile, and kiosk surveys; online polls; systematic observations; face-to-face interviews, phone interviews, and so on. Qualitative research is documented in writing. It's used to understand concepts, ideas, and feelings. Words and their meanings are the focus of qualitative research. This type of research allows you to discover more about issues that you don't know much about. Because a list of closed or multiple-choice questions is presented to a sample of people in a survey, I chose quantitative research (online, in person, or over the phone).

Survey is a type of quantitative research. A survey was utilized to collect data for the Web-based system for linking fresh graduate employability and industry demand. In addition, we prepared several key interview questions that focused on the positive effects of volunteer work on students' future careers, as well as all of the difficulties that will face Kurdistan. Most significantly, we concentrated on how the system may benefit students. The interview process is also built on a funnel structure since it enables for the identification of flaws and issues. A survey is a type of data collection instrument that is used to acquire information about people, which is why I chose it. A survey may be designed to gather factual information about persons or to solicit survey respondents' opinions. Online survey research is one of the most prevalent survey research approaches today. Moreover, I chose MonkeyServey tool because, SurveyMonkey is one of the most popular online survey platforms. The site is extremely user-friendly, with a plethora of templates and options that help speed up the survey development process. Sampling is a statistical inference and estimation strategy that involves selecting people or a subset of the population. It's also a time- and money-saving method, therefore it's an important part of any research strategy. For optimal derivation, sampling approaches can be utilized in research survey software. This method will save money and allow for faster data collection. The survey was shared on social media platforms such as WhatsApp, Instagram, and Facebook. This study will make use of a strategy that simplifies the facilities. Probability sampling and non- probability sampling are the two forms of sampling available. The non-probability approach is a sampling technique that involves receiving feedback based on the sample selection abilities of a researcher or statistician rather than a pre-determined selection process. The results of a survey conducted with a non-probable sample are usually biased and may not correctly reflect the target demographic. There are situations, however, when non-probability sampling is far more valuable than the other type, such as during the basic stages of study or while performing research on a budget. non- probability sampling is a convince sampling that allow us to select users based on our experience. The population targeted for my survey were graduated students, and organization staff.

3.7   Result and Analysis of Survey

Students from Qaiwan International University, American University of Sulaymaniyah, and Komar University were polled. This poll was completed by 21 students using a Google form. All of the responders were chosen at random from various faculties and colleges. The survey was conducted by done during a single day this section will explain the outcome and analysis of the survey.

The first question in the survey is what your role is, and the majority of respondents (66 percent) are graduate students. The second question asked about gender, and the results show that the majority of responders (57 percent) are female. In terms of the third, the data suggest that the majority of respondents are between the ages of 21 and 24, representing for 76 percent of the total. The fourth question revealed that the majority of respondents (66 percent) have already volunteered for an organization, while the fifth question revealed that 48 percent of respondents thought that the Web-based system for linking fresh graduate employability and industry demand will be useful in the future. For the sixth question, we can see from the results that the majority of respondents (42 percent) believe that learning skills and experiences through Volunteering will help them in the future. Following that, 33 percent of respondents stated they were extremely likely to suggest the system to others in response to the seventh question. According to the eighth question, the majority of respondents want to find work in their field of study. The ninth and last question asked about "Volunteering can give you a chance to build your experience and skills and demonstrate your employability" and most of the responses were strongly agreed and agree to that which was 46 percent.

Question 1: As a result, 21 participated from different roles. Most of the answers were from students which is 66.67% as it counts. 9.52% answers were from origination staff and high school students.
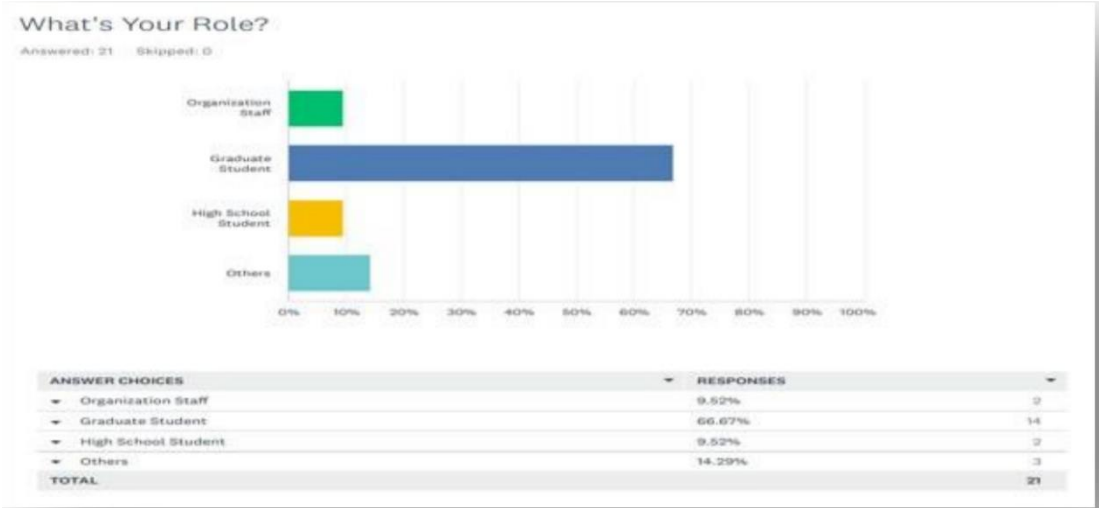

Figure 3-3: result 1 of survey

Question 2: As a result, 21 participated from different Gender. Most of the answers were from Females which is 57.14% as it counts. 42.86% answers were from Male.
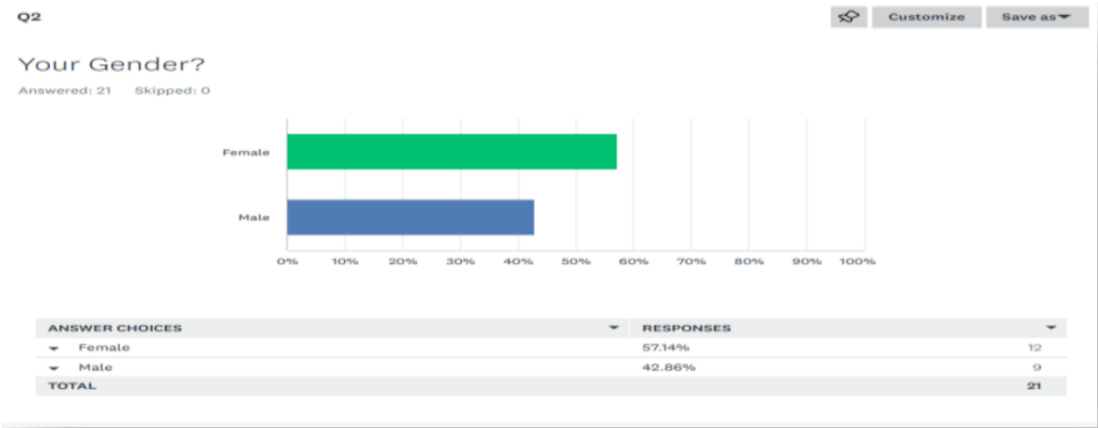

Figure 3-4: result 2 of survey

Question 3: As a result, 21 participated from different Ages. The most participateswere aged 18-24 which is 76.19% as it counts.
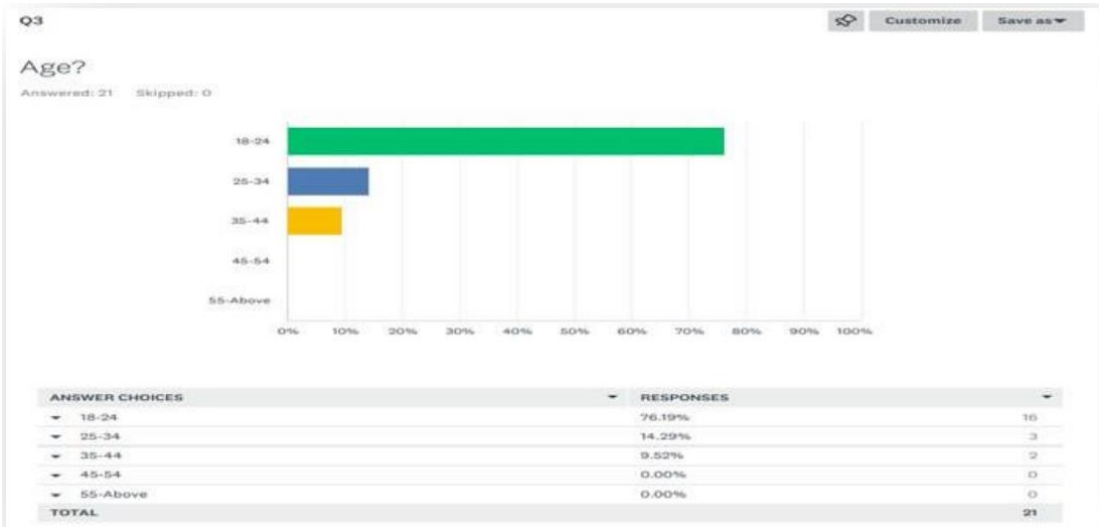
Figure 3-5: result 3 of survey

Question 4: As a result, 21 participated. The most participates have volunteered for forganization before which is 66.67% as it counts.

Figure 3-6: result 1 of survey

Question 5: As a result, 21 participated from different roles. 42.86% agree that the volunteering opportunities system will be extremely useful for future in use. 28.57% agree that the volunteering opportunities system will be somehow useful for future inuse. 23.81% agree that the Web-based system for linking fresh graduate

employability and industry demand will be very useful for future in use. 4.76% agree that the Web-based system for linking fresh graduate employability and industry demand will not be useful for future in use.
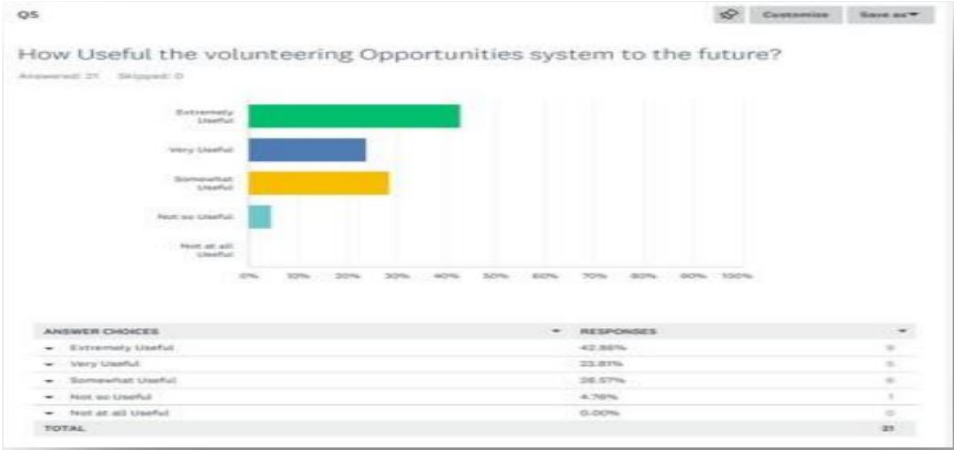
Figure 3-7: result 7 of survey

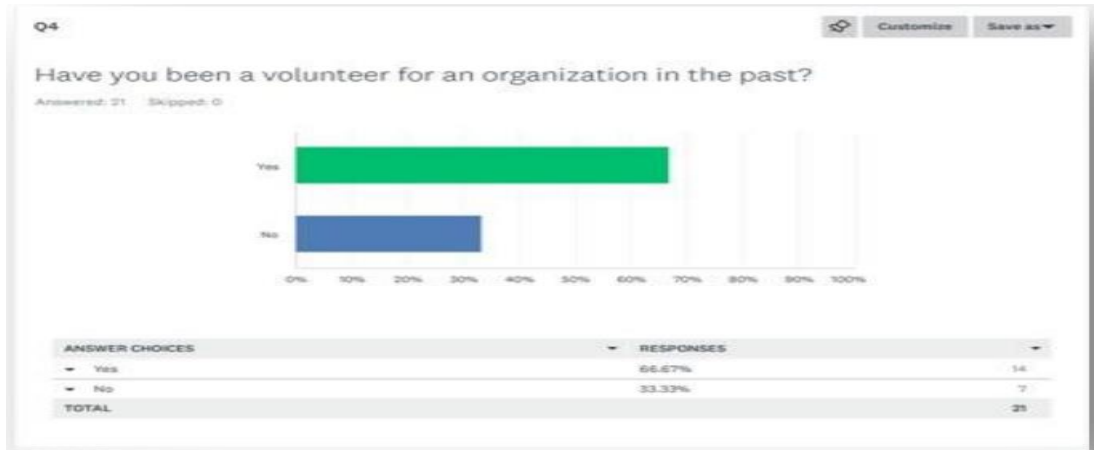**Question 6:** As a result, 21 participated from different roles. 42.86% agree that what you are gaining in volunteering is what you use in the future. The second most answer is 23.81% agree that somehow relevant what you are gaining in volunteering is what you use in the future. The third answer is 19.05% agree that extremely relevant what you are gaining in volunteering is what you use in the future. The least answer is 14.29% agree that not so relevant what you are gaining in volunteering is what you use in the future.

Figure 3-8: result 8 of survey

Question 7: As a result, 21 participated from different roles. 33.33% are extremely likely and somehow likely to recommend Web-based system for linking fresh graduate employability and industry demand to others. The second most answer is 33.81% are very to recommend Web-based system for linking fresh graduate employability and industry demand to others. The third answer is 4.76% are not so likely and not at all likely to recommend Web-based system for linking fresh graduate employability and industry demand to others.

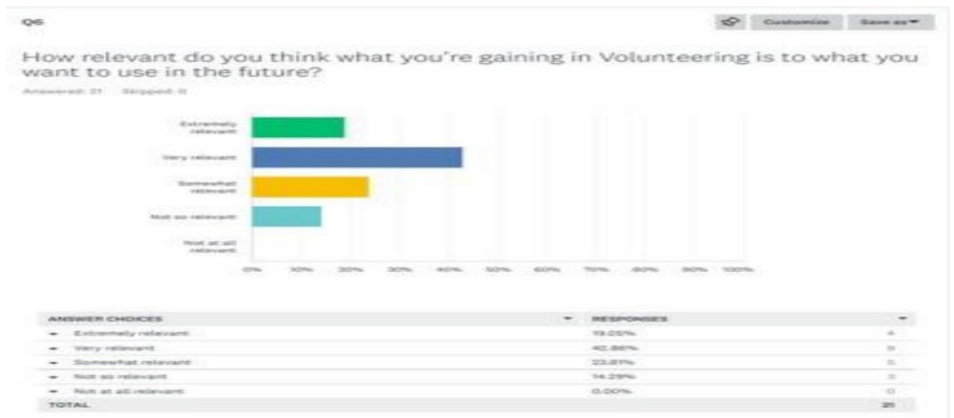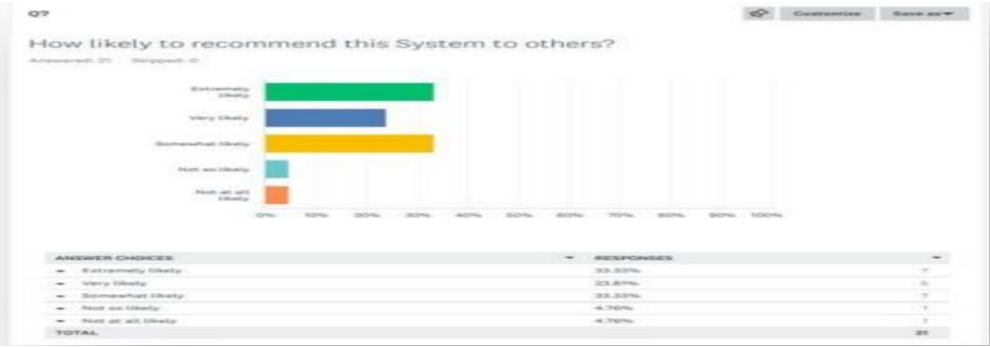Figure 3-9: result 9 of survey

Question 8: As a result, 21 participated from different roles. Most of the answers agree that to find a job based on their field which is %52.38 as it counts. The secondmost answer is 38.10% not sure about having a job based on their field or not. The third answer is 9.52% doesn't want to find a job based on their field.

Figure 3-10: result 8 of survey

Question 9: As a result, 21 participated from different roles. Most of the answers Strongly agree and agree that volunteering is a good chance to build skills and experience in order to find a job which is %42.86 as it counts. The second most answer neither agree nor disagree that volunteering is a good chance to build skills and experience in order to find a job which is %9.52 as it counts. The third answer disagree that volunteering is a good chance to build skills and experience in order tofind a job which is %4.76 as it counts.
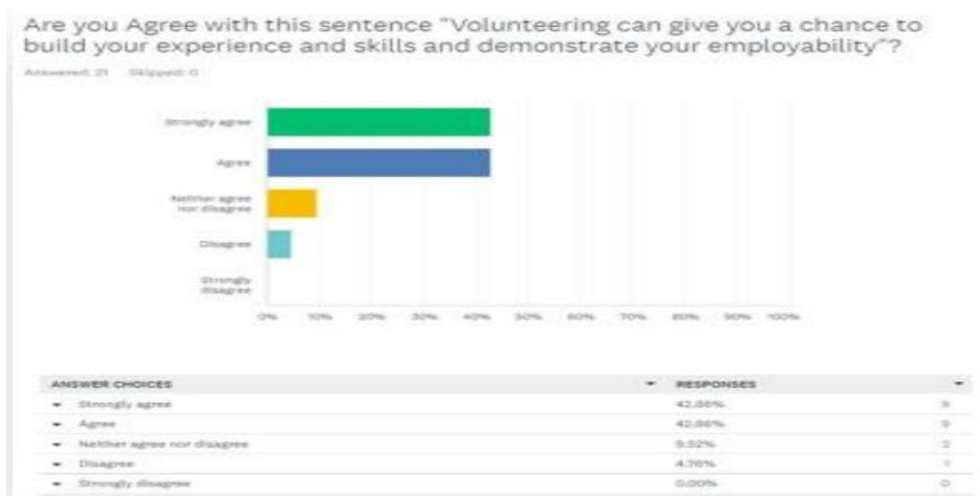
Figure 3-11: result 9 of survey

3.8   Chapter Summary

Finally, this chapter discusses how methodology was used to create the Web-based system for linking fresh graduate employability and industry demand. Justification was provided to clearly show why the methods employed are appropriate for the development of this system. Furthermore, each phase is discussed in depth to ensure that everyone participating in the project understands it. All of those phases were used to show the project workflow in each step. This chapter also included a list of hardware and software requirements.

CHAPTER 4

REQUIREMENT ANALYSIS AND DESIGN

4.1   Introduction

The NextPhase System will be further analysed and designed in this chapter. A user case diagram, a sequence diagram, a class diagram, a UML diagram, and an interface diagram are among the diagrams that will be generated. End Users and module will be defined in detail. Aside from that, the Software Requirement Specification (SRS) was used, which documents the System's use case description, sequence diagram, and activity diagram. This project's system architecture design was also detailed out using the Software Design Description (SDD).

4.2   Definition and Abbreviation:

❖ OS: Organization Staff
❖ QIU: Qaiwan International University
❖ SRS: Software Requirements System
❖ SDD: Software Design Document

4.3   Requirement Analysis

This section outlines the NextPhase Website's functional and non-functional needs.

4.3.1   Functional Requirement

The functional requirements depict the system's behaviour and were derived from the survey results. In addition, the functional requirement was created using a

UML model, which included use cases, sequence diagrams, and activity diagrams. This system has numerous basic characteristics, which are listed below:

Admin

The administrator has complete control over the website:

- Manage the entire section for those looking for volunteer jobs. delete/view the information of a student.
- Admin will be able to approve-reject organization that registered in the system after they got approval then they use the system.
- Admin will be able to reactivate the accounts that has been deactivate by Organization.
- The student's applications for each volunteering job can be viewed by the admin user.
- Manage the entire organization's personnel area. Admin users have the ability to, delete, and view company information.
- Manage the jobs that have been advertised. delete/view a job that has been listed.
- Control the entire website's content.
- Admin will be able to view the users' compliments that they submitted.

Student

- Students shall be able to look for available Volunteering jobs by location or experience.
- Students shall be able to apply for a desired position based on their location and field
- Students shall be able to add/edit information in their profile, such as qualifications, experience, and skills.
- Students shall be able to using the website's CV builder, they may Upload their resume.
- Students' will be able to search for organizations by location and view the organization full details.

- Students' will be able to mail to the organization that they applied and got accepted.
- Students will be able to change password or deactivate their account.

Organization Staff

Following registration, the job provider can take the following steps:
- OS shall be able to add a new company profile or edit an existing one.
- OS shall be able to post new volunteering job openings.
- OS shall be able to add, Delete and view jobs that have been advertised.
- OS shall be able to the job supplier has access to the list of candidates who have applied for the position.
- OS shall be able to job providers have the ability to look for Students by qualification.
- OS shall be able to view a resume from a volunteer.
- OS shall be able to send the candidate notifications whither they have rejected or Under Review.
- OS shall be able to send mails to candidate who have been accepted
- OS will be able to change password or deactivate their account.

4.3.2   Non-Functional Requirement

4.3.2.1 Security

- **Login is required.**
  When a user connects in to the system, only their approved username and password will be allowed to access the system.

4.3.2.2 Usability

- **Ease-of-use**
  The system's user must be able to utilize it after fewer than 1.5 hours of training.

- **Clear to understand**

The website must have a well-organized user interface and easily identifiable icons to allow users to navigate without becoming confused.

4.3.2.3 Performance

- **Time to respond**

Response times for the website should not exceed one second.

- **Multiple users at the same time**

Multiple users should be allowed to utilize the app at the same time.

4.3.2.4 Reliability

- **Availability of the application**

The application will be available to users 24 hours per day and seven days in a week.

- **Reliability**

The application will give accurate cycling data and report it to the system in a format that is free of anomalies.

4.3.3 Use Case Diagram

A use case diagram is used in the Web-based system for linking fresh graduate employability and industry demand to represent the relationship between an actor and their actions or functions. Each performer has a distinct personality and mannerisms. Each entity is separated by the module.
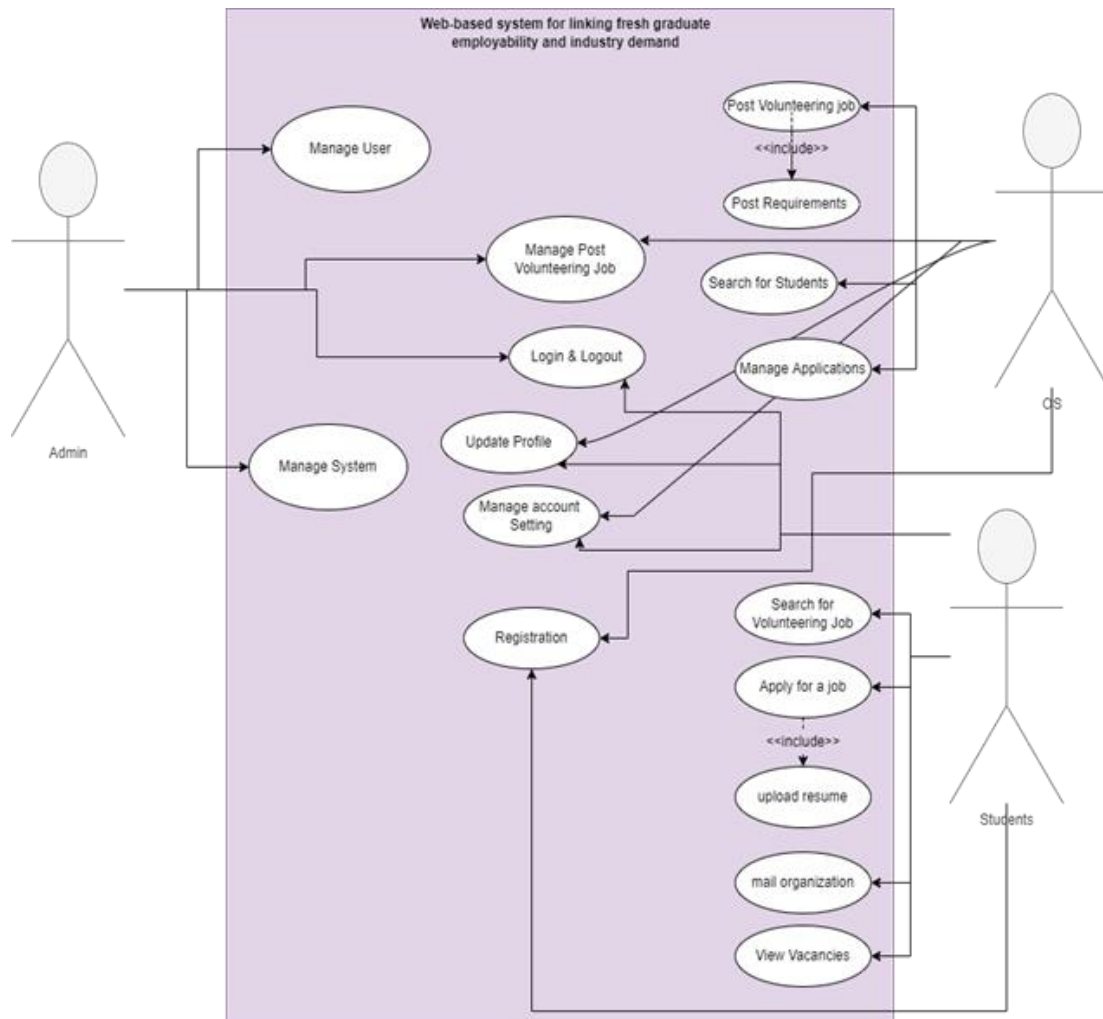
Figure 4-1: Use Case Diagram for VOS

Figure 4-2: shows the whole module for Web-based system for linking fresh graduate employability andindustry demand System.
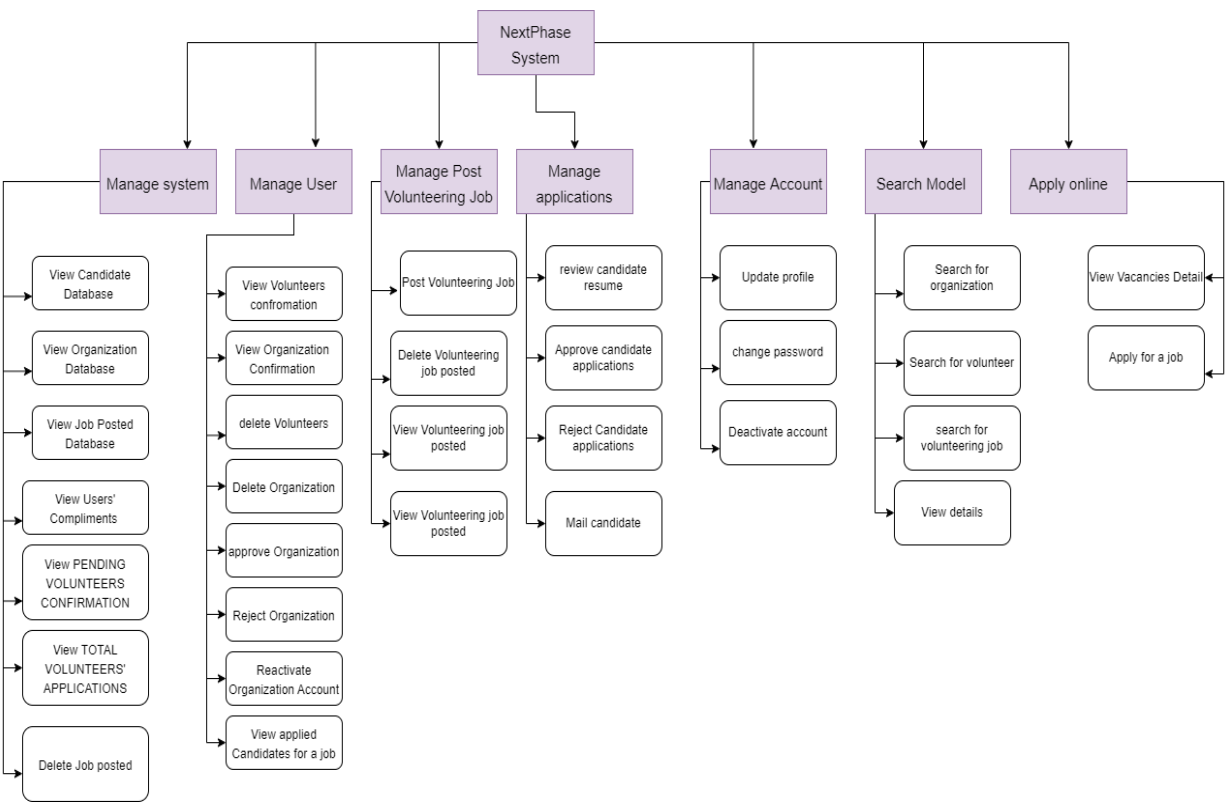
Figure 4-2: module for Web-based system for linking fresh graduate employability and industry demand System

4.3.4   Sequence Diagram

The process flow involved in the Web-based system for linking fresh graduate employability and industry demand is depicted using sequence diagrams. The sequence diagram shows every interaction, including objects, classes, and entities. This diagram is based on a VO System case study. Figure Images inserted in **appendix B.**

4.3.5   Activity Diagram

An activity diagram depicts the movement of activities from one to the next. This activity diagram can be thought of as a system operation. The activity diagram for the Web-based system for linking fresh graduate employability and industry demand is created based on the use case. Figure Images inserted in **appendix B.**

4.4   Architecture Design

The structure and behaviours of a system's operation are described by its architecture, which is a conceptual design. Actors or users who interact with this system The levels are represented by three layers: which are data access layer, application layer, and business logic layer. Within the system, each layer has its own set of rules and unique characteristics and responsibilities. The application layer represents the system's User Interface. This layer allows the user to engage with the system and obtain access to its functions. The business logic layer serves as a controller between the application layer and the data access layer. This layer checks user input and transfers data from the application layer to the data access layer.
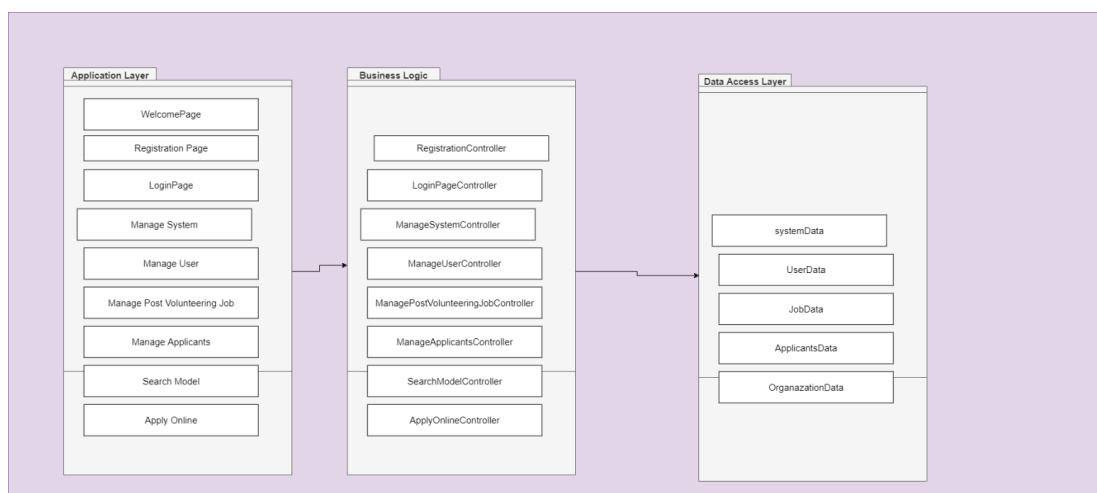

Figure 4-3: layered Architecture of the system

4.5   Database Design

Database Design is a framework for data storage, retrieval, and analysis. It is possible to determine the organization and operation. Diagram of Entity Relationships (ERD) is a database architecture resulting from the development of a model based on entity, attribute, and relationship.

Figure 4-4: Entity Relationship Diagram (ERD)

4.6   Data Dictionary

names, descriptions, and characteristics of data components that are used or stored in a database, information system, or as a component of a research study. The table data inserted in appendix C.

4.7   Interface Design

In the interaction between humans and computers, the importance of interface design cannot be overstated. The goal of the interface is to show how the system works. Furthermore, user-friendly design is required to ensure that users can access and interact with system functionalities quickly and effortlessly. Below figures shows a sample of my system UI. The sample interface inserted in **appendix C**.

4.8   Page Navigation

4.8.1   Navigation Page for Student

Web-based system for linking fresh graduate employability and industry demand page navigation is divided into seven sections: Home, brows volunteers, brows Organization, about us,ContactUs, join and signIn. Every page serves a distinct purpose. Users can access and amend their profiles, as well as change their passwords, on the user profile page.
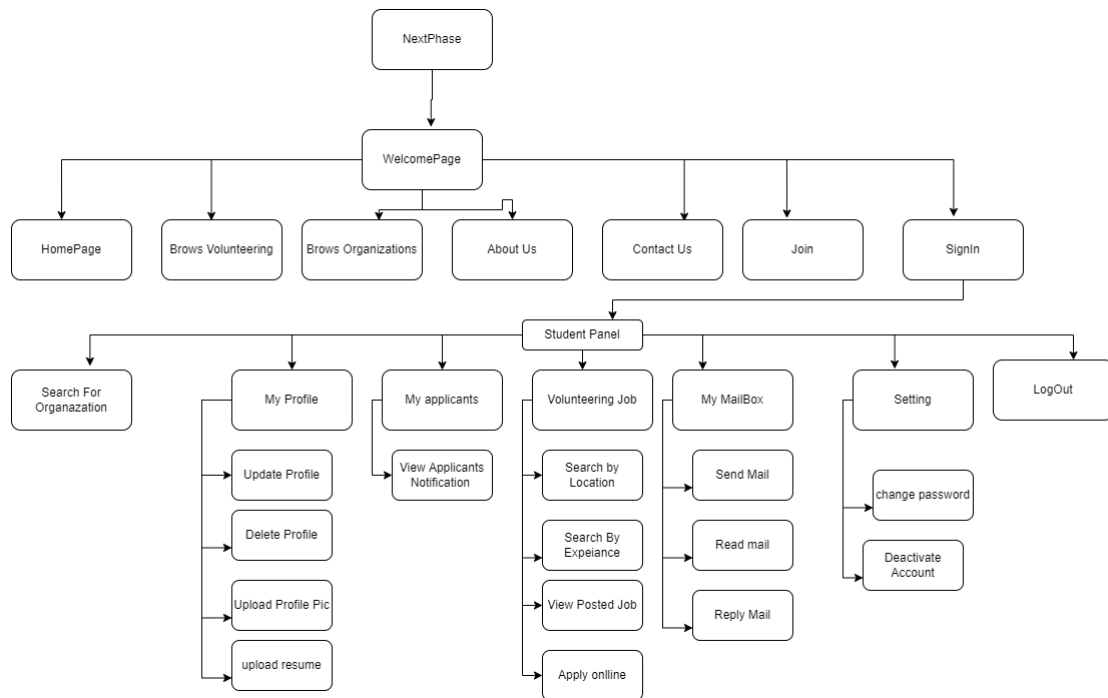
Figure 4-5: Page Navigation for Student

4.8.1   Navigation Page for Organization

Web-based system for linking fresh graduate employability and industry demand page navigation is divided into seven sections: Home, brows volunteers, brows Organization, about us, ContactUs, join and signIn. Every page serves a distinct purpose. Users can access and amend their profiles, as well as change their passwords, on the user profile page.
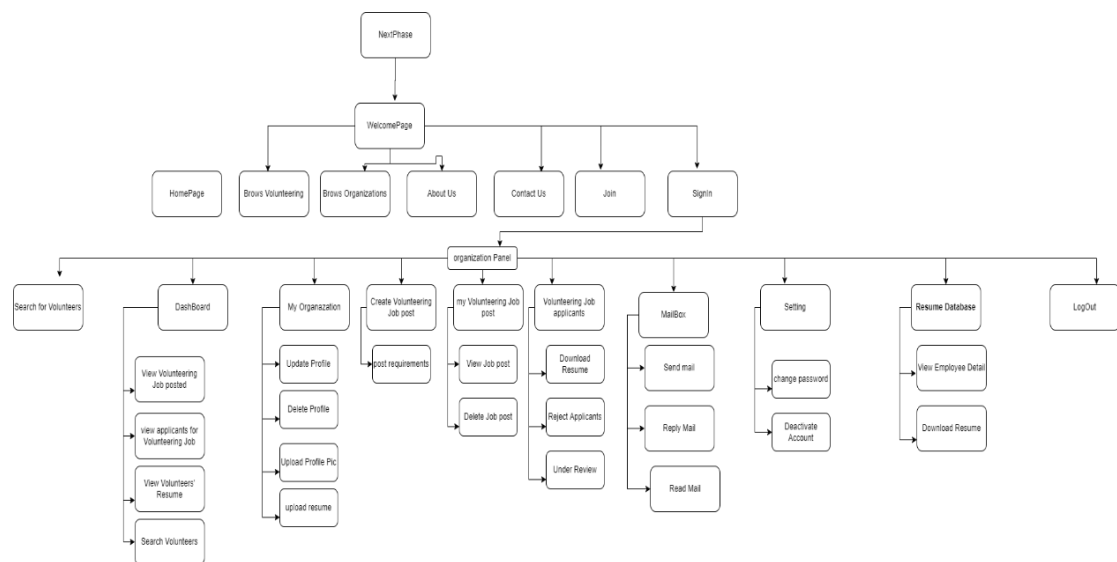
Figure 4-6: Navigation Page for Organization

4.8.2 Navigation Page for Admin

Web-based system for linking fresh graduate employability and industry demand page navigation is divided into six sections: Dashboard, Manage Post, Manage User view users' compliments. Every page serves a distinct purpose. Admins can view users' detail, examine my user detail list, and delete user information, among other things.
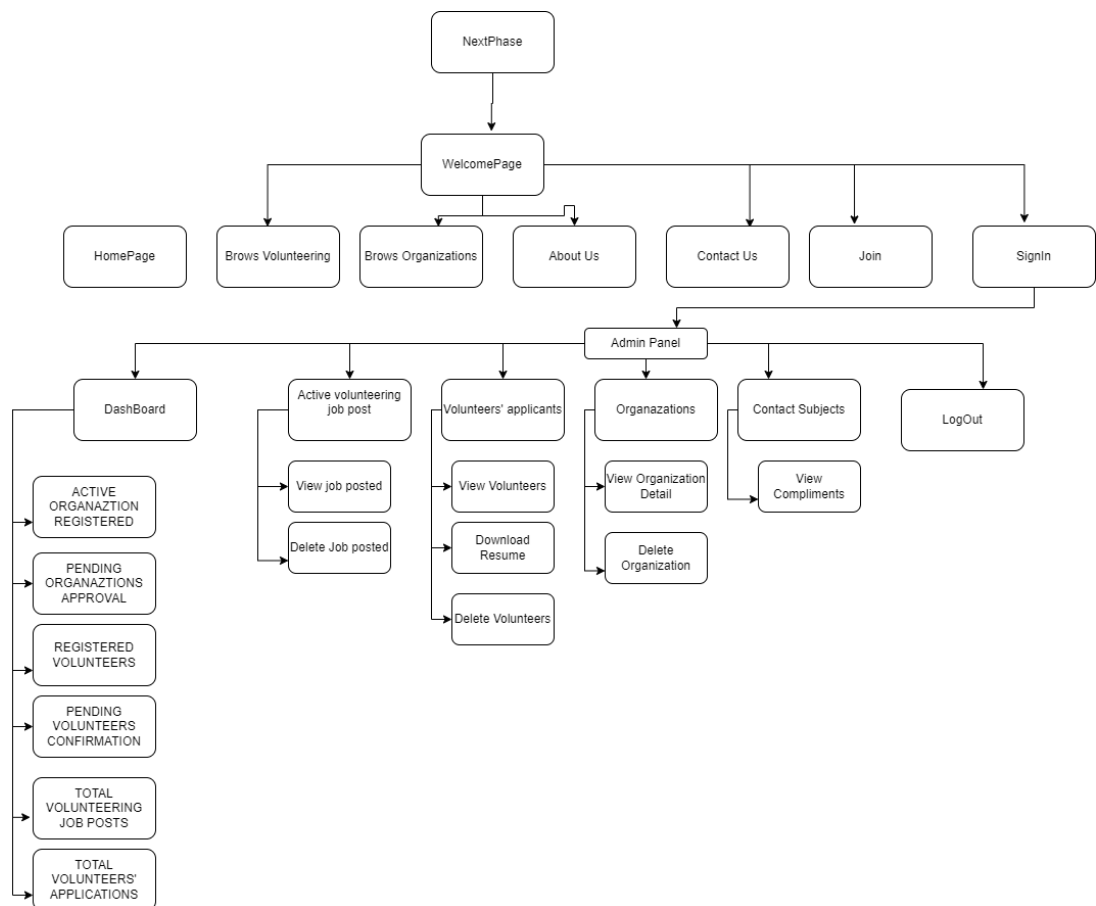
Figure 4-7: Navigation Page for Admin

4.9   Chapter Summary

   This chapter covers the fundamental requirements for VOS Design and analysis of systems. A number of diagrams have been created to make the analysis and design of the system clearer Among these are use case diagrams, sequence diagrams, activity diagrams, architecture design. The ERD and the data dictionary are used to provide an explanation for database design. Each design is useful in the next step of the system development, which is the construction phase

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1   Introduction

The process of system development in terms of coding based on the system definition is the focus of the implementation and testing. This procedure should be followed after determining the system's objectives and requirements. should follow the rules. To fix the bugs, the development and testing were done iteratively. existing flaws or errors as quickly as possible. To begin, all of the necessary development tools, such as Visual Studio Code and the Xampp package, were downloaded. As it is implemented in both mobile and web-based applications, this technology aids in the development of the Volunteering Opportunities System. The project structure featured an index HTML file that serves as the system's main entry point, a root module for system control, and pages made up of HTML, JS, and CSS files. After that, the implementation phase began with the creation of a user interface for each function. The HTML and CSS files in each page's folder are primarily coded in this step. The interfaces aid in tracking the flow of the Web-based system for linking fresh graduate employability and industry demand's many functions. After the APIs were set up, a new MYSQL project was built to contain all of the relevant data. In order to communicate with MYSQL from the Front-End. After setting up MYSQL, the organization began implementing the system backend for each function, such as login, registration, search, apply for volunteer positions, manage account settings, view all system actions, and track students.

5.2   Coding of System Main Functions

PHP, HTML, CSS, and JavaScript were used to construct the Volunteering Opportunities System's front-end design. Programming language for database management systems (DBMS), MYSQL. Additionally, Visual Studio Code is an IDE for programming. The coding for the system's main features will be covered in this part.

5.2.1   Login Page

A login page is an entry page for a website that requests a password to access a particular or entire component of the website. The website currently employs a number of different authentication methods, although this system still depends on a password-based system. The system encrypts a user's password before matching it to the user database. Additionally, the system will use session-only cookies moving forward and turn them off automatically. Figure 5.1 displays a portion of the login function's code

```php
if(isset($_POST)) {

    //Escape Special Characters in String
    $email = mysqli_real_escape_string($conn, $_POST['email']);
    $password = mysqli_real_escape_string($conn, $_POST['password']);

    //Encrypt Password
    $password = base64_encode(strrev(md5($password)));

    //sql query to check user login
    $sql = "SELECT id_user, firstname, lastname, email, active FROM users WHERE email='$email' AND password='$password'";
    $result = $conn->query($sql);

    //if user table has this this login details
    if($result->num_rows > 0) {
        //output data
        while($row = $result->fetch_assoc()) {

            //Set some session variables for easy reference
            $_SESSION['name'] = $row['firstname'] . " " . $row['lastname'];
            $_SESSION['id_user'] = $row['id_user'];

            if(isset($_SESSION['callFrom'])) {
                $location = $_SESSION['callFrom'];
                unset($_SESSION['callFrom']);

                header("Location: " . $location);
                exit();
            } else {
                header("Location: volunteers/index.php");
                exit();
            }

        //Redirect them to user dashboard once logged in successfully

    }
} else {
```

Figure 5-1: Code snippet for Login

5.2.2   Registration

In order to access the Web-based system for linking fresh graduate employability and industry demand, the Organization and Volunteer will both register as new users for this feature. You must enter information during registration, including your username, password, full name, email address, and phone number. A default password that is encrypted using the MD5 technique will be generated by the system. When the same email is entered, the system will tell you that it already exists and that you need to enter it again. Figure 5.2 displays an example of user registration code.

Figure 5-2: Code snippet for User Registration

5.3   Interfaces of System Main Functions

Because it acts as a bridge between the system database and end users, the system interface is an important component. Better user experience is facilitated by a good user interface. An interface that is easy to use is required for systems like the Volunteering Opportunities System. Some of the Organization Approval Accounts interfaces are shown in Figure 5.1 above.

Figure 5-3: interfaces for Organization Approval Accounts

5.4   Testing

Software development must include system testing since it can catch errors early and guarantee that the system works as planned. Black-box testing, white-box testing, and user acceptability testing are the three categories of testing that will be used for system testing.

5.4.1   Black box Testing

Black box testing does not need a tester to comprehend what is going on the code side because the emphasis is on the input and output produced by the system.

This impacts the system's reaction time, usability, and reliability issues, as well as how it responds to expected and unexpected user activities. Critical subsystems like the user interface/user experience (UI/UX), web server or website server, database, and integrated system are all evaluated during this testing. Data entry during user, application, audit module, and other updates, additions, and deletions is the main focus of black box testing. Table 5.1 displays the results of the login page's black box testing. The Black-Box testing process shows in **appendix D.**

Table 5-1: Black-Box testing for Login case.

Input	Expected Results	Actual Results	Status
Click the "Sign In"	The alert message was successfully displayed, and the page was redirected to the home page.	Successful alert	Pass
button using a valid		message displayed	

5.4.2 White box Testing

White box testing is a technique for assessing an input and output flow by looking at the internal configuration, coding, and structure of the software to enhance the design, usability, and security. One benefit of doing white box testing is that it can aid in code optimization by exposing hidden faults. In this instance, the goal is accomplished using a path coverage. Figure 5.2 depicts the login page's white box testing.

Table 5-2: Test Case: Login

Use Case	Login
Description	User required to enter the valid username and password and clicks on the "Sign In" button.
Pre-Condition	User need to have an existing username and password
Date	28/2/2022
Tester	Dlkhwaz Othman Mohammed

Node	Flows
1	Fill in login form

2	this.afAuth.auth.createUserWithEmailAndPassword(username, password)
3	if(res.user)
4	this.router.navigate(['/first/start']
5	this.showAlert("Error!", "User not Found")
6	End

5.4.3   User Testing

User acceptability testing (UAT), also known as end user testing, determines the level of software acceptance. A final test is performed after the functional, system, and regression tests have been completed. The testing's objective is to confirm that the system complies with the requirements of the organization. Validation testing is carried out by end users who are familiar with the business requirement. A member of the QIU Corporation personnel is a responsible user for user testing. The user acceptance test for Manage User is shown in Table 5.3.

Table 5-3: User Acceptance Test for Manage User Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Manage User" button	Display list of User page	Pass
2	Clicks on "Add" button	Display add User form	Pass
3	Enter type User detail andclicks on "Submit" button	Display message "User had been added"	Pass
4	Clicks on "Edit" button	Display chosen User detail	Pass
5	Update type of User detail,clicks on "Submit" button	Display message "User detail had been updated"	Pass
6	Clicks on "Delete" button	Display message "user had been deleted"	Pass

5.5   Chapter Summary

This chapter describes the processes of implementation and testing. All of the requirements gathered during the previous phase are expressed in the implementation phase as a system that fully complies with the need. The coding procedures must be done correctly to ensure that the required functionality can be provided and that all of the requirements are translated into the system. To ensure that the system developed is error-free, the encoding operations performed throughout the implementation process should be thoroughly checked during the testing phase.

CHAPTER 6

CONCLUSION

6.1   Introduction

The results and achievements of the Web-based system for linking fresh graduate employability and industry demand will be discussed in this chapter, as well as suggestions for future enhancements.

6.2   Achievement of Project Objectives

The project began with a survey of students from several universities. The goal is in order to obtain a better knowledge of the situation of the proposed system and benefits of volunteering towards students for their Future perspective. After the procedure is finished, the background of the problem, as well as the present status and system, are identified, leading to a proposed solution for resolving such problems. The literature review is discussed in the following chapter. An analysis of the current system as well as three other systems that are currently being used. was conducted during this section. The systems chosen are similar to the proposed system in terms of features and processes. All elements and characteristics that might be useful are added in the proposed system during the analysis Searching for jobs using filters, applying online, and the technology employed are examples of aspects and features that have been combined with the proposed system. In addition, we reviewed the technology that is now in use on existing systems in this chapter. Xampp and VS code, among others, are part of the technology. In Chapter 3, the system methodology is explained in full. The chosen approach, Iteration Development Methodology, has been explained and justified in relation to the chosen model. Starting with the Planning and Analysis phase and ending with the Evaluation phase, all aspects of the chosen approach are addressed. The most crucial aspects of the system are covered in Chapter 4. The analysis and design of systems are covered in this chapter. that includes everything

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from system flow, database design, and diagrams to requirements analysis (use case, sequence, and activity), among other things. This chapter also includes an early interface design for the planned system. The project's conclusion is detailed in Chapter 6. The Goals of the Project and Suggestions for Future Improvement are the topics of this chapter.

6.3   Suggestions for Future Improvement

In order to keep enhancing this system, certain additional features and function abilities can be implemented in the future. One of the needs mentioned by the end user is that students be able to message directly with Organization employees in the System, while the Organization be able to track volunteer attendance using the system.

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Appendix A: Gantt Charts of PSM 1 And PSM 2

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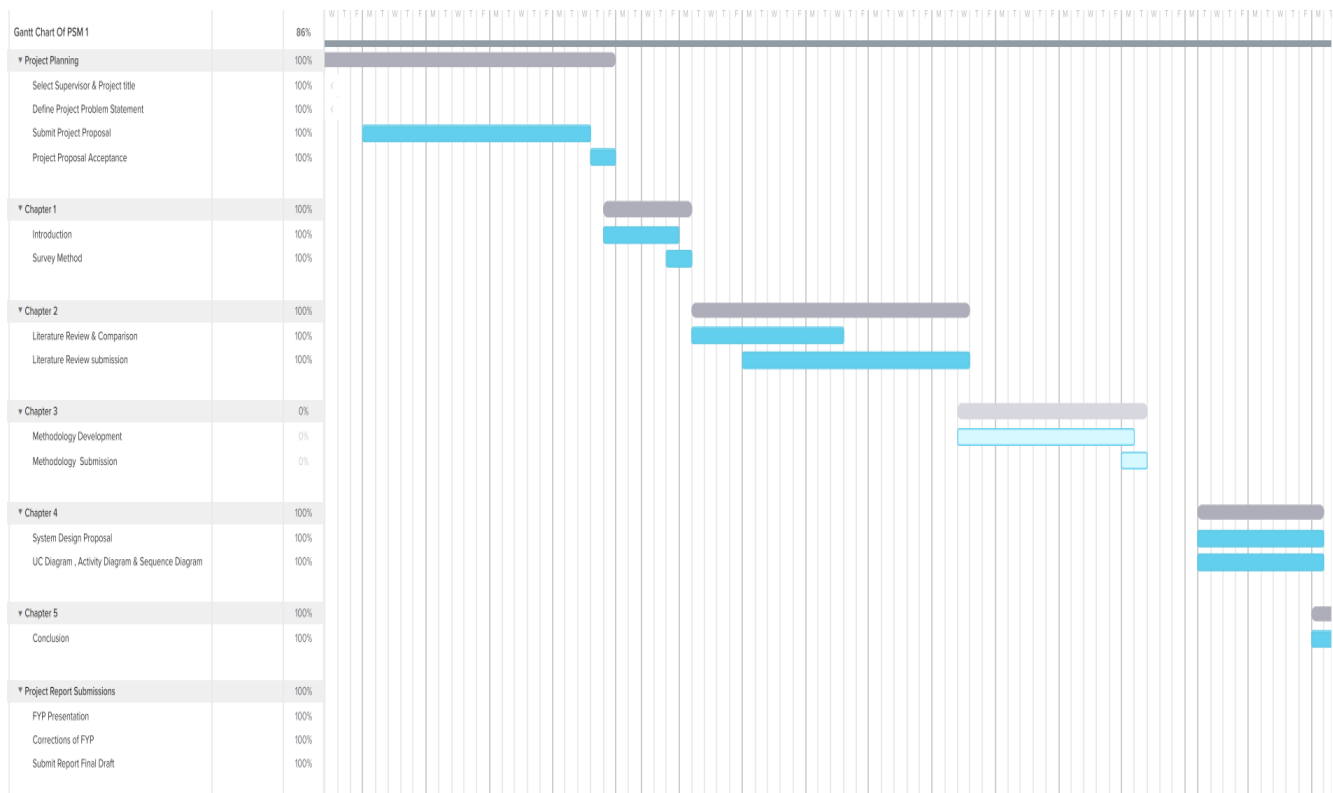
Figure 6-2: PSM1 Schedule

Figure 6-1: PSM2 Schedule

Appendix B: SOFTWARE REQUIREMENT SPECIFICATION (SRS)

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Introduction

Purpose

A Software Requirement Specification (SRS) is a document that outlines the functional and non-functional requirements of a software system in great detail. This Software Requirement Specification (SRS) is intended to outline the precise requirements of the Web- based system for linking fresh graduate employability and industry demand. It also includes use scenarios that demonstrate how the user and the system interact. This document includes contains various diagrams, including a sequence diagram and a flow chart. Activity Diagram

Scope

Web-based system for linking fresh graduate employability and industry demand is a website that will be utilized by the Kurdistan, the platform allows students interact with real- world work experience while also learning new skills and experiencing new things. Students will learn about several organizations as well as volunteer opportunities. This system's users comprise an administrator, an organization, and a student. The goal of this project is to design and create a user-friendly, responsive internet system for volunteering opportunities.

Definition, Acronyms and Abbreviation

Table B-1:Definition, Acronyms and Abbreviation

Acronym/ Abbreviation/ Definition Terms	Acronym/ Abbreviation/ Definition Terms
SRS	SRS
VOS	VOS
UC	UC

Reference

System Design Architecture Lecture slides on QIU eLearning.

Overview

This Software Requirement Specification (SRS) will be into three sections, the first of which will cover the introduction, which will provide you an overview of the entire SRS. The second element is an overall description of the system, which includes a description of the requirements that will limit how the system is constructed and operated. The third section is a detailed need that goes into great detail about the system specification.
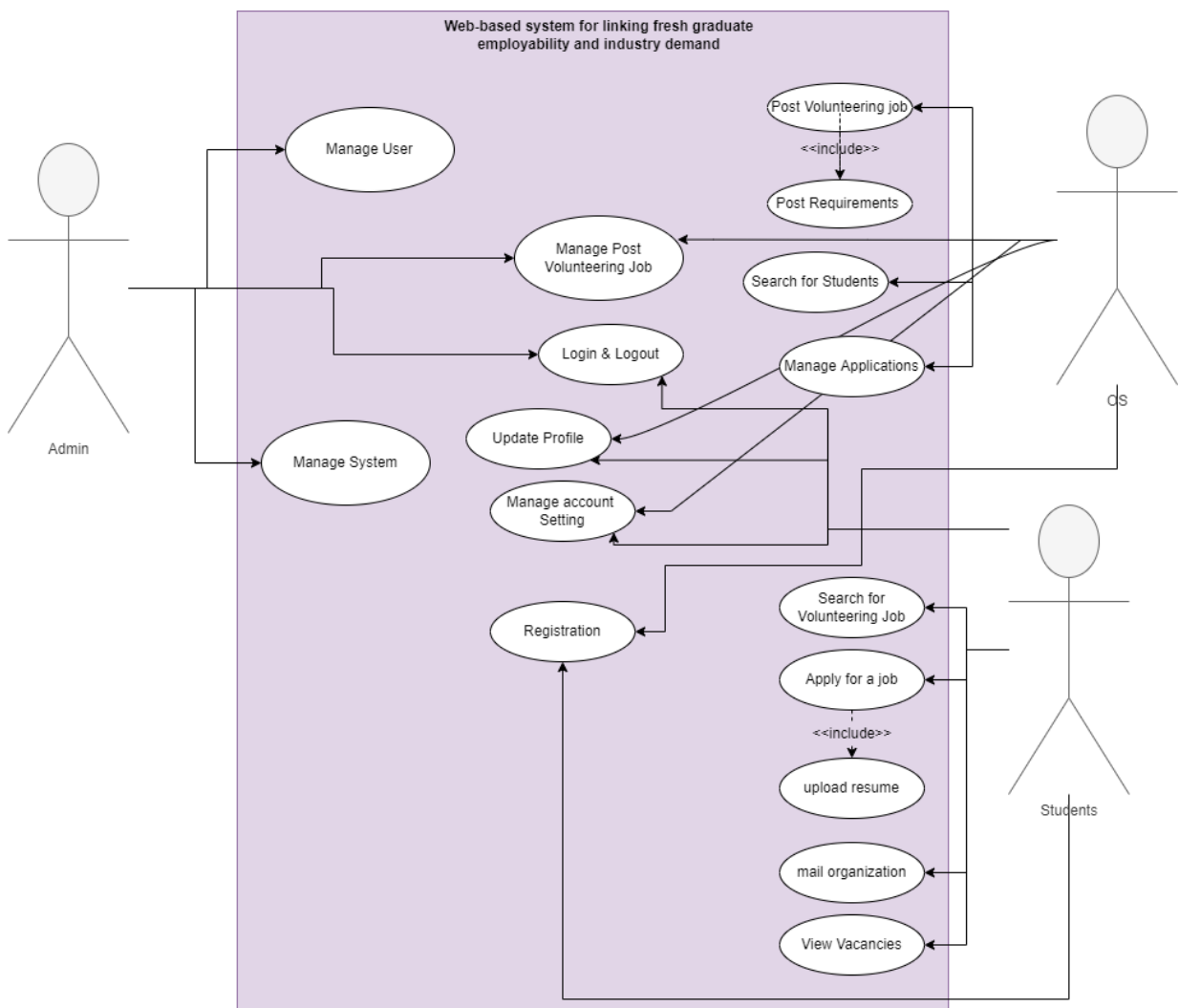
Figure B-1: Use Case Diagram for Web-based system for linking fresh graduate employability and industry demand

Product Perspective

Web-based system for linking fresh graduate employability and industry demand is a web-based system that build for students to find volunteering job based on their location and specialize. This system allows will be available in any place in Kurdistan. The students will be able to search for available volunteering job using filter, organizations will be able to use the system as well to post their volunteering vacancies and admin will receive the report. In addition, students also allowed to apply and upload their resume in the website. The admin also can manage users' personal details and view posted volunteering job.
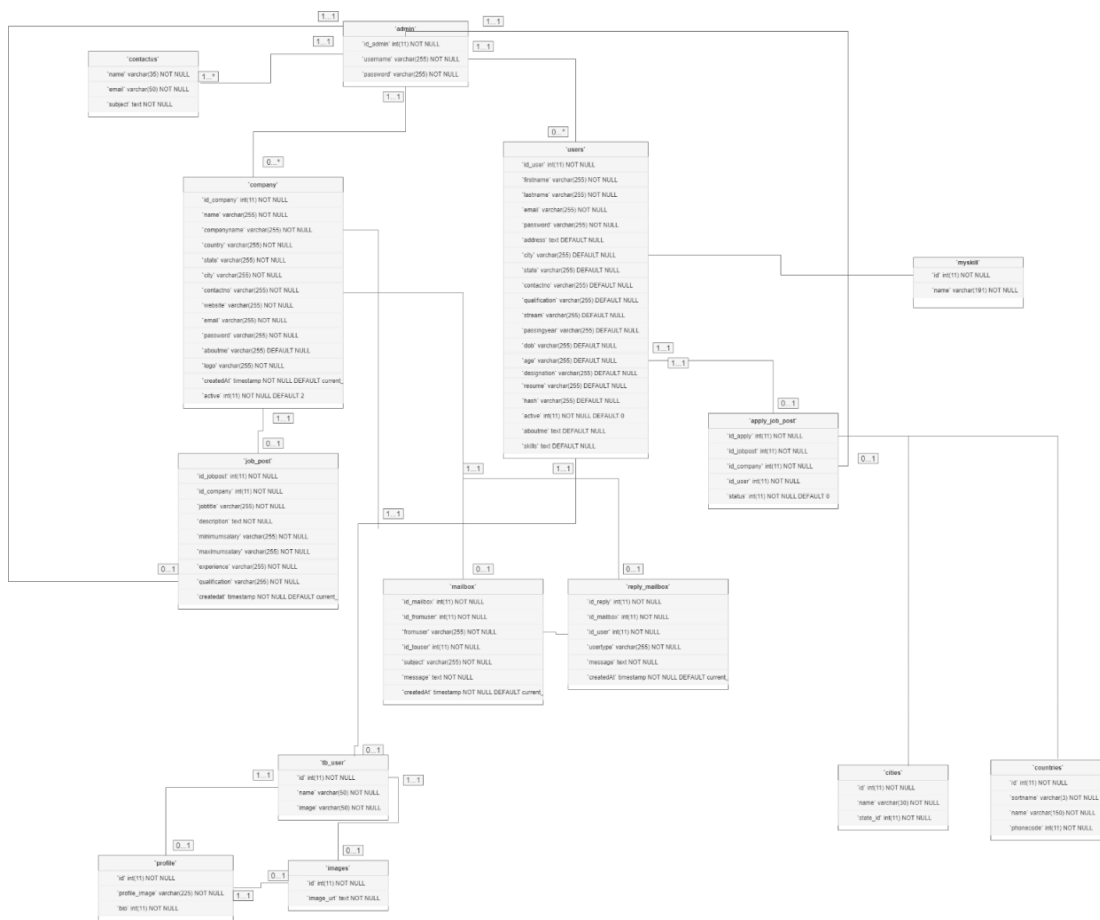
Figure B-2: Entity Relationship Diagram for Web-based system for linking fresh graduate employability and industry demand

System Interface

To ensure that the Web-based system for linking fresh graduate employability and industry demand functions properly, it is made up of seven (20) modules and five (3) actors. According to the module, each actor has a separate task and purpose. The user of the system the user interface is intended to be appealing. This is likewise made to look basic yet appealing by utilizing nice colours and an icon that represents the correct message. Furthermore, the interface for assigning new tasks to students is simple enough that students will be able to use it effectively.

Software Interface

Check table 3-1 for your Reference in chapter Three.

Hardware Interface

Check table 3-2 for your Reference in chapter Three.

Product Function

Table B-2: Function Description

1	Manage User	In order to get personalized or restricted information, this usecase allows an admin to view information of users, Delete and approve and reject registered organizations.
2	Manage System	This use case allows admin to view every action that happened inside the system.
3	Manage Post Volunteering Job	This use case allows an admin to view information of PostedVolunteering Job, view, Delete and register new Posted Volunteering Job.
4	Post Volunteering Job including postrequirements	This use case allows an organization to post volunteeringJobs including requirements.
5	Search for Students	This use case allows an organization to search for availablevolunteering students by filter (location, field).
6	Manage applications	This use case allows organization to view candidate resumeand send a notification to candidate if they got accepted or rejected candidates. Also, OS can send candidates mails.
7	Manage setting	This use case allows an organization and students to change password and deactivate their account.
8	Manage Account	This use case allows an organization and

			students to manage their account by add, delete, edit their personal detail.
9	Registration		This use case allows an organization and students to register themself into the system.
10	Login and Logout		This use case allows an organization and students to loginand logout the system.
11	Search VolunteeringJob		This use case allows a student to Search for Volunteering Jobby filter (location, experience)
12	Apply for a Job including upload Resume		This use case allows a student to apply online for a preferableVolunteering Job including Uploading resume.
13	Mail organizations		This use case allows candidate to send a mail to organizations
14	View Vacancies Detail		This use case allows a student to view available volunteering Vacancy.

Constraints

These are the constraints of Web-based system for linking fresh graduate employability and industry demand:

- Security
- Ease-of-use
- Clear to understand
- Availability of the application
- Reliability

Assumptions and Dependencies

The Web-based system for linking fresh graduate employability and industry demand will automate the current process, beginning with students uploading their resumes and ending with a report detailing how many students applied for a volunteering job and how frequently students search for volunteer opportunities by filtering by skills and location. Using the website to look for volunteer opportunities whenever the organization posts them in the system. Students will have access to their applicant's history as well as the ability to manage their accounts.

Dependencies

If the server's operations are down due to technical problems, users of the Web-based system for linking fresh graduate employability and industry demand will be unable to use the system.

Specific Requirements

System Features

UC001: Login

Table B-3: UC001 Login Use Case Description

Use Case Name	Login
Use Case ID	UC001
Actors	admin Organization Student
Description	This use case illustrates how users interact with thesystem after logging in.
Pre-Condition	1. There is WIFI connection 2.Users must register Before 3.Users must know their Hash Password
Normal Flow	The user logs into the system. The login page is displayed by the system. The user enters his or her username andpassword. The user clicks the Sign In button. The system verifies the user's identity. If theauthentication fails, the first exception flow is used. Users are redirected to the user's Dashboard orMy Task page after successful login. This is the end of the use case.
Alternative Flow	
Exception	Authentication is unsuccessful. An error message appears, indicating that theusername or password is invalid. A message from the system appears, suggesting that the authentication be retried.
Post-Condition	Successful login of users into the system Users are redirected to either the Dashboard orMy Task pages.
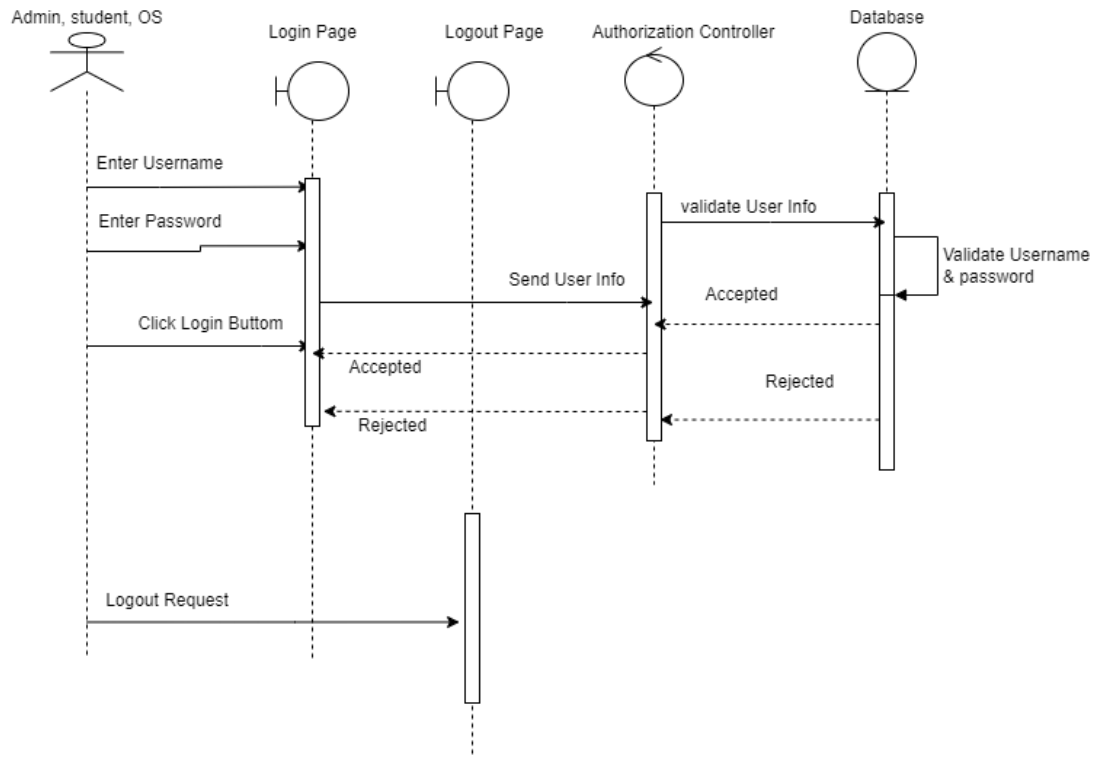
Figure B-3: Sequence Diagram for Login
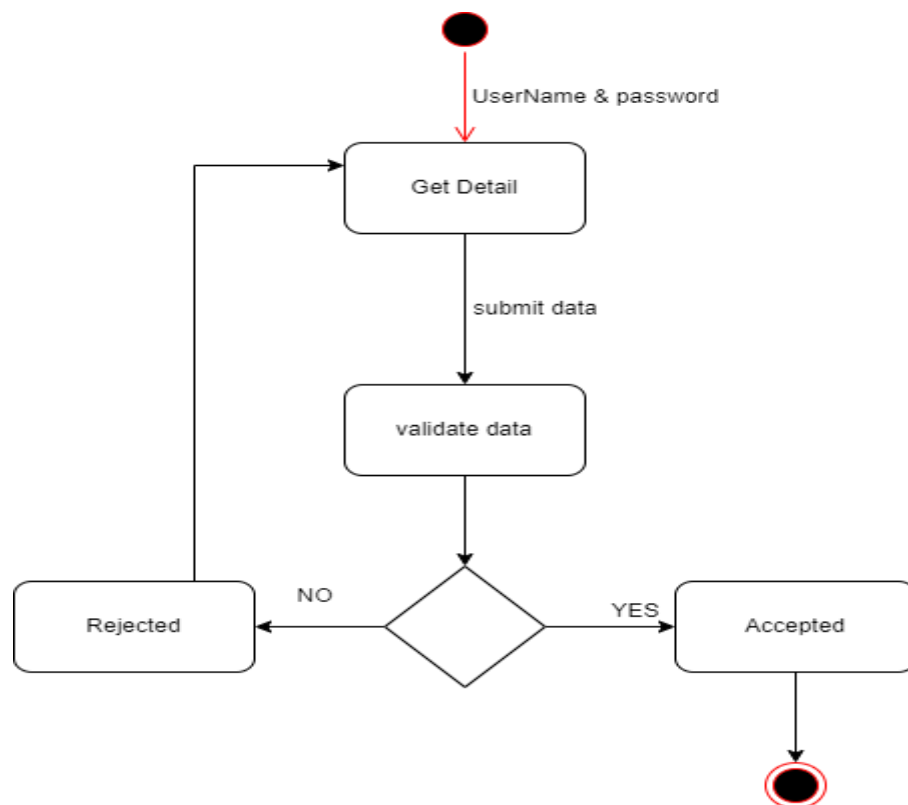
Figure B-4: activity diagram Of Login Process.

UC002: Registration

Table B-4: UC002 Registration Use Case Description

Use Case Name	Registration
Use Case ID	UC002
Actors	Organization Student
Description	This use case explains how users can sign up fortheir own account.
Pre-Condition	1. There is WIFI connection
Normal Flow	The Users presses the Register button. The system brings up the registration form page. users fill out their information. The users press the Submit button. The user is redirected to the home page by thesystem.
Alternative Flow	
Exception	i. Error message appear
Post-Condition	The system account has been successfully registeredby the users.
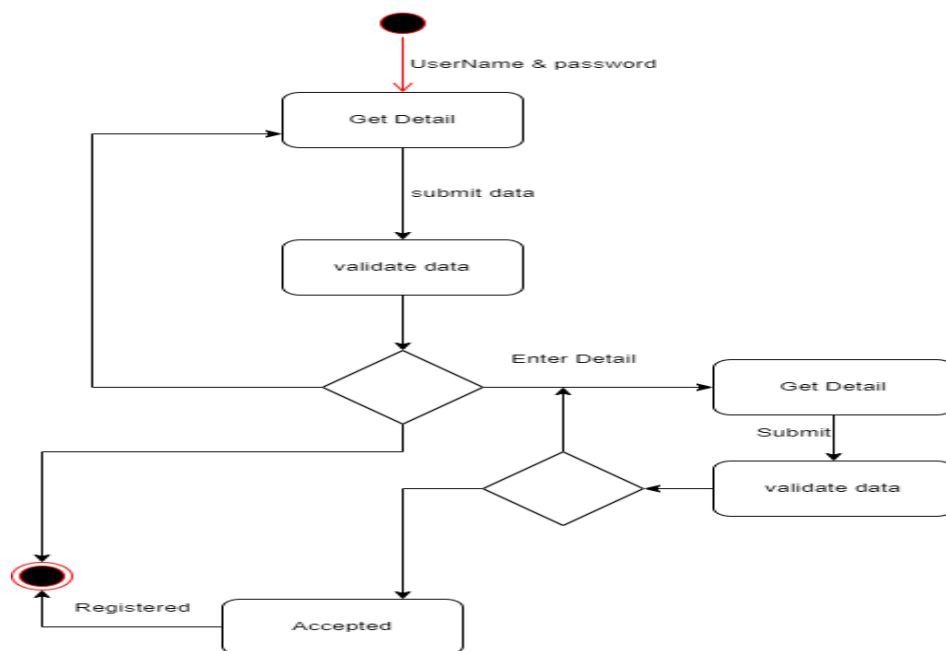
Figure B-5: Activity Diagram of Registration

UC003: Manage User

Table B-5: UC003 Manage User Use Case Description

Use Case Name	Manage User
Use Case ID	UC003
Actors	1. Admin
Description	This use case explains how the system's admin manages the users.
Pre-Condition	A network connection is available. The admin has already signed in to the system.
Normal Flow	Select Manage User from the Admin menu to add a new user by click approve, reject, and delete, view users. If the administrator wants to add a new user, alternate flow 1 is used. Alternative flow 2 is used if the admin wants to delete a user. If the administrator wishes to Delete a user, alternate flow 3 is used. If the administrator wants to see the user, alternate flow 4 is used. End
Alternative Flow	Create a New User A form will appear. Admin fills up the new user's information Admin clicks the approve button If the administrator enters an invalid email address format, the first exception flow is invoked. The system will notify you if you have successfully approved. reject User Make a change to the user's id. The form will pop up. Admin delete user 1. Admin clicks the delete button
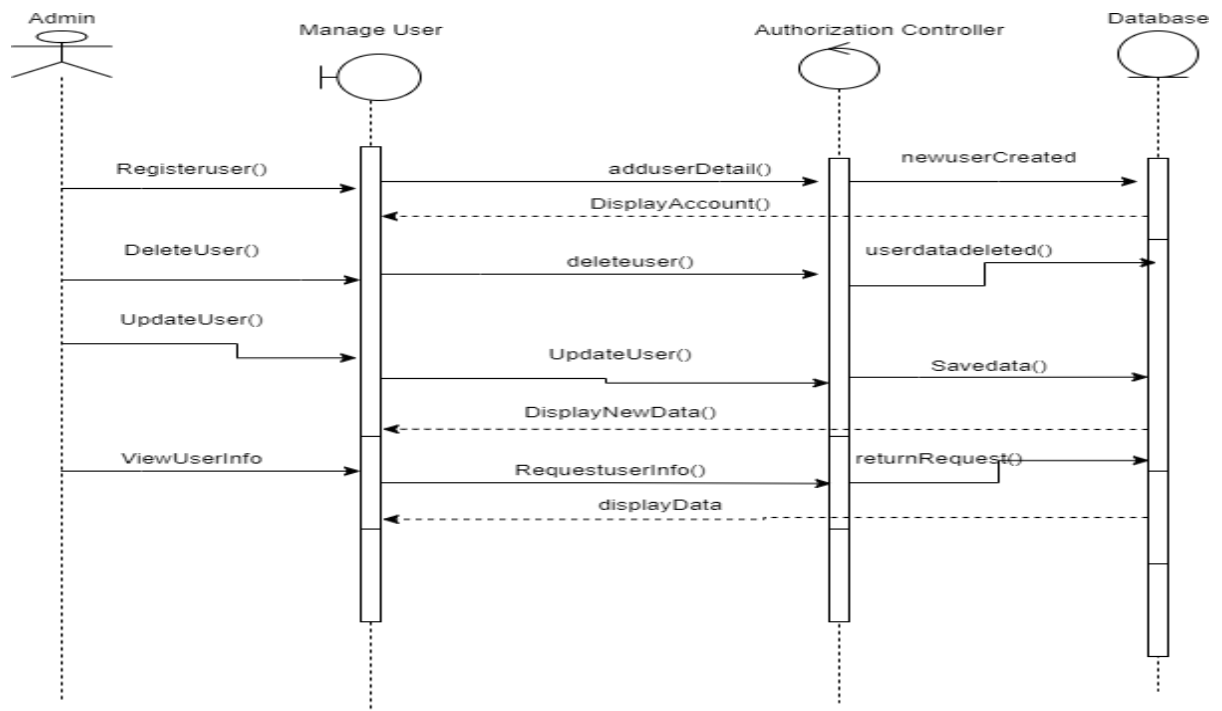
Figure B-6: Sequence Diagram <<Manage User>>
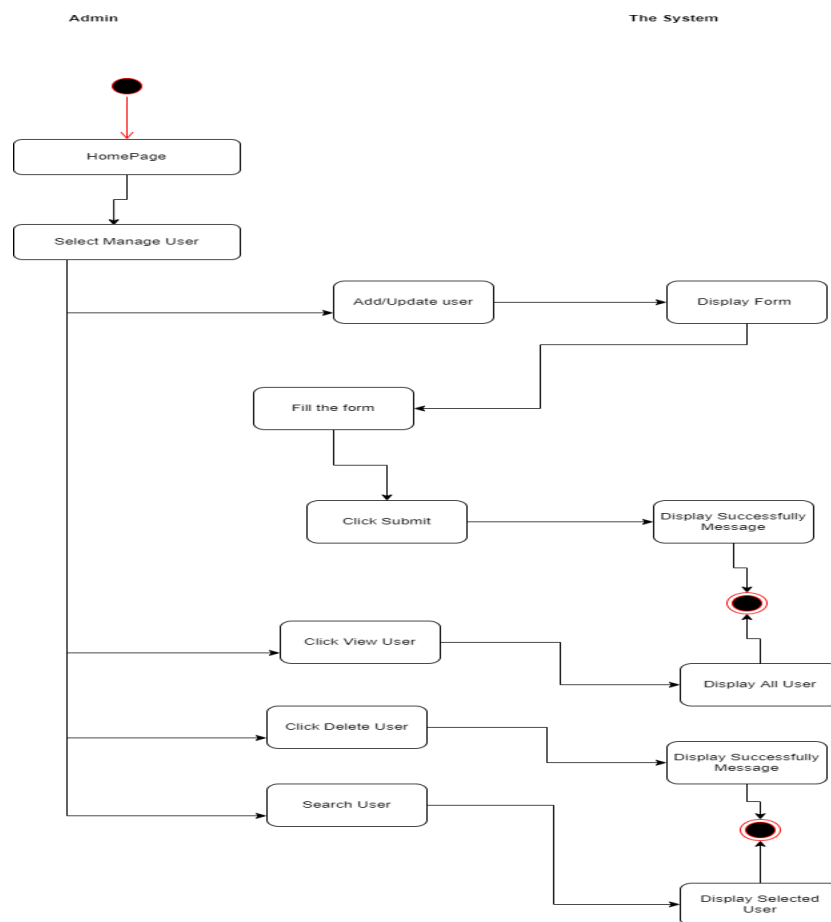
Figure B-7: Activity Diagram for Manage User

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UC004: Update Profile

Table B-6: UC004 Manage Account Use Case Description

Use Case Name	Update Profile
Use Case ID	UC004
Actors	Organization Students
Description	This use case explains how the system's Users manages Their Account.
Pre-Condition	A network connection is available. The user has already signed in to the system.
Normal Flow	Select edit profile from the Users menu to add,update, remove info, put profile pic, and uploadResume. If the User wants to add info, alternate flow 1is used. Alternative flow 2 is used if the admin wantsto delete info. If the user wishes to update info, alternate flow 3 is used. If the user wants to upload profile pic, alternate flow 4 is used. if user wants to upload resume, alternative flow 5 is used 5.End
AlternativeFlow	**Create a New User** A form will appear. users fill up the new information user clicks the add button If the user enters an invalid email address format,the first exception flow is invoked. The system will notify you if you have successfully added new info. **Remove User** Remove info. The form will pop up. **user makes changes to the details** user clicks the update button The system indicates that the update was successful. **Change password** User wants to change their password enter old password enter new password confirm The system will notify you if you have. successfully changed password. **Upload resume** Click on upload resume Select PDF file Resume has been uploaded

Exception	1. Email format is incorrect. II. An error warning will be displayed; pleaseinclude @ in the email address. 2. can't upload resume, PDF required
Post-Condition	The task (add, Delete, Update, change and upload)performed by user
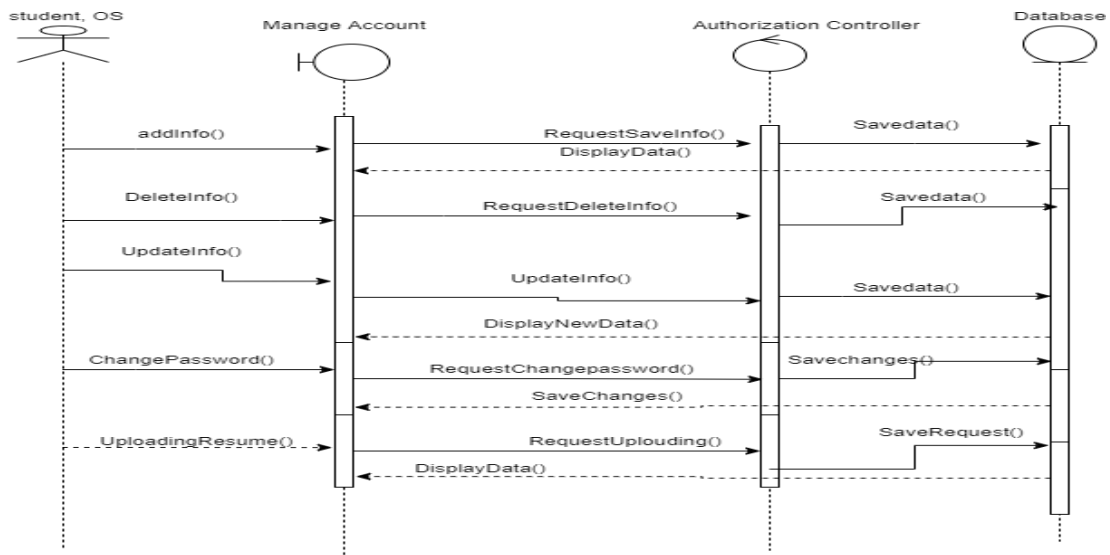
Figure B-8: Sequence Diagram <<Update Profile>>
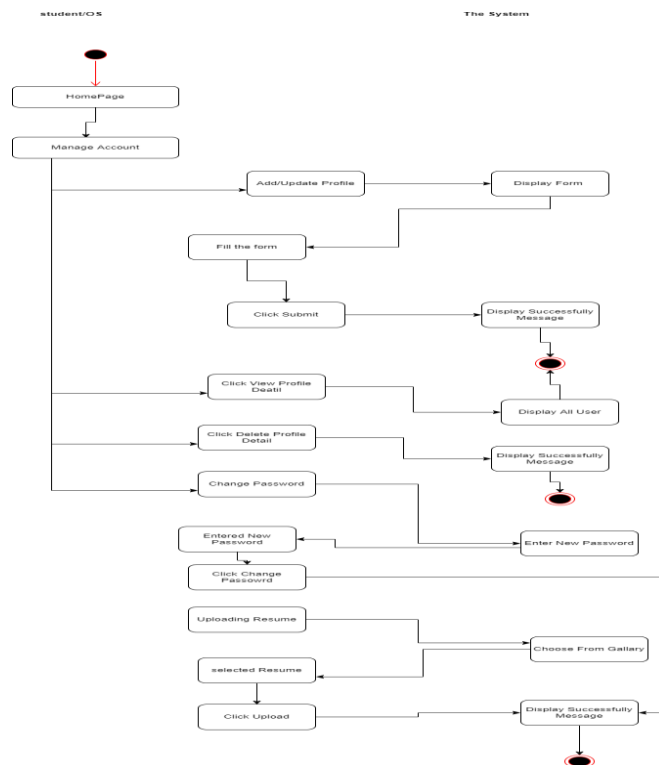
Figure B-9: Activity Diagram for Update Profile

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UC005: Manage account Setting

Table B.7: UC005 Manage Account Use Case Description

Use Case Name	Update Profile
Use Case ID	UC005
Actors	Organization Students
Description	This use case explains how the system'sUsers manages Their Account.
Pre-Condition	A network connection is available. The user has already signed in to the system.
Normal Flow	Select setting from the Users menu to change password, change name, and deactivate account. If the User wants to change password,alternate flow 1 is used. Alternative flow 2 is used if the user wants todeactivate account. If the user wishes to change name, alternateflow 3 is used. 5.End
AlternativeFlow	**Change password** A form will appear. users fill up the new password confirm password again user clicks the change password button If the user enters an invalid password format,the first exception flow is invoked. The system will notify you if you havesuccessfully change password. **Deactivate account** deactivate account. The form will pop up. **Change name** A form will appear. users fill up the change name user clicks the change name button The system will notify you if you havesuccessfully change password.
Exception	1. password format is incorrect. III. An error warning will be displayed; thepassword doesn't match
Post-Condition	The task (change password, deactivate, change nameperformed by user
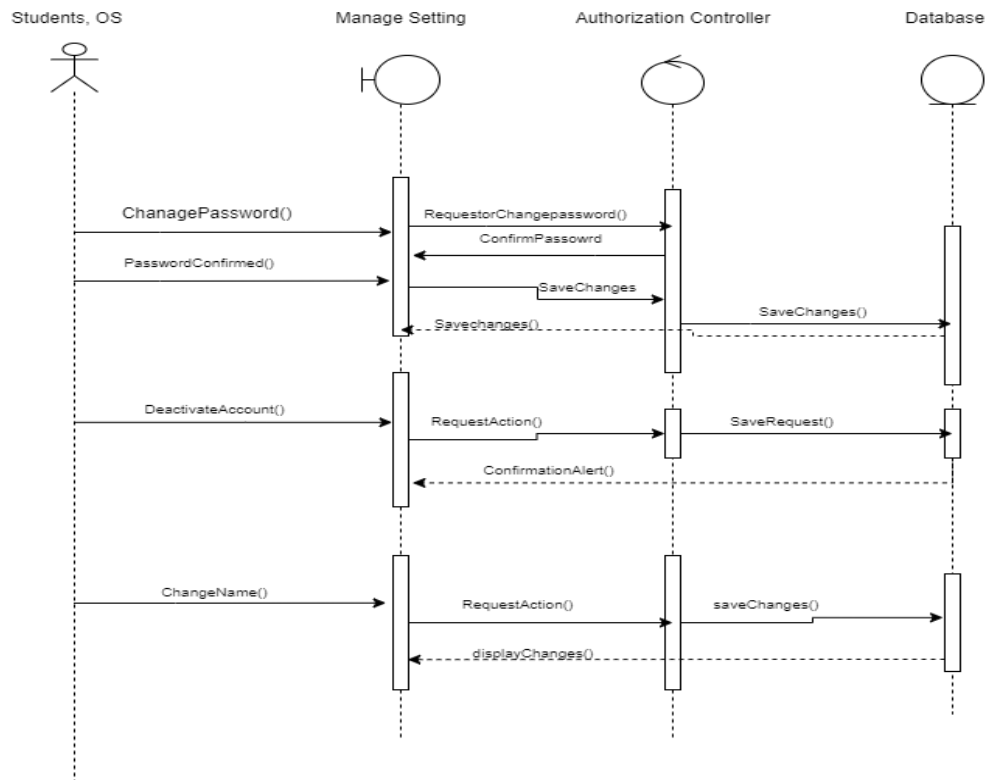
Figure B-10: Sequence Diagram for Manage Setting
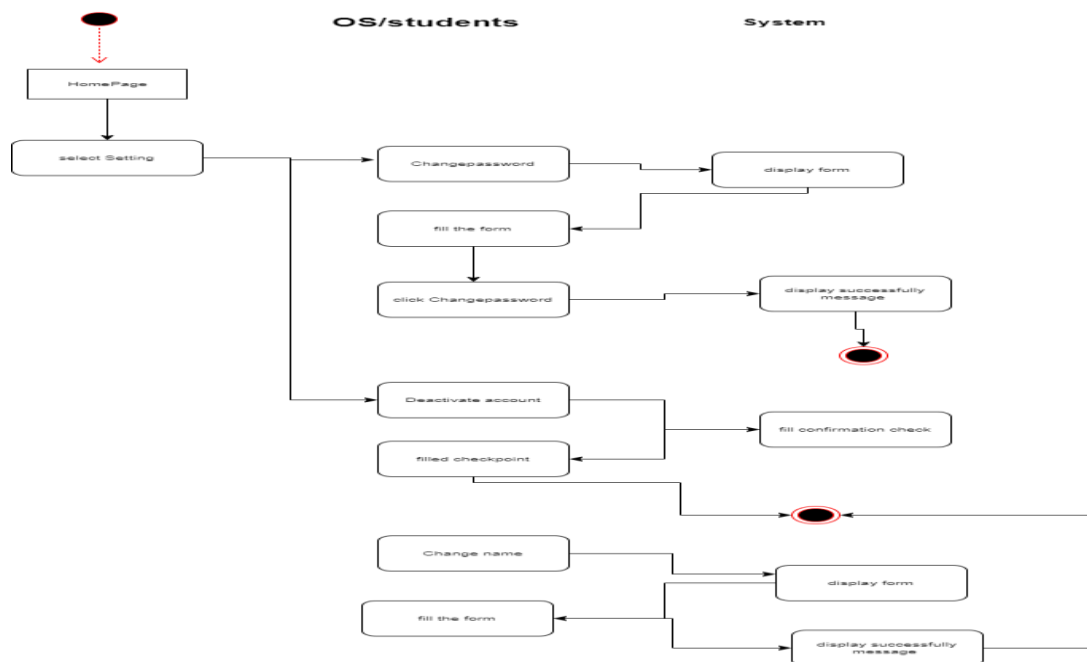
Figure B-11: Activity Diagram for Manage Setting

UC006: Manage System

Table B-8: UC006 View position Detail Use Case Description

Use Case Name	View position Detail
Use Case ID	UC006
Actors	1. Admin
Description	This use case explains how the systems can be Viewed by admin.
Pre-Condition	A network connection is available. The admin has already signed in to the system.
Normal Flow	**View candidate** Select volunteers from the admin menu to view if admin wants to view candidate' detail. click on volunteers. view volunteer's detail. End **View candidate** Select organization from the admin menu to view if admin wants to view organization detail. click on organization. view organizations 'detail. **View job pasted** Select active volunteering job from the adminmenu to view if admin wants to view job posted detail. click on active volunteering job. view job posted 'detail. **View Compliments** Select contact subject from the admin menu toview if admin wants to user compliments detail. click on active contact subject. view compliments detail.
Use Case Name	View position Detail 14. End
Alternative Flow	
Exception	1. No result display

Figure B-12: Sequence Diagram for Manage System
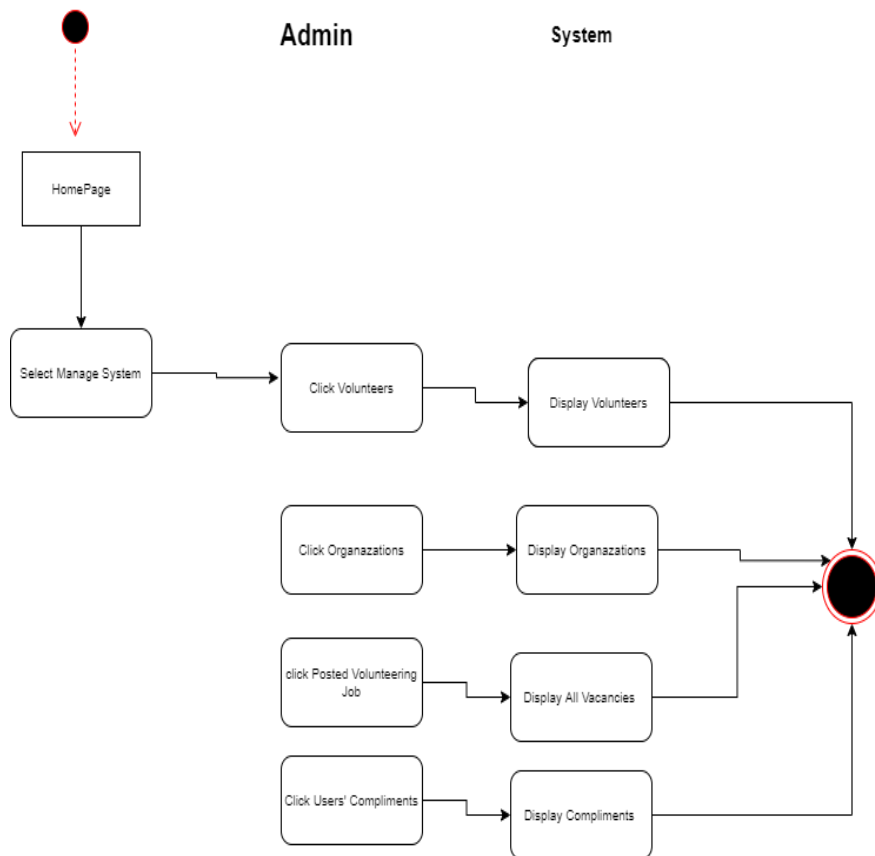
Figure B-13: Activity Diagram for Manage System

UC007: Manage Applicants

Table **B-9**: UC007 Manage Applicants Use Case Description

Use Case Name	Update Profile
Use Case ID	UC007
Actors	1. Organization
Description	This use case explains how the manage applicants byORG.
Pre-Condition	A network connection is available. The user has already signed in to the system.
Normal Flow	Select Applicants from the ORG menu to Reject, Mark UnderReview, and Download Resume info. If the ORG wants to Accept, alternate flow 1is used. Alternative flow 2 is used if the ORG wants toreject Applicant. If the ORG wishes to Download resume info,alternate flow 3 is used. End
AlternativeFlow	**Accept applicant** Click on applicants. View applicants' info If ORG wants to hire the candidate user clicks the mark under review button a notification goes to applicant. **reject applicant** Click on applicants. View applicants' info If ORG wants to reject the candidate user clicks the reject button a notification goes to applicant. **download Resume** Click on applicants. View applicants' info If ORG wants to download the resume user clicks the download buttonEnd
Exception	
Post-Condition	The task (accept Applicant, reject applicant and downloadresume) performed by ORG
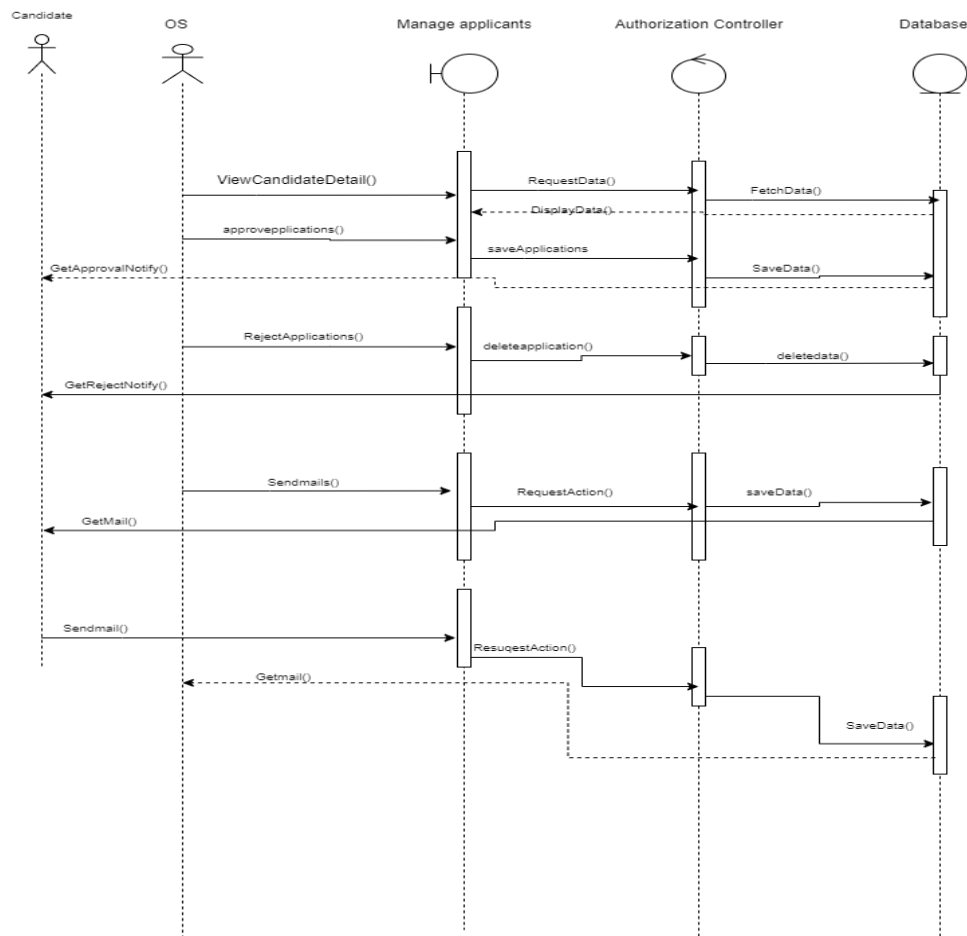
Figure B-14: Sequence Diagram for Manage Applicant
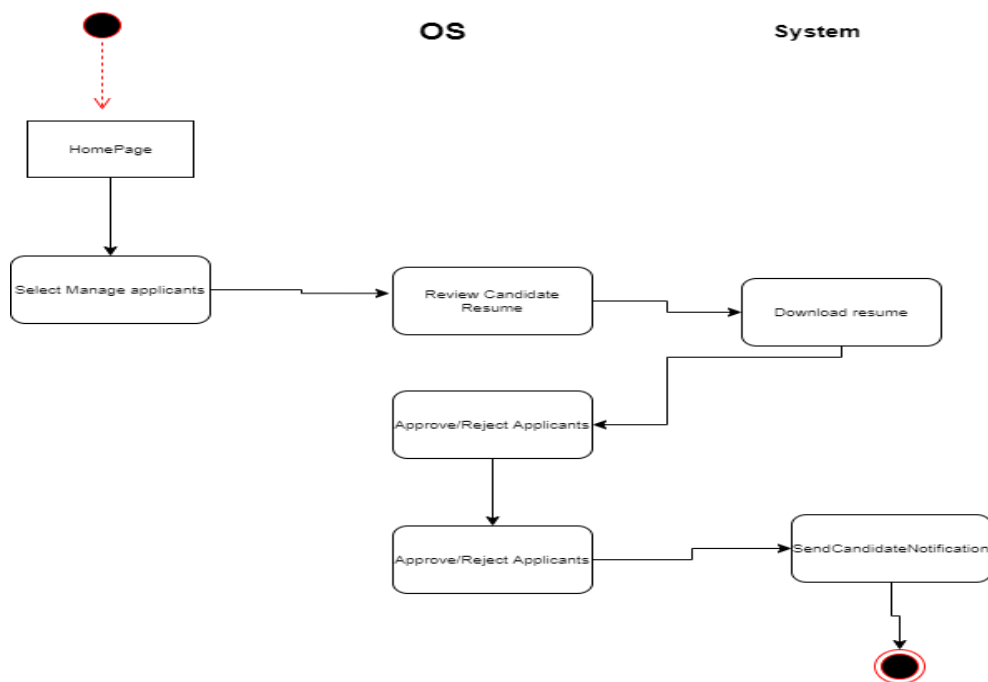
Figure B-15: Activity Diagram for Manage Applicant

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UC008: Manage Post volunteering Job

Table B-10: UC008 Manage Post Volunteering Job Use Case Description

Use Case Name	Manage Post Volunteering Job
Use Case ID	UC008
Actors	2. Admin/OS
Description	This use case explains how the system's admin manages the users.
Pre-Condition	A network connection is available. The admin has already signed in to the system.
Normal Flow	Select Manage Post Volunteering Job from the Admin menu to add, update, delete, view, and Posted. volunteering positions. If the admin wants to add position detail, alternate flow 1 is used. Alternative flow 2 is used if the admin wantsto remove a position detail. If the admin wishes to update position detail,alternate flow 3 is used. If the administrator wants to see the positiondetail, alternate flow 4 is used. End
AlternativeFlow	**Create a New User** A form will appear. Admin fills up the position information Admin clicks the add info button If the administrator enters an invalid detail address format, the first exception flow is invoked. The system will notify you if you have successfully added new info. **Remove User** Make a change to the position detail. The form will pop up. **Admin makes changes to the position details** Admin clicks the update button The system indicates that the update wassuccessful. **View position detail** Admin clicks on the position's name The position's information appears.
Exception	1. Email format is incorrect. IV. An error warning will be displayed; please fillthe right detail.
Post-Condition	The task (add, Delete, Update, and view) performed byadmin
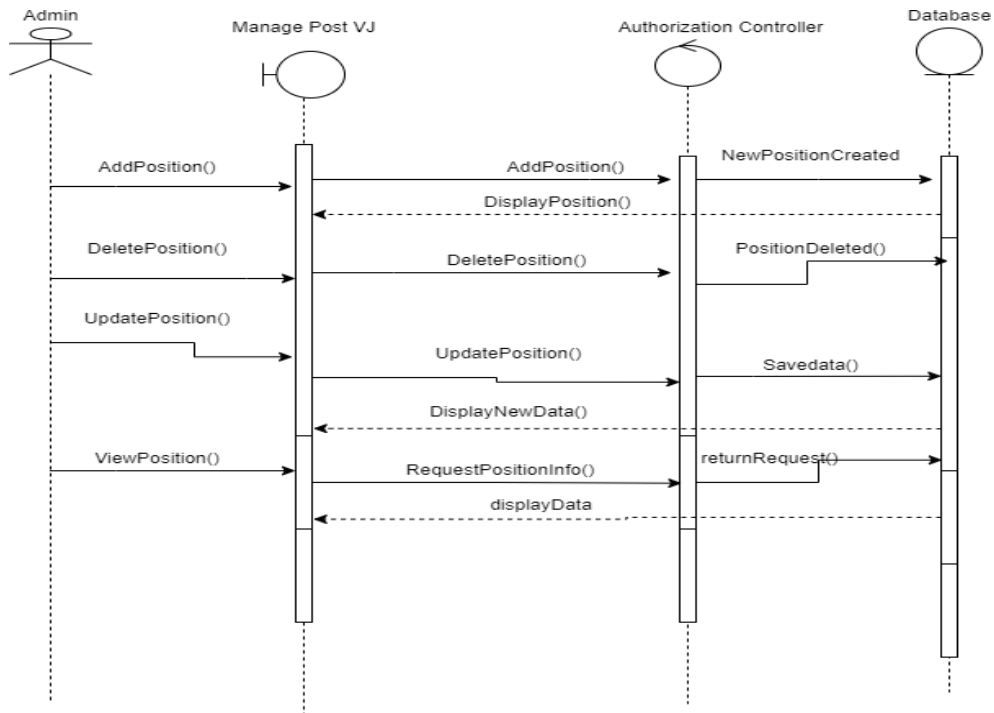
Figure B-16: Sequence Diagram <<Manage Post Volunteering Job>>
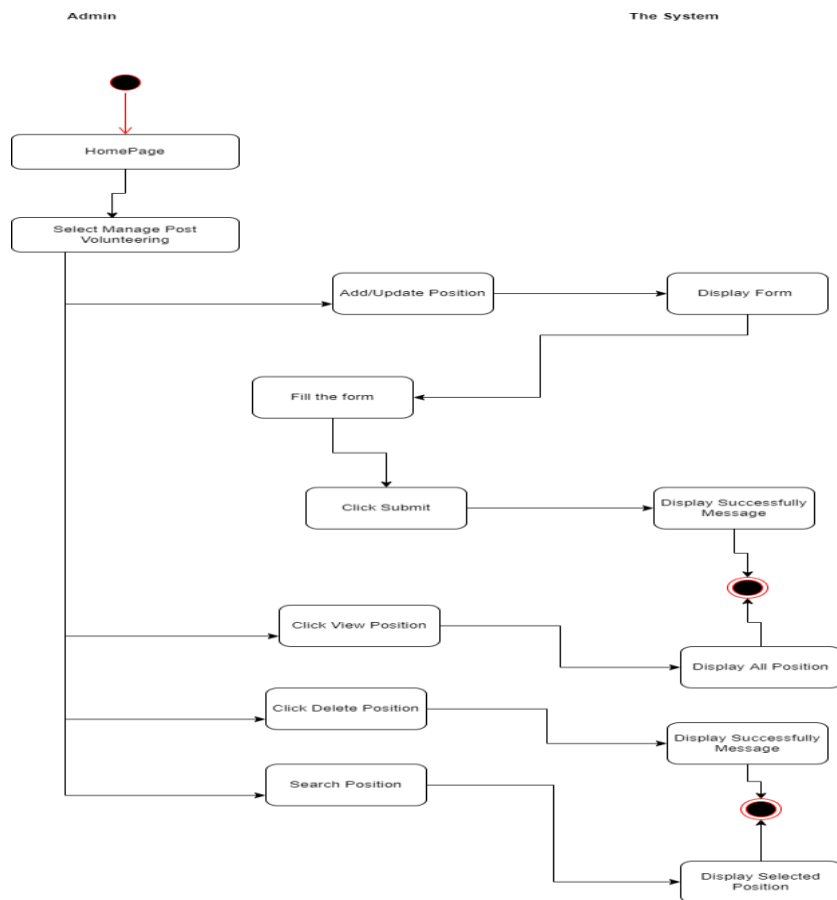
Figure B-17: Activity Diagram for Manage PostVolunteering

UC009: Search Volunteering Job

Table B-11: UC009 search volunteering Job Use Case Description

Use Case Name	Search Volunteering Job
Use Case ID	UC009
Actors	1. Student
Description	This use case explains how the system's student search for volunteering job.
Pre-Condition	A network connection is available. The student has already signed in to the system.
Normal Flow	Select search from the student menu to searchfor volunteering job if student wants to search by filter search by skills alternative 1 is used search by field alternative 2 is used search by location, alternative 3 is used display the result request End
AlternativeFlow	if student wants to search by filter search by skills alternative 1 is used search by field alternative 2 is used search by location, alternative 3 is used display the result request End
Exception	1. The request not found
Post-Condition	The task (search) performed by student.
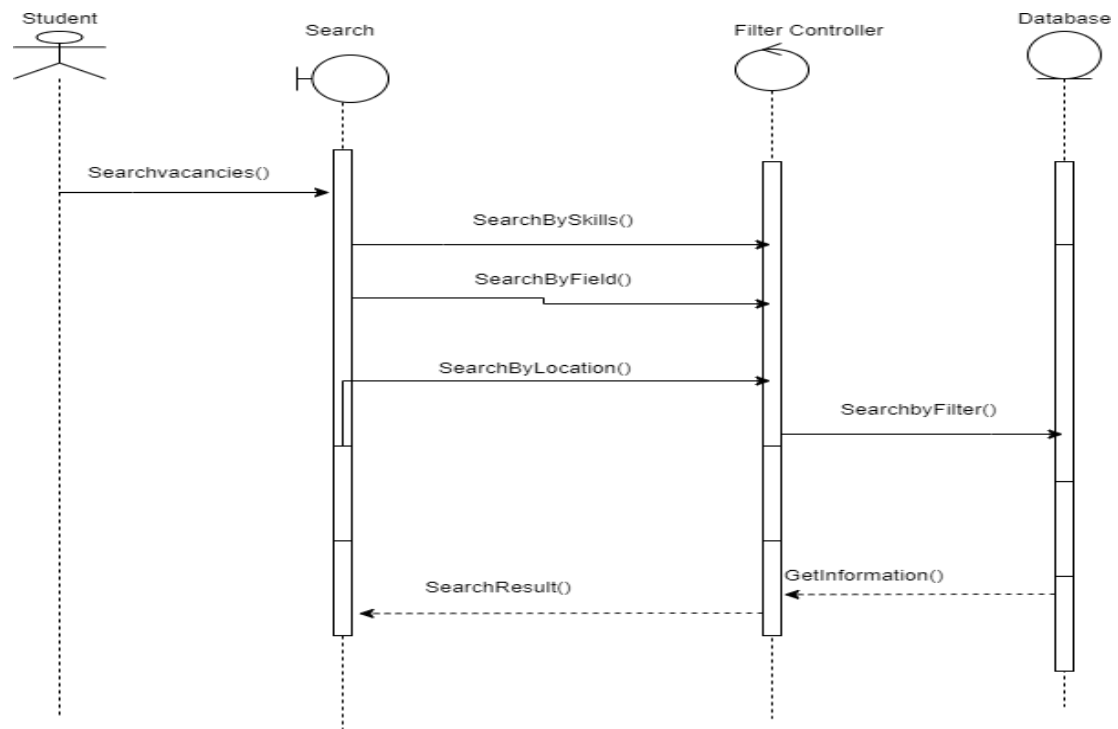
Figure B-18: Sequence Diagram <<Search Volunteering Job>>
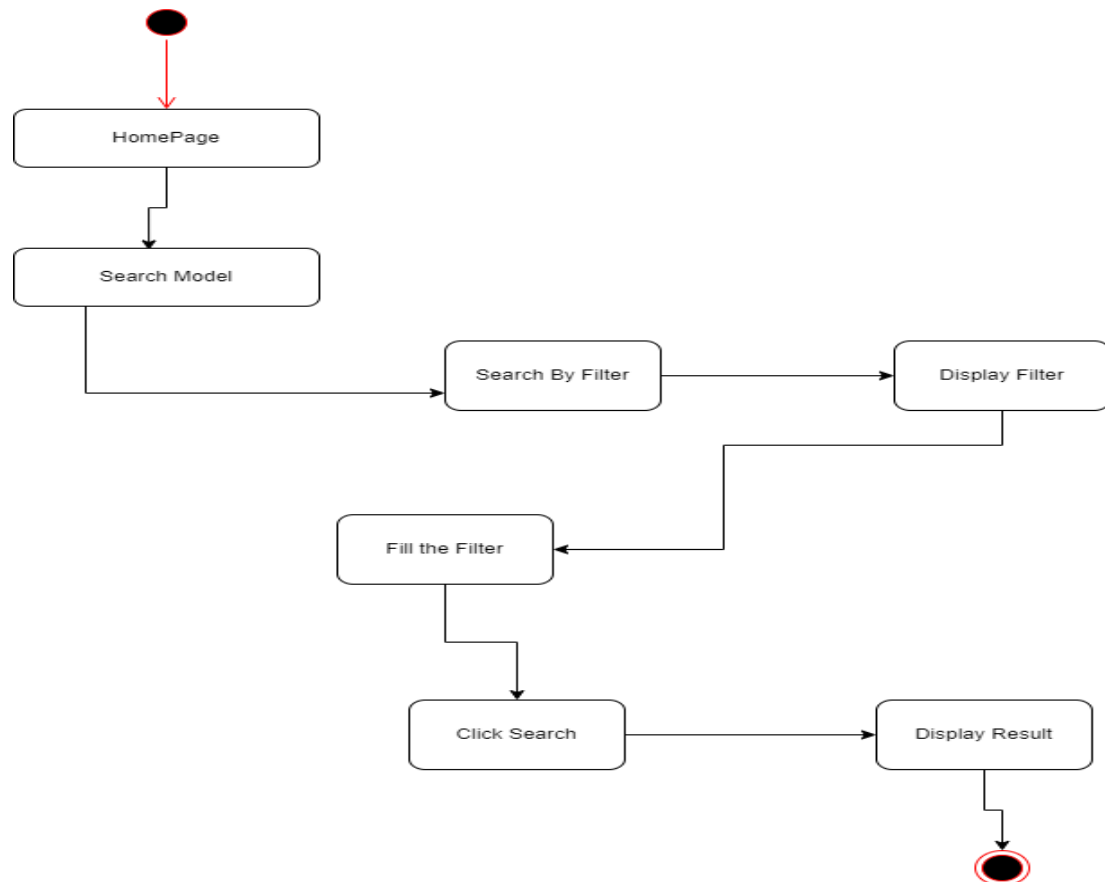
Figure 3.19: Activity Diagram for Search for Jobs

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UC0010: Apply for a Volunteering Position

Table B-12: UC0010 Apply for a Volunteering Position Use Case Description

Use Case Name	Apply for a Volunteering Position
Use Case ID	UC0010
Actors	1. Student
Description	This use case explains how the system's student Apply for a Volunteering Position.
Pre-Condition	A network connection is available. The student has already signed in to the system.
Normal Flow	Select search from the student menu to searchfor volunteering job and apply online. if student wants to search by filter search by skills alternative 1 is used search by field alternative 2 is used search by location, alternative 3 is used display the result request student view position detail students apply online upload Resume End
AlternativeFlow	if student wants to search by filter search by skills alternative 1 is used search by field alternative 2 is used search by location, alternative 3 is used display the result request students view position detail, alternative 4 isused End
Exception	1. The position is not available
Post-Condition	The task (apply) performed by student.
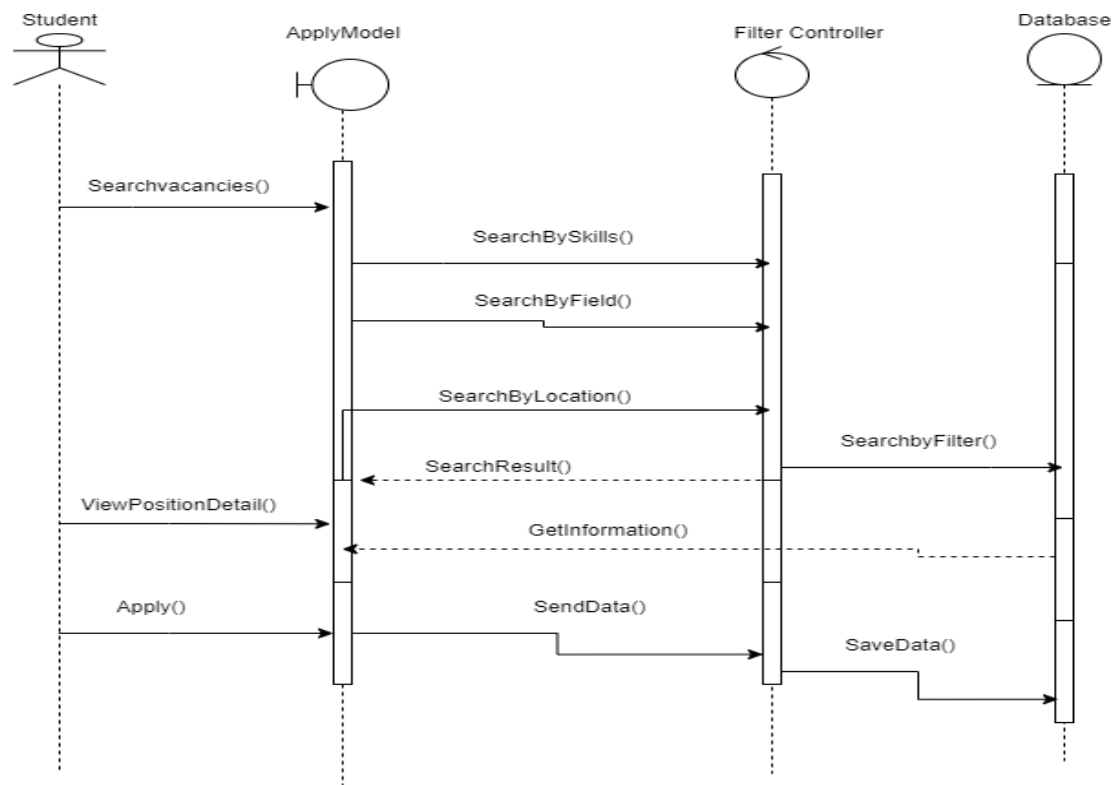
Figure B-20: Sequence Diagram <<Apply for a VolunteeringPosition>>
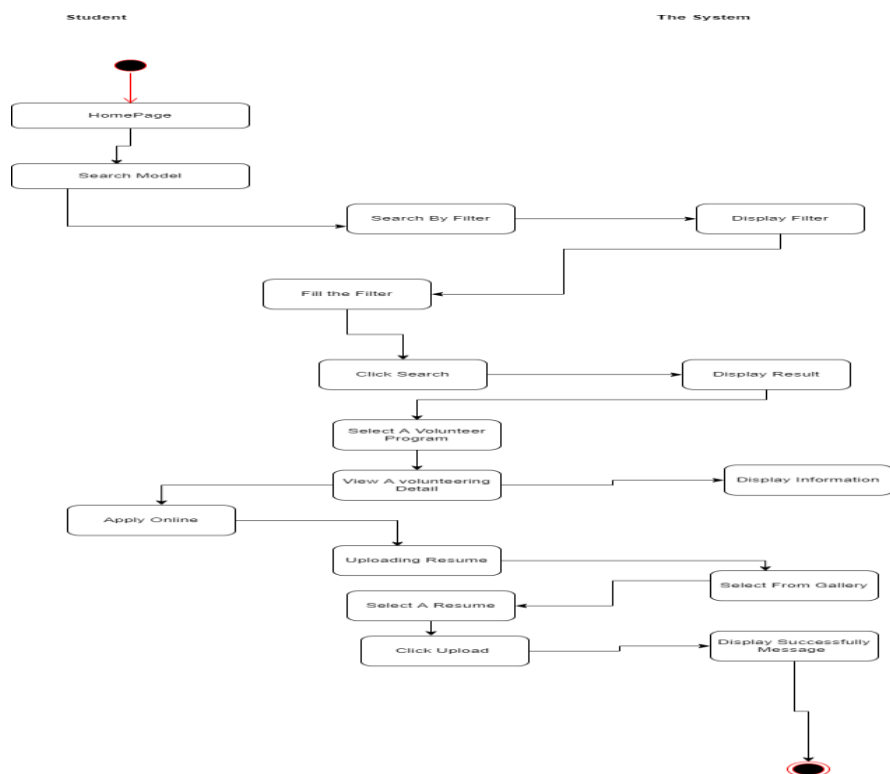
Figure B-21: Apply for a Job

UC0011: Post Volunteering Job

Table B-13: UC0011 Post Volunteering Job Use Case Description

Use Case Name	Post Volunteering Job
Use Case ID	UC0011
Actors	1. Organization
Description	This use case explains how the system's Organization Post Volunteering Job.
Pre-Condition	A network connection is available. The Organization has already signed in to thesystem.
Normal Flow	Select Post Volunteering Job from the organization menu to post if Organization wants to post a position add position detail, alternative 1 is used display new position posted End
AlternativeFlow	if Organization wants to post a position add position detail, alternative 1 is used display new position posted End
Exception	
Post-Condition	The task (post position) performed by Organization.
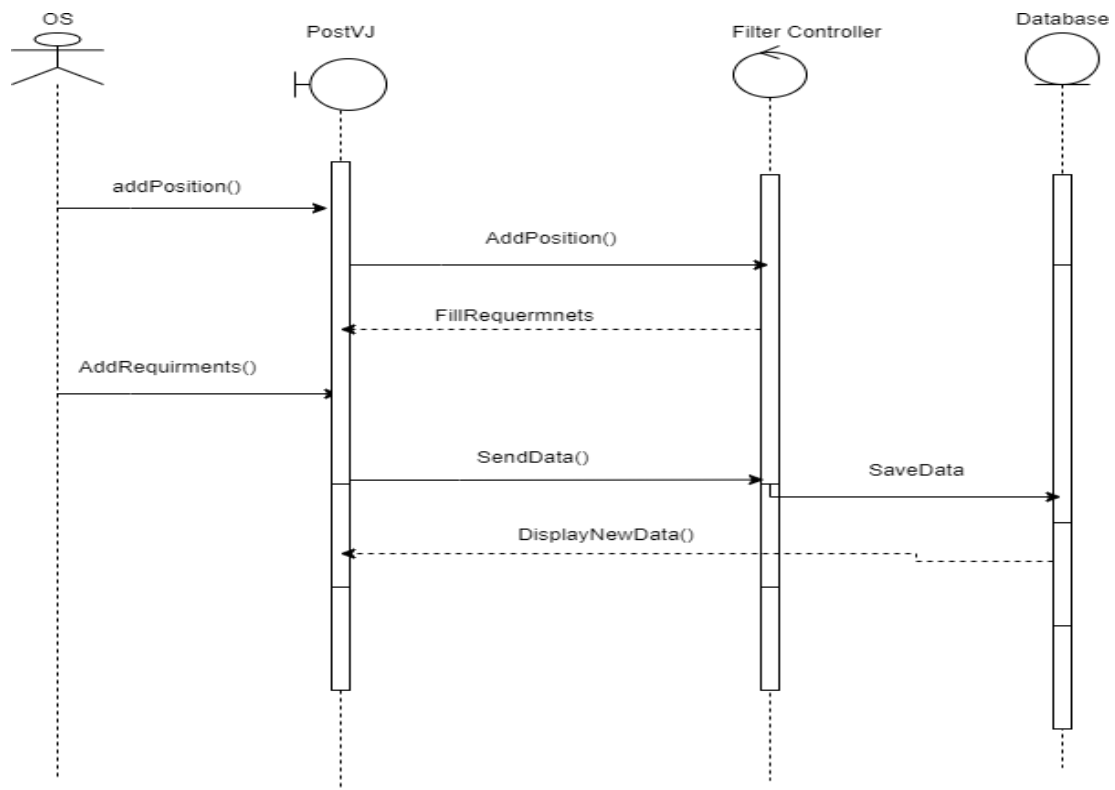
Figure b-22: Sequence Diagram <<Post Volunteering Job >>

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UC0012: Search for Students

Table B-14: UC0012 Search for student Use Case Description

Use Case Name	Search for student
Use Case ID	UC0012
Actors	1. Organization
Description	This use case explains how the system's Organization search for student Detail.
Pre-Condition	A network connection is available. The Organization has already signed in to thesystem.
Normal Flow	Select Brows Student from the organization menuto view if Organization wants to view students' detail. click on brows Volunteer. view students' detail. End
Alternative Flow	
Exception	2. No result display
Post-Condition	The task (Search for student) performed by Organization.
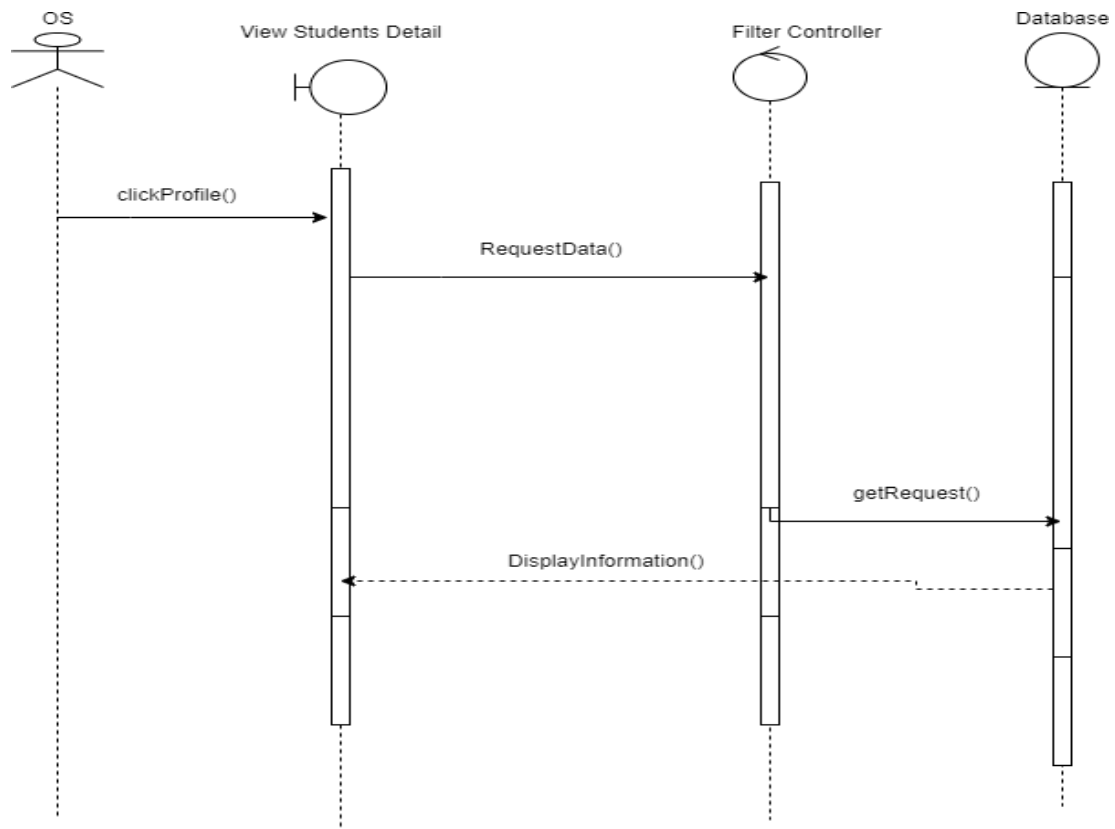
Figure B-23: Sequence Diagram <<Search student >>
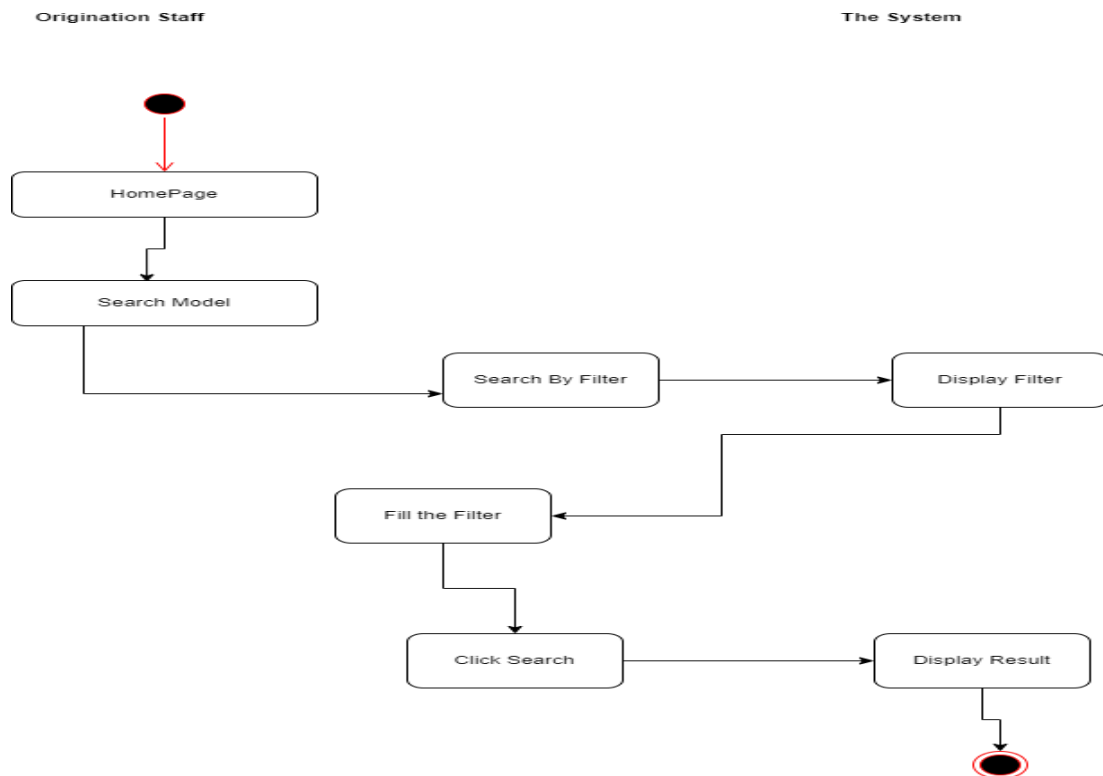
Figure B-24: Activity Diagram for search for student

UC0013: Search for ORG

Table B-15: UC0013 Search for ORG Use Case Description

Use Case Name	Search for ORG
Use Case ID	UC0013
Actors	2. Student
Description	This use case explains how the system's Student search for ORG Detail.
Pre-Condition	A network connection is available. The student has already signed in to the system.
Normal Flow	Select Brows ORG from the Student menu toview if Student wants to view Org' detail. click on brows Org. view ORG' detail. End
Alternative Flow	
Exception	3. No result display
Post-Condition	The task (Search for ORG) performed by Student.

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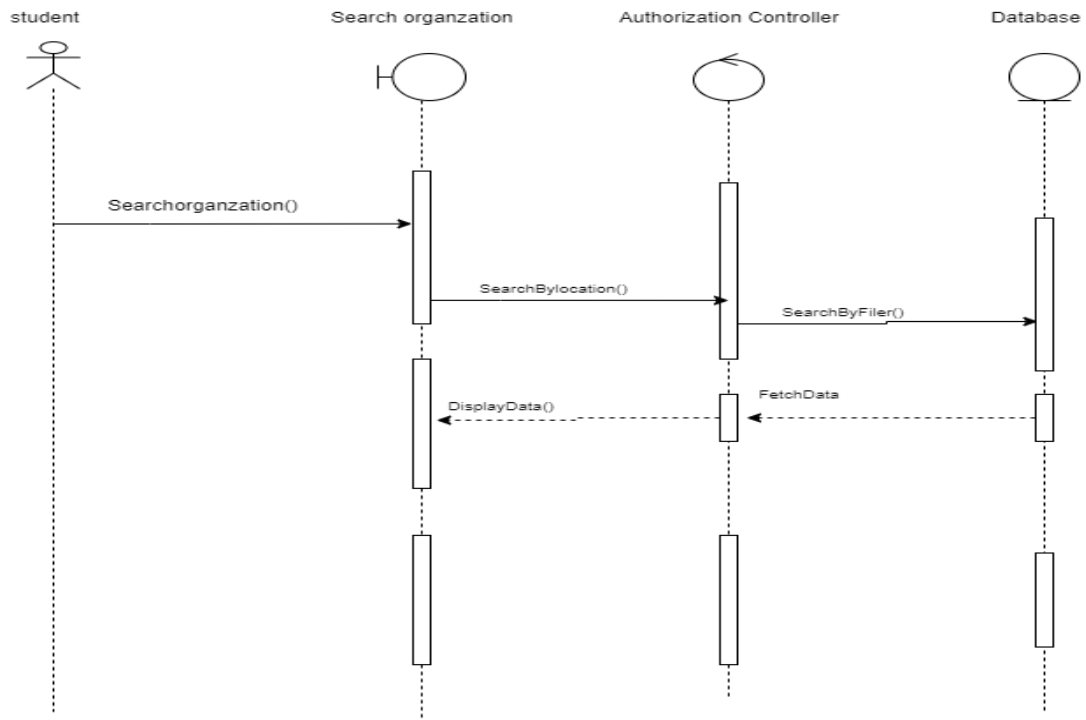
Figure B-25: Sequence Diagram <<Search ORG >>
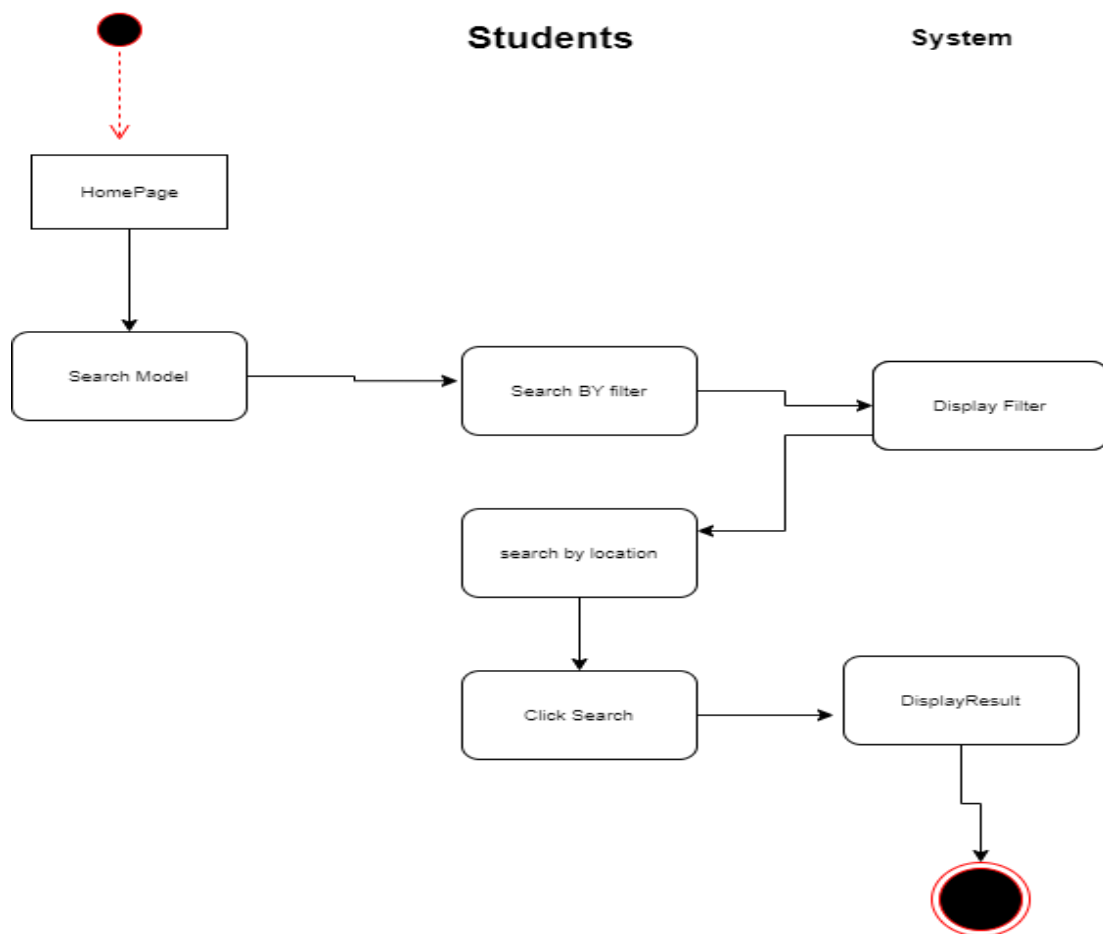
Figure B-26: Activity Diagram <<Search ORG >>

UC0014: View position Detail

Table B-16: UC0014 View position Detail Use Case Description

Use Case Name	View position Detail
Use Case ID	UC0014
Actors	2. student
Description	This use case explains how the system's student Viewposition Detail.
Pre-Condition	A network connection is available. The student has already signed in to the system.
Normal Flow	Select View position Detail from the student menuto view if student wants to view positions' detail. click on posted position. view position' detail. End
Alternative Flow	
Exception	4. No result display
Post-Condition	The task (View position Detail) performed by student.
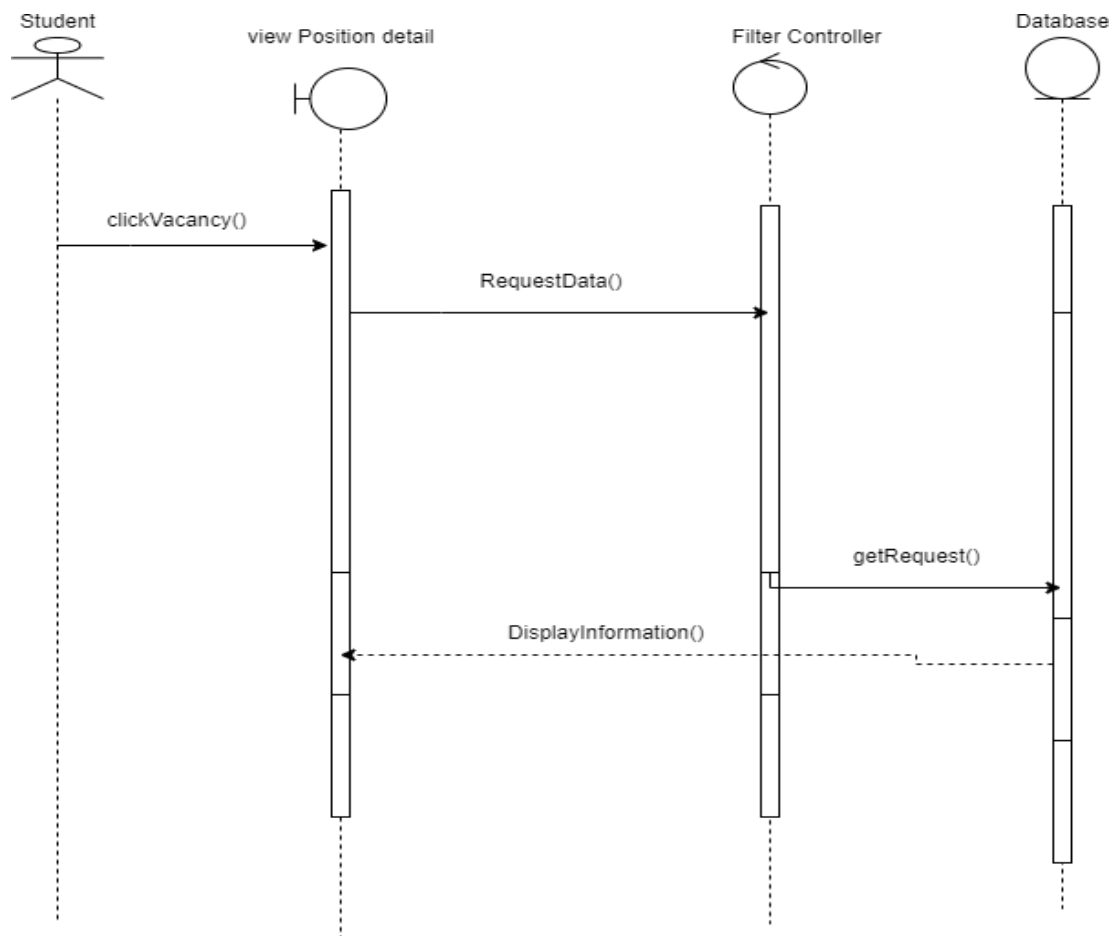
Figure B-27: Sequence Diagram <<View Position Detail >>

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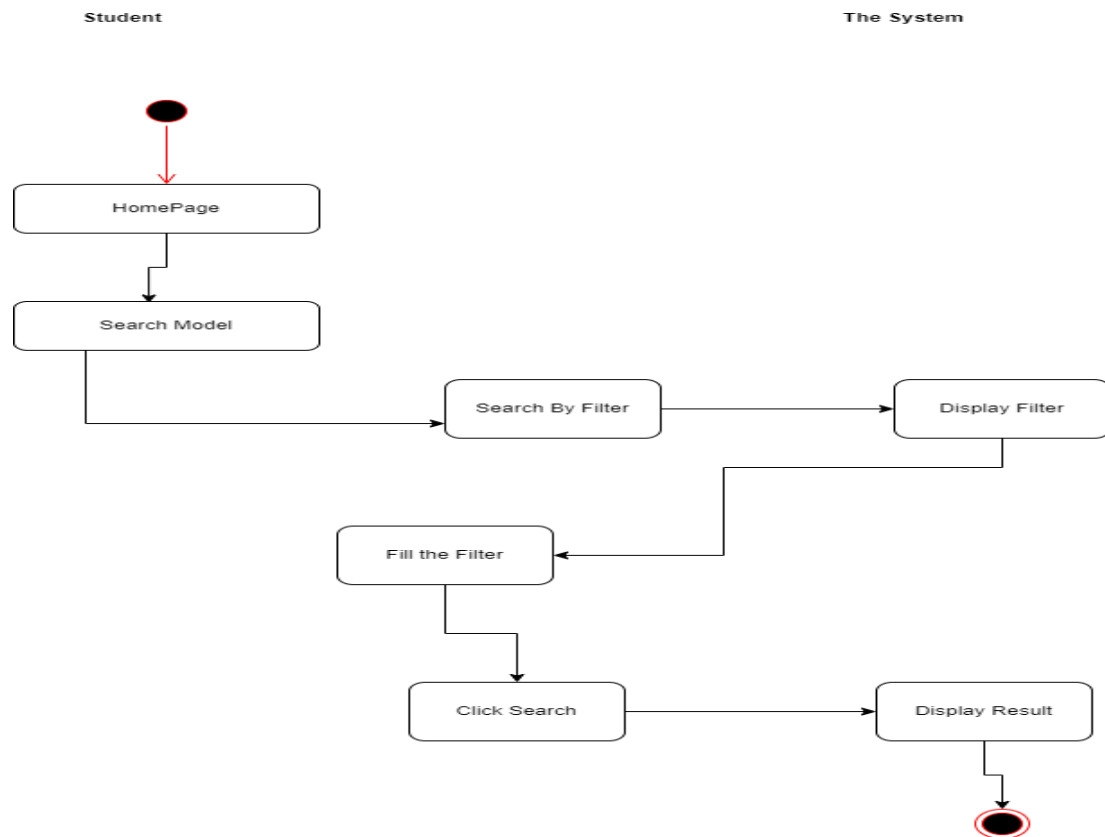
Figure B-28: Activity Diagram for view position detail

Performance Requirement

Time to respond Response- times for the website should not exceed one second.

Multiple users at the same time- Multiple users should be allowed to utilize the app at the same time.

Other Requirement

- Even people with little technical knowledge should be able to comprehend and use the interface.
- The user interface should be simple for people who use the system on a daily basis.

Appendix C: SOFTWARE DESIGN DESCRIPTION (SDD)

Introduction

Purpose

The purpose of this document, Software Design Description (SDD), is to explain the proposed system's architecture and system design. This document serves as a roadmap for the creation of the Web-based system for linking fresh graduate employability and industry demand. System architecture, database design, and user interface design are the three key sections of the Software Design Description paper. A view of form perspective is included in the system architecture. The information contained in the database The system's data dictionary is included in the design. The user interface follows. For a better understanding of the proposed system, the design is documented.

Scope

This document will cover the development of this system, including the system architecture, database design, and user interface design. The suggested system's basic design has been chosen as layered architecture. Admin, Student, and Organization are all users of this system.

Definition, Acronyms and Abbreviation

Acronym/ Abbreviation/ Terms	Definition	Definition
SRS		Software Requirement Specification
SDD		Software Requirement Documentation
VOS		Volunteering Opportunities System
UI		User Interface

Overview

This paper will provide an overview of the system by detailing the system's history and the proposed system's goal. Furthermore, through analyzing the system, this article describes the system architecture. This document also includes the system's data design, which explains the type of data model that is being utilized in this system, such as the entity relationship diagram (ERD) and data dictionary.

Architecture Design

Layered Architecture
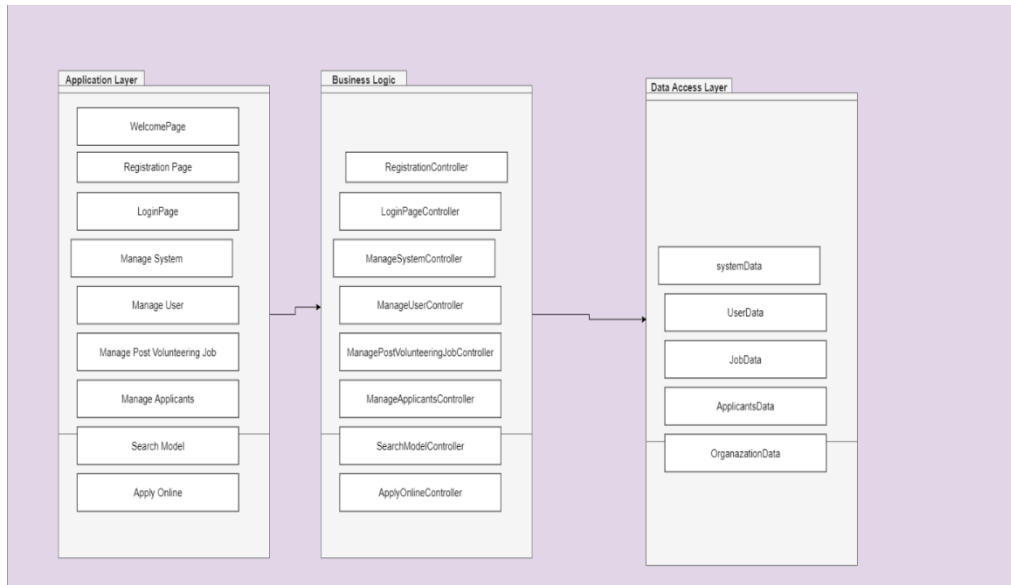
Figure C.1: Layered Architecture Design for Web-based system for linking fresh graduate employability and industry demand.

Database Design

Entity Relationship Diagram (ERD)

Figure C.2: ERD Web-based system for linking fresh graduate employability and industry demand

Data Dictionary

Table C.1: Data Dictionary

Company	Company_ID	Unique identifier		PK	NotNull
	Name	varchar			NotNull
	CompanyName	Varchar			NotNull
	Address	Varchar	50		
	City	Varchar	50		
	ContactNo	Varchar	14		
	Email	Varchar	50		
	Password	Varchar	50		
	webiste				
	AboutMe	Text	50		
	Logo	Text	50		
	CreatedAt				
	Activate				
Job_post	ID_jobpost	Unique identifier		PK	NotNull
	ID_company	Int	max		NotNull
	Job_Title	varchar	50		NotNull
	Description	varchar	50		
	Qualification	varchar	50		
	Experinace	varchar	250		
	Schedule	varchar	200		NotNull
	Job_Type	varchar	20		
Apply Job Post	Id_apply	Unique identifier			
	Id_jobPost	Int			
	Id_company	Int			
	Id_User	Int			
	Status	varchar	100		
ContactUs	Name	varchar	50		NotNull
Company	Company_ID	Unique identifier		PK	NotNull
	Name	varchar			NotNull
	CompanyName	Varchar			NotNull
	Address	Varchar	50		
	Email	varchar	20		
	Subject	Text	200		
Tb_User	Id	int			
	Name	varchar	50		
	Image	varchar	50		
Profile	Id	int			
	Profile_image	varchar			
	bio	varchar	50		
image	id	int			

	Imae_Url	varchar	50		
myskill	id	int			
	name	varchar	50		
MailBox	Id_mailbox				
	Id_fromuser	int			
	fromuser	varchar	50		
	Id_touser	int	50		
	subject	Text	200		
	message	varchar	200		
	createdat	varchar	50		
ReplyMail Box	Id_reply	int			
	Id_mailbox	int			
	Id_user	int			
	Usertype	varchar	50		
	message	Text	200		
	Email	varchar	20		
	Subject	Text	200		
Tb_User	Id	int			
	Name	varchar	50		
	Image	varchar	50		
	createdat	varchar	50		
city	id				
	name	Varchar	50		
	State_id	int			

User Interface Design

Figure C-3/C.4 display the UI of the system welcome screen and Create account. Please refer to the CD source code to see the whole UI of the system.
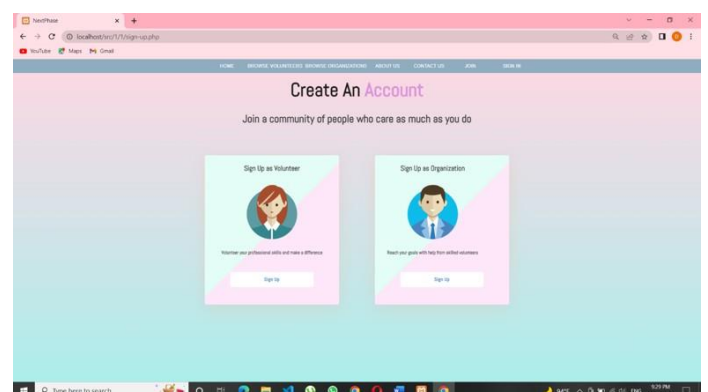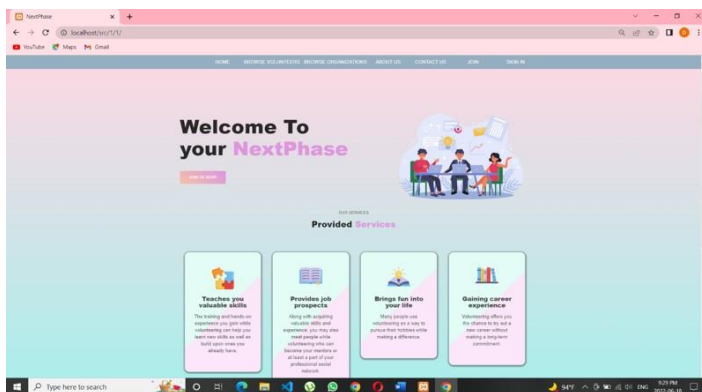
Figure C.3/C.4:UI for welcome screen and Create account.

Appendix D: SOFTWARE DESIGN DESCRIPTION (SDD)

Introduction

Purpose

Unit testing will be performed for each class in the proposed project. System testing is highly crucial in system development to ensure that constructors and methods are working properly. There are three types of testing for system testing: black box testing, white box testing, and acceptance testing.

Scope

- This STD is intended for the following groups:
- Organization
- Students

Definition, Acronyms and Abbreviation

Table D-1: Definition, Acronyms and Abbreviation

Acronym/ Abbreviation/ Terms	Definition	Acronym/ Abbreviation/ Terms	Definition
STD		STD	
VOS		VOS	

Overview

The testing consists of Two testing:

- Black Box Testing
- White Box Testing
- Acceptance Testing

<center>**Testing**</center>

Black Box Testing

       Because the focus is on the input and output generated by the system, black box testing does notrequire a tester to understand what is happening on the code side. This determines how the system responds to expected and unexpected user behaviours, as well as reaction time, usability, and reliabilityconcerns. This testing evaluates critical subsystems such as the user interface/user experience (UI/UX), web server or application server, database, and integrated system. Black box testing focuses on data key-in during user, application, audit module, and other updates, additions, and deletions.

<center>**Table D-2:** Test Cases for Registration</center>

Use Case		Registration	
Description		The user must fill up all of their personal information and thenclick the "Register" button.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click the "Register" button after entering a valid username, password, and confirmpassword.	The message "Successfully registered" is displayed, followed by a redirect to the login page.	The message "Successfully registered" appears on the screen, and the user is redirected to the login page.	Pass
If the username, password, and confirmpassword are all the same, click the "Register" button.	The warning "Invalid username" is displayed.	The warning "Invalid username" is displayed.	Pass
Click the "Register" button after entering a valid username, password, and confirmpassword.	The notice "Failed to set password alert" appears.	The message "Failed to set password" appears.	Pass

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Table D.3 Test Cases for Login

Use Case		Login	
Description		The user must input a valid username and password before pressing the "Sign In" button.	
Pre-Condition		You must register	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click the "Sign In" button using a valid username and password.	The alert message was successfully displayed, and the page was redirected to the home page.	Successful alert message displayed and redirect to home page.	Pass
If your username and/or password are incorrect, click the "Sign In" option.	The message "Unsuccessful Login" is displayed.	The notification "Unsuccessful Login" appears.	Pass

Table D.4 Test Cases for Manage User

Use Case		Manage User	
Description		To manage a user is required to click on "Manage User" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click "Approve New Org Registration" button click "Approve" button	Display alert message "Activated".	Display alert message "Activated".	Pass
Click "Reject New Org Registration" button click "Reject" button	Display alert message "Rejected".	Display alert message "Rejected".	Pass
Click "View User Detail" button	Display the selected User details.	Display the selected User details.	Pass
Click "Delete User" button	Display alert message "User Detail had been deleted".	Display alert message "User detail had been deleted".	Pass

Test Case: Manage System

Use Case		Manage System	
Description		Admin will be able to manage the system by viewing every action that happens in the system	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click "Active Volunteering Job" button" then click on "view"	A popped-up page will display showing full requirements on posted job	A popped-up page will display showing full requirements on posted job	Pass
Click "Active Volunteering Job" button" then click on "Delete"	Display alert message "Deleted".	Display alert message "Deleted".	Pass
Click "Approve New Org Registration" button click "Approve" button	Display alert message "Activated".	Display alert message "Activated".	Pass
Click "Reject New Org Registration" button click "Reject" button	Display alert message "Rejected".	Display alert message "Rejected".	Pass
Click "Active Volunteering Job" button" then click on "Delete"	Display alert message "User Detail had been deleted".	Display alert message "User detail had been deleted".	Pass
Click "View Volunteers Applicants" then Download Candidate Resume	Display alert message "candidate Resume".	Display alert message "candidate Resume".	Pass
Click "View Volunteers Applicants" then "delete" candidate	Display alert message "User Detail had been deleted".	Display alert message "User detail had been deleted".	Pass

Table 4-5 Test Cases for Manage Post Volunteering Job

Use Case		Manage Post Volunteering job	
Description		To manage Post Volunteering is required to click on "Manage Post Volunteering job" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click "Add New job Info" button and fill in valid input of job detail, click "Post" button	Display alert message "new job detail had been added".	Display alert message "job info had been added".	Pass
Click "View" button	Display the selected job details.	Display the selected job details.	Pass
Click "Delete" button	Display alert message "job Detail had been deleted".	Display alert message "job detail had been deleted".	Pass

Table D-6 Test Cases for Post Volunteering Job

Use Case		Post Volunteering job	
Description		To Post a job is required to click on "Post" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click "Post Job" button and fill in valid input of job detail, click "Post" button	Display alert message "new job had been added".	Display alert message "job had been Posted".	Pass
Click "Post requirement" button	Display alert message "Job requirement added".	Display the selected job Requirement.	Pass

Table D.7 Test Case Manage Account

Use Case		Manage Account Setting	
Description		To manage Account is required to click on "Manage Account" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click Setting to change Password	Display alert message "Password has been changed".	Display alert message "Password has been changed".	Pass
Click setting to change name	Display alert message "Name has been changed".	Display alert message "Name has been changed".	Pass
Click setting to Deactivate Account	Display alert message "Account has been deactivated".	Display alert message "Account has been deactivated".	Pass

Table D-8: Test Case Update Profile

Use Case		Update Profile	
Description		To Update Profile is required to click on "Edit Profile" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click Edit profile to Update your personal detail	Display alert message "Detail hasbeen updated".	Display alert message "Detail hasbeen updated".	Pass
Click Edit profile to deleteyour personal detail	Display alert message "Detail hasbeen Deleted".	Display alert message "Detail hasbeen Deleted".	Pass
Click Edit profile to addyour personal detail	Display alert message "Detail hasbeen added".	Display alert message "Detail hasbeen added".	Pass
Click Edit profile to upload yourresume	Display alert message "resume has been uploaded".	Display alert message "resume has been uploaded".	Pass

Table D-9: Test Case Manage Applicant

Use Case		Manage Applicants	
Description		To Manage Applicants is required to click on "Applicants" menu.	
Pre-Condition		User must login.	
Date		27/5/2022	
Tester		Dlkhwaz Othman Mohammed	
Input	Expected Results	Actual Results	Status
Click Applicants to view applicants	Popped-up page will appear	Popped-up page will appear	Pass
Click on "download resume"	Display alert message "candidate resume has been downloaded".	Display alert message "candidate resume has been downloaded".	Pass
Click On "Reject" a notification goes to candidate	Display alert message "rejected".	Display alert message "rejected".	Pass
Click On "Mark Under Review" a notification goes to candidate	Display alert message "Mark Under Review".	Display alert message "Mark Under Review".	Pass

White Box Testing

White box testing is a process where the internal configuration, coding, and structure of the software are examined to confirm an input and output flow and enhance design, usability, and security. One advantage of employing white box testing is code optimization through the identification of hidden errors. White box testing is used to check the efficiency of the Web-based system for linking fresh graduate employability and industry demand's system flow. To accomplish the goal in this case, a path coverage is used.

Table D-9 Nodes of UC001- Registration

Use Case	Registration
Description	User required to enter all user details and clicks on "Register" button.
Date	27/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	**Flows**
1	Fill in user information
2	this.afAuth.auth.createUserWithEmailAndPassword(username, password)

3	this.showAlert("Success!", "You are successfully registered")
4	header("Location: register-candidates.php");
5	if (password!== Upassword)
6	this.showAlert("Error!", "Password don't match")
7	End
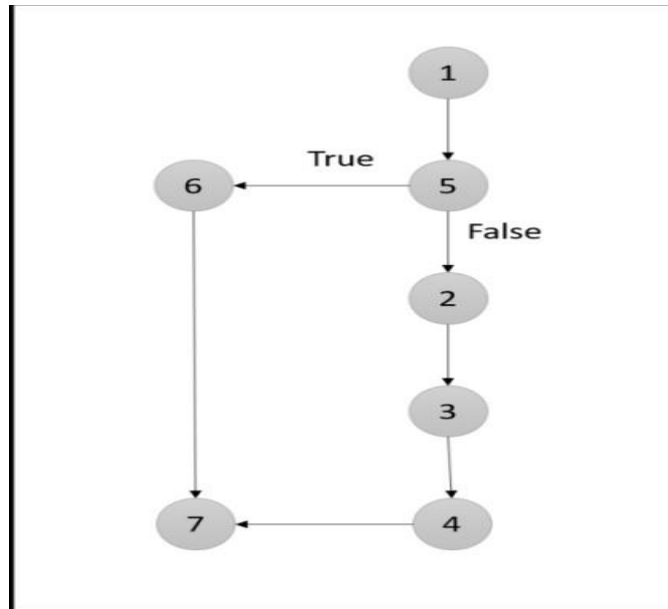
Figure D-1: Nodes of UC001- Registration

Table D-10 path of UC002- Registration

Input	Expected Results	Actual Results	Status
Click the "Register" button after entering a valid username, password, and confirmpassword.	The message "Successfully registered" is displayed, followed by a redirect to the login page.	The message "Successfully registered" appears on the screen, and the user is redirected to the login page.	Pass
If the username, password, and confirmpassword are all the same, click the "Register" button.	The warning "Invalid username"is displayed.	The warning "Invalid username"is displayed.	Pass
Click the "Register" button after entering a valid username, password, and confirmpassword.	The notice "Failedto set password alert" appears.	The message "Failed to set password" appears.	Pass

Table D-11 Nodes of UC001- Login

Use Case	Login
Description	User required to enter the valid username and password and clicks on the "Sign In" button.
Pre-Condition	User need to have an existing username and password
Date	28/5/2022
Node	**Flows**
1	Fill in login form
2	this.afAuth.auth.createUserWithEmailAndPassword(username, password)
3	if(res.user)
4	header("Location: volunteers/index.php");
5	this.showAlert("Error!", "User not Found")
6	End
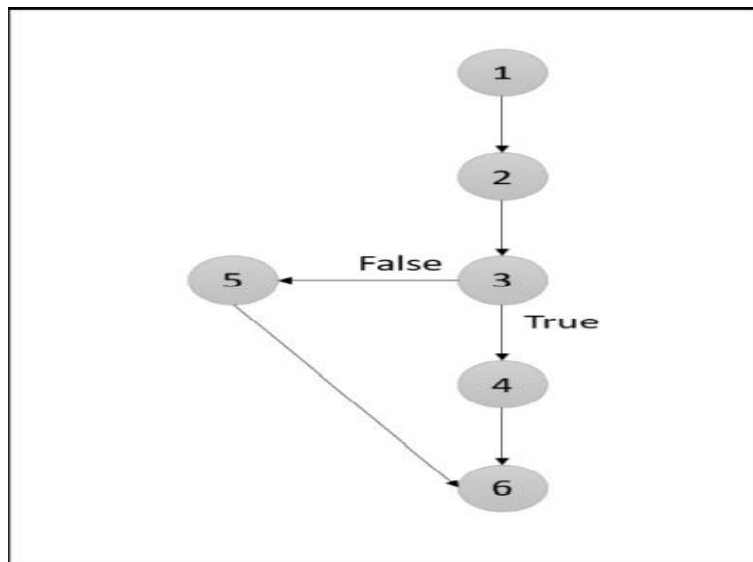
Figure D-2: Nodes of UC002- Registration

Table D-12 Path of UC001- Login

Input	Expected Results	Actual Results	Status
Click the "Sign In" button using a valid username and password.	The alert message was successfully displayed, and the page was redirected to the home page.	Successful alert message displayed and redirect to home page.	Pass
If your username and/or password are incorrect, click the "Sign In" option.	The message "Unsuccessful Login" is displayed.	The notification "Unsuccessful Login" appears.	Pass

Table D-13 Nodes of UC003- Manage User

Use Case	**Manage User**
Description	To manage User, Admin is required to click on "Manage User" menu.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	**Flows**
1	Click On the Volunteers/ organzations
2	if (this.User.UserId)
3	this.Mysql.RejectUser(this.User, this.UId)
4	this.showAlert("Reject", "Org has been rejected")
5	this.Mysql.approveUser(this.User)
6	this.showAlert("activated", "User deatil had been added")
7	this.nav.navigateBack('menu/manage-User);
8	End
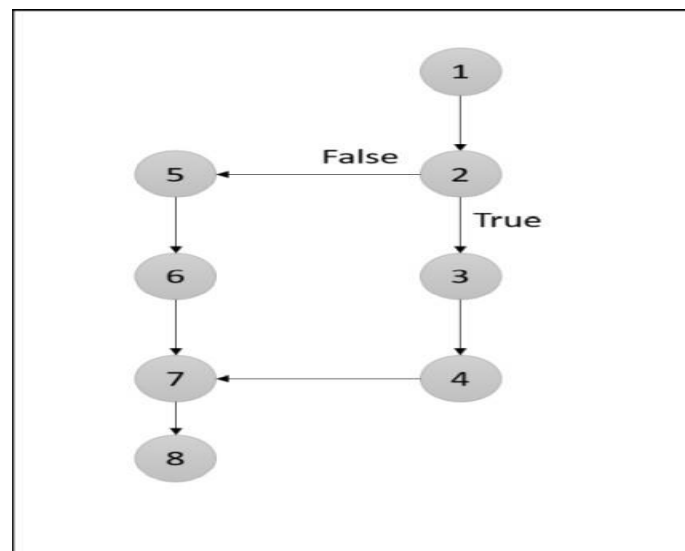
Figure D-3: Nodes of UC003- Manage User

Table D-14 Nodes of UC003- Manage User

Input	Expected Results	Actual Results	Status
Click "Approve New Org Registration" button click "Approve" button	Display alert message "Activated".	Display alert message "Activated".	Pass
Click "Reject New Org Registration" button click "Reject" button	Display alert message "Rejected".	Display alert message "Rejected".	Pass
Click "ViewUser	Display the selected	Display the selected	Pass

Detail"button	User details.	Userdetails.	
Click "DeleteUser" button	Display alert message "User Detail had been deleted".	Display alert message "Userdetail had beendeleted".	Pass

Table D-15 Test Case: Manage System

| Use Case	Manage System
Description	To manage System, Admin is required to click on "Login" menu to view every action inside the system.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	Flows
1	Cick on the dashboard
2	if (this.User.UserId)
3	this.Mysql.viewuser(this.User, this.UId)
4	Popped-up page will display
5	this.Mysql.deleteUser(this.User)
6	this.showAlert("activated", "User detail had been deleted")
7	this.nav.navigateBack('menu/manage-System);
8	End
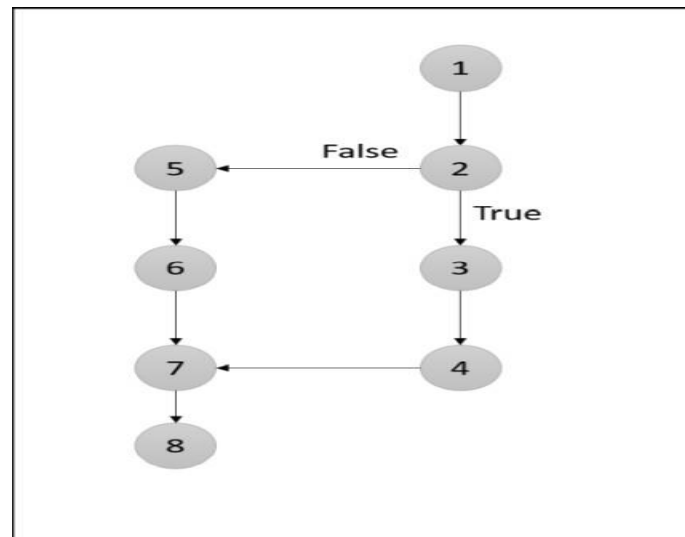
Figure D-4: Nodes of UC003- Manage System

Table D-16: Nodes of UC003- Manage System

Input	Expected Results	Actual Results	Status
Click "Active Volunteering Job" button" then click	A popped-up page will display showing full requirements on	A popped-up page will display showing full	Pass

on"view"	posted job	requirements on posted job	
Click "Active Volunteering Job" button" then click on "Delete"	Display alert message"Deleted".	Display alert message "Deleted".	Pass
Click "Approve New Org Registration" buttonclick "Approve" button	Display alert message "Activated".	Display alert message "Activated".	Pass
Click "Reject New Org Registration" button click "Reject" button	Display alert message "Rejected".	Display alert message "Rejected".	Pass
Click "Active Volunteering Job" button" then click on "Delete"	Display alert message "User Detail had been deleted".	Display alert message "User detail had been deleted".	Pass
Click "View Volunteers Applicants" then Download Candidate Resume	Display alert message"candidate Resume".	Display alert message "candidate Resume".	Pass
Click "View Volunteers Applicants" then "delete" candidate	Display alert message "User Detail had been deleted".	Display alert message "User detail had been deleted".	Pass

Table D-17 Test Case: Manage Post Volunteering Job

Use Case	Manage Post Volunteering Job
Description	To manage Post volunteering job, Admin is required to click on "Manage Post" menu.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	Flows
1	Fill in job details form
2	if (this.job.jobId)
3	this.Mysql.updatejob(this.job, this.jId)
4	this.showAlert("Updated", "job detail had been updated")
5	this.Mysql.addJob(this.job)
6	this.showAlert("Added", "job detail had been added")
7	this.nav.navigateBack('menu/manage-job);
8	End

Table D-18 Test Case: Update Profile

Use Case	Manage Account Setting
Description	To manage User, User is required to click on "Setting" menu.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	**Flows**
1	Fill in Personal details form
2	if (this.User.UserId)
3	this.Mysql.updateUser(this.User, this.UId)
4	this.showAlert("Updated", "User detail had been updated")
5	this.Mysql.add Personaldetail(this.User)
6	this.showAlert("Added", "User detail had been added")
7	this.nav.navigateBack('menu/edit-profile);
8	End

Table D-19 Test Case: Post Volunteering Job

Use Case	Post Job
Description	To Post a position, User is required to click on "Post" menu.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	**Flows**
1	Fill in Job details form
2	if (this.job.jobId)
3	this.Mysql.addjob(this.job)
4	this.showAlert("Added", "job had been posted")
5	this.nav.navigateBack('menu/Post);
6	End

Table D-20 Test Case: Apply for a Volunteering Job

Use Case	Apply
Description	To Post a position, Student is required to click on "apply" menu.
Pre-Condition	User must login.
Date	28/5/2022
Tester	Dlkhwaz Othman Mohammed
Node	**Flows**
1	Fill in Personal details form
2	if (this.User.UserId)
3	this.Mysql.addResum(this.job)
4	this.showAlert("Added", "Resume had been Submitted")
5	this.nav.navigateBack('menu/Apply);
6	End

User Acceptance Test

       User Acceptance Testing (UAT), often known as end user testing, is a method of determining if software is acceptable or not. A final test is run after the functional, system, and regression tests have been completed. The goal of the testing is to ensure that the system meets the organization's requirements. Validation testing is carried out by end users who are familiar with the business requirement.

Register

Table D-21: User Acceptance Test for Register Module

TC#	Input	Expected Result	Pass/Fail
1	Leave all field empty, click "Register" button	Display Error Message "Invalid username"	Pass
2	Enter name, phone number, password and confirm password. Click "register" button	Display Error Message "Invalid username"	Pass
3	Enter username as "admin", name as "Dlkhwaz", phone number as "00000000", password and confirm password. Click "register" button	Display Error Message "Invalid username"	Pass
4	Enter username as "Dlkhwazothman@gmail.com", name as "Dlkhwaz", phone number as "1111111", passwordand confirm password. Click "register" button	Display "Successfully Registered" and redirect to login page	Pass

Login

Table D-22: User Acceptance Test for login Module

TC#	Input	Expected Result	Pass/Fail
1	Leave all field empty and click"Sign In" button	Display error message "Invalid username and password"	Pass
2	Enter username as "Dlkhwaz", password as "1234567" and click "SignIn" button	Display error message "Invalid username or	Pass

		password"	
3	Enter username as "Dlkhwazothman@gmail.com", password as "123456" and click "Sign In" button	Display error message "Invalid username or password"	Pass
4	Enter username as "Dlkhwazothman@gmail.com", password as "123457" and click "Sign In" button	Redirect to Homepage	Pass

Manage User

Table D-23 User Acceptance Test for manage user Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Manage User" button	Display list of User page	Pass
2	Clicks on "approval" button	Display add User form	Pass
3	Clicks on "Reject" button	Display message "User had been rejected"	Pass
4	Clicks on "delete" button	User will be deleted	Pass
5	Click volunteers/organizations toview their full detail	Popped-up page willdisplay"	Pass
6	Clicks on "reactivate" button	Display message "user had been reactivated"	Pass

Manage Account

Table D-24 User Acceptance Test for manage Account Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "edit profile" button	Display Sitting	Pass
2	Clicks on "Add" button	Display add User form	Pass
3	Enter type User detail andclicks on "Submit" button	Display message "User detail had been added"	Pass
4	Clicks on "Edit" button	Display chosen User detail	Pass

5	Update type of User detail,clicks on "Submit" button	Display message "User detail hadbeen updated"	Pass
6	Clicks on "Delete" button	Display message "User had been deleted"	Pass
7	Click on "Change password"	Display message "Password has been deleted"	Pass

Post Volunteering Job

Table D-25: User Acceptance Test for Post Volunteering post Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Create Job post"button	Display Job post requirement	Pass
2	Clicks on "post" button	Display add Job form	Pass
3	Enter type Job detail and clicks on "Submit" button	Display message "Job had been Posted"	Pass

Manage System

Table D-26: User Acceptance Test for Manage System Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Organization" Button to view	Display Org report	Pass
2	Clicks on "Volunteers" button to view	Display Volunteers report	Pass
3	Clicks on "Active Volunteering job" button to view	Display Activate Programs report	Pass

Manage Post Volunteering Job

Table D-27: User Acceptance Test for Manage post Volunteering Job Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Manage postVolunteering Job" button	Display list ofJob page	Pass
2	Clicks on "Add" button	Display add Job form	Pass
3	Enter type Job detail and clicks on "Submit" button	Display message "Job detail had beenadded"	Pass
4	Clicks on "Delete" button	Display message "Job had been deleted"	Pass

Manage Applicants

Table D-28: User Acceptance Test for Manage Applicants Module

TC#	Action	Expected Result	Pass/Fail
1	Clicks on "Applicants" To view	Display candidate report	Pass
2	Clicks on "Delete" button	Display message "Applicants had been deleted"	Pass