JOB LISTING WEBSITE

FOR ORGANIZATIONS AND JOB SEEKERS

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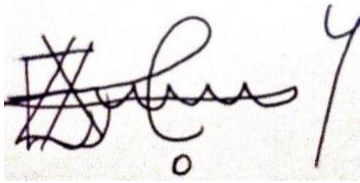**Nairobi, Kenya.**

December 2020

Declaration

We declare that this work has not been previously submitted and approved for the award of a Diploma by this or any other University. To the best of our knowledge and belief, the document contains no material previously published or written by another person except where due reference is made in the document.

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Abstract

Organizations hope to attract a good number of applicants to fill in their job openings upon using either of the many methods of advertising to advertise job vacancies. It is vital that they use the most suitable advertising method because attracting the best talents will depend on how well they conduct their advertising process. Organizations are in need of an appropriate platform where they can put up their advertisements and keep track of the applications received and in the process be in direct relations with their targets hence the need of a Web Application to take care of the efficiency of this process. The approach to the design and implementation to be used will be the Object-Oriented Analysis and Design approach because it allows for the implementation of incremental development. The methodology suitable to use for the development of the system will be the incremental model because it is flexible and it is well supported by the Object-Oriented Analysis and Design approach. When the above is successfully implemented, organizations will have a reliable and a cost-effective platform to put up their job vacancy advertisements as well as keeping track of the applications they receive.

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CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Manpower is the most important resource in an organization (Ohon, 2000) and whenever an organization's human resource team spots the need to obtain new talent for purposes of staffing an identified opening in the organization, the planning and recruiting processes are sequentially initiated.

The planning stage involves identifying the type of people the organization needs in order to meet the present and future objectives of the organization (Rothwell et al., 2012). This is the step where the number new employees, the skills and expertise as well as the duration of searching is identified; some of the key things that has to be included in a job advert in order to make it effective (Lapierre et al., 2012).

The advertising process embedded in the recruitment stage and according to Rothwell et al. (2012, it involves the organization attracting job candidates who possess the abilities and the attributes needed to help the organization to achieve its objectives. There are so many methods of informing the public about a vacancy but an important concept that organizations have to be aware of is that the way they choose to conduct the advertising process will greatly determine how effective it will be.

With the dynamic nature of technology, there are very many improvements made to the advertising methods. In as much as the gradual move to online sources means that fewer people relying local newspaper and other earlier methods to search for jobs and that it is easier for jobseekers to apply for vacancies online (Leitich, 2017), there is no better way to advertise and organizations need to be creative and also keep on trying out new and innovative recruitment methods every now and then (Neelie, 2018).

The word *advertisement* is derived from an old French word *advertir* meaning 'to notice', and that is the whole point of any job advertisement; it attempts to make the right candidates notice a particular job opening (Smart Recruiters, 2013). Advertising methods have evolved over time to become more effective.

According to Smart Recruiters (2013), the brief evolution of job advertising is as follows:

i. It all started with simple sheets of paper pinned on community noticeboards and on employers' windows. This was however inefficient since it targeted a very small audience hence there was need to upgrade to a method that could target more individuals.

ii. When newspapers became popular for communication in the 19th century, the publishing of job adverts began. The process was however expensive and it only provided for simplex communication.

iii. In the 1990s, the use of job boards commenced making the whole idea of job advertising an online activity. The cost of job advertising reduced. The job boards targeted a larger audience that the prior methods. However, the first job boards were primitive in the sense that it accommodated for lists of jobs but lacked for ways to actually apply for jobs. Modern job boards take care of this by allowing candidates to use the job boards or emails to apply for the jobs.

Other methods include internal advertising, hiring of staffing agencies and using social media networks. Currently traditional job advertising methods are still in use and in some cases very effective (Dowd, 2020) in a much as there are more recent methods. The choice of the method to use all depends on the intentions and the preferences of an organization.

1.2 Problem Statement

There exists a couple of ways to inform the public about a job opening in the organization as well as keeping track of the applications received in regards to an advertised opening most of which involve the recruiting organizations not being directly involved with the job-seekers hence the need to have a more efficient platform to be used by organizations to advertise job openings and keep track of applications received while staying directly connected to their targets that will help account for the niches that are presented by the shortcomings of using the inefficient existing advertising methods, some which include high recursive costs of hiring agencies, publishing and organizing fairs, inefficiency in the sense of hiring other individuals to help perform the task of advertising and taking care of applications but may fail to deliver the desired output and finally blind advertising which occurs when organizations are unable to keep track of the advert viewers as well as the applicants.

1.3 General Aim

The general aim of this project will be to develop a Web Application that will allow organizations to host their own advertisements and receive applications from interested candidates.

1.4 Specific objectives

Understanding the following concepts in depth will facilitate for the accomplishment of the general objective:

  i.   To find out which current methods organizations use to advertise job vacancies and their shortcomings.

  ii.   To investigate the challenges that organizations face when advertising their job vacancies.

iii.   To design a web application that allows organizations to simplify their advertisement process.

 iv.   To develop the designed Web Application.

v.   To test the developed solution.

1.5 Significance of the study

This project will allow for organizations to have a reliable and efficient platform to post their job advertisements and keep track of application they have received. The system will also allow job seekers to view job advertisements, make applications on interested vacancies and receive desired notifications. This will ensure direct contact between the recruiting organizations and the interested job-seekers instead of opting for methods that may result to inefficiency and increased costs.

1.6 Scope of the project

The system will be a Web Application that will allow organizations to majorly post advertisements and view applications only. Job-seekers will in turn be required to view advertisements and make applications in interested fields.

1.7 Limitations

The system is web based hence need for stable internet connection to access the services of the system; a privilege that not many individuals get access to.

The system will have limited mobile device feature accessibility like camera and location services because web applications normally would not allow for such features to be executed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter highlights the current methods that are used by organizations to spread the word about their job openings and their shortcomings, checks on the challenges that organizations face when advertising their job vacancies as well as the limitations of existing systems. The conceptual framework at the end of the chapter aims to demonstrate the functioning of the expected system. The data collected from the research objectives will allow for the implementation of a project that tries to fill the niche created by the shortcomings presented by current job advertising practices.

The following are the responses to the research objective questions:

2.2 Current methods used by organizations to advertise job vacancies and their shortcomings.

According to Brookins et al. (2017), the growth and success of an organization will greatly rely on the sourcing of the best available talent. Whenever the human resource department in an organization has determined the number and type of candidates that need to be recruited, it subsequently triggers the advertising process. The key role of advertising is to make people aware of the vacancy and all it entails (Bhasic, 2020) and this will thereafter make the interested job-seekers submit their applications in relation to the vacancy advertised. It is vital that in order to attract a good number of individuals to apply for a vacancy, the advert must be written in the most appropriate format that can be understood by those seeking to be employed (Brookins 2017; Verlinden, 2018) and that the most appropriate method for making the job aware to the public is chosen.

Most job advertising methods have evolved over time even though some traditional job advertising methods are still in use and are still very efficient (Dowd, 2020). Currently, organizations have a number of job advertising methods to choose from.

They include the following:

2.2.1 Internal Advertising

This form of advertising involves informing the current employees of the organization about the vacancy. Employers use this method while hoping that the employees of the organization will refer potential candidates to the organization or that the employees will show interest in filling up the position. According to Woodcock (2011) and Brookins (2017), the best ways to achieve effective Internal Advertising are by using the intranet, sending emails to employees, posting the advert on the organization's social networks, blogs and magazines.

The shortcomings of advertising internally are that:

    i. The number of targeted individuals is small hence a limited number to select from (Mandhla et al., 2010).

    ii. The organization misses out on external potential talents because at times the skills that the organization may be requiring may not exist amongst the existing employees (Mandhla, 2010; Price, 2016).

    iii. This method is highly inconvenient because it does not allow for the introduction of new skills, ideas and personalities into the business which may lead to a slow or absolutely no growth of the organization (Price, 2016).

2.2.2 Hiring Staffing Agencies

Staffing agencies facilitate connections between companies that need expertise and professionals who can provide the know-how (Filman, 2006). In this method of advertising, organizations are expected to hire a Staffing Agency that offers services specific to their type of industry and thereafter present their descriptions and the number of the desired employees. With that, the Agency is left with the task of advertising the post, shortlisting the qualified number of candidates and then presenting them to the organization for staffing.

i. The inefficiency of this method is seen when the staffing agency fails to deliver candidates who meet the qualifications required by an organization.

ii. Hiring a staffing agency is equally expensive and time consuming.

2.2.3 Using Local Newspapers and Notice boards

This advertising method involves publishing of job vacancy advertisements on local newspapers or printing out fliers and posters and thereafter putting them up on noticeboards. According to Phillpott (2019), this method is the most effective when targeting applications from the local surrounding.

It proves to be irrelevant at times because
i. Both can be rather hit and miss (Ortiz, 2018). This is because without the ability to track views, it is almost like advertising blindly.

ii. This method tends to target just a few people, mainly those who still read newspapers and posters.

2.2.4 Career Events and Job Fairs

Whenever organizations host or attend a career event or a job fair, they tend to use those moments to their advantage. The human resource staff takes their time to talk about their company and the available vacancy in depth to and with potential candidates. The job vacancy could also be published in the event website and in the event directories. One interesting bit about this method is that the employees are not limited to the viewing of the application documents of interested individuals because they get to meet the potential candidates and have brief discussions here and there (Phillpott, 2019).

According to Creighton (2018):
i. This method may however turn out to be inconvenient in terms of costs and time. High costs are involved in setting up the booth at the career fair as well as the transport to and fro the fair.

ii. A lot of time is spent on trying to find good representatives to send to the fair as well as the interviewing phase.

iii. Organizations may also miss out on the best talents now that too many job seekers tend to attend the fairs.

2.2.5 Social Network platforms and Career Websites

For those organizations that use Social Media platforms to air their job vacancy advertisement to the public, utilization of various applications like Instagram, Facebook and Twitter will be necessary.

Career Websites provide a platform for organizations to put up their job vacancy adverts and wait for interested individuals who visit the website to apply.

The two above have the tendency to ensure that word about the opening spreads fast and is viewed by many (Ortiz et al., 2018).

Verlinden (2018) advises that if an organization wishes to draw the best candidates, they need to be creative and also keep on trying out new and innovative recruitment methods every now and then because there is no perfect way to do it.

2.3 Challenges that organizations face when advertising their job vacancies and receiving applications.

By no means is the advertising and recruiting process an easy job. Organizations sometimes find it a challenge to smoothly go through the advertising stage as well as the recruiting stage.

Stephen et al. (2015) supposes that some of the challenges include:

i. High recruitment costs associated with the advertising process. No matter the method the organization opts to use, there will always be costs involved. The wisest thing an organization can do in such a scenario is to try and choose a method that is cost effective

and that will at the same time fulfill the advertising purpose efficiently according to the needs of the organization.

ii. Due to the rapidly changing nature of technology, it is at times difficult for organizations to keep up. The quicker they manage to adapt to the dynamic technology, the faster they get to enhance their advertising and recruitment processes hence efficiency.

iii. Organizations are often in battle with one another for the purpose to trying to get their hands on the same individuals and talent.

iv. Language barrier may be exhibited when an organization puts up an advertisement that is seen by individuals who are skilled but cannot make out the aim of the advertisement.

v. An advertisement posted by an organization may lack any application response from the public because of a carelessly written job description.

vi. Organizations may receive a number of applications from individuals who are under qualified. The probable cause would be that the job description as well as the desired skills and expertise required by the organization may not have been clearly stated.

2.4 Related Works

This section aims to look into existing job listing systems and thereafter highlight their shortcomings. The obtained information will allow for the development of a system that tries to fill the niches created by the shortcomings presented by current job listing systems.

According to Edward (2016), the following are current job listing systems as well as their short comings:

2.4.1 Indeed job listing website

It provides job seekers with an aggregated database of job postings from different company websites and job boards and thereafter presents them in a simple and seamless format.

The advantage presented by indeed is that it accommodates for an emailing feature that allows website visitors to get newsletters and feedback directly in their inboxes.

The disadvantage exhibited is that little is offered in terms of additional resources hence making it redundant to other existing systems.
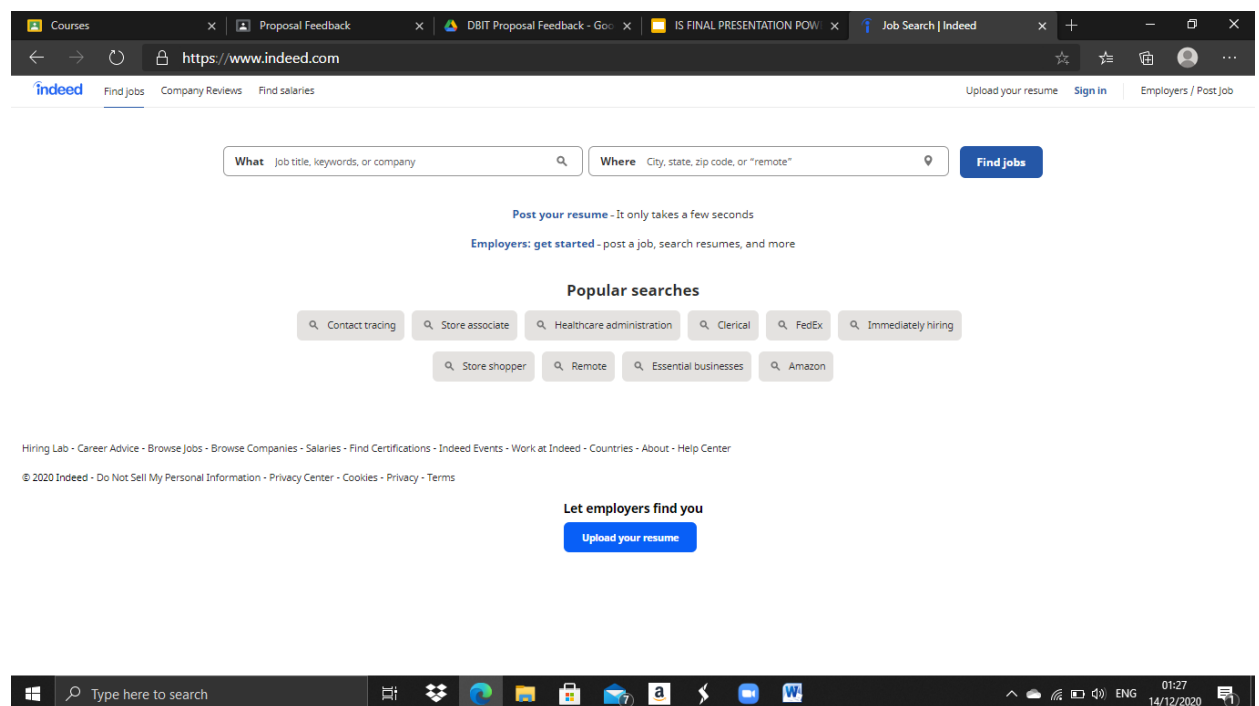

Figure 1 : Indeed Job Listing website

2.4.2 Elevated careers job listing website

It helps align employees with employers based on compatibility. It uses predictive algorithms to match job seekers with jobs based on skills, culture and personality.

The disadvantage presented by this website is that it requires a lot of input from its users because there is often redirection to the profile builder section that asks a bunch of

questions to collect data on skills and personality which may be time consuming for desperate users.
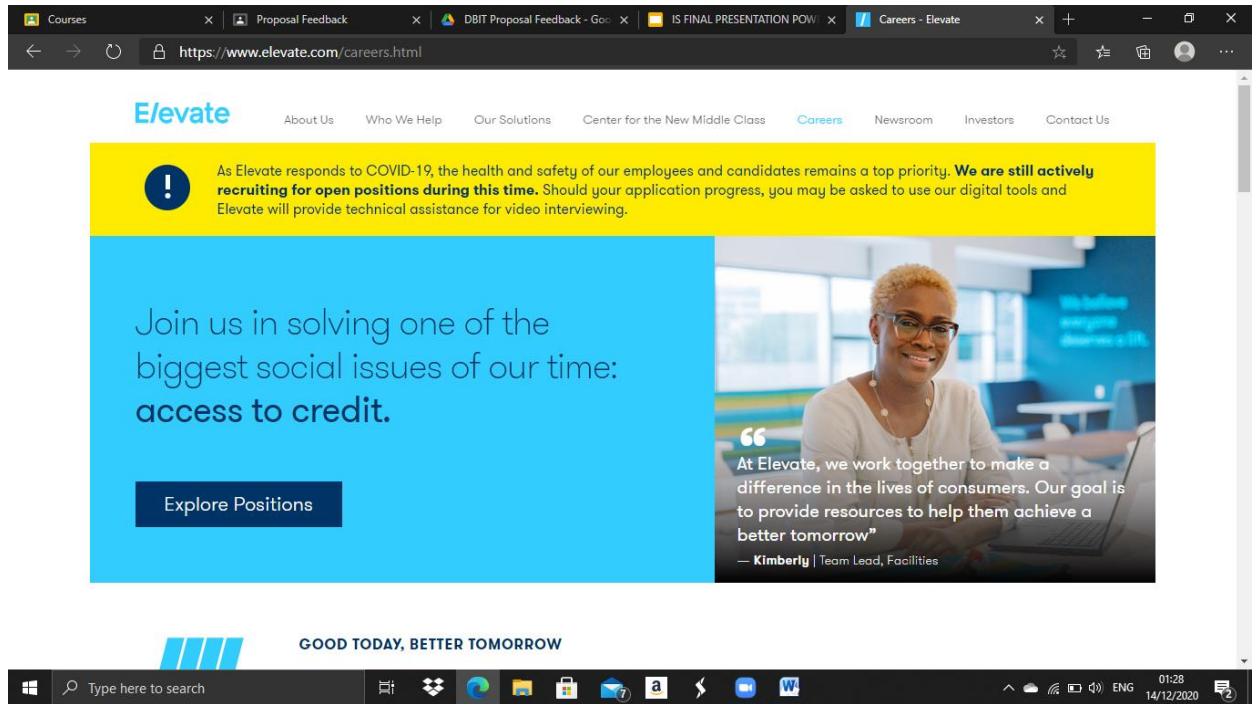
Figure 2 : Elevate Job Listing website

2.4.3 Cragslist job listing website

It has job boards for a variety of positions offered in different industries.

The short coming of this website is that it is unregulated and unreliable in the sense that it lacks up-to-date information and has a bad layout.
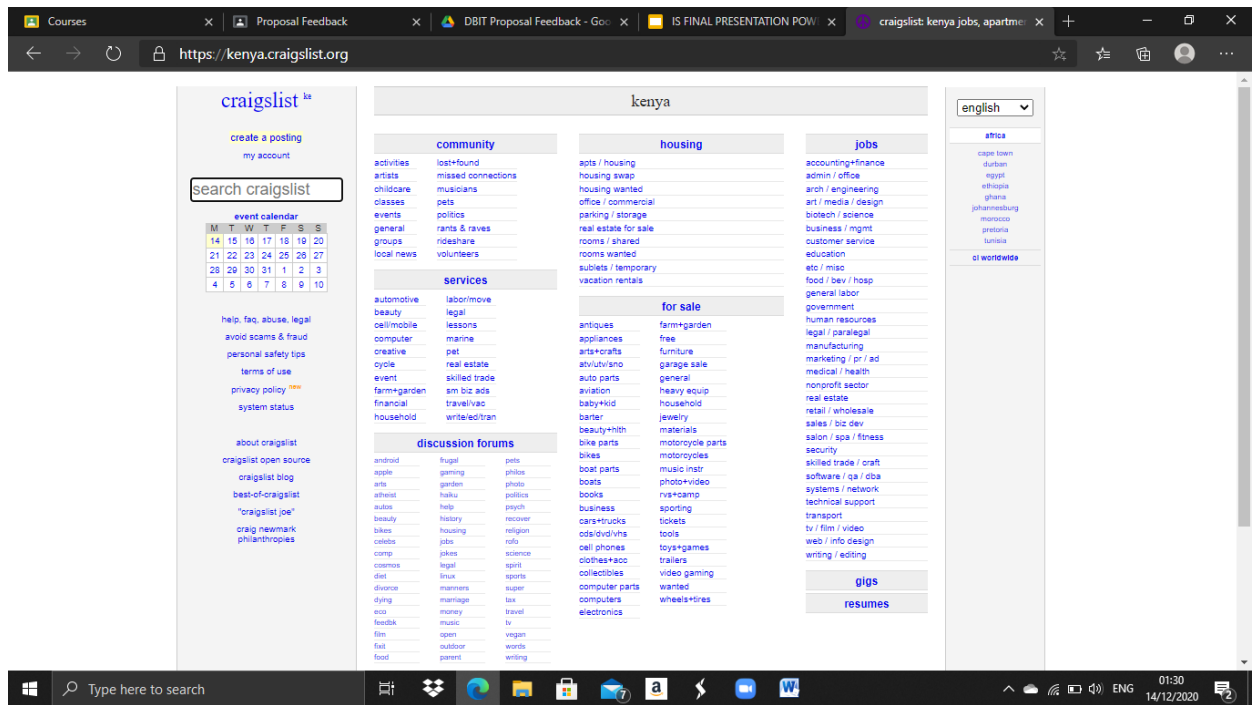
Figure 3 : Cragslist Job listing website

2.5 Conceptual framework.

This is a diagram that aims to explain with ease how the system will work.
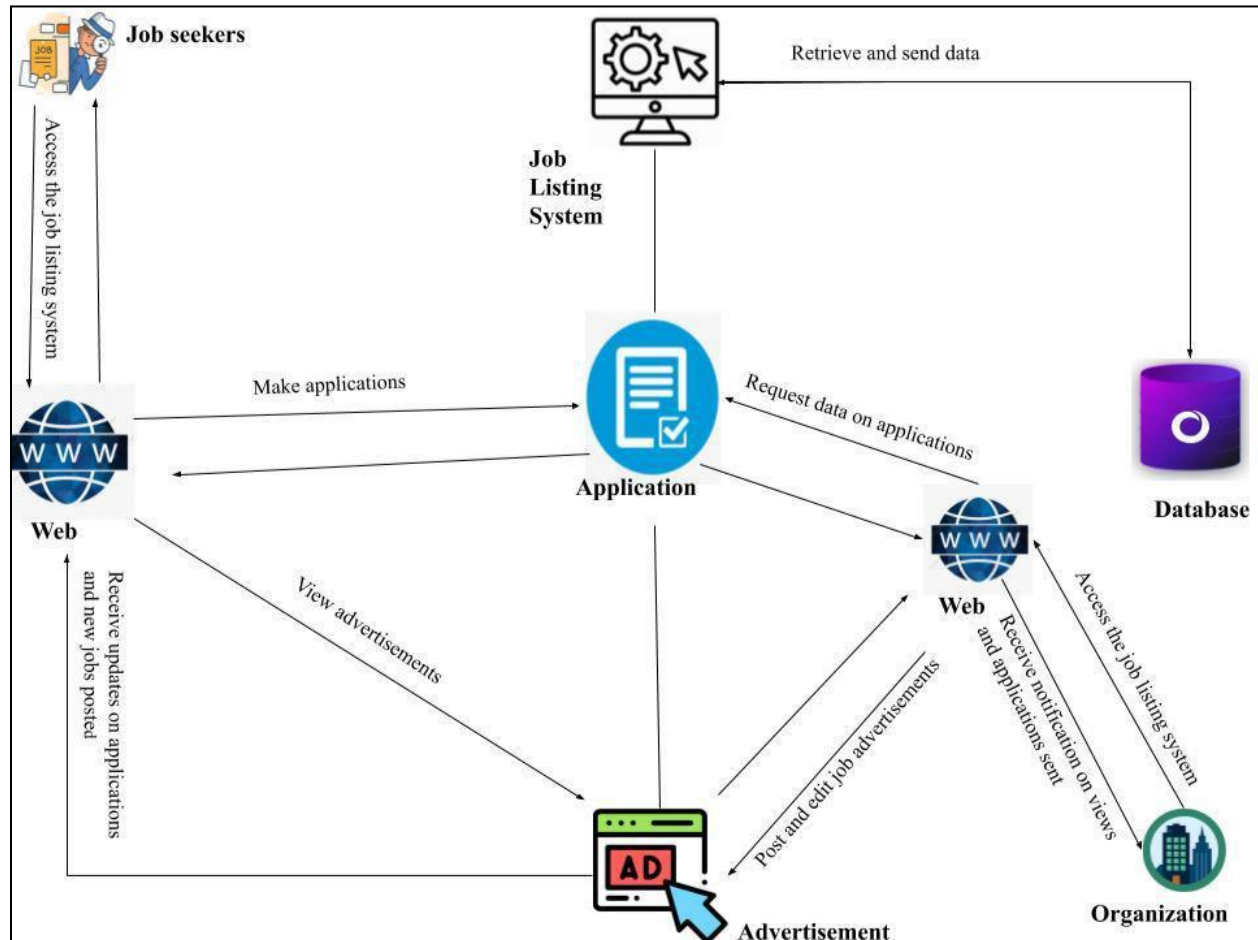
Figure 4 : Conceptual Framework

Organizations and the job seekers will be required to use the web to access the job listing system. Organizations will thereafter post their job advertisements and edit them at will. Job seekers will be expected to view the posted job advertisements and if interested make applications. All this information will be stored in the database for easy retrieval by the organizations upon request. Job seekers and organizations will be able to receive notifications on applications and new jobs posted and on views and applications sent respectively.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This brief chapter highlights and justifies the approach to the system design and implementation to be applied, the system development methodology to be used, the tools and techniques that will be in the design and development stages as well as the milestones and the deliverables of the project.

3.2 The Approach to System Design and Implementation

The most appropriate approach to take when designing and implementing the system will be the Object-Oriented Analysis and Design hence we will be required to identify users of the system (objects), their attributes and their behavior, how they interact with one another and thereafter implementing it.

The reason for selecting the Object-Oriented Analysis and Design approach is because it is best conducted in an iterative and incremental way hence our choice of the System Development Methodology as well as the Object-oriented programming approach.

3.3 System Development Methodology and its Justification

The Software Development Methodology to be used is the Incremental development method because of its flexibility and the fact that it works best with the Object-Oriented Analysis and Design approach.

The following concurrent steps will be considered:

i. **Requirement Specification:**

   Secondary data will be used to identify the system requirements.

ii. Requirement Analysis:

The data collected from secondary sources will be keenly analyzed and thereafter noted down.

iii. System Designing

The analyzed data will be used to come up with a Use-Case diagram, a data flow diagram to illustrate the flow of data in the system and a wireframe to illustrate the appearance if the user-interface as well.

iv. System Implementation:

The diagrams drawn in the Design stage will be used to develop the system.
This stage will include both the back end and front end development.

v. System Validation:

The developed system will be tested to see if it meets the requirements highlighted in the requirement specification stage.

vi. System Deployment:

The validated system will be presented to the users.

3.4 Tools and Techniques to be applied

Table 1 : Milestones and Deliverables

TOOL	TECHNIQUES
Visual Studio Code	It will allow for interaction with HTML,
	CSS, php and JavaScript for the front and
	back end development.

Lucid Chart	It will allow for development of the System Analysis and Design diagrams in the System Design stage.
Php My Admin	It will allow us to come up with the required Databases.
Cacoo	It will be used to design the wireframes.

3.5 Milestones and Deliverables

Table 2 : Milestones and Deliverables

DELIVERABLE	DESCRIPTION
Concept Note	It will give a brief introduction of the idea of the problem where a problem is identifies as well as a proposed suitable solution.
Proposal Writing	Will consists of three chapters stating the background of the problem identified the specific objectives, the scope of the project and the appropriate methodology to be used in implementation.
Analysis and Design Diagrams	Will contain the analysis and design diagrams that provide a blue print of the system, dataflow and interacting modules as well as the User interface and the database layouts.
Working Demonstration	This stage will require that the system is implemented based on the design diagrams and a working system is achieved.
Final Documentation	Will include a detailed description of all the stages of the project as well as the expected deliverables.

CHAPTER FOUR: ANALYSIS AND DESIGN

4.1 Introduction

This chapter aims to explain the functional and non-functional requirements of the Job Listing website. A number of system design diagrams are included to show the relationship between the users of the system as well as the relationship between the users of the system and the different functionalities of the system. The wireframes and the database schema provide an overview of the user interface and the database components respectively.

4.2 Analysis of Requirements

4.2.1 Functional Requirements

4.2.2.1 Organization Module

i. **Sign Up functionality.**

This functionality will make it possible for the organization to create an account in the Job Listing System. They will be required to provide their email address, a username and thereafter come up with a password which will be stored in the system's database. They will also be required to identify themselves as an organisation in order to be able to access the correct module. This action will be triggered by clicking the Sign Up button upon accessing the website. A successful sign up will result to the creation of an account.

ii. **Log In functionality**.

This functionality will allow the organization to login into an already existing account in the Job Listing System. They are required to provide their email address or their username and their password which will be verified in accordance with the data stored in the system database during the signing up process. This action will be triggered by clicking the Log In button upon accessing the website. A successful log in will grant the organisation access to their module homepage.

iii. **Post Advert functionality.**

This functionality will make it possible for the organisation to put up the job advertisements in the website. They will be required to have an image of the advertisement ready for upload in the system.

iv. **View Applications functionality**.

This functionality will allow for an organisation to view all the applications made by job-seekers in regards to an advertisement that they posted.

v.   **Log Out functionality.**

This functionality will allow for the organisation to log out of their account upon requesting to log out. This action will triggered by clicking the Log Out button. A successful log out will direct the organisation to the log in functionality.

4.2.2.2 Job-Seeker Module

i.   **Sign Up functionality.**

This functionality will allow the job-seeker to create an account in the Job Listing System. They will be required to provide their email address, a username and thereafter come up with a password which will be stored in the system database. They will also be required to identify themselves as a job-seeker in order to be able to access the correct module. A successful sign up will result to the creation of an account.

ii.   **Log In functionality.**

This functionality will make it possible for the job-seeker to login into an already existing account in the job listing system. They are required to provide their email address or their username and their password which will be verified in accordance with the data stored in the system database during the sign up process. A successful log in will result to access of the job-seeker module.

iii.   **Make Application functionality.**

This functionality will make it possible for the job-seeker to apply for an advertised job vacancy. The job-seeker will be required to upload a CV and other application documents which will be viewed by the intended organisation.

iv.   **View advertisements functionality.**

This functionality will allow for a job-seeker to randomly go through posted advertisements in order to later make applications regarding the advertisement.

v.   **Log Out functionality.**

This functionality will allow for the job-seeker to log out of their account upon requesting to log out. This action will be triggered by clicking the Log Out button. A successful log out will direct the job-seeker to the log in functionality.

4.2.2 Non- Functional requirements

    i.   **Security**

    Upon the creation of an account by an organization or a job seeker, the created password and username will be stored in the system's database and later used for verification during the login process. The password will be encrypted to ensure that there are no breaches in the system. The organization and the job seeker will only access the organization module and the job seekers module respectively.

    ii.   **Reliability**

    The system will ensure that all specified functions will be carried out consistently without failure. This will be done through the use of good quality network components, proper updating of the database, using protected wireless systems with the highest level of security.

    iii.   **Usability**

    The interface buttons and headings in the job listing system will be simplified to facilitate quick understanding by the users.

4.3 System Analysis

    4.3.1 Class Diagram
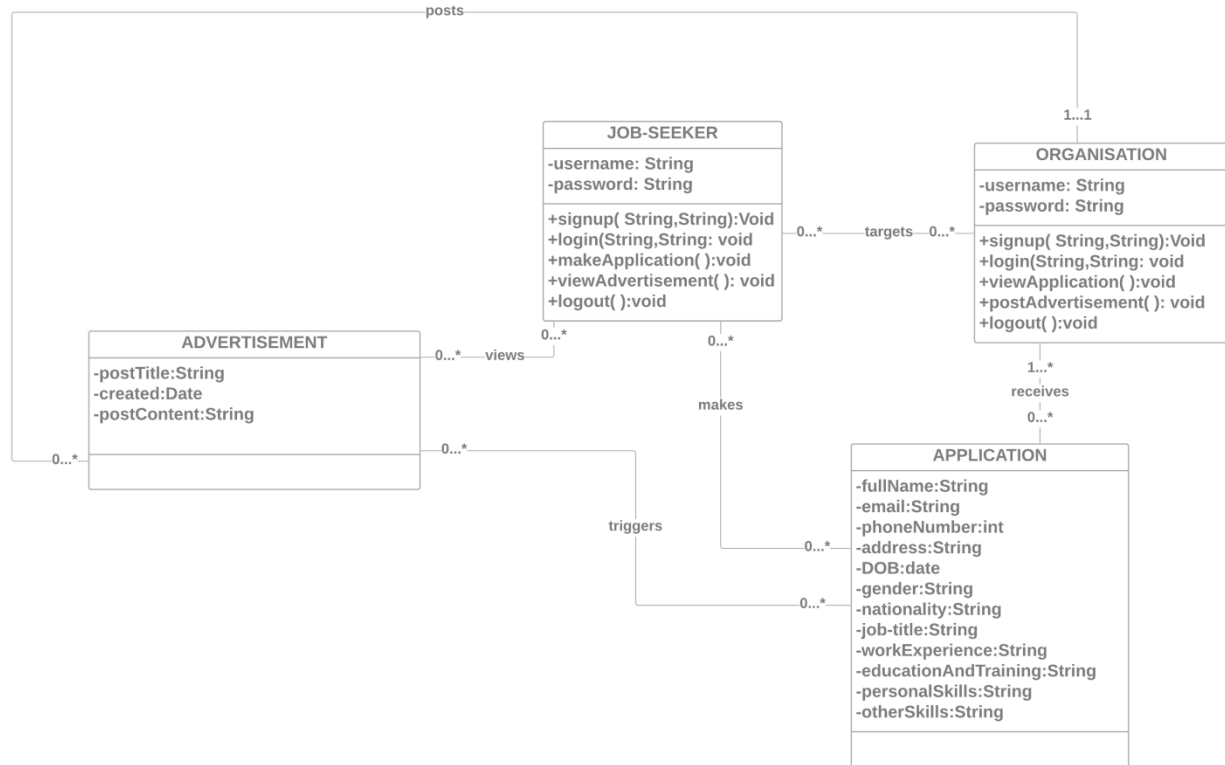
Figure 5: Class Diagram

The main classes in the Job Listing System will be the organisation, the job-seeker, application and advertisement. The organisation and the job-seeker will have two attributes namely the username and the password with a number of functions in line with the expected functionalities as stated in 4.2.1. The advertisement class will have its attributes as date, title and description. The application class will have attributes full name, email address, phone number, address, date of birth, job, gender, nationality, work experiences, personal skills other skills and competences Various constraints have been added to show the relationship between the classes.

4.3.2 Activity Diagram
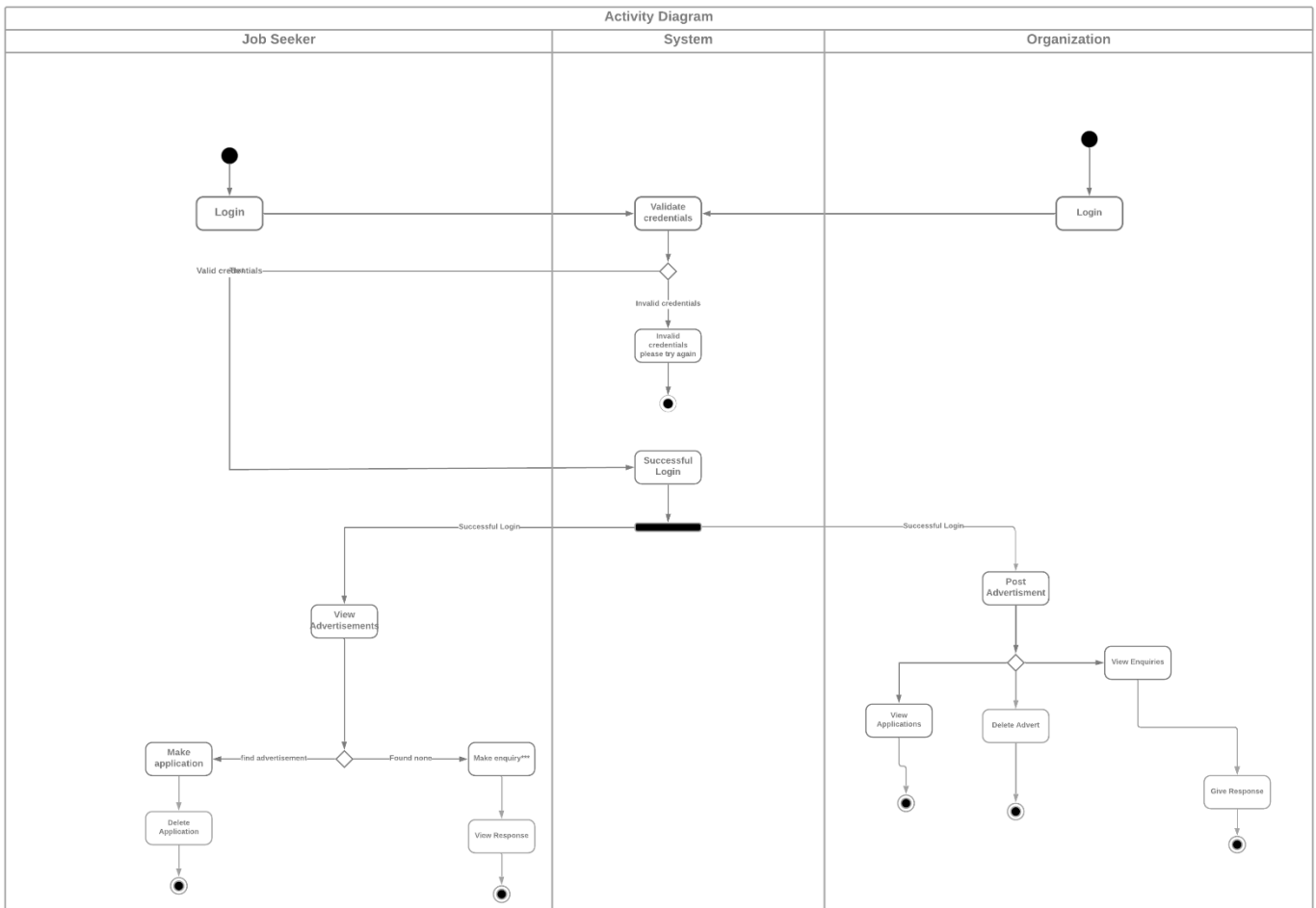
Figure 6: Activity Diagram

The above diagram aims at demonstrating the flow of activities and data within the job listing system.

4.3.3 Use Case Diagram
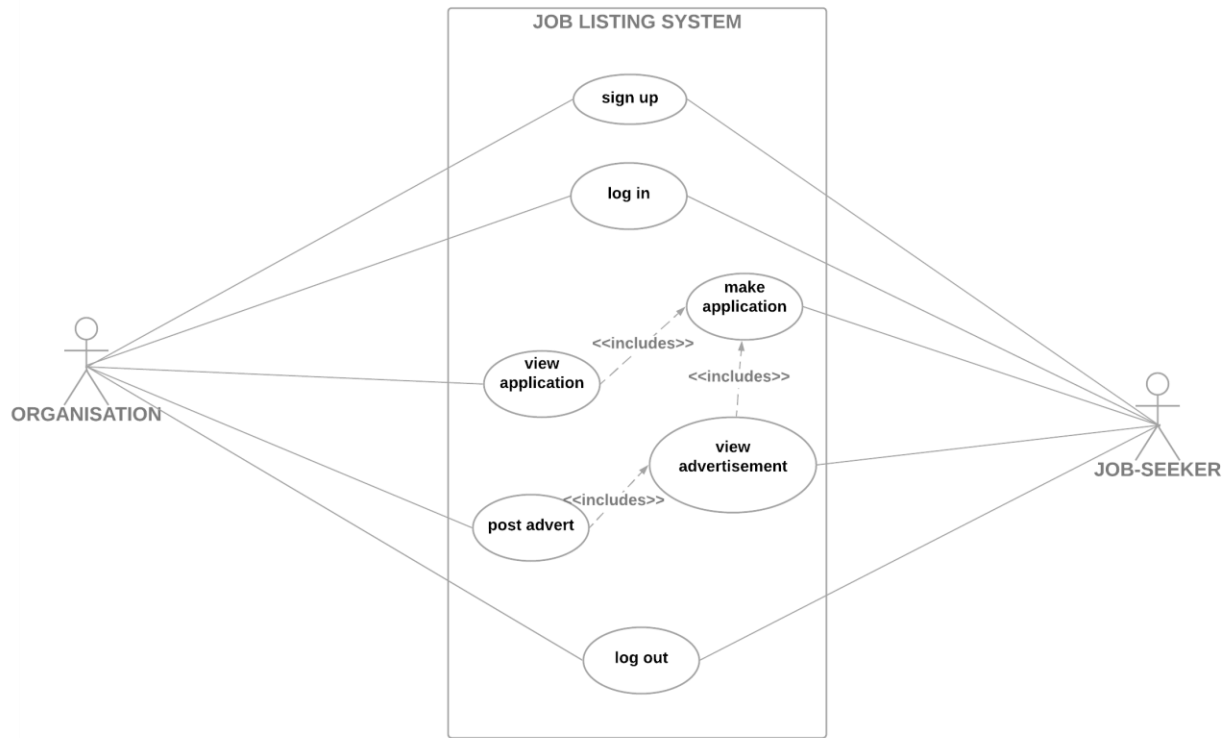
Figure 7: Use-Case Diagram

The diagram above states the different use cases in the system and the actors of the system namely organisation and the job-seeker. Common use cases for the two actors are the log out, the log in and the sign up functionalities. An organisation can view applications and post advertisements while the job-seeker can make applications and view advertisements. Interdependencies between various functionalities are also highlighted in the diagram.

4.3.4 System Sequence Diagram
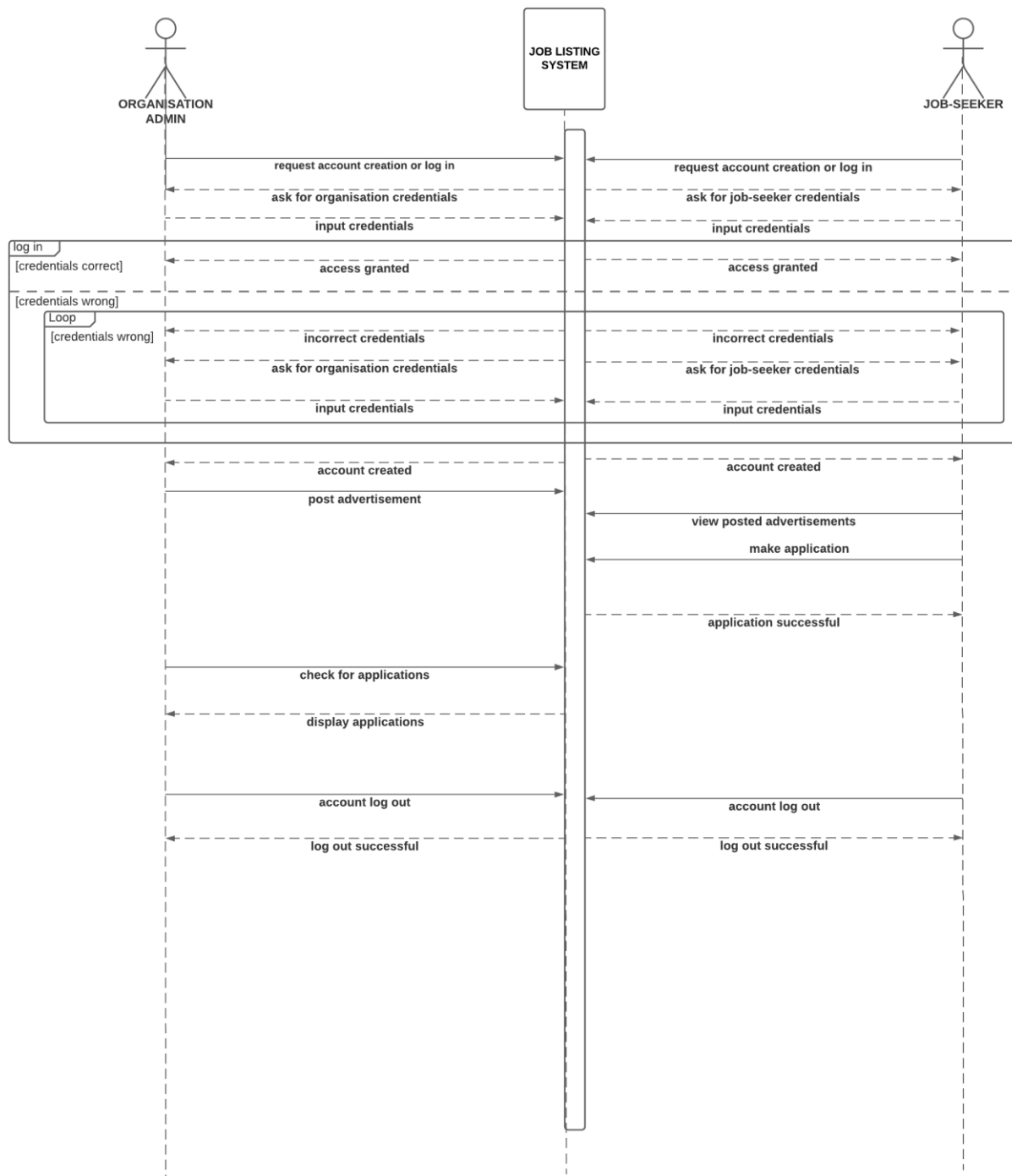
Figure 8: System Sequence Diagram

This diagram aims to demonstrate the flow of data and information between the system and the users of the system. The organisation and the job-seeker will be expected to make requests to the system for a variety of performances to take place like requesting for sign-ups and log-ins and

the system will in turn give feedback as well as request for inputs like requesting for credentials during log-ins and sign-ups and notifying the users that processes are complete.

4.3.5 Entity Relation Diagram
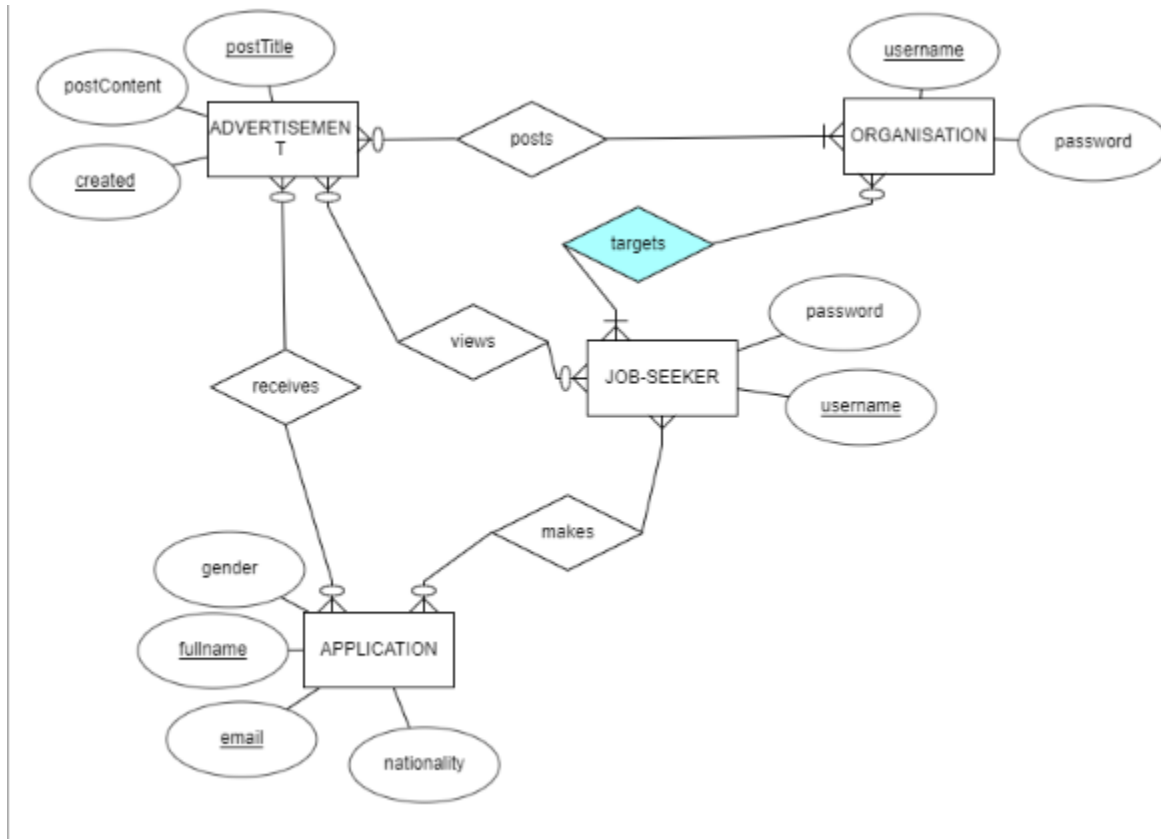
Figure 9: Entity Relation Diagram

The diagram above aims to show the relationship between the entities in the Job Listing System as well as highlighting the attributes of each entity.

From the diagram above, some of the constraints that will be present in the system include:

  i.   An organisation can post zero or many advertisements.

 ii.   A job-seeker can view zero or many advertisements.

iii.   A job-seeker can make zero or many applications.

iv.   A job-seeker can send zero or many enquiries.

 v.   An organisation targets one or many job-seekers.

vi.   An organisation can receive zero or many enquiries.

4.4 System Design

4.4.1 Database Schema

The above diagram aims to highlight the structure of the database as well as the constraints that will be present in the system. The Job Listing System will have a database containing five tables; the organisation, job-seeker, application, enquiry, application and the advertisement tables which will each hold data aligned with the data type declared for each defined attribute.
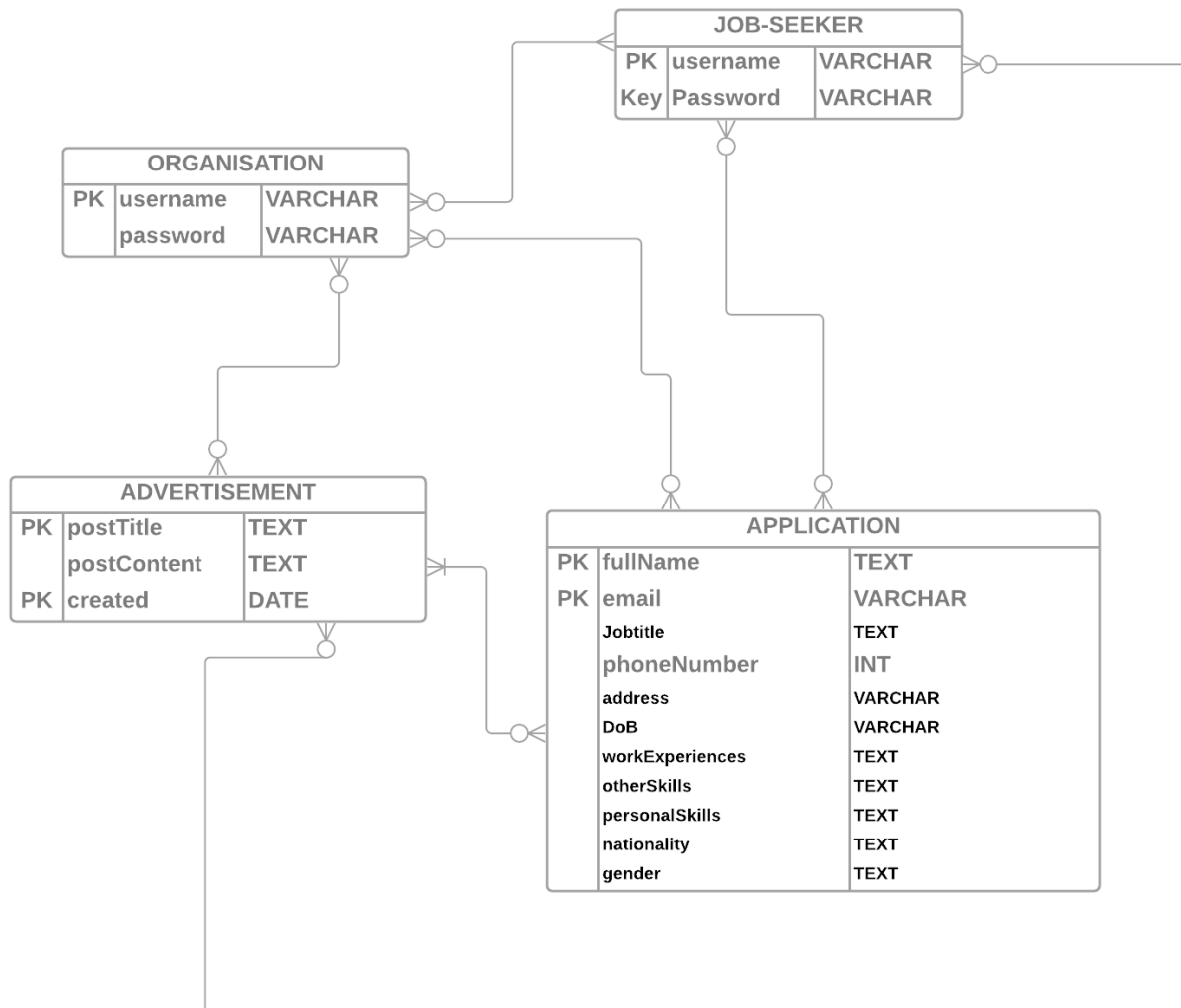
Figure 10: Database Schema

4.4.2 Wireframes

This section aims to give an overview of the appearance of the User Interface of the Job Listing System depending on the module accessed.

4.4.2.1 Job-seeker Module

These sections will access to the job-seeker module where one can view advertisements, make enquiries, make applications and view the application records. This module is only accessed by job-seekers.

Reference: **APPENDIX H**.

4.4.2.2 Organisation Module

These sections will access to the organisation module after logging in or signing up where one can view applications, view enquiries, post advertisements and view the advertising records. This module is only accessed by organisations.

Reference: **APPENDIX I**.

CHAPTER FIVE: IMPLEMENTATION AND TESTING

5.1 Introduction

This chapter aims to document the implementation stage as well as the tests of each unit present in the job listing website.

5.2 Description of Implementation Environment

5.2.1 Hardware specifications

RAM : 8GB

ROM: 930GB

PROCESSOR: Intel core i5

SYSTEM TYPE: 64-bit

OPERATING SYSTEM: Windows 10

GRAPHICS MEMORY: 4166MBZ

5.2.2 Software specification

VISUAL STUDIO CODE:

PHP MY ADMIN: version5.0.2

WAMPP: version 3.2.0

5.3 Description of Testing

This section utilizes the unit testing method and the black-box testing method since it involves the testing of each individual unit present in the system with a goal of checking whether it meets the desired requirement specifications.

5.3.1 Organization Module

Table 3 : Organization Module Test

UNIT TO BE TESTED	EXPECTED RESULT	ACTUAL RESULT
Sign-Up	The username and password	The username and the password

	that is input by the organization administrator is stored in the database.	that is input by the user are directed to the database for storage. Reference: **APPENDIX B**
Log-In	The password and username that is input by the organization is compared to that which was stored in the database. If it is similar then the user can access the account and if not then the user cannot access the account and an error message is displayed.	Upon imputing the correct credentials, the user is allowed to access their account. Upon imputing the wrong credentials, the user cannot proceed to access their account but no error message is displayed. Reference: **APPENDIX C**
Post Advert	Organizations should be able to put up notices on job vacancies by uploading images of the advertisements for the job-seekers to see on retrieval from the database.	Job vacancies are being updated into the database using files and not images of the advertisement. Reference: **APPENDIX D**
View Applications	The organization is supposed to view the applications made by the interested job-seekers in regards to the posted advertisement.	Organizations can view the application data of the job-seeker. Reference: **APPENDIX E**
Distinction	Takes the user to the correct module.	Takes the user to the correct module which is the organization module in this case. Reference: **APPENDIX F**

UNIT TO BE TESTED	EXPECTED RESULT	ACTUAL RESULT
Log-Out	The action should allow the user to leave the website until the next log-in prompt.	The action closes the website for the user until the next possible log-in activity by the user. Reference: **APPENDIX G**

5.3.2 Job-Seeker Module

Table 4 : Job-Seeker Module Test

UNIT TO BE TESTED	EXPECTED RESULT	ACTUAL RESULT
Sign-Up	The username and password that is input by the organization is stored in the database.	The username and the password that is input by the user are directed to the database for storage. Reference: **APPENDIX B**
Log-In	The password and username that is input by the organization is compared to that which was stored in the database. If it is similar then the user can access the account and if not then the user cannot access the account and an error message id displayed.	Upon imputing the correct credentials, the user is allowed to access their account. Upon imputing the wrong credentials, the user cannot proceed to access their account but no error message is displayed. Reference: **APPENDIX C**
Make Application	The job-seeker should apply for a job by uploading a file.	The job-seeker fills in a form as a way of applying and the data is stored in the database. Reference: **APPENDIX J**
View Advert	Job-seekers should to view job advertisements that are posted	Job-seekers can view the advertisements posted by the

	by the organization.	organization.
		Reference: **APPENDIX K**
Distinction	Takes the user to the correct module.	Takes the user to the correct module which is the organization module in this case. Reference: **APPENDIX F**
Log-Out	The action should allow the user to leave the website until the next log-in prompt	The action closes .the website for the user until the next possible log-in activity by the user. References: **APPENDIX G**

5.4 Test Data and Results for the Functional and Non-functional Requirements

5.4.1 Non-Functional Requirements

Table 5: Non-functional requirement test

TEST ID	TEST ITEM	DESCRIPTION	RESULT
001	Security	The passwords input by the user are stored in the database and thereafter encrypted.	FAIL
002	Reliability	Functions are carried out consistently and there is proper updating of the database	PASS
003	Usability	The content in the	PASS

TEST ID	TEST ITEM	DESCRIPTION	RESULTS
		system is understandable and user friendly.	

5.4.2 Functional Requirements

Table 6: Functional requirements test

TEST ID	TEST ITEM	DESCRIPTION	RESULTS
001	Log-in	The correct gives access to the account while the wrong credentials do not allow for access of the website. Test data: Password = Loshy. Username = Edith.	PASS
002	Sign-up	The username and password that is input by the organization is stored in the database and account access is initiated. Test data: Username = Frank Password = 0100	PASS
003	Post Advert	On clicking the post advert button the organization is to be prompted to fill in a form to give the	PASS

		description of the intended job.	
004	View application	Forms filled by the applicants that were stored in the database are retrieved and displayed for view by the organization.	PASS
005	Distinction	Clicking the organization link on the front page takes the user to the organization module and the clicking the jobseeker link takes a user to the job-seeker module.	PASS
006	Make applications	On clicking the apply button the applicant is to be prompted to fill a form containing the CV template.	PASS
007	View advertisements	Posted advertisements appear on the homepage of the job-seeker upon recording of updates in the database by the organization.	PASS
008	Log-out	If the log in button is clicked, the user is prompted to leave the system and directed to the login page.	PASS

5.5 Discussion of the Test Results

5.5.1 Functional requirements

i.   The sign up and login modules were a pass because the credentials input in the sign up were successfully stored in the database and later used to verify the log in section.

ii.   The distinction module correctly assigns a user to the required module depending on the module selected on the front page hence a pass.

iii. The post advert function is a pass because organizations are able to fill in a form to about the vacancy and the same is stored in the database and reflected on the job-seeker module hence the success of the view advert functionality.

iv.   The make application unit is a success because the applicant is able to fill in a CV template and upon submission; the same is stored in the database and retrieved by the organization hence the success of the view application module.

v.   Log out unit exits the website as required hence a pass.

5.5.2 Non-functional requirements

i.   Security is a fail because no encryption and password hashing were implemented in the database hence the exposure to breaches.

ii.   Reliability and usability were achieved since the user interfaces are user friendly and the database is well updated and accessible for use at any time by any user.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Following the gaps presented by the existing forms of advertising job vacancies and applying for jobs which include the need for:

  i.   A system that is cost effective.
  ii. Direct relations between the organization and job-seekers without involving an intermediary who may often fail to deliver accordingly.
  iii. A way to avoid blind advertising where recruiters are unable to keep track of applications received in regards to a posted advertisement.
  iv. An easy way to keep track of posted advertisements.

the job listing system for organizations and job-seekers has been able to create an environment where the recruiting organization is able to draft its own advertisements and receive applications directly from the interested applicants. Job-seekers on the other hand can view updates on posted advertisement and make applications when interested.

6.2 Challenges Faced in the System Implementation

Some of the challenges experienced during the implementation of the system include:

  i.   Improper planning of implementation activities before commencing on the implementation process hence confusion and inability to meet deadlines and turn in required deliverables.
  ii. Lack of adequate knowledge on the back-end development due to lack of training hence the delay in the implementation process.
  iii. Compared to other stages that have deliverables that need to be turned in in relation to the project, little time was allocated to the project implementation stage hence the need to rush and failure to meet all the intended requirements.

6.3 Recommendations

A number of ideas that are likely to of great advantage to the users of the system such as the ability to upload files into the system have failed to be implemented hence the failure to achieve the desired wants due to limited time and inadequate knowledge in the back-end coding hence need for adequate time and expertise knowledge in order to implementation efficiency. The implementation of the above will ease the recruiting, job-seeking and the application process

since the filling in of information forms from scratch will be avoided but instead can be duplicated or fetched.

6.4 Future works

The job hunting and recruitment process is always going to be an on-going task among individuals who wish to make something good of themselves hence need for the existence of efficient ways to advertise and hunt for jobs in the dynamic environment.

Future researchers have an obligation to find out the most recent problems faced by job seekers and recruiting organizations in order to be able to provide the best solutions.

For a job-listing website, additional functionalities like the automation of the process of reading through application resumes and the searching on jobs based on locations can be added or integrated into the system in order to improve the functioning of the system.

Appendices

APPENDIX A: Gantt chart

APPENDIX B: Sign Up Unit

a. Organization Sign up

b. Database save evidence
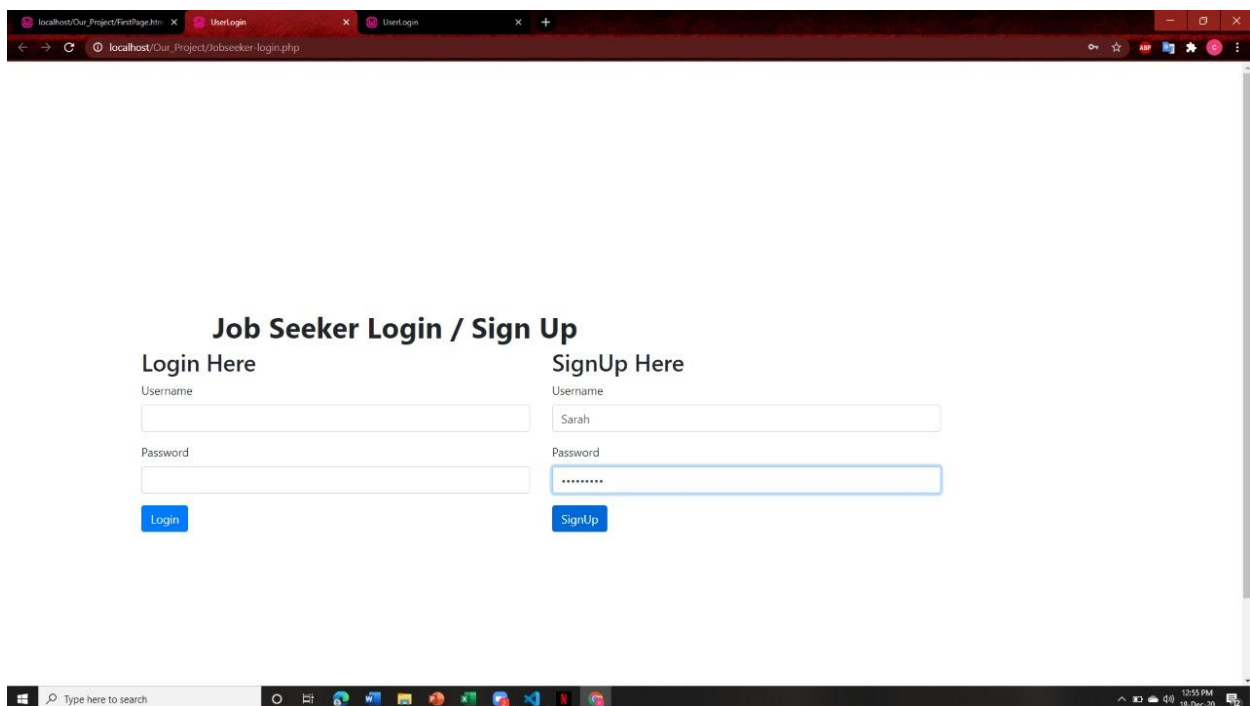
c. Job-seeker signup
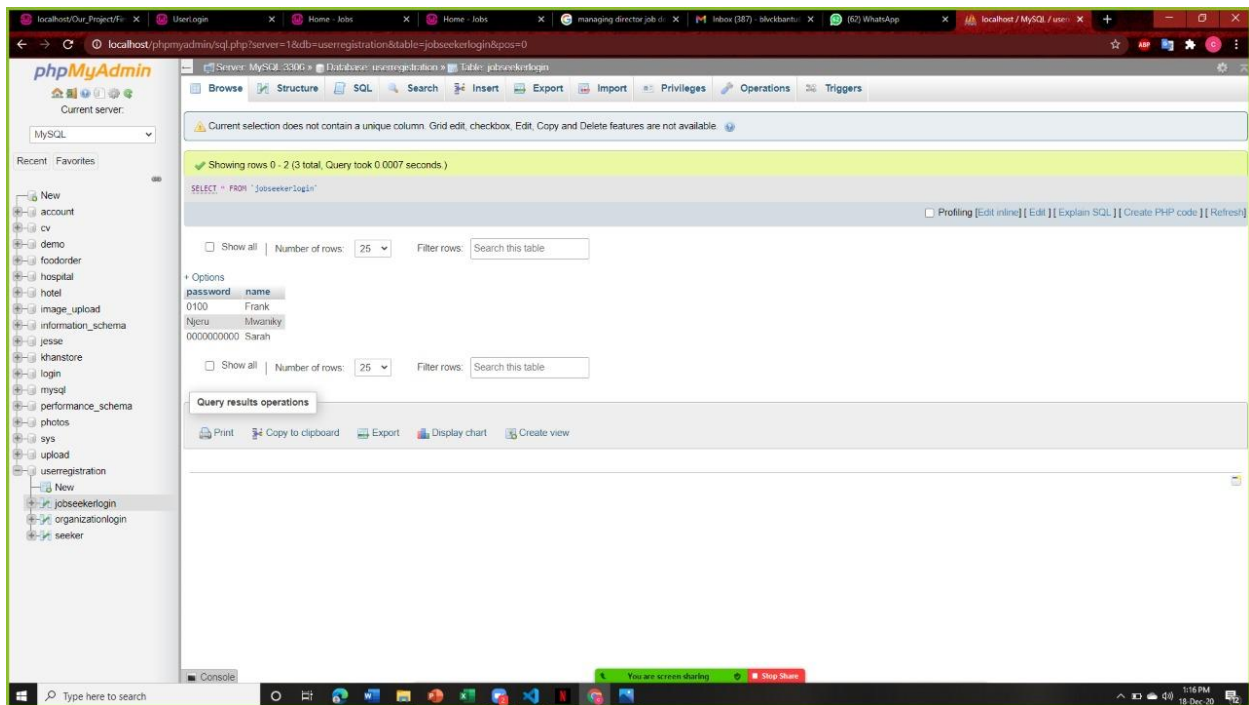
d. Database save evidence

APPENDIX C: Log In Unit

a. Organization log in
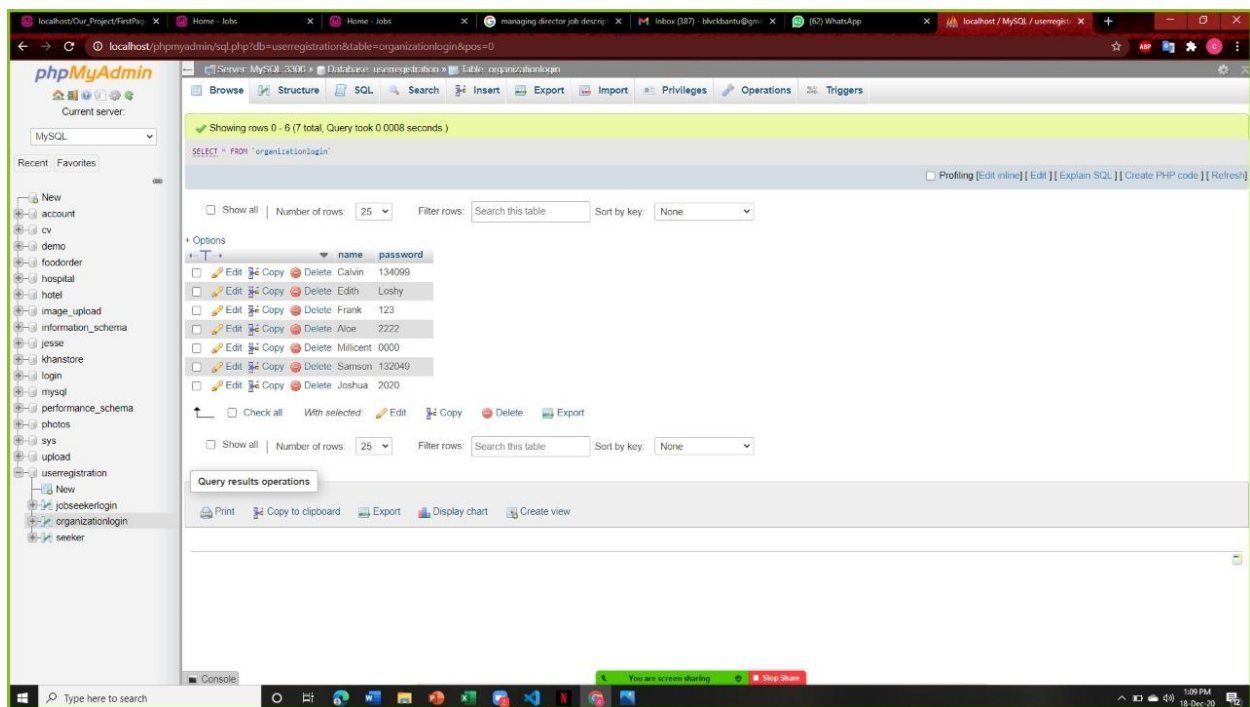
b. Database save evidence
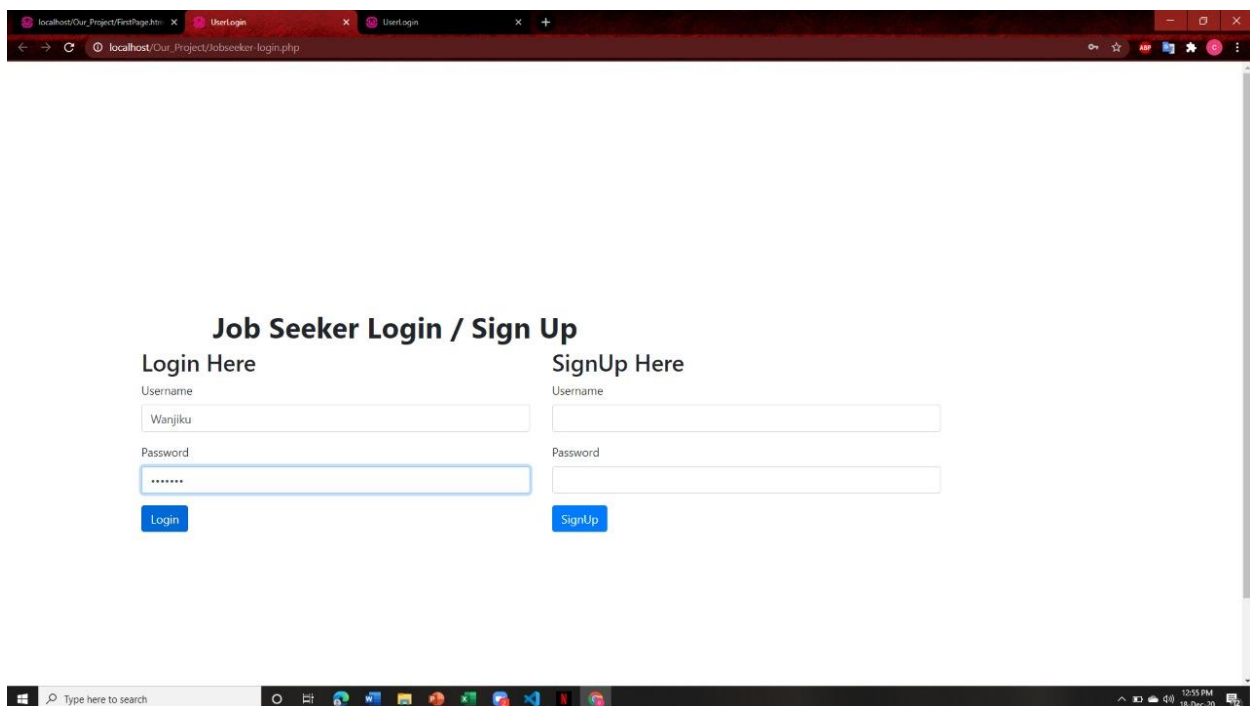
c. Job-seeker login
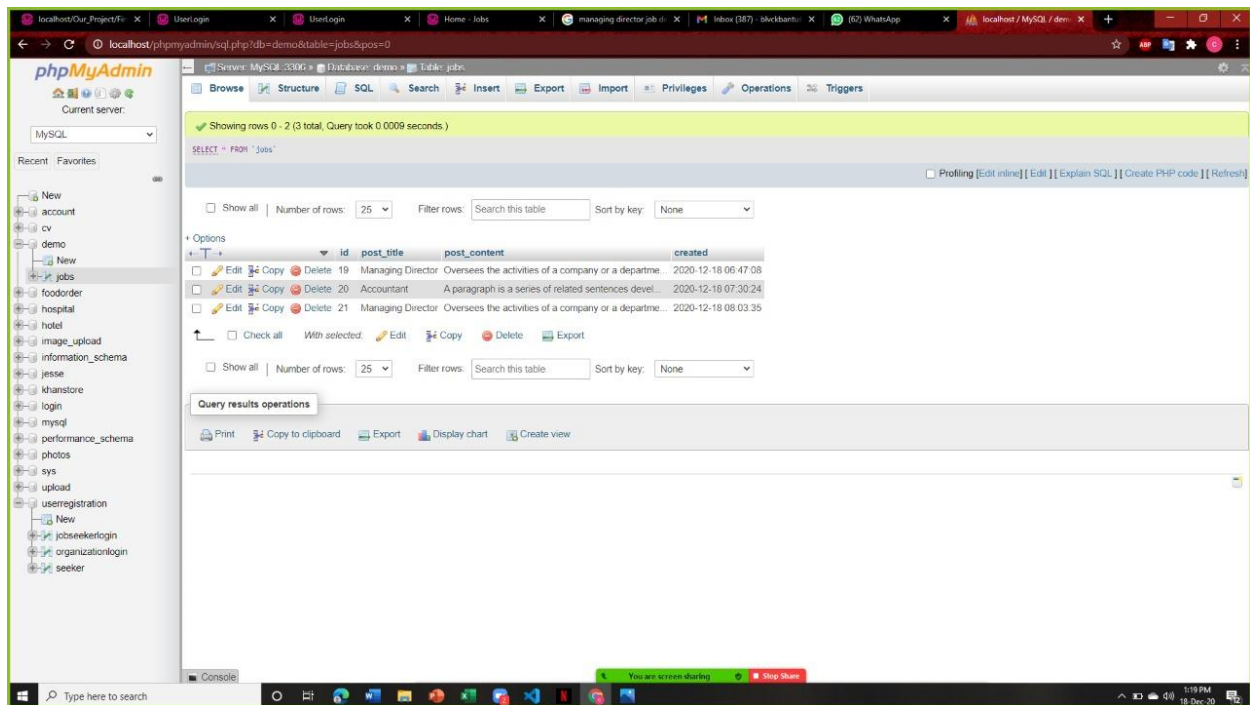
d. Database save evidence

APPENDIX D: Post Advertisement Unit
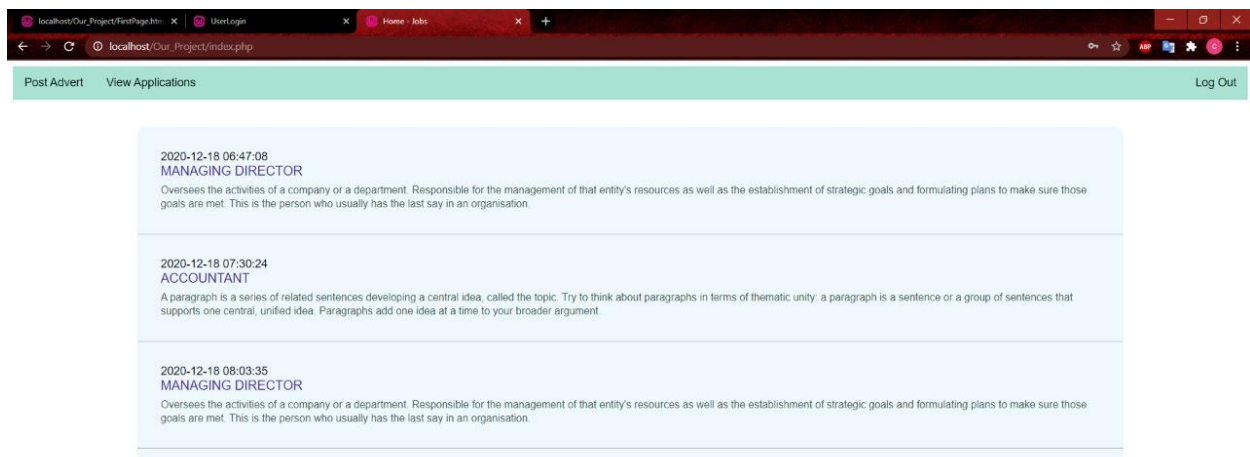
a. Click on post advert (destination is in diagram b)
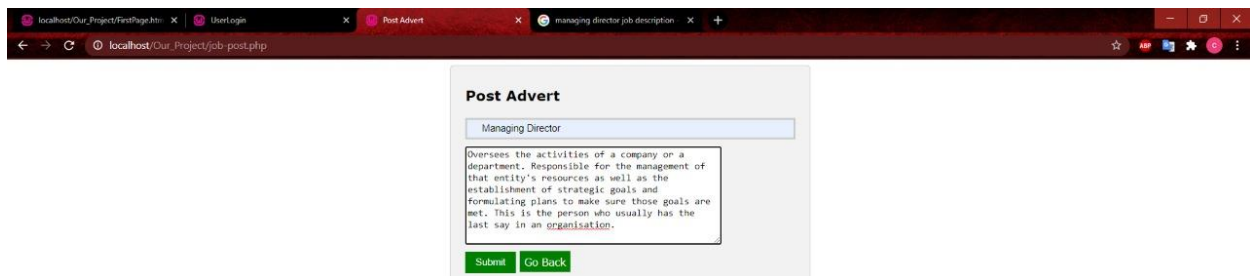
b. Post advert

APPENDIX E: View Application Unit
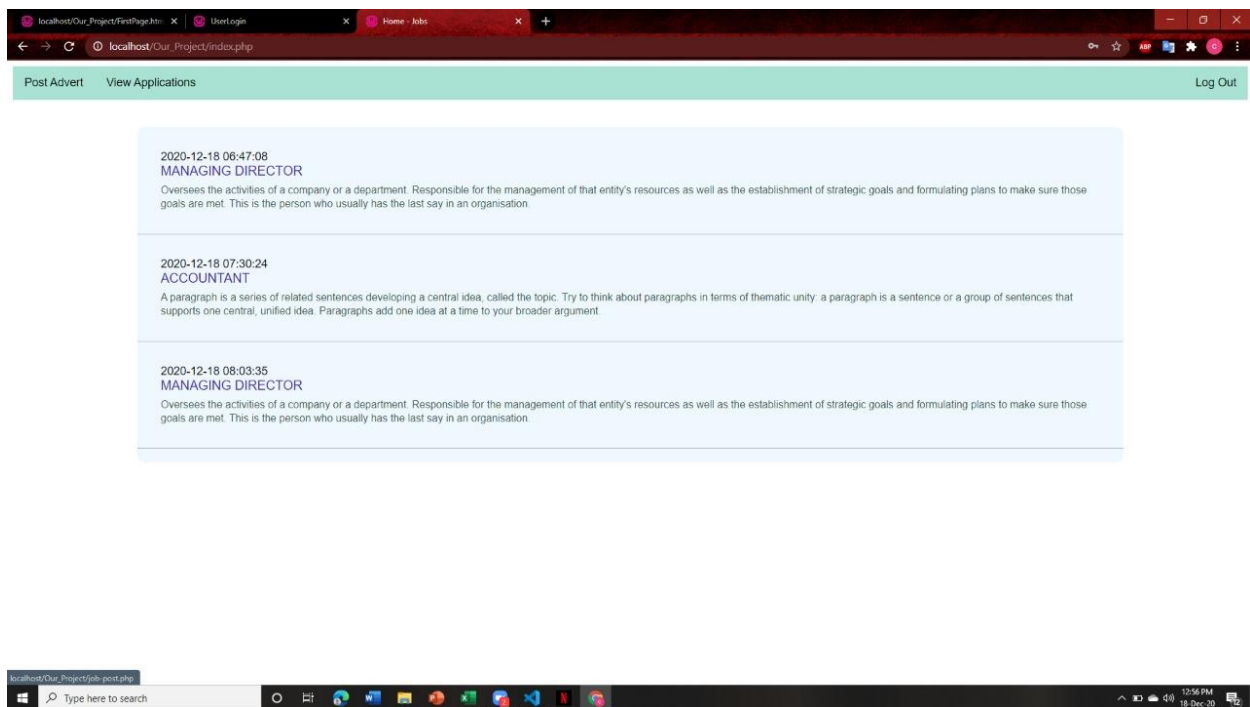
a. Click view applications
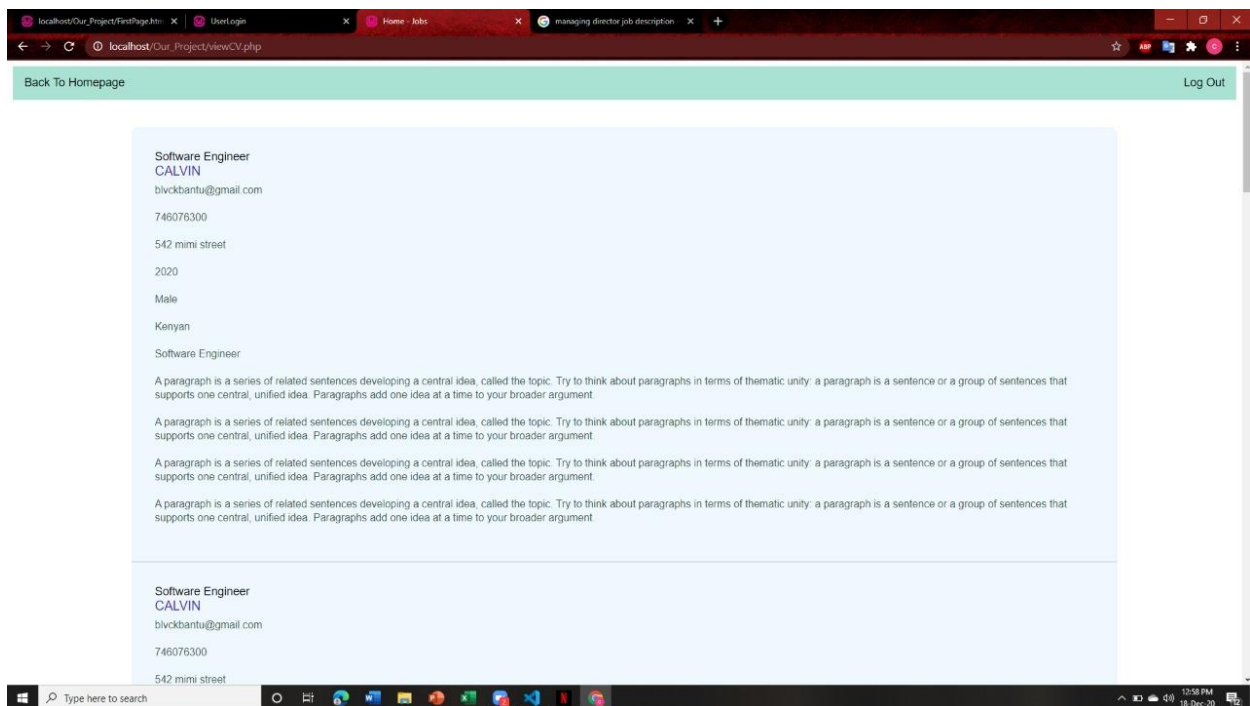
b. Destination page

APPENDIX F: Distinction Unit
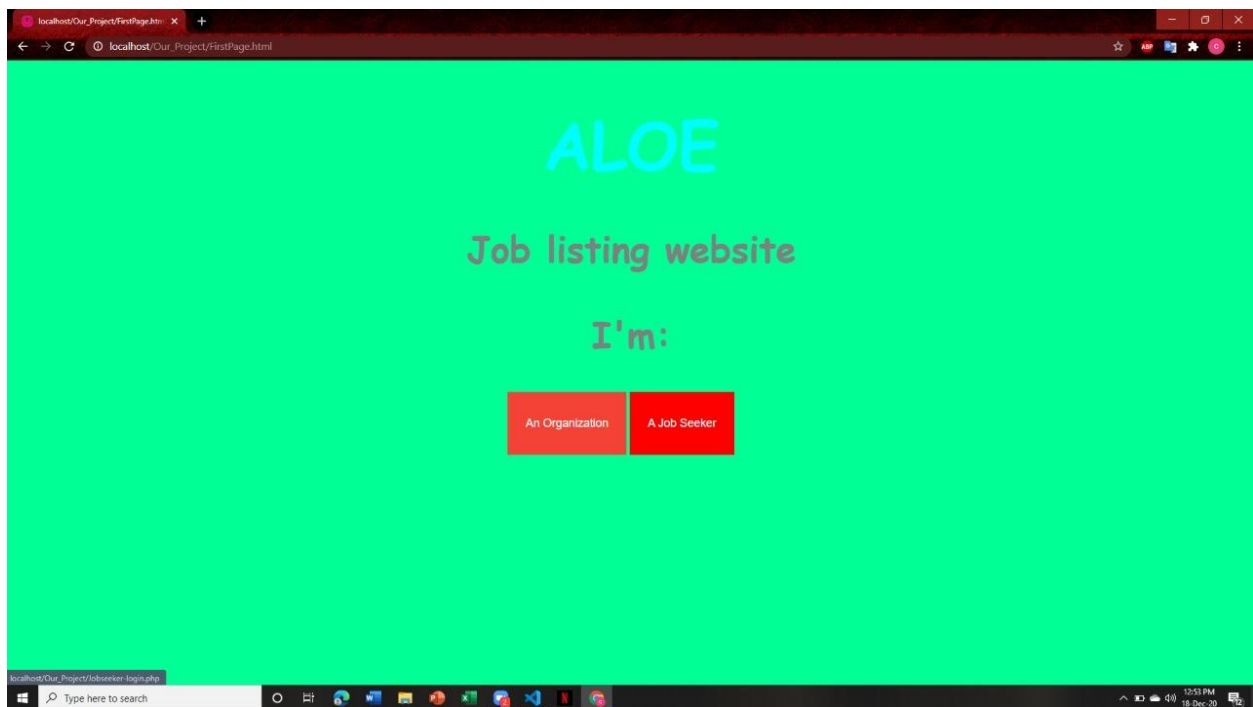
a. Selecting job-seeker module
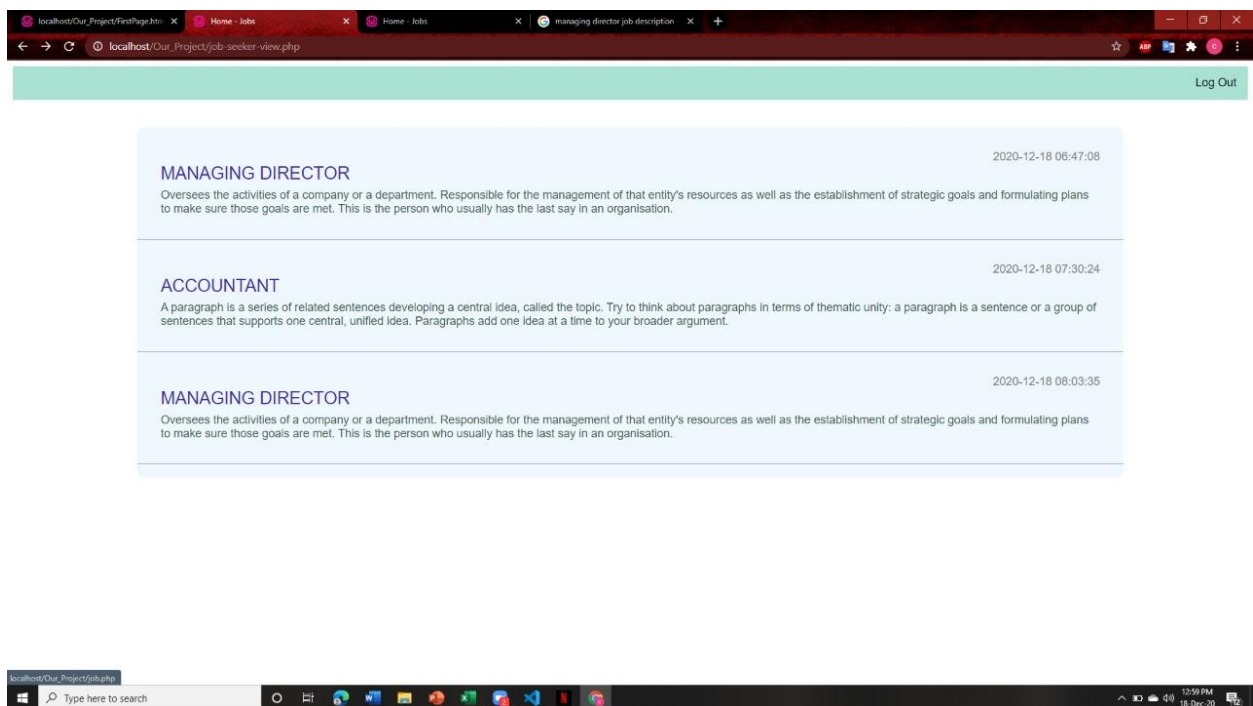
b. Destination page
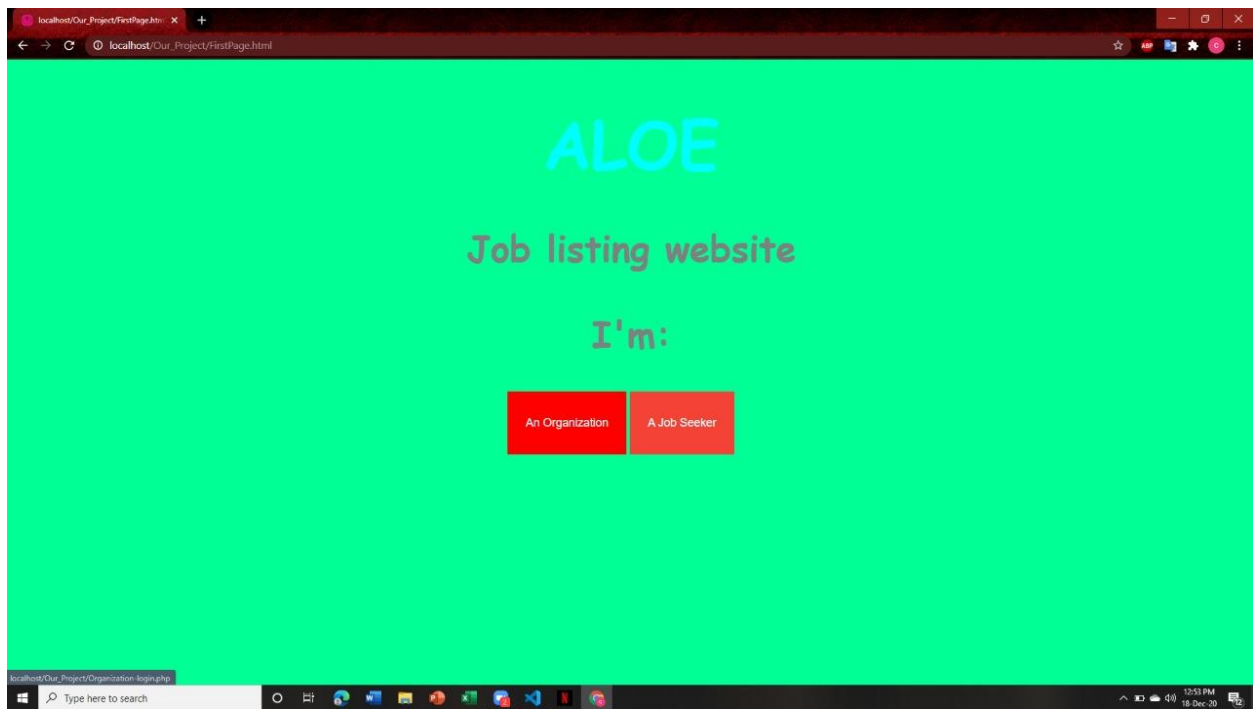
c. Selecting organization module
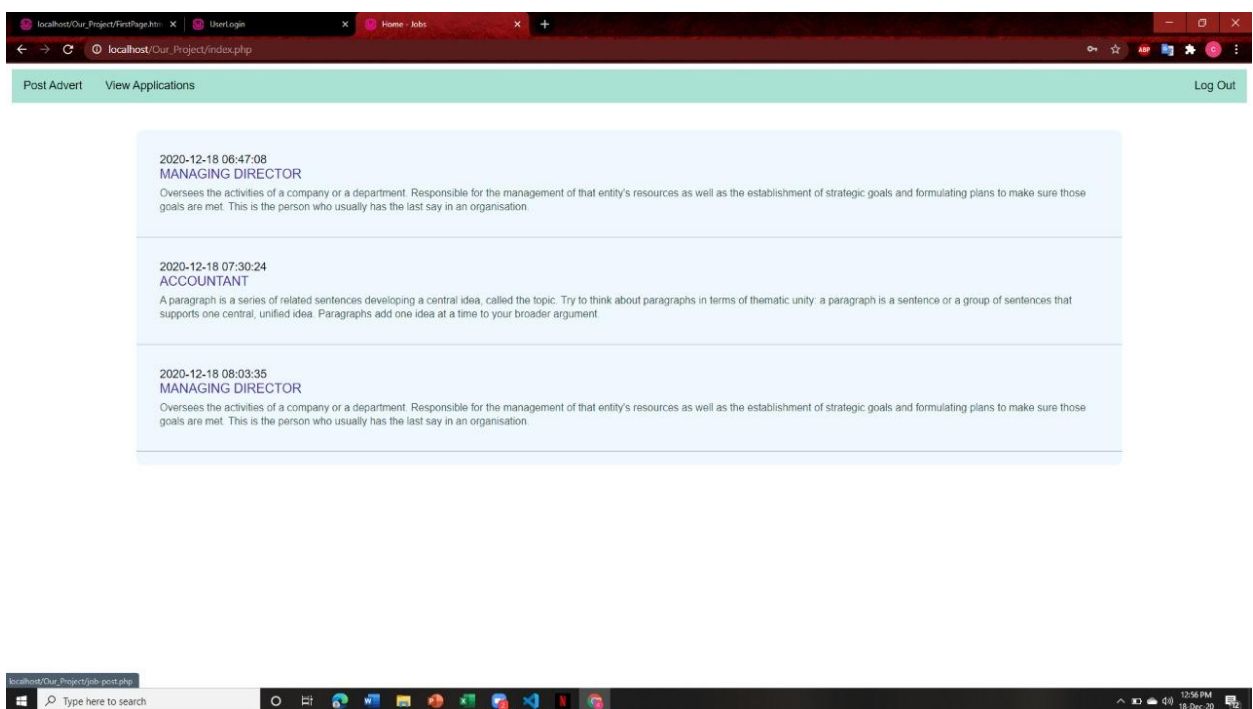
d. Destination page

APPENDIX H: Job-seeker Module Wireframes

a. Front page.

b. Sign in and log in.

c. Homepage.

d. Apply

APPENDIX I: Organization Module Wireframe

ALOE
WELCOME

ORGANISATION
JOB-SEEKER

a. Front page.

LOG IN

USERNAME [ ]

PASSWORD [ ]

[LOGIN]

SIGN UP

USERNAME [ ]

PASSWORD [ ]

[SIGN UP]

b. Login and sign up.

c. Homepage.

d. Post advertisement

e. View application

APPENDIX J: Make Application Unit

a. Click on the job title link

b. CV template

APPENDIX K: View Advertisement Unit
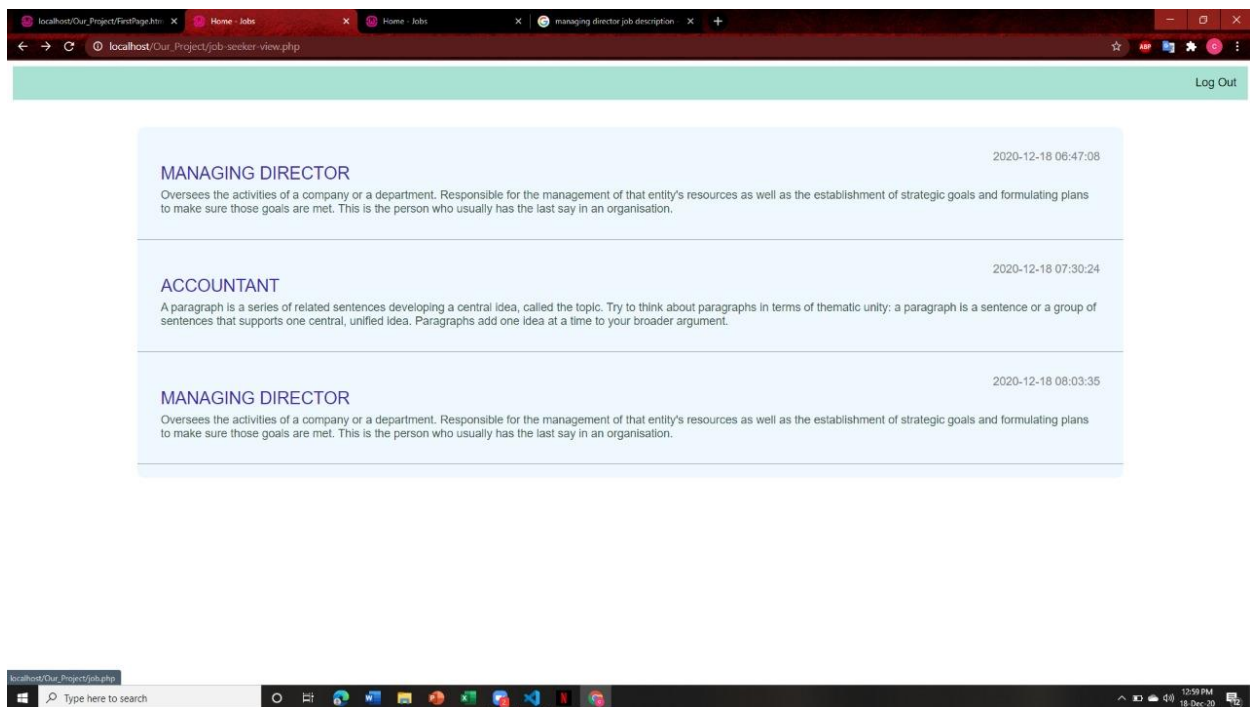
a. Job-seeker homepage

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People   b

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