FILI-2112 notes

Science, Technology, Engineering, and Mathematics (AMA Computer Learning Center)

TRABAFINDER: A WEB-BASED ONLINE JOB SYSTEM IN CALABARZON REGION IV-A

A Capstone Project Presented to the
Faculty of College of Informatics and Computing Sciences
BATANGAS STATE UNIVERSITY
Batangas City

In Partial Fulfillment of the Requirements
For the Degree Bachelor of Science
In Information Technology
Major in Business Analytics

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December 2022

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ABSTRACT

TrabaFinder: A Web-based Online Job System in Calabarzon Region IV-A offers online information about employers and job seekers. The web application for this project is divided into three sections: the administrator, the employers, and the job seeker side, which would assist in locating the best employment in Calabarzon (Region IV-A). Job seekers can use this system to submit online job application forms and fill up their resumes. Additionally, it can provide an online interview for job applicants which would find it easier to manage job employment, especially when there are many applicants. Eventually, employers would immediately notify the job seeker if they are suited for the job or role. The employer also has access to post the vacant jobs categorized by fields of work like Information Technology, health, and wellness, manufacturing, food industry, etc. On the other hand, the administrator is in complete control of the website. The administrator would see the registered users and can approve or reject company registration in order to complete the process of job posting on the website. The system would send an e-mail notification within the system to job seekers when there's an update about their application status. This application aims to create a system that allows employers and applicants to communicate directly through online meetings or interviews. The purpose is to enhance communication between interested parties and complete the recruitment process as quickly as possible. This technique would assist in reducing the amount of time spent on the job hunt. It would help employers reduce the number of human resources required in a company and make the entire process more flexible for job seekers.

ACKNOWLEDGEMENT

The researchers extend their deepest gratitude to the following persons who helped them make this research possible.

To Dr. Princess Marie B. Melo, Dean of the College of Informatics and Computing Sciences, for her unending support, generous assistance, and stimulating encouragement for the success of this study.

To their adviser, Mrs. Niña P. Aguila who guided them and gave the best advice that made this research feasible and her utmost support and encouragement to finish this study.

To their parents who always remind them of the importance of education in one's life and give their undying love and never-ending support.

To their friends and classmates inspires them to do their best and finish every work.

And above all, to our Almighty God, for the guidance, blessings, enough knowledge, and strength that made this research possible.

DEDICATION

This Capstone Project entitled TrabaFinder: A Web-based Online Job System in Calabarzon Region IV-A is lovingly dedicated to the following:

To our beloved Parents and Friends who have been a source of inspiration and gave us strength when we thought of giving up.

To our Dear Professors who help us and guide us, my sincere appreciation.

To Batangas State University Alangilan Campus, our alma mater.

And lastly to the Almighty God, thank you for your guidance, strength, power of the mind, protection, and skills and for giving us a healthy life. All of these, we offer to you.

K.M
A.J.A
A.M.O

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CHAPTER 1

INTRODUCTION

Background of the Study

Everyone is living in a technologically evolved period in today's globalized world. In some way, technology touches every aspect of our daily lives. With growing technology, individuals now have more excellent facilities and better luxuries. Technology advancement is not limited to a single industry or sector of society; all industries and sectors are developing new technologies to meet their demands and requirements. Technology boosts productivity, easing the pressure on workers and removing the need to do repeated tasks. Specifically, technology alters the nature of work. Even if some jobs become obsolete due to technological innovation, it can create much more jobs than it eliminates. The requirement of the hour is continuous learning and updating of expertise.

Unemployment remains a significant issue in both developed and developing countries worldwide. The rising number of unemployed graduates has become one of the Philippines' most important issues. In a country like the Philippines, with nearly 100 million inhabitants, having 9.1 million unemployed residents is a significant issue. As stated in the most recent Social Weather Stations (SWS) study, 21.4 percent of the population claims to be jobless. Except for homemakers, students, retired employees, and disabled people, who are not considered a part of

the labor force, unemployed Filipinos are defined as those who either do not have a job or are currently looking for one. People cannot find work due to a lack of job opportunities, although the Internet has considerably impacted knowledge management and information dissemination worldwide. People find it challenging to find a job in today's competitive economy, and it's even more strenuous to find suitable occupations that match their skills. Businesses are also finding it more challenging to find professionals in their industry who are also intelligent. It's also gotten more difficult for companies to hire experts in their fields and bright but accessing the Internet has transformed how people hunt for jobs and find qualified applicants.

Job finding has never been easier because of technological advancements. Job seekers can search for jobs from anywhere globally if they have access to the Internet. Rather than sifting through classified advertisements for hours, job seekers may now utilize social media and employment sites to find opportunities and focus their searches on specific industries or companies. Job searchers can use the Internet to put themselves out there by exhibiting their resumes and talents. Employers post job openings on job portals. Most large firms, as well as small businesses, have welcomed online recruitment. Organizations contribute information or job openings to outlets for posting, and applicants are contacted via the Internet and email. Online recruiting, often known as e-recruitment, is described as the use of the Internet to look for positions that have been advertised electronically. As a result, employers

post job openings online, save applicants' resumes and curriculum vitae (CVs), and contact qualified job seekers.

Considering the cited problems, the researchers created a web-based online job system, also known as the Trabafinder: A Web-based Online Job System in Calabarzon Region IV-A, to automate the job application process from a manual operation. This technique would assist in reducing the amount of time spent on the job hunt. It would help employers to reduce the number of human resources required in a company and make the entire process more flexible for job seekers. It enables employers from various businesses to post job openings on the site, and view job seeker resumes. Furthermore, the system is created so users can interact with it with little knowledge of the browser, the internet, and company policies.

Objectives of the Study

The study's main objective is to develop a web-based online job system for job seekers and employers that would help simplify the entire hiring process with easy accessibility that would also help the job seekers seek job employment.

The study specifically aims for the following:

1. to provide an online platform for employers to post different job vacancies and hire job seekers for an employment in Calabarzon Region IV-A.

2. to develop an application for resume auto-generation in which job seekers can fill up their personal information and work credentials.

3. to create an online interview application through which job seekers and employers can interact and conduct job interviews for the job employment.

4. to provide reports and infographics on the number of employees, applicants, and job offers.

Significance of the Study

The system entitled “TrabaFinder: A Web-Based Online Job System in Calabarzon Region IV-A” would be beneficial to the following:

Our web-based system would help the job seekers to search for jobs quickly, and they are free to submit and update their resumes as often as possible. Using this process, job seekers can find work quickly and efficiently.

Employers would benefit much better because it would make their jobs more accessible. They can update and post vacancies information and details as needed. Employers can view resumes and can conduct online interviews.

This study would stimulate researchers' critical thinking, problem-solving, oral communication, research, and collaborative skills. Furthermore, as a result of this project, students learn how to engage with the local community and break down major topics, challenges, and ideas.

Scope and Limitations

This project's scope is to provide a platform for all job seekers where they can easily find a job that is suitable for them. The system would allow easy usage and interactivity. Each user would need to log in within the system to ensure a safe platform, provide the correct accounts, and restrict access to an unauthorized person. There is no payment upon the job seekers and employers' process; therefore, it is a free registration. Moreover, they can only apply or seek a job by filling up the required information since the system would automatically generate their resume. Additionally, they can also upload their resume directly in a pdf format. This system makes it simple for them to highlight their education, job experience, accomplishments with previous employers, and skills and training they have received. They can also manage or update their user accounts and the other users like the employer and administrator. In the case of employers, the employer has access to post the vacant jobs and can add categories of jobs like the food industry, manufacturing, etc. The administrator is in complete control of the website. He would decide whether to allow a company to post job vacancies to ensure authenticity. When the employer accepts the job application of job seekers, the suggested system would send a notification to job seekers.

Additionally, the system would provide terms and conditions to establish guidelines for how users may use their service. Users are supposed to post appropriate information to ensure their safety and avoid legal activities. The web-

based job portal system can run on Windows, and supported in the MYSQL database, and provides data security. The implementation of the developed system would only take place in Calabarzon Region IV-A. Twenty local businesses would be categorized according to their industry for the recruitment process. The web-based system can only be used when your devices have an internet connection.

1.5 Definition of Terms

To understand and clarify the terms used in the study, the following are hereby defined:

Dashboards. This contains several methodologies and designs for visualizations such as charts and graphs. It is used to understand trends and clearly discern data relationships (Gill, 2022). In the study, dashboards are utilized to visualize patterns and information gathered.

Data analytics. It's a technique for extracting information from massive volumes of data. This technique includes data analysis and management, as well as data collection, organization, and storage (Olavsrud, 2021). In the study, the term is used to investigate data and patterns in order to acquire greater insights on the project's development.

Database. A database is a structured grouping of related data or information that is electronically stored and retrieved within a computer system. A database management system typically manages this data (DBMS). Fiverr (2021) Users can

also store and retrieve vast volumes of data using the DBMS. This database management system is referred to as a database system, along with its data and related applications, or just "database" for short.

Employment. Employment is a mutually beneficial compensated labor arrangement between a recruiter and an employee. This phrase refers to a person who is engaged for a salary or remuneration to initiate labor or chores for a company. Although employees can discuss certain elements in an employment agreement, the majority of the terms and conditions are established by the employer. This agreement could be terminated by either the recruiter or the employee.

Job Portal. A job portal, sometimes known as a career portal, is a modern term for an online job board that assists applicants in finding positions and employers in their search for qualified candidates. Some government agencies, nonprofit organizations, universities, and private corporations have their own job portals, which are accessible through the organization's website.

Job Seekers. A jobseeker is a person who is seeking for work but is not currently employed. There are three different categories of job seekers: those who actively look for work, those who keep an eye on the market for any opportunities worth pursuing, and, finally, those who are happy in their existing roles and are not looking in any way.

Recruitment. It is the process of actively seeking, locating, and hiring qualified candidates for a specific position or job. The recruitment definition encompasses the entire hiring process, from initial screening to integrating the individual recruit into the company.

Web Application. an online program that primarily uses a web browser as a medium to complete a specific assigned activity. Each web application is designed for a certain purpose and is utilized by corporations or individuals. They can create reports, manage files, and exchange data from any place or computer.

CHAPTER II

REVIEW OF RELATED STUDIES

This chapter focuses on the various studies and other literature that have a significant impact on the study.

Technical Background

The TrabaFinder: A Web-based Online Job System in Calabarzon Region IV-A is developed to automate the job application process from a manual operation. As a result, the system would be error-free, secure, reliable, and quick. It might help the user focus on their other tasks rather than maintaining track of their records. Sublime Text editor, which supports multiple programming languages and markup languages natively and allows users to extend its capabilities with plugins, is one of the tools used to construct the system. It is technically community-built and maintained under free software licenses.

On the other hand, Cascading Style Sheet (CSS) was incorporated during the development of the system for the reason that CSS brings a website's front end to life and enhances the user experience. Websites would be less appealing to the eye and more challenging to browse without CSS. CSS oversees font color, among other things, and style and format. Moreover, HTML, or Hypertext Markup Language, was used because it gives the page's basic structure, then topped with Cascading Style Sheets to change its design. The researcher also used JavaScript, when embedded in an HTML document, JavaScript enables dynamic website interactivity. JavaScript would allow users to construct interactive web applications

without reloading the page each time. MySQL was used for web databases. Github is used for collaboration in the development, management, and publication of software, code, and other resources. This platform is gaining popularity in the research and education communities. Lastly, Using Bootstrap makes it easier and faster to create websites. It offers design templates for typography, forms, buttons, tables, navigation, modals, image carousels, and more based on HTML and CSS. It also includes JavaScript plugin support.

Software Methodology Model

Software Methodology Model would assist the researchers in developing the system and meeting the study's objectives. The aim is to help unemployed people, particularly those who do physical labor. The project's goal is to provide an online platform to simplify the entire hiring process with easy accessibility that would also help the applicants seek a job.

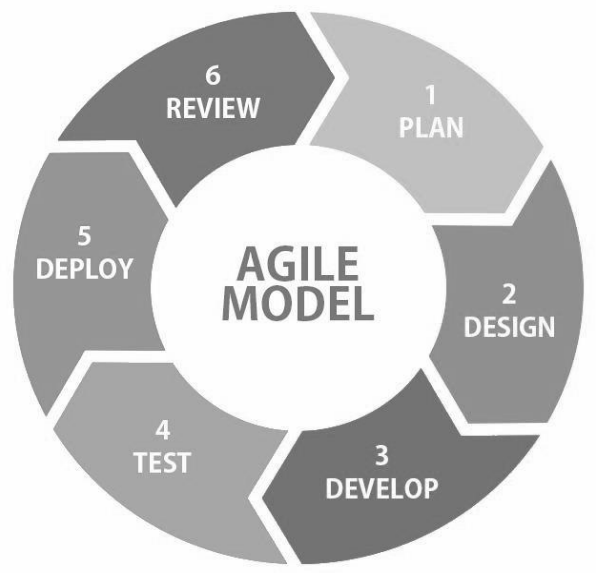

Figure 1. Agile Methodology Model

The researchers used Agile as a system development model to reduce risk, eliminate the possibility of complete project failure, and allow the team to produce a working product. Agile is a simple and easy-to-implement system development model. Through the project's development lifecycle, this would present chances to evaluate its direction. Every aspect of development, requirements, and design was reviewed on a regular basis in Agile Diagram. Agile development keeps a product's crucial market relevance and makes sure the team's work winds up on a shelf. This model served as an alternative to traditional project management, which placed a strong emphasis on teamwork, communication, and continuous testing and integration. Agile development approaches are efficient and adaptable in the face of change. This comprises the following phases:

Requirements Analysis. The project specifications are laid out in this phase to build the system. It contains every feature, diagram, restriction, and development tool the system might come across while it is still in development. The requirements for building the system, including the hardware, software, and interface details, are all included in the requirement analysis phase. These requirements must be considered to improve the program the researchers created.

Planning Phase. This phase enables researchers to make collaborative contributions to the application which are aimed toward the program's requirements on the development of a new system for job application for both employers and applicants in Calabarzon (Region IV-A). For the convenience of their work and

project improvement, researchers use a different application for system development. Since the researchers employ the agile methodology, an incremental approach to application development is possible. As the project progresses, the requirements and needs may shift in response to feedback from end users.

Designing Phase. This phase enables researchers to create an outline and demonstrate the ideal main objective for the mobile application that would benefit both job seekers and employers. Throughout this phase, a web-based system would be created for use by the authorized system administrator. During this phase, DFD's, wireframes and mock-up designs are created so that the team has a better understanding of the application to be constructed and has a better UI and user experience for the end users.

Development Phase. It contains the coding phase as well as the whole application and system development process. This is the stage at which the design is generated or has its output. It is included in the project's goal and the end user's requirements for a more meaningful and improved web-based system for job employment. It is the most time-consuming phase of application development, with the goal of producing a functional application that is adapted to the requirements of the application.

Testing Phase. This section is enabled once the system has completed its development phase. The system would undergo various testing phases, ensuring everything is working correctly and the program is in its best possible state. As a

result, the researchers can publish updates for the most recent version of the system that are all geared toward meeting user needs. It is not a separate phase because it is an integrated process for system development.

Deployment Phase. During this phase of the project, two tasks would be deployed: one for the system administrator and one for the end-users, namely job seekers and employers. To have a modernized way of job employment in Calabarzon Region IV-A, the system administrator, job seeker, and the employer would be using a web-based system. There are many factors to consider to be able to achieve successful deployment of an agile methodology. As aforementioned, agile requires iterations to achieve the best possible version. This phase allows for greater design flexibility and transparency. It would be available for use and access by end users as soon as the testing phase is completed.

Reviewing Phase. The review phase is a list of tasks finished during the project and is included in the review phase. The end users can communicate openly with the application's development team during this phase. The team ought to be prepared with an immediate repair in case of mistakes.

HTML. According to Slamet, Andrian et al., (2018), Data analysis is the process of automatically collecting data and information from the internet, most typically on website pages utilizing markup languages such as HTML or XHTML, and analyzing the data for specific purposes, requirements and goals. This is the basis and foundation of the web-based system that the programmer would design in

order to organize all of the pieces required where transactions would be saved and documented.

CSS. Han Yi and Qiwen (2018) present a novel method for automatically producing a web page with CSS-style information that is based on object recognition and attention processes. To broaden the scope of the original problem, we use object detection, which allows the model to recognize the CSS style contents on the web page. CSS is used to style an HTML document by specifying all of the components that the designer have defined for how it would be shown and presented when it is executed. This would be utilized to create the output of the system that would be built.

PHP. Because of the rising need for web development, there is a strong demand for efficiency, dependability, maintainability, and scalability, which is why a PHP framework is an essential component of the web development toolbox. PHP frameworks are designed to help with software development and are becoming increasingly popular in web-based projects since they speed up the development process and minimize time, assisting in meeting coding standards. Majida, Laaziri, et al., (2019)

jQuery. Su, Yawen, et al. (2021) create a web-based multimedia teaching equipment management system based on artificial intelligence and jQuery that enables centralized control and management of a wide range of multimedia teaching equipment. A typical JavaScript program necessitates the execution of several lines of code. In comparison, jQuery's JavaScript library simplifies development.

Bootstrap. Bootstrap is a popular HTML, CSS, and JavaScript framework for creating a mobile-friendly and responsive website. Bootstrap is the most popular HTML, CSS, and JavaScript framework for creating a mobile-friendly and responsive website. Furthermore, Bootstrap is constantly being updated, and the Creators have done an excellent job of releasing content on time updates. The Bootstrap framework enables quick and responsive development and continuous and well-supported development by the design and development community. Gaikwad, Shahu and Adkar (2019).

Hostinger Hosting. As distinguishing advantages, Hostinger's ultra-affordable domain registrations, intuitive first-rate hosting account control panel, and comprehensive but simple email capabilities are highlighted, making consumers' online experiences fast, intuitive, and seamless. Tamosiune (2021) knowledgeable resources, such as easily available and comprehensive how-to tutorials, 24/7 worldwide live chat support, and an online ticketing system, have been identified as valuable and helpful additions to take advantage of and improve at no extra cost.

JavaScript. JavaScript is dynamically typed, it lacks the type safety of statically typed languages, resulting in poor IDE support, difficult-to-understand APIs, and unexpected runtime behavior, according to Pradel (2019). Several progressive type systems have been presented, including Flow and TypeScript, however, they rely on programmer to annotate code with types.

Java. Rodriguez-Pietro et.al (2020) Although source code programs are typically expressed as text, they contain syntactic and semantic information that is typically represented as graphs. This data is utilized for a variety of applications, including static program analysis, sophisticated code search, coding guideline verification, software metrics computation, and semantic and syntactic information extraction to develop predictive models. Most existing systems that provide these types of services are created ad hoc for the specific purpose for which they are intended. As a result, they invented ProgQuery, a platform that allows users to write declarative Java program analysis utilizing graph representations.

We alter the Java compiler to generate and store seven syntactic and semantic representations in a Neo4j graph database. Such representations are layered, which means that the syntactic and semantic nodes of the various networks are interconnected to allow the queries and analyses to combine multiple types of information. ProgQuery is evaluated and compared to analogous systems. In terms of analysis time, their platform surpasses the other systems and scales better to program sizes and analysis complexity. Furthermore, the coded queries demonstrate that ProgQuery is more expressive than the other alternatives. The additional information kept by ProgQuery increases database size and insertion time, although these increases are much less than the advantages in query and analysis performance attained.

Notepad ++. It is an open-source text and source code editor that is free to use. It supports over 80 programming languages and offers syntax highlighting, code folding, and a tabbed editing interface for working with multiple files.

Sublime Text. According to Treude (2019), it has been hypothesized that material from Stack Overflow conversations discussing compiler faults can be automatically collected and packed to provide programmers with superior compiler error messages, saving programmers time and energy. Method: They provide Pycee, a plugin linked with the popular Sublime Text IDE that provides better compiler error messages for Python.

API. API stands for "Application Programming Interface," and it is simply a set of rules that control how two machines communicate with one other. Cloud applications connecting to servers, servers pinging one another, and apps interacting with an operating system are examples of API-based interactions. When a person uses an app on their phone or computer, or logs into social media sites like Twitter or Facebook, they are engaging with a variety of APIs. Johannes et al. (2022). Almost all companies that employ advanced innovation and technology to access data or connect to a database use APIs to some extent.

Zegocloud. ZEGOCLOUD, created in 2015, is a global leader in cloud communication services, enabling companies and designer to access real-time audio and video communication capabilities fast and easily by integrating a single SDK. They provide solutions for a wide range of applications, such as live streaming, live audio rooms, online education, metaverse, avatar, and telemedicine. ZEGOCLOUD

guarantees high-quality audio/video pre-processing, network flexibility, and cross-platform interoperability. Using the core strength of cloud services, they constructed MSDN (Large Software-Defined Network), a vast and orderly self-learning data network. With an average daily usage of 3 billion minutes, our service can cover hundreds of interactive audio and video scenarios all around the world.

Filezilla. According to Diangxiang (2018), threat models are constructed to give full coverage of potential security attacks on an FTP server. Following that, the threat models are used to create security tests, which are then applied to FileZilla Server, a popular FTP server implementation. FileZilla Server can withstand our security assaults when correctly configured. The security tests are used to put a number of FileZilla Server security variants to the test, where numerous weaknesses are purposely implanted, to better examine the effectiveness.

Github. GitHub, which is built on Git's version control technology, facilitates collaboration. It provides an easy way to share your projects with colleagues and the rest of the world online. Researchers can utilize GitHub to identify, develop, and publish analytic scripts and research software. These can then be used and adapted by other programmer and researchers. GitHub is an online platform for developing, managing, and publishing code, software, and other materials. This platform is quickly gaining traction in the research and education communities.

Adobe Photoshop. It helps users to develop designs using website layout; it is always a better choice to create a website mock-up in Photoshop before diving into coding. This is because once having the design you want to employ right in

front of you, the coding would be much easier. Photoshop makes it simple to move or modify items.

Visual Studio Code. Is characterized as "a free editor that helps programmers write code, debug code, and correct code using the intel-sense method." In layman's terms, it makes it easy for people to write code. Although many believe that it is just partially an editor and an IDE, the final decision is up to the coders. Background code is required for the operation of any program or piece of software that we can see or utilize. Coding used to be done in traditional editors or even simple editors like notepad. These editors had previously provided some little support to the coders.

Xampp. XAMPP stands for Cross-Platform, Apache, MySQL, PHP, and Perl, with the Ps representing PHP and Perl, respectively. It investigates the different beneficial resources and methodologies employed in site development. In addition, they present the following method, which is heavily reliant on a neighboring host called Xampp Stage. Following that, they take a look at various web application development frameworks. It also works on the life cycle model and the development of online applications. This post is widely regarded as the product of various study papers for customers to investigate the problems they are facing.

NetBeans IDE. One of the difficulties in image processing is figuring out how to create and design an automatic face recognition application using JavaFX technology. JavaFX is a Java toolkit used to create rich internet applications (RIA) that may operate on a variety of platforms, including desktops, mobile devices,

televisions, and tablets. The model-view-controller concept is used in the design and implementation of this application, which is built with the framework Scene Builder and the Netbeans IDE. Netbeans IDE is an integrated development environment for editing FXML documents and managing the view-controller relationship. The processes of constructing a JavaFX Face Detection application in this research begin with needs identification, followed by design of UI components in Scene Graph, integration of scene builder panels, and finally controller creation.

Related Studies

Various related ideas, concepts, and technologies were used in the system to make this study successful. The related studies were gathered to serve as the technical guide for the developing system.

A study by Sagapsapan, John D. (2018) entitled "Development of Online Jobs Publication System" sought to create an online job posting system that allows companies and job seekers to post job-related information and qualifications. Employers can post job openings in their respective industries online for job seekers to view and apply for a job. Applicants may also include their educational credentials and work experience. It was also intended to evaluate the software's quality assurance in terms of job seeker security, usability, functionality, and reliability. The researchers' utilized software development life cycle models as the project methodology, which seeks to produce top-to-bottom quality software that meets or exceeds client requirements, is completed on schedule, and is under budget. The results concluded that the online job posting system is a better alternative in

addressing the current needs of job seekers to post their educational qualifications and personal profiles on the internet, which can be viewed by recruitment agencies and or employers looking for the right and qualified job applicants, based on the findings of the study. The study mentioned above is similar to the study since the job seeker can upload their resume that includes their personal information and their educational credentials and work experience.

Geneta, Philip D., Raquel R. Atienza, John Dharyl C. Panopio and Kristofer Willy R. Pesigan (2019) stated that their study was created to provide access to open job positions in the Municipality of Rosario, Batangas' PESO. The PHP programming language was used to develop the system. It was developed with employment and career opportunities in mind. Simulate the traditional job application process, which involves paper and documentation, to shortlist candidates. Job searchers, businesses, and website operators may use the portal. As a result, the website can filter candidates, quickly identify qualified prospects, and post job openings for companies. The employment portal also offers many features that allow candidates to apply for jobs directly from the site's front end and search for related positions quickly.The related study has similarities with this study since the employer can scrutinize the prospect candidate based on their needs.

Job searching typically entails various methods, including personal contacts, direct phone calls to businesses, job agency offices, checking internet job postings, and so on. Jobseekers used to spend a lot of time looking for job openings before the Internet became extensively used as a job search technique. Today's job seekers

prefer to use online methods because they are more convenient and save time. A study entitled “Development of a Job Web Portal to Improve Education Quality" by Mansourvar, Marjan, and Norizan Binti Mohd Yasin (2014) aims to interact with the industry and serve as an online recruitment tool to assist students in finding suitable IT jobs after graduation. Furthermore, for university students, this technique improves their awareness of the concept and value of the job portal. A survey was undertaken to discover the problems that students had with the faculty's existing portal and to collect their requirements, which could be incorporated into the new portal. According to the findings, most students are dissatisfied with the present faculty portal. When it comes to seeking work, the respondents said it's challenging to receive the information they need. In addition, there is a scarcity of knowledge and tools to assist them. Students seek a knowledge-sharing system to assist them in obtaining such information and making judgments.

According to Mindia, Piana Monsur, and Md Kazimul Hoque (2018), The growth of technology has a significant impact on how firms operate and how Bangladesh as a whole is developing. As a developing country with a goal of going digital in every sphere, our country has begun to incorporate technology into its daily operations. Prior to technological advances, businesses recruited personnel from a variety of sources. Newspapers are those sources, advertisements, campus recruiting, various employment agencies, etc. These are acknowledged as conventional sources for hiring. However, because of technology advancements, a lot more sources have been added to this list in addition to those already mentioned.

The term "e-recruitment" refers to the addition of various job-related websites, internet recruiting, email, social media, etc. to traditional recruitment. A method of choosing a company's human resource through technology means is called e-recruitment. According to the technological acceptance model, there has been a striking growth in the usage of online job search resources. Because it saves time and effort and can guarantee that the right individual is hired for a given post, it is regarded as effective. Therefore, the primary goal of our study is to determine how the internet and e-recruitment are influencing the hiring process in an organization.

Van Hooft, Edwin, John D. Kammeyer-Mueller, Connie R. Wanberg, Ruth Kanfer, and Gokce Basbug (2021) stated that job hunting is an important activity that people engage in at different stages. The researchers present a framework to organize the number of variables explored in the literature on job seeking and employment success based on their job search description as a goal-directed, motivated, and self-regulatory process. Job-search self-regulation and job-search quality were shown to be intriguing constructs for future research, as they predicted both quantitative employment success outcomes and employment quality. The researchers create a study plan based on the theoretical and quantitative synthesis findings.

According to Karaoglu, Gökçe, Eszter Hargittai, and Minh Hao Nguyen (2021), hiring processes are rapidly moving online, and having superior digital skills could be critical to landing a job. However, digital inequality implies that people

use the Internet in various ways and with differing degrees of skill, raising concerns about who is more likely to be able to find work online, especially on social media. Thus, the article investigates online job searching and the significance of digital job-search skills. The findings demonstrate that digital job-search skills are substantially linked to job-searching using the Internet and social media. By taking into account digital job-search skills, this study adds significantly to the digital inequality literature and research on online job hunting. It also emphasizes the existence of digital inequities in online job searching, such as discrepancies in social media experiences.

According to Prakash & Nair (2019) fresher job seekers find job portal sites user-friendly. An unfamiliar person with job portals would discover it is simple to use. According to recent graduates, job portals are the most convenient mode of employment after uploading a resume and filling out the necessary information on the portal. From the portal, the candidate receives updates on various job opportunities. It has also been observed that job seekers frequently use job portals. The researchers can also identify a problem with using job portal sites: job seekers often receive spam emails.

As eloquently stated by Kopuri, Keethana, Gulam Mujtaba Hussain Aqueel, Azbar Sadiqa Jabeen, and TK Shaik Shavali (2017) in their study entitled "An Online Job Portal Management System", today's job market is so vast that many industries and businesses are looking for qualified workers while prospective

employees are looking for possibilities to advance their careers. This project was primarily created to address some of the previous system's issues. The critical problem was the needless time in generating the essential data by taking all irrelevant fields into account. The researchers plan to create a system that allows employers and applicants to connect, facilitate communication between interested parties, and promptly complete the recruitment process. This application was developed using Hypertext preprocessor (PHP), AJAX, and JQUERY for backend web development.

According to Sultana & Sivasankari (2018), their study is India's preference to use Web-based technology, equivalent to online recruitment. MNCs are using the internet to catch the youth's interest in the current situation. Consequently, they must endure multiple crucial circumstances once the nominee is chosen. As a consequence, they must take it once the nominee is picked. Some are relocated and transported to another site based on experience in different critical instances. E-recruitment advances by reaching its goal through its activities and cultural change. MNCs favor online recruiting via social media because it resembles many individuals at once as the days get shorter and shorter. It is easier to attract and work with applicants from a bigger pool using the selected profiles. Using technology and web-based sources for sourcing, screening, and cross-examination filtering reduces costs and workload while choosing the best candidate. This selection method attracts more passive job searchers and improves the preference of a business.

As eloquently stated by Pavani, Mani Pujitha, P. Veda Vaishnavi, Neha K, and Sai Sahithi (2022) that the major objectives of their research project are job search portals and proper portal logins. The importance of placements is rising, and many people's lives depend on them. An employment portal can be used by recruiters and job searchers to locate the best business for their needs. When it comes to activity seekers, their tastes and educational backgrounds are taken into account. Activity portals show a list of employers for job seekers, while recruiters may find the best candidates from a database of thousands of potential employees. The use of an internet platform for job advertising and attracting quality applicants has changed over time when it comes to recruiting human resources. The recruitment procedure would be managed by the company's recruitment department as a result of this application acting as a platform. To separate the applications and extract a set of skills that are used in the system's classification process, section-based segmentation is used.

As studied by Sakthy S. Susila, Adiline G. Macriga, Jasmine J. Aruna, Vijay V. Babu and Mohammed N. Sayhanuddin (2021) many students today are struggling to find work. This occurs because they lack the necessary qualifications and may not have received the right training to land a job. With that, their study aim is to maintain user and company information and offer the user the aid they require by automating traditional training and job placement tasks. The current method is that there are distinct websites for skill development and job applications. But they

also include a lot of other features. The suggested remedy is the two modules on their website. Development of skills and employment. Every user has a distinct login in the skill development modules. Users must change both their profile picture and their resume's data. Users would receive top courses and study resources based on their department.

Studied by Lawani Uyi (2019), Both employers and job seekers now frequently use the internet in the recruitment process. Prior to this time, businesses relied on conventional hiring practices. Organizations currently aim to strike a balance between using computerized hiring tools and various other traditional methods for recruitment, but they vary in the degree to which they do so. While some are found at either end of the spectrum, others that fall somewhere in the middle have adopted hybrid forms that mix the two approaches in varied ratios. The results show that the application approach affects information accessibility and usability.

The manual enables job seekers to customize their employment search to meet their needs. It raises their level of understanding of the mission to the proper extent. The main advantages of using electronic employment platforms are that they are reasonably accessible and affordable. Candidates can freely post their CVs (Curriculum Vitae) and search for opportunities in all categories. However, other services, such resume building and visibility services, are required to improve the work profile. It was designed to give customers and end users a platform to take

advantage of amazing opportunities like Job to Talent, Talent to Job, and Similar Talent.

According to Soni, Mukesh S. Gomathi, and Pankaj Kumar (2020) their study starts with a succinct explanation of job portal upgrading, followed by a discussion of the tool's salient characteristics and the use of natural language processing. Job seekers can use these recommendations and system capabilities to track and manage precise search results. The talent search algorithm is enhanced for the newest, best match, location, and job title candidates. It enhances CV parsing, gets data in a meaningful way, and extracts data like skills, experience, education, social information, and certification if any using machine learning techniques and Natural Language Processing. It has both new and existing job skills (NLP). The Natural Language Processing Project's Career Creation Platform would keep an eye on the work in the industries that would help identify the best job seekers and applicants. Here is a detailed explanation of what NLTK does. The main objective of the online recruitment initiative is to maintain job records. The organization's recruiter is required to report job openings with all pertinent information, including technology, skills [6,] the date of the interview, and other pertinent information.

As studied by Yadav, Vijay, Ujjwal Gewali, Suman Khatri, Shree Ram Rauniyar, and Aman Shakya (2022) their paper suggests and emphasizes the value of an online job board system for colleges and how well it can connect students with employment prospects. Three agents are involved in the developed system: students,

businesses, and administrators/departments. This application aims to replace the traditional hiring process for university students and give each student an equal opportunity to find a position that suits them. This system's creation was inspired by actual environmental experience. This system is specifically targeted in the setting of Pulchowk Campus, one of Nepal's top engineering schools. The system is specifically designed for campuses and universities, and as a result, a third agent, or department, has been added and is able to monitor the students. By promptly alerting them whenever a new position is listed, the system ensures that every student has an equal opportunity to obtain an internship, part-time employment throughout their studies, or a full-time job once their studies are complete. The application seeks to displace the conventional employment procedure for college students and provide each student with an equal opportunity to locate a position that matches them.

As eloquently stated by Dhameliya Juhi and Nikita Desai (2019), they said that numerous approaches to recommendation systems have been put forth in order to enhance the functionality of the e-recruitment process. They give a survey of current recommendations in this study, and methods that have been employed to construct the customized systems that provide recruiters and job seekers with recommendations. As compared to recommendation systems in other domains, they also discovered the difficulties in developing a system for hiring employees. They have observed that Recommender Systems (RSs) are the most recent technology to address the issue of information overload for the work of job recruitment. They have

discovered that JRSs differ from other types of generic RSs in that they can also offer job candidates to recruiters. They also looked at the many problems with the various JRS building methods. It was found that using the CBF approach can solve the problems with the CF-based strategy, and vice versa. Because they need to acquire knowledge, KB RSs are less successful. A further finding was that to construct such systems, there is no benchmark standard dataset available. They have also examined various evaluation frameworks that could be applied to the system's evaluation.

Traditional employment practices are losing effectiveness as internet hiring expands at an increasing rate. This is due to the massive amounts of unstructured resumes – in various styles and forms – that job portals receive from candidates with multiple specializations and areas of expertise Zaroor, Abeer, Mohammed Maree, and Muath Sabha (2017). To effectively route candidates to their relevant occupational categories, it is necessary to extract structured information from application resumes in addition to supporting the automatic screening of candidates. This helps reduce businesses' time and effort to manage and organize resumes and weed out unqualified applicants. In this study, the researchers introduce JRC, a system for classifying job postings and resumes that uses an integrated knowledge base to complete the classification assignment. JRC matches resumes that only fall under their relevant occupational categories, as opposed to traditional systems that try to search worldwide across the entire universe of resumes and job postings. They

ran several experiments with a real-world recruitment dataset to show the viability of the suggested system. The researchers also assessed the system's efficiency and effectiveness compared to cutting-edge online recruitment techniques.

According to Angela, Obayi Adaora, Gregory Anichebe, Uzo Izuchukwu Uchenna, Ezema Modesta, Nnaemeka Ogbene, I. U. Michael, and A. J. Chukwunweike (2020), The procedure is inspired by e-recruitment in order to become more innovative, powerful, economical, and effective. To keep the process going, we want to increase interest significantly from where it is now. Prior to now, there were several previous systems that used conventional techniques, such as job agencies and placing advertisements in the media. This method was comparatively highly stressful and slow. Based on their prior work, they have created a revised ERS in this project to hire candidates by accepting online applications, conducting tests and interviews using the expert systems knowledge base, and selecting candidates once they have passed the test till eventually employed. The system responds to applicant requests and details the recruitment process from beginning to end, at which point the job applicant is referred to as a successful employee. Their design included a waterfall model. In this paradigm, each stage is virtually finished before the following stage can begin, preventing phase overlap.

According to Meyliana, Henry Antonius Eka Widjaja, Bruno Sablan, Karina Lia Meirita Ulo, Kongkiti Phusavat, and Achmad Nizar Hidayanto (2017), one of the problems colleges need to address that prevents university graduates from

assimilating into the labor market is a difference in quality between industry sector needs and university graduates. One of the tools that can be utilized to link graduates with businesses is an integrated career site. This website may help enterprises to find qualified candidates among university graduates. This job portal would be built using the agile methodology. A questionnaire was given to alums and businesses to learn more about what the portal's visitors wanted. Users can apply this study's results to creating a career site that integrates social media with business procedures. Based on the factors mentioned above, it is necessary to create a career portal that is connected with all of the alums' activities from their time in college. This platform should help to increase the hiring of recent graduates. It is creating a feature in the career portal that would enable the reading of alums' academic records, portfolios, and soft skill data from the learning system's database.

As studied by Anaeke Favour (2018), The design and implementation of the Job Recruitment System are the focus of the project. The process of screening and choosing a qualified candidate for a job is referred to as recruitment. The current method of hiring new employees was thoroughly examined. An online job recruitment solution is suggested as a remedy for inherent issues in existing ones. By advertising a position over a large geographic area, recruiting and job search engines are used to gather as many candidates as feasible. It has also looked at the connection between job seekers' perceptions and intentions to pursue positions and recruitment sources. Their project involves the development of a job recruitment

application that can be used to post job openings, review applications, shortlist candidates, invite those individuals to interviews, and email appointment letters to those who are hired. Agile software development was embraced by the system because it encourages planning, evolutionary development, early delivery, and ongoing improvement. The primary objective of the research was to create a system that would make it easier for residents in Calabarzon Region IV-A to find jobs and services. The system allows you to filter job ads and get them vetted and approved. However, the "TrabaFinder" was only accessible to Calabarzon Region IV-A people who live there, and any employment that was supplied to them was only situated within Calabarzon Region IV-A. The system meets the specifications, and all functions are operational. The system's ability to adapt to changes, particularly in requirements and surroundings.

In studies of Aljuaid Abdulrahman and Maysam F. Abbod (2020) Registration on a job site is the first step in searching for a job online. Web and almost every job seeker does that. Still, there's a twist: a tiny percentage of candidates receive more and quicker responses and job offers, while the majority are reduced to a single record in the portal's database. In this quest, they attempt to fill the gap between the Recruiter and the Job Seeker. This is done by considering the data supplied by both the Job Seeker and the Recruiter and applying various filters to cater to each person's particular needs and preferences. It is possible to create a web portal using the current WISDM procedure. The automatic mailing

system, which informs all parties of their status in the Job Portal and provides information about the department and company to which they have applied as well as the caliber of their application and the company to which they have applied, is a crucial component of the project. Our system, TrabaFinder, will allow job seekers to obtain some information about the companies that post in our system, and all vital information will be posted on the company's page in the system. Also, how will they contact or submit their resume to that company

As eloquently stated by Twyman Nathan, Steven Pentland and Lee Spitzley (2020) the study said that Information System (IS) research is attempting to provide human behavior analytics to more decision-makers in more settings. To address these inefficiencies, they present and test SIGHT, a theoretical class of devices that allows for more robust signal evaluation during the process of a job application. A mock-interview paradigm was used to evaluate a prototype implementation of the SIGHT framework. The results show that SIGHT systems can elicit and collect qualification signals that go beyond what can be gathered from a standard application, and that SIGHT systems can assess signals more effectively than unaided decision-making. SIGHT principles may be extended to audit and security interviews. Applying for jobs frequently entails completing online applications from any location. Many walk-in application processes begin with a kiosk-based application. Organizations receive applications, do evaluations, and sometimes even conduct interviews using web-based electronic human resource management

(eHRM) platforms. Despite the expanded size of the population, the interview portion of the procedure has mainly remained expensive and time demanding and is still employed primarily for a select few applicants. The continued use of interviews implies that the value of the signals collected through interviewing exceeds the costs incurred, however, this value is only obtained for a tiny percentage of applicants. They said that an automated interview conducted as part of the application stage could allow for the early and effective collection of more and more reliable signals while also lowering the cost of performing in-person interviews. The additional signals collected during the procedure could be used in automatic and manual application assessments, lowering the likelihood of adverse selection at this stage. TrabaFinder: A Web-Based Online Job System, on the other hand, suggested an online job interview that includes a functional component for an online interview. It would enable the company to interact with the job seekers after they have passed the initial screening via their résumé. Online interviews allow businesses to thoroughly examine new workers while they remain at home, lowering the overall cost and time required for the hiring process.

Businesses and corporations utilize business intelligence and analytics as data management strategies to collect historical and current data, analyze raw data using statistics and software, and deliver insights for future decision-making. To survive and grow one's business in the current economic climate, one must be analytical and look for the most straightforward solution or innovative business

strategy. According to Tasnim, Zarrin, F. M. Javed Mehedi Shamrat, Shaikh Muhammad Allayear, Khobayeb Ahmed, and Naimul Islam Nobel (2021) and Dadzie (2018) indicated in their paper in their module consists of three phases: the Clusters similar kind of job search phase, which generates a visual graph showing clusters of related job types that job seekers have searched for on the website of the job portal; the Email notifications send phase, which is in charge of sending emails to job seekers when a job circular is posted on the website; and the Extract the circular job phase, which is a method of determining the demand. The outcome demonstrates the effective grouping of related job searches, sending of email notifications to particular individuals, and information extraction from the web. their study aims to create a web-based system for users to remove or reduce manual labor in the job search process and save money and time when posting job openings. It allows job searchers to register online, search for jobs, and apply for them and recruiters to register online, post job openings, and find qualified individuals It would not be difficult to determine the overall number of applicants and the number of employers who listed job openings on TrabaFinder. We have a statistics report that will provide a visual representation of the accurate and efficient numbers of people who log in, such as employers, job seekers, and job offers. This tool allows the administrator to gain better knowledge of the collected data through visualization, allowing them to gain insights into which job offers have the most job applications.

As mentioned by Assia (2020) and Dhameliya Juhi and Nikita Desai (2019) stated that online recruiting platforms have become a significant avenue for hiring people in most businesses over the past 20 years. These portals reduce the cost of advertising, but they struggle with information overload. Most classic information retrieval methods used by job portals, such as Boolean search strategies, use straightforward word-matching algorithms. Recommender systems have been successful recently in e-commerce applications. the e-recruitment phenomena have grown significantly, resulting in a surge in job descriptions online and a significant increase in the number of job seekers sending their resumes in quest of new chances. This massive amount of information makes it tough to find the right job/candidate. The recommender system technology is intended to assist users in locating goods that match their interests. As a result, numerous ways for improving the e-recruitment process have been suggested. Numerous approaches to recommendation systems have been put forth to enhance the functionality of the e-recruitment process. In this work, they survey the current recommendation methodologies used to develop tailored recommendation systems for both recruiters and job searchers. As compared to recommendation systems in other domains, we have also discovered the difficulties in developing a plan for hiring employees. The purpose of this article is to create an online platform that will solve the problem of the recruiting process, such as TrabaFinder: A Web-Based Online Job System. This platform will assist both job seekers and businesses by making it easier for them to find work. It is advantageous for applicants who have a user profile that highlights

their qualities and capabilities to be prioritized for open employment. The secondary goal of the system was to inform everyone that there was a possibility for them to earn money.

Nowadays, searching the internet for job applications is a common step in the job search process. Efficiency and motivation issues arise as the number of job search websites rises. People have the chance to market themselves to employers by using services like LinkedIn, Glassdoor, indeed, Hired.com, and many others. Each website requests that the job seeker submit documents, make a professional profile, and, in some cases, take online tests and provide verification of honors and accolades. In the studies of Nathan Dao Luu and Dharak Vasavda (2020), Nikumbe et al. (2022) and Laumer Sven, Fabian Gubler, Christian Maier and Tim Weitzel (2018) and Hashiyana, Valerianus, Martin Mabeifam Ujakpa, Nalina Suresh, Kasani Theodora Mukaya and Beezi Mukupi (2021) claimed that Data from various job-hunting websites are combined into one search engine by Job Finder. As of right now, Job Finder serves as a Proof of Concept for the ability to combine various job-search websites into one for convenience. A fully-functional tool enabling users to quickly view and apply to jobs from a variety of job services is what you can anticipate seeing. Customers looking for work can conveniently browse through a database of all available positions using Job Finder. Stated, in finding the ideal candidate for a position requires a lot of work, therefore the hiring process takes a long time. The employment site typically posts job adverts for open positions that

are accessible there from a variety of sources. The majority of employment portals have their own methods for choosing candidates. Recruitment responsibilities grow when applicant filtering is done improperly. Our system will aid job seekers in finding jobs and employees in finding people who will meet their company's demands. It will provide them with a report of a list of candidates, inform them whether the applicants were hired or not, and provide them with an easy way to approve or reject the job postings. Employers could use the system to reject or accept applications. Employers could also assess employees based on the level of service they received.

Conceptual Framework

The Conceptual Framework showed the identified inputs of different roles that provided evidence of the effective design of the system. This diagram depicts Trabafinder's three end users: Job, Seeker, and Administrator. The relevant input was highlighted in Figure 2.

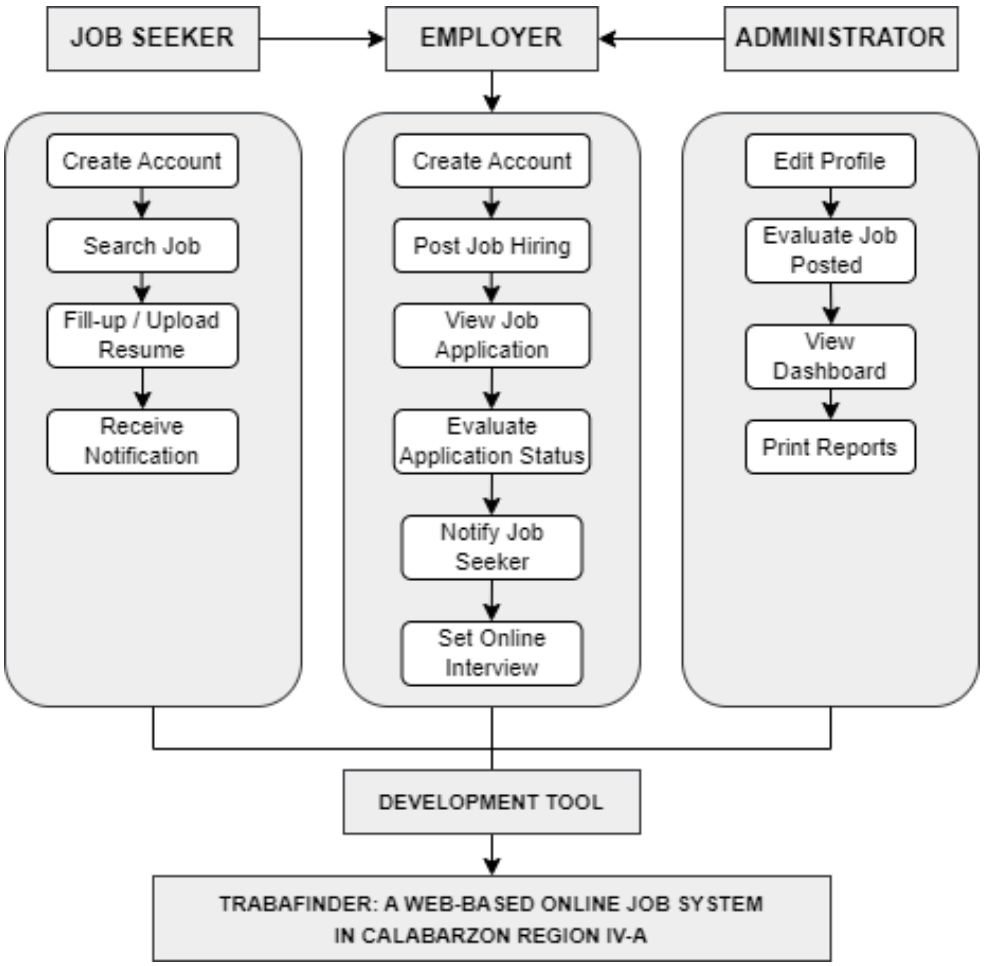

Figure 2. Conceptual Framework

Figure 2 depicts the study's conceptual framework, which demonstrates how the system functions on a multidimensional basis based on operational experience. The framework indicates that the systems should be connected in some way. It illustrates how the dependent and interdependent variables interact. The system operates by each function of the job seeker, the employer, and the administrator. To elaborate, first is on the job seeker side, one must first register an account in order to access the system, following which they may search for a job. Next is that they may upload or fill up their résumé. The job seeker would be notified through email

about the job updates. Next is employers, like job seekers, they must first create an account, which after that they can post job openings from their company. Then employers can view job applicants' applications and decide whether or not to hire them. After evaluating the job seeker's job status, the employer would notify the job seeker thru email and they must schedule an online interview for the final stage of the employment process. Lastly, for the administrator who is in charge of system maintenance. They already have an account and can edit their profile. One of their duties is to ensure that the employment information is accurate and legal. Administrators would decide and evaluate whether or not the employers' job postings should be accepted. Next is that they have a dashboard where they can see the visual report of users like employers and job seekers. At last, they would be able to print the reports for their important records or documents.

CHAPTER III

DESIGN AND METHODOLOGY

The project was developed by researchers using an Agile Development Methodology. This gives a guideline to follow as they create the system. The project's development is greatly influenced by the model's phases and development of the project.

Requirement Analysis

The project specifications are laid out in this phase to build the system. It contains every feature, diagram, restriction, and development tool the system might come across while it is still in development. The requirements for building the system, including the hardware, software, and interface details, are all included in the requirement analysis phase. These requirements must be considered to improve the program the researchers created.

Analysis of the Existing System

A job portal is a website that provides recruiters and job seekers with online information. The job portal presents a list of jobs that the recruiter is looking for based on their educational qualifications, experience, and preferences for job seekers. After conducting research usi. erature studies and the system, it was discovered that there are similarities between the existing system, which requires registration, provides personal information, and has the goal of assisting every worker in finding work. Even though the two approaches differ, the current study also offers suitable candidates from a pool of shortages to recruiters. This

application aims to build a system that allows employers and applicants to communicate with one another. The goal is to speed up the employment process by facilitating communication between interested parties.

Fish Bone Analysis

The researchers thoroughly examined and discussed the essential aspects and criteria needed to identify the needs of our targeted users. The fishbone diagram identifies several probable causes for an effect.

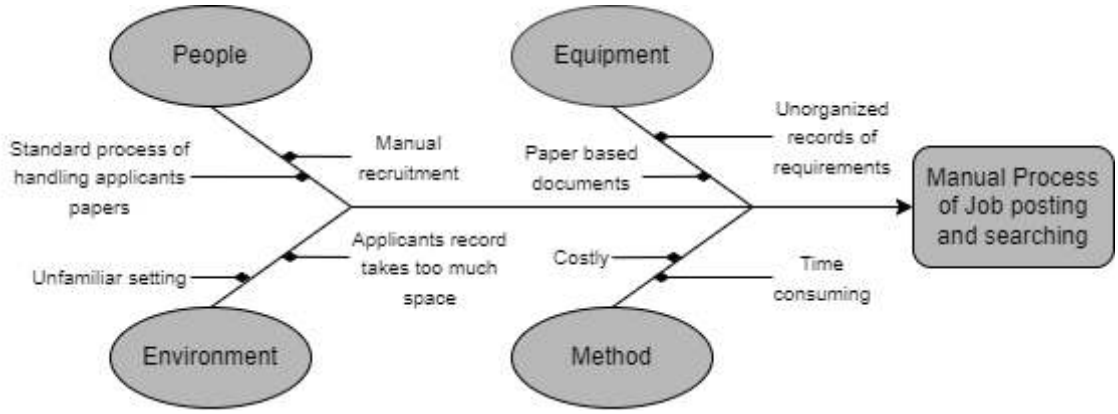

Figure 3. Fish Bone Analysis

Figure no. 3 Fishbone Analysis shows the cause of the identified problems in this study. The diagram reveals the possible causes of the manual job search and job posting process. The current system relies on a manual job hunting and posting procedure that would require too much time and effort. Upon looking for a job, the applicant must spend some finances on transportation and fare. Moreover, some employers/recruiters rely on paper records, which are vulnerable to damage, inaccuracies, and lack of security. Storage of files takes too much space due to disorganized documents and looking for specific documents may take your time.

System Boundary

The system boundary separates the system's actions and processes from its surroundings and the elements that influence or are influenced by the system. The general components of this web-based online job system are depicted in the diagram, together with the inputs, processes, and outputs that interact to complete the procedure.

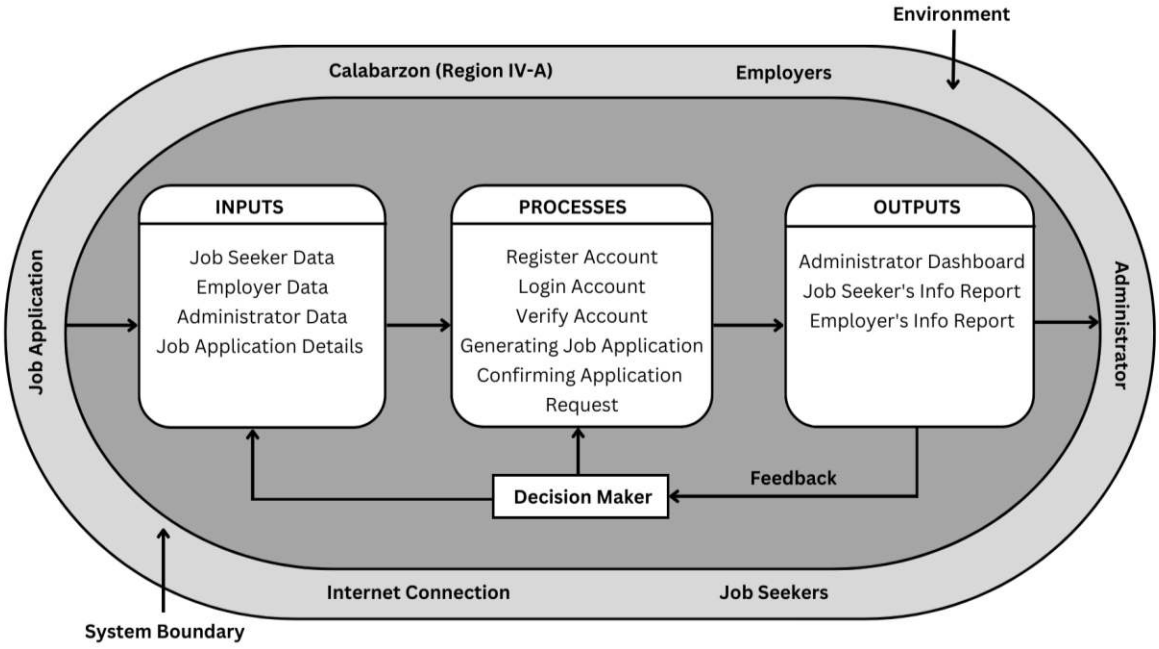

Figure 4. System Boundary

The above web-based job application, as shown in Figure 5, contains four inputs from all its end-users: jobseekers' data, employer data, and admin data from system administrators for the authentication of their accounts and access. As user input, the job application details are also required. These inputs would go through a number of processes, including registration, logging in and verifying accounts, generating job applications, and confirming job application requests from

employers. Also, as system output, the system administrator would be able to access the Admin Dashboard, which contains most of the data collected by the web application, including the number of user log data, job titles, and a list of registered employers and job seekers. Data reports for job seekers and employers also would be generated so that administrators could get a copy as needed.

The system boundary, which shows all stakeholders and components influenced by this solution, separated all system components and operations from their environment. The system mainly serves as a more advanced and innovative mode of job employment for job seekers and employers in Calabarzon (Region IV-A).

Hardware Requirements

The hardware specification covers the device's system needs for system access. The following tables list the minimum hardware requirements for all end-users, both internal and external:

Table 1.
System Implementation for Hardware Requirements

Name of Hardware	Minimum	Recommended
Processor	Intel Core i3 Processor	Intel Core i5 Processor
Hard Disk Drive	256 GB	500 GB
Random Access Memory	8GB	12GB

Table 1 display the lists of all the hardware required for the system to work properly on the server side, which will be managed by the system administrator of

the Trabafinder. Aforementioned requirements are necessary in order for the system administrator to have quick access and to oversee the system's operation.

Table 2.
Hardware Requirements for End-Users

Name of Hardware	Minimum	Recommended
Hard Disk Drive	120 GB	256 GB
Random Access Memory	4GB	8GB

Table 2 provides the hardware requirements for end users that are necessary for a web-based online job system to operate and work efficiently in accordance with the expected specification requirements, to maintain the application, and to ensure its performance. The above requirement is also designed to guarantee that all users get the best user experience when using the system.

Software Requirements

The different software requirements recommended for the system to work appropriately as well as the description of each requirement were shown in Table No. 3. The researchers used HTML, CSS, PHP, JavaScript, and jQuery Bootstrap as programming languages and MySQL and XAMPP as a platform for databases.

Table 3.
System Implementation of Software Requirements

Software	Specification	Description
Operating System	Windows OS (Minimum: Windows 8; Recommended: Windows 10)	Used for the server and computers
Programming Language	HTML, CSS, PHP, JavaScript, jQuery Bootstrap,	Used as Programming software tools
Database	MySQL, XAMPP	For data storage
Hosting Server	Hostinger	Used to access the website online

Table 3 includes different activities like creating, documenting, testing and error or bug fixing. Moreover, like in any activity, tools are needed to carry out these processes. The software system development tools that were used for the development are discussed, and the researchers also subscribed to a hosting server in order to facilitate live connections and provide users with a safe location to store data.

Table 4.
Software Requirements for End-Users

Software	Specification	Description
Operating System	Windows OS (Minimum: Windows 8; Recommended: Windows 10)	Used for the server and computers

Table 4 outlines the software requirements for end users, who must have an operating system with a minimum version of Windows 8 and a recommended version of Windows 10. This guarantees that the user can use the web system without experiencing any difficulties.

Network Requirements

Table 5 displays the minimum specifications needed to be used by the system's expected users. The network specifications define how end users and system implementations establish connections. It comprises the ways to connect to the servers and the application developed by the researchers.

Table 5.
Network Requirements

Network Component Name	Specification
Wi-Fi	Minimum: 5mbps, Recommended: 15mbps
Data	Up to 2.4GHz or 4G

This table displays the connectivity and network requirements for the developed application and system to operate to their full potential. Users can also use their Wi-Fi connectivity, of course. This ensures that users can access the web system online without having to wait for the website to load slowly and to prevent losing connection to the system while using it.

Functional Requirements

The user's requirements are listed below, and they cover the system's core functions and operations. This contains a variety of requirements and required inputs, as well as the actions and outputs that the system is capable of producing:

1. Job Seeker

1.1 The job seeker shall have access to the system

1.2 The job seeker shall have an account in the system

1.3 The job seeker shall be able to update their personal information.

1.4 The job seeker shall be able to fill up their resume.

1.5 The job seeker shall be able to view and search for jobs.

1.6 The job seeker shall be able to apply for a vacant job.

1.7 The job seeker shall receive a notification about job application updates.

1.8 The job seeker shall be able to access online interviews.

2. Admin

2.1 The admin shall have access to the system

2.2 The admin shall have an account in the system

2.3 The admin shall be able to update their personal information.

2.4 The admin shall be able to accept or decline the company's registration in order to post job vacancies from the employer.

2.5 The admin shall be able to set a schedule for online interviews.

2.6 The admin shall be able to view the dashboard, which contains the number of jobs offers, registered job seekers, and employers.

2.7 The admin shall be able to print reports from the dashboard.

2.8. The admin shall be able to download charts from reports.

3. Employer

3.1 The employer shall have access to the system.

3.2 The employer shall have an account in the system.

3.3 The employer shall be able to update their personal information.

3.4 The employer shall be able to post jobs.

3.5 The employer shall be able to view the job seekers resume and profile.

3.6 The employer must be able to approve or reject job seekers' job applications.

3.7 The employer shall be able to set online interviews for job applicants

3.8 The Employer shall be able to notify the job seekers about their application updates.

Non-Functional Requirements

The quality restrictions listed below are the criteria the system must fulfill and satisfy by its limitations and scope of operation. Specified below are the non-functional requirements that demonstrate how the system should work and be considered restraints on the system's behavior:

1. Security

The individual who has an account or authorized person must only have access to the job portal. Through the login form, the system would identify the valid users. A username and password would be the requirement to ensure the system's security.

2. Portability

The system works on different devices such as desktops, and laptops, and should be available in a browser for 24 hours except if the user does not have an internet connection. It runs on Windows 8 and higher Windows operating systems.

3. Accessibility

The system allows the user to create and register an account. The registered users were provided with all the available system functionalities. Anyone who wants to find a job and get hired is allowed to create an account with employers who are looking for job seekers or applicants.

4. Reliability

The system ensures that the same method and process in using the job portal are consistently achieved. The system should operate smoothly without failure for a specific time.

5. Accuracy

The data that would be entered into the system are calculated and used correctly by the system in order for the output to be correct like generating reports.

6. Usability

Users can operate the system and use it successfully. This discusses the factors that determine a system's ability to be understood, used, and learned by its intended users.

Trade-Offs

An important topic explored in the study's development was the consideration of trade-offs throughout the investigation. Various entities influence researchers' decisions about which software tools to choose because they offer different features. Both designs can be employed in the system's development. It allows researchers to work in a new environment and enhance their abilities to work under pressure.

Design

Table 6 shows the design and technological stacks that are accessible for web development and apps. The researchers considered various frameworks that could be used in the creation of the project**.**

Table 6.
Multiple Designs Design and Technology Stacks

Design	Specification
Design A	Notepad++ Sublime Text HTML CSS JavaScript PHP Bootstrap MySQL jQuery XAMPP Github
Design B	Adobe Photoshop Java NetBeans IDE

Table 6 shows the considered designs that the researchers studied and researched, which aided them in determining the best specification for the system to satisfy the needs of the system.

Design A has a lot more to offer in terms of system development. The researchers would utilize Figma to create an excellent graphical user interface, one of the Figma characteristics that allowed the researchers to see the whole picture of the system even while it was being designed. Various software tools used in the research, such as HTML or Hypertext Markup Language, serve as the skeletal framework in the web interface. The integration of CSS or Cascading Style Sheets makes the web more user-friendly and pleasant to the user's eyes. Because of JavaScript and jQuery, the study may also conduct good interaction and engagement with the user. Integrating the jQuery framework into JavaScript allows for faster coding and better collaboration of system users. Bootstrap is another framework that is utilized to ensure the system's visual appeal. The XAMPP and MySQL database to store data gathered in the system serves a valuable purpose in web applications. GitHub is an online platform for developing, managing, and publishing code, software, and other materials. This platform is quickly gaining traction in the research and education communities. For a long time, software programmer have used GitHub. Lastly, Sublime text and Notepad++ was picked as the text editor because it has a lot of plugins that help researchers code faster.

Design B provides limited software tools that may impact system development. Adobe Photoshop is an excellent platform for web design. It contains high-quality features and properties that allow any designer to express their creative juices to convey ideas in web design. Java is an excellent programming language that can also be utilized in web development. It enables researchers to create dynamic web pages that users may interact with. Finally, NetBeans IDE is a free open-source IDE that helps researchers quickly and easily create mobile and web applications.

Constraint and Multiple Design

This section discusses and analyzes various software tools in accordance with the developed system's specified requirements Constraints illustrate the limiting factors of the software that may have an impact on the researcher’s familiarity with the software used, potentially affecting development.

Constraints discuss the limiting factors of the developed system's technology. It identifies the benefits and drawbacks of various parties that may impact the system. Constraints elaborated on the other factors that were also considered in the various technologies.

Table 7.
Constraints

Factor	Design A	Design B
Cost	All of the software used is free to install.	All of the software used is free to install.
Security	It provides adequate security to the created system	It provides adequate protection, but the researchers familiarity would not ensure to the used software
Software for Development	Design A provides more and a good foundation in terms of Constructing systems such as web apps, which many users like to utilize.	Since Design B is limited to software tools, it also provides good establishment but not for web systems.
Memory	Design A provides good memory performance.	Design B is suitable for head projects but requires a lot of Memory.
Speed	PHP offers good speed in terms of boot up.	Java is a good platform; it can't guarantee the speed because it consumes a lot of low memory speed to boot up occurs

Table 7 showed the different constraints of the different targeted development tools elaborated and analyzed for system development based on the constraints of cost, security, and software for development, memory, and speed.

In this project, the cost constraints differ from different designs; all the development tools are free to use and can be readily accessed online.

For security constraints, the aim is to select an appropriate system because PHP can provide high security while also allowing for framework integration. The study's programming language provides multiple security aspects that PHP can provide for online applications.

For software development tools Design, Where the software provided to the table is valuable in creating the study, A has a lot more to offer. Researchers prefer it because design A, in terms of user interface design Figma was used as the design platform due to familiarity with the mentioned.

For memory constraints, the following software was installed and used as the development tools for research—measures taken by software and requirements imposed on the device. MySQL used the software because of its popularity and ease of use. It provides adequate security, speed, and replication assistance. For determined performance restrictions, PHP with a combination of MySQL would be integrated and deliver a faster speed for data processing and handling.

System Design and Architecture

The following diagram depicts the relationships between various entities based on their functionalities. This includes illustrations that show system operations that map out how the information would flow throughout the system and describe how entities interact with one another. Figure 6 graphically represents the different system processes that store and distribute the data between this system and its environment.

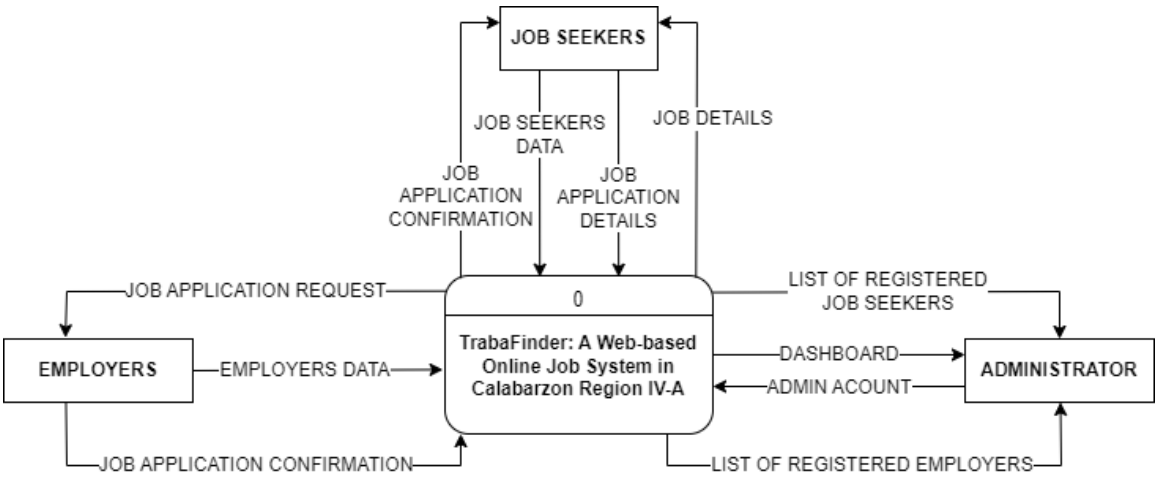

Figure 5. Context Diagram of TrabaFinder

The context diagram for this system includes three entities: job applicants, employers, and the system administrator. Individuals who want to look for employment in Calabarzon (Region-IV A) would submit inputs such as their resume and job application details, to which the system would respond with the employer's details and job application confirmation. Employers, on the other hand, must provide their information in order to be registered and identified, and the system would immediately send them a job application request completed by job seekers. After accepting, a job application confirmation email would be sent to the job seekers. At last, the system administrator would be using their login credentials, which are only available to authorized individuals, to give access to the dashboard, which includes the number of user log data, job titles, a list of registered job seekers and employers. Other major processes were described using data flow diagrams, or DFDs, as shown in Figure 5

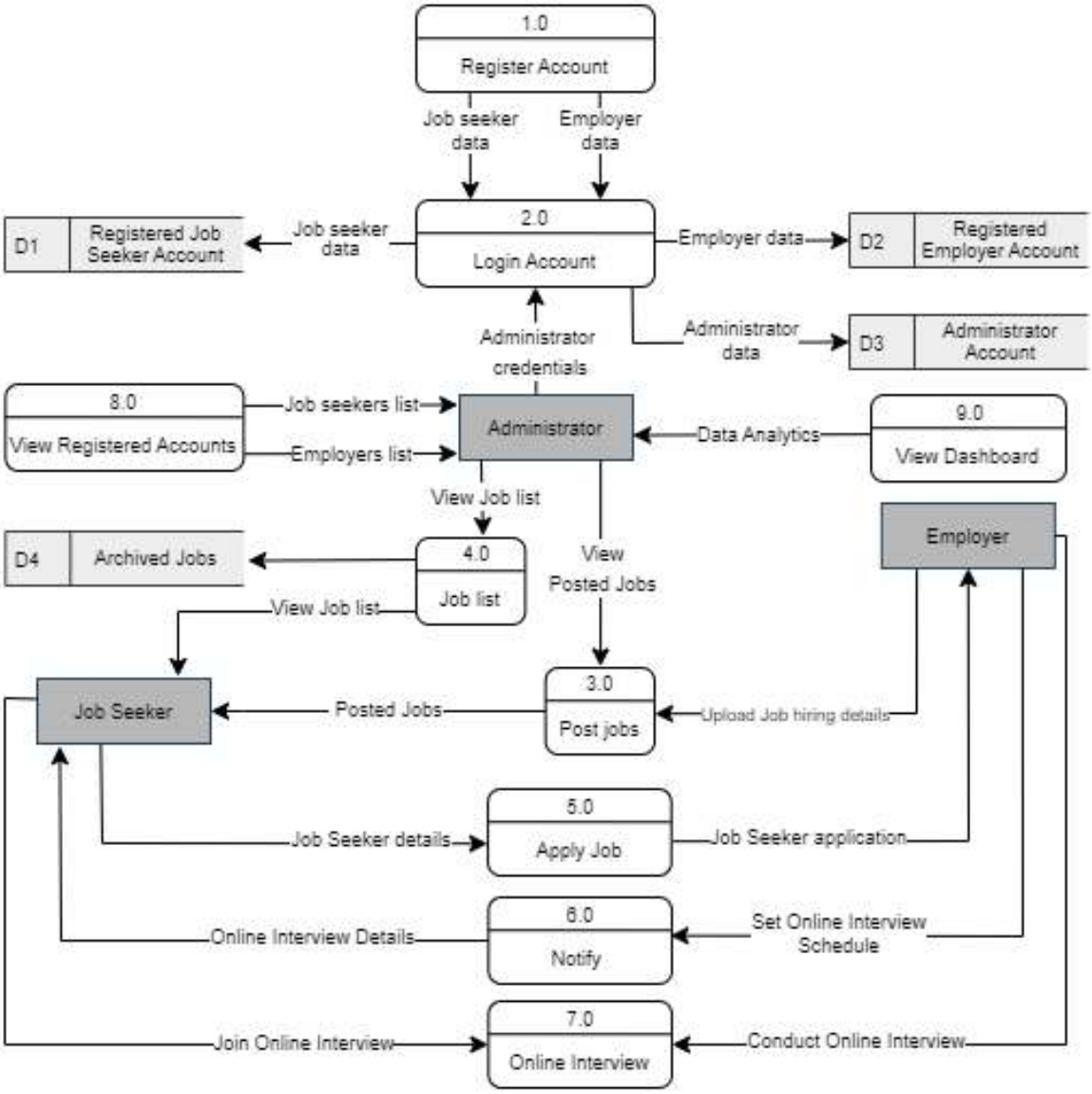

Figure 6. Level 0 Diagram of TrabaFinder

Figure 6 illustrates the Level 0 Diagram of TrabaFinder: A Web-based Online Job System in Calabarzon Region IV-A. For the admin side, it depicts the entire process and the more detailed actions the system can perform. It demonstrates how an administrator can log in, view the dashboard and employer modules, as well as the application profile. In Applicants, it illustrates how they can create an account, log in, and browse both the employers' and jobs' modules.

Lastly, employers can register, log in, and browse the modules for applicants' data and jobs. The whole procedure is shown, and the more complex operations the system is capable of.

Link Architecture

The connections between the system components that would work together to carry out the operations and activities of the entire system are represented by the link architecture of the system. According to the system's features and objectives, this diagram illustrates the processes and connection times of the actors and the activities they may take inside.

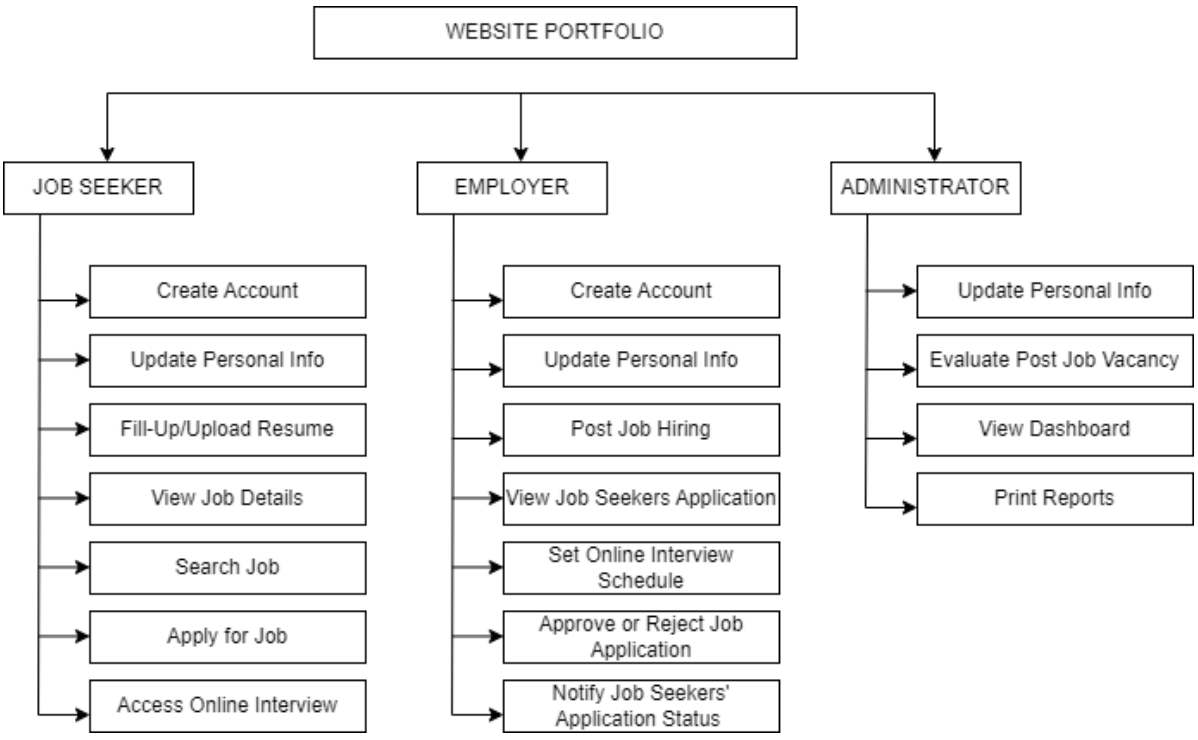

Figure 7. Link Architecture

Figure 8 shows the link architecture of the developed system where in (1) the Job Seeker could access the system first by creating an account. They can also

update their personal information and fill-up resume. Moreover, the job seeker can view and search for jobs they are interested in. Once they find one that suits their educational background and work experience, he/she may apply for that role, and may access an online interview after being approved. (2) Employers must have an account and need to be approved by the administrator before they can post a job vacancy. They can also access job seekers' applications whether they approve or reject them. Moreover, once the employer reviews jobseekers' credentials, they may set an online interview for them to ascertain whether an applicant's qualifications, background, and personality match the criteria for that specific position. Lastly, they can notify the job seekers application status. (3) The administrator can also update his/her personal information. They could also view a dashboard which contains the number of registered users, evaluate posted job applications and print reports from the dashboard.

Use Case Diagram

The use case diagram depicts the summary of the relationship between the developed system's actors, cases and functionalities. This visual representation also includes the possible user interactions with a system. The proper system execution order was shown or represented in this diagram.

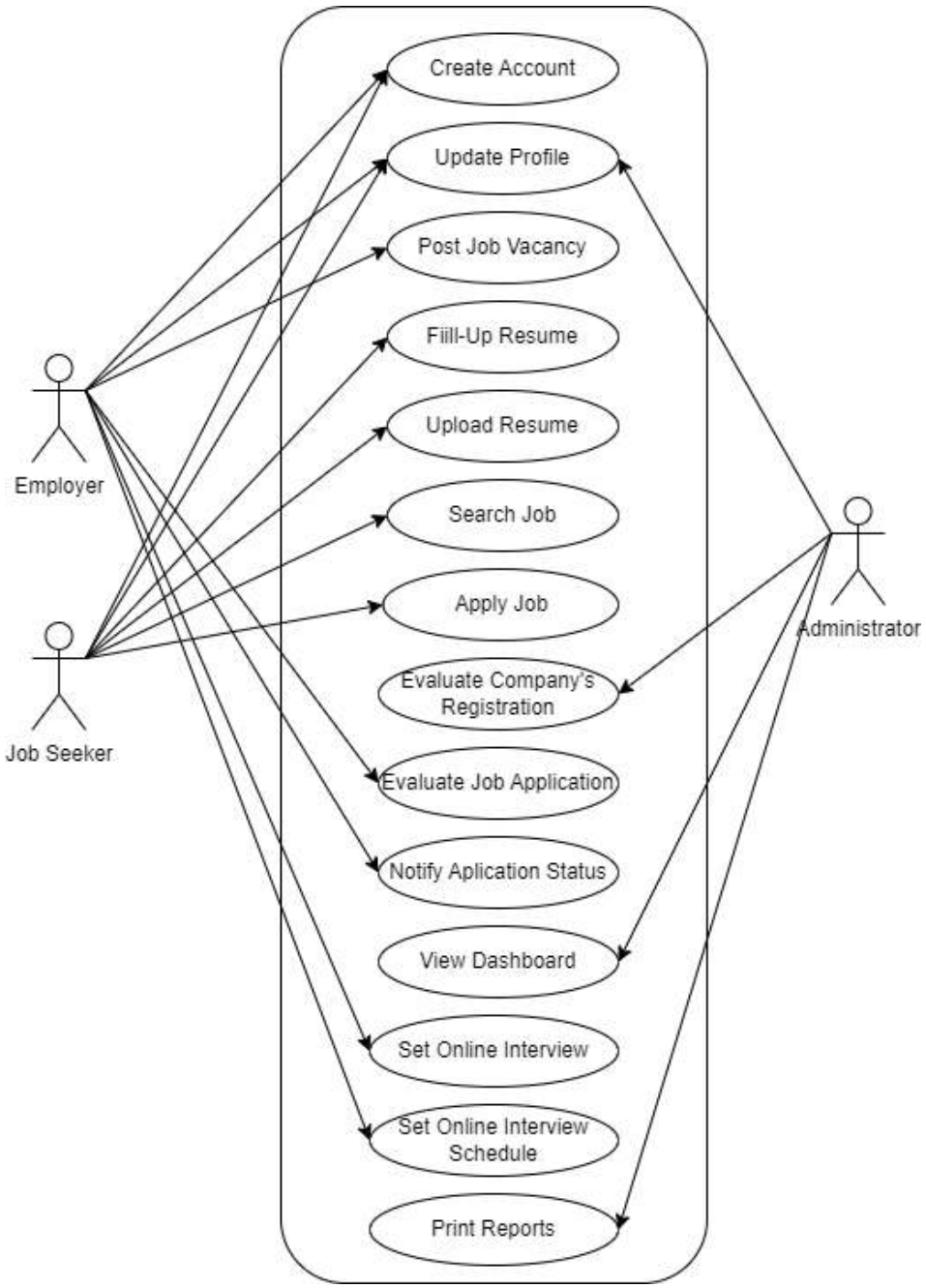

Figure 8. Use Case Diagram

The study's use case diagram is indicated in figure 8. It represents the positions of the system's administrator, job seekers, and employer. It also highlights how each user's role and duties affect how they communicate with the system.

Sequence Diagram

A sequence diagram explains how and in what order a set of entities interact with one another. The researchers used this diagram to understand the requirements and procedure for how this booking application would work. It also illustrates the system's process flow based on user level and responsibilities. The UML Sequence Diagram is shown in figure 9.

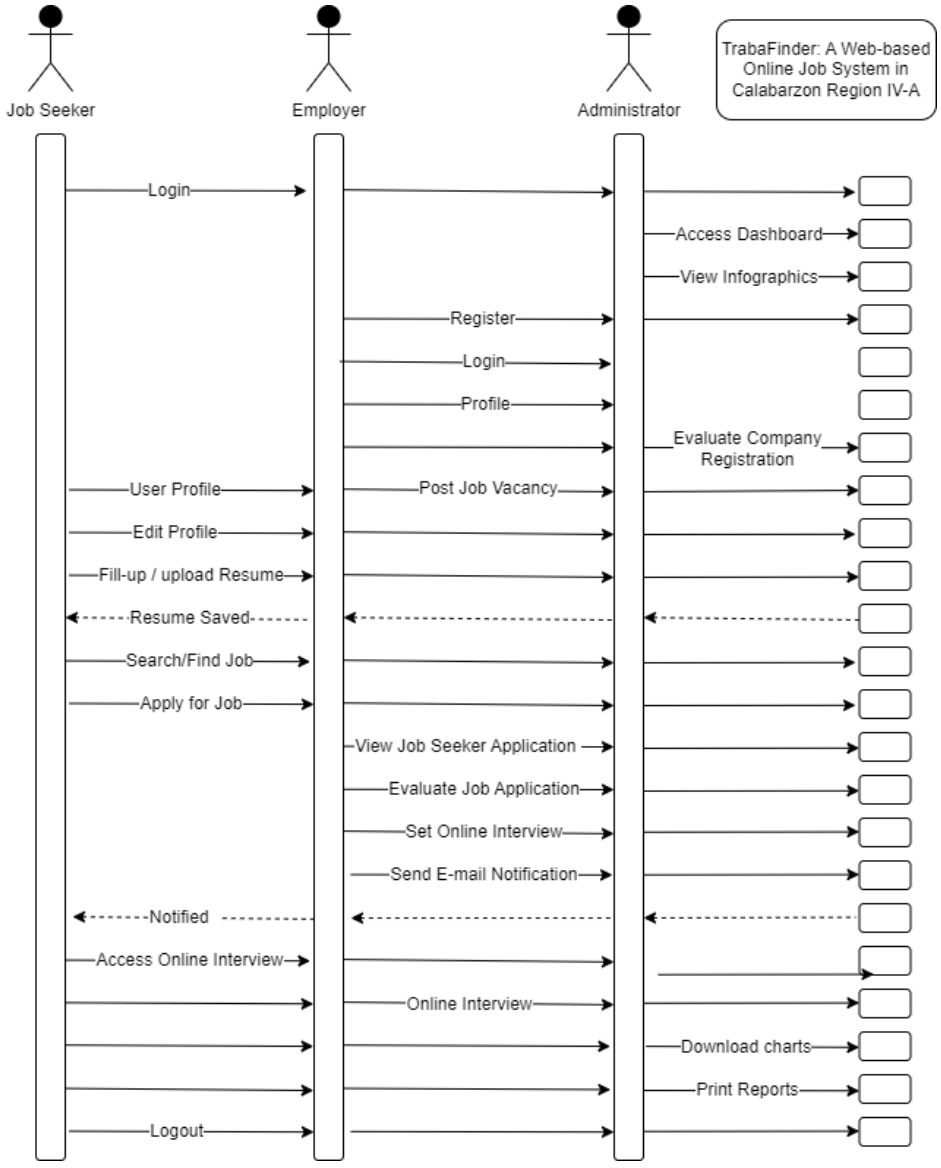

Figure 9. Sequence Diagram

Illustrated in Figure 9 is an interaction diagram that shows the details of how the system can navigate in the job application.

Trabafinder: A Web-based Online Job System in Calabarzon Region IV-A, also known as online job system helps the Job Seeker, Employer and Administrator to have a much easier platform for employment.

Based on the diagram, the sequences were organized according to the time and progress of the user to navigate the web application. Moreover, the objects involved in the operation of the system are Job Seeker, Employer, and Administrator respectively from left to right as shown in the diagram.

Database Design

Figure 10 shows the database design of the Trabafinder: A Web-based Online Job System in Calabarzon Region IV-A system. It showcases the process of how the data is handled and stored. It is composed of relationships between different attributes of the tables.

In this online job system, a database design was employed to create a simple abstract graphical representation of a database's structure. It is used as a tool to aid in database design as well as a demonstration of the structure of the existing database.

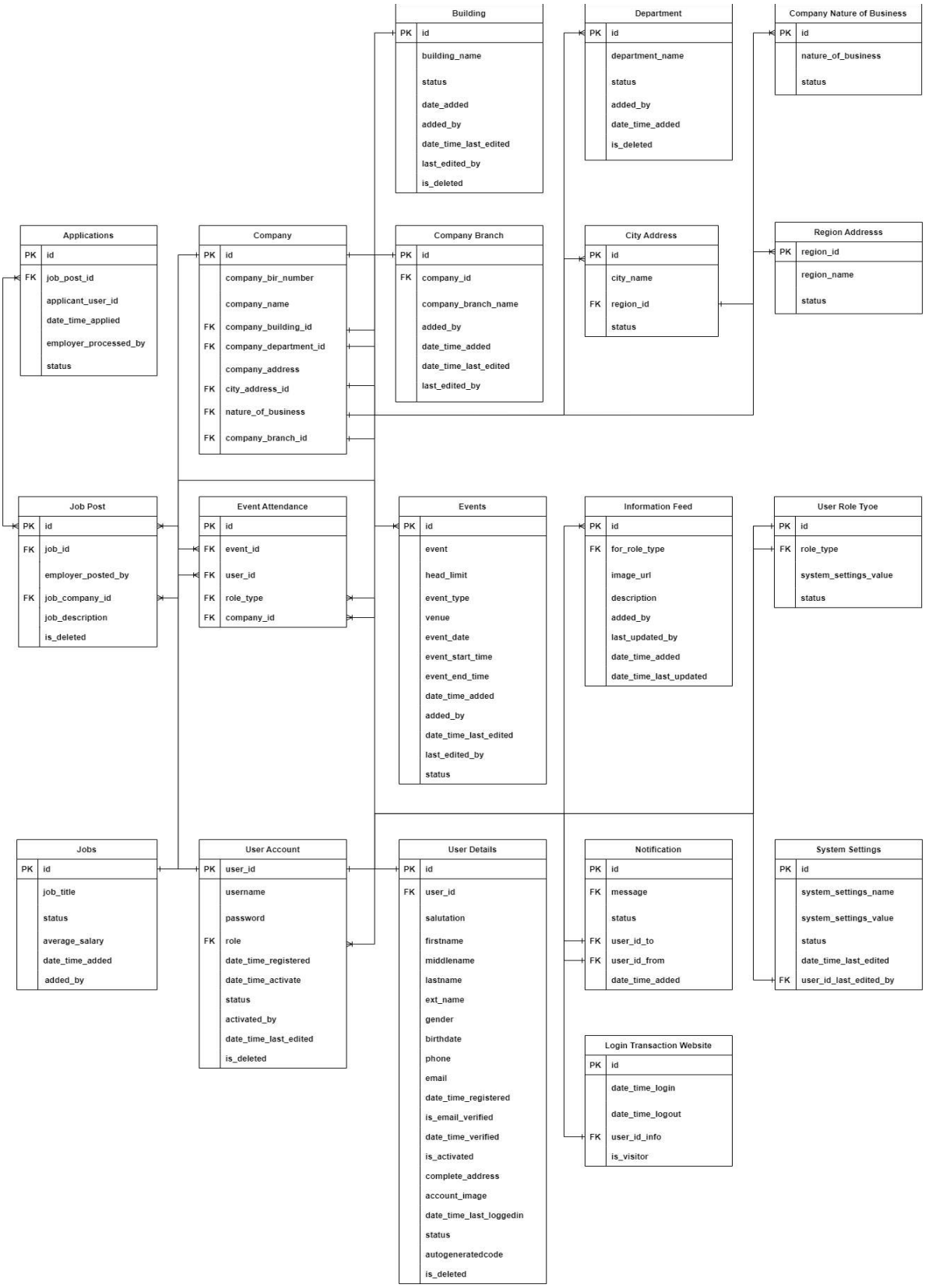

Figure 10. Database Design

The diagram depicts the detailed process of the system's primary functions. It also demonstrates how the system processes and organizes data to generate outputs. It contains the system's highlights and central parts.

Development

The developer starts creating the web system during this phase. It also involves the construction of target layouts and the coding of numerous features that give the web system's intended output. This method is essential that was recognized during the planning phase.

Testing Plans

A test plan specifies activities targeted at ensuring that the project's implementation has the essential functional and non-functional features.

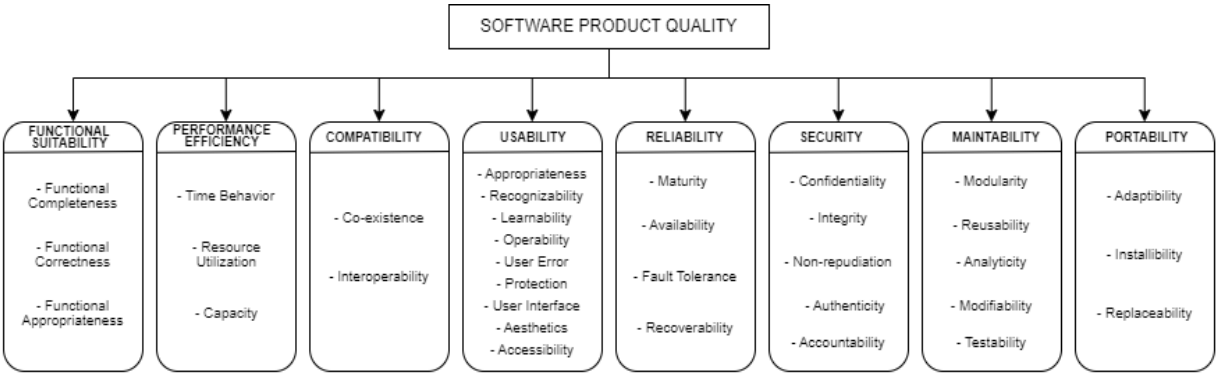

Figure 11. ISO 25010

Testing entailed operations carried out by researchers to improve the system's quality, ensuring that it meets the required specifications and satisfies users based on its capabilities. The researchers put the system through several tests to see if it matched the requirements.

Because ISO/IEC 25010 is the most well-known and precise standard for the creation of the system, the researchers took it into consideration for the system's evaluation, testing, and validation. The researchers consider the model's efficiency, functionality, maintainability, portability, reliability, and usability when evaluating the software system.

Functionality Sustainability. It pertains to the system's performance during the testing stage. The functionality testing confirms the system's compliance with the specified requirements and the operationality of all main features. It evaluates and verifies the end-users' expectations and the system's design. Users must validate this testing for it to get past this stage.

Performance Efficiency. During this stage of testing, the effectiveness and mobility of users would be assessed in relation to the system. Additionally, the user must be satisfied with the system during runtime and execution. The ease of use and comfort with which users can use the system is one of the factors to be considered.

Compatibility. This test ensures that any integration of various systems and applications would be possible with the built system. For it to achieve the goals of the developer and to satisfy their users, the two or more systems to be integrated must operate smoothly and simultaneously.

Usability. Usability testing involves having real people interact with your website, app, or other product and studying their actions and reactions. Whether you

start basically by watching session recordings or go all out and rent a lab with eye-tracking equipment, usability testing is an essential step in ensuring you build an effective, efficient, and enjoyable experience for your users.

Reliability. This testing phase makes sure the system can resist any challenges it may run into. The suggested system completes tasks in accordance with the duration and scope that the users specify. The system should bounce back and start working again when interruptions and mistakes are unanticipated.

Security. The created system must be capable of withstanding security defects, risks, and hazards during testing. To ensure that the information is kept safely, this system should have authorized individuals who are also responsible if something goes wrong.

Maintainability. The practice of assessing the system's ability to update and modify the application if necessary is known as maintainability testing. This is a critical component because the system is subjected to modifications throughout the software life cycle. The software must be maintained once the system has been deployed to the production environment.

Portability Testing. Refers to the process of determining how easy it is to move a product or software from one environment to another.

The researchers utilized ISO 25010 as a framework for testing and surveying purposes. This standardized approach was employed to assess the quality of the

system and verify its compliance with client requirements. The researchers devised a questionnaire as a means of evaluating the system's usability, reliability, and functionality. Other aspects such as portability, performance efficiency, and maintainability were previously validated during the development phase. Regarding system security, it is imperative to have authorized individuals who bear responsibility in case of any mishaps, ensuring the safekeeping of information.

Data Gathering

The developers of the TrabaFinder: A Web-based Online Job System in Calabarzon Region IV-A use printed copies of questionnaires to gather insights and feedback from respondents and potential users, particularly on the system's reliability, functionality, security, and usability.

Deployment

During this phase, developers outline the actions that must be completed to make the system available on the Internet for users, mechanics, and administrators to access. The system is completely developed, bug-free, and ready for deployment in this situation.

The web system was supposed to be deployed on the internet utilizing hosting. The system can be reached by searching for it in an internet browser's search engine or by following a link. Furthermore, to familiarize the user and administrator, a user manual guide and system orientation will be done within 1-2

days so that the manual can investigate and elaborate on the concepts that are unclear to them.

Risk Management Plan

A risk management strategy outlines potential dangers to a business and the activities a person should take to keep such risks under control. A company would have multiple risk management plans in place to address various risks

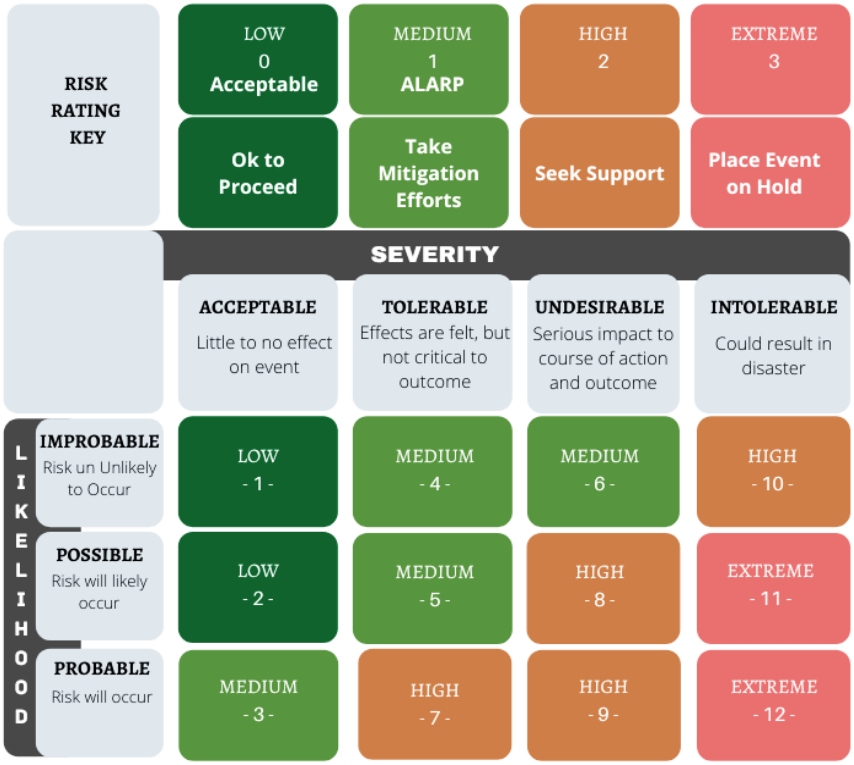

Figure 12. Risk Matrix and Guide

The Figure No. 13 Risk Assessment Matrix, also known as a Probability and Severity Risk Matrix, was created to reduce the likelihood of potential risk to improve project performance. The threats were classified based on their possibility, impacts, and damage amount to establish the worst-case scenario quickly. Internet

connectivity, system downtime, security threats, human error, and subscriptions were all risks.

Risk Analysis

Risk analysis and management were developed as effective project management approaches throughout the research to ensure that the system is completed with the fewest possible risks and issues. The following table shows how this system's risk analysis was conducted:

Table 8.
Risk Analysis

ID	Risk	Likelihood	Severity	Impact
001	Unstable Internet Connection	Likely	Severe	High
002	Power Interruption	Possible	Moderate	Medium
003	System Accuracy and reliability	Possible	Significant	High
004	Slow Response Time	Possible	Significant	Medium High
005	System Malfunction and Downtime	Likely	Severe	High
006	Project Schedule Delay	Possible	Severe	Medium High
007	Security and Confidentiality Breaches	Possible	Significant	Medium High

Table no. 8 shows which indicate the seven known risks and potential dangers associated with using the system. The following is a detailed explanation of these risks:

RISK 001: Unstable Internet Connection. Since the connection is not always steady and dependable, the stability of the Internet connection during system

operation is unpredictable. Drivers and passengers would consequently suffer. As a result, there can be a slower run time, slower data loading, and delayed bookings.

RISK 002: Power Interruption. Unexpected events, such as power outages, occur from time to time. If this happens, the system would still function unless the battery is low and we need to charge the device. This may have an impact on Internet connectivity as well, given it is powered by electricity.

RISK 003: System Accuracy and Reliability. to see if it processes accurate information and if the data obtained here is reliable enough. Fraudulent information, such as fake driver accounts and reservations, should not be allowed in the system.

RISK 004: Slow response time. If the application is not correctly and thoroughly created, it may result in an ineffective and impractical encounter for end users. If the system continues to be slow, more and more individuals would consider the application a waste of time, which might lead to their clients not using it due to their negative experiences with it.

RISK 005: System Malfunction and Downtime. Maintenance is essential even after the deployment of the system. However, if the system is not maintained regularly, system operations may be affected, leading to system failure and crashes. This would harm the concerned end-users. Internal host and server difficulties might also cause this.

RISK 006: Project Schedule Delay. There are instances that this system could not be finished within the projected and anticipated time. This might have a

detrimental impact on the relationship between the researchers, stakeholders, and their clients, leading to mistrust and frustration for both parties.

RISK 007: Security and Confidentiality Breaches. One of the concerns that must be addressed throughout the creation of this system is security. However, data leaks and breaches are still possible. It might severely harm the end-users, putting passengers' and drivers' data and information at risk.

Risk Treatment

Risk Treatment was applied in Trabafinder: A Web Based Online Job System to stop these risks from worsening and seriously harming the system, it is crucial to consider how to minimize and eliminate them.

It entails establishing a variety of risk-mitigation choices, evaluating those options, and then preparing and implementing action plans. The goal of risk management is to reduce, eliminate, or transfer risk. It is frequently preferable for a corporation to prepare ahead and avoid a risk than to take the chance and face that risk.

Using a risk management strategy to address the aforementioned potential hazards should help researchers understand how to control them and avoid future repercussions. Each identified risk treatment suggested by the researchers is included in Table 9.

Table 9.
Risk Treatment

Risk No.	Risk Treatment
001	Check your bandwidth and internet connection before using the system. It is advised to use Wi-Fi to experience faster loading if it is available. Check the internet provider's signal.
002	Using a generator, if one is available, might be advantageous. If not, it is advisable to let consumers know that a power interruption would cause the system to be inaccessible for a short while.
003	Various quality control and testing processes would help in the delivery of an effective system for booking tricycles and the reliability of data.
004	It would be advantageous to have a quick and effective web host server throughout development. However, in some instances, it can still load more slowly than usual. After refreshing the device, simply restart it.
005	The system should be examined and tested. Always keep updates up-to-date and pertinent to ensure the system operates to its full potential. Contact the service provider for help debugging the system if this doesn't fix the problem.
006	The team should be able to communicate effectively enough. Talk and debate the issues, then work together to meet the deadline. Assign duties and tasks to each team member to advance more quickly and meet the deadline.
007	It is essential to conduct regular scanning and security training. Verify if a virus has been found. Execute the numerous procedures needed to combat and eliminate the threat—request assistance.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents the results and discussions as well as the features and structure of the final system. This chapter provides a summary of the entire project specifications. It also includes the findings of real testing performed to evaluate the overall performance and functionality of the system.

The following are the aims that have been presented.

1. To provide an online platform for employers to post different job vacancies and hire employees for an employment in Calabarzon Region IV-A.

The developers created a platform to which employers may post job vacancies in Calabarzon Region- IV-A with their corresponding companies so that job seekers may browse posted job information and may be able to apply for certain positions using the system. This platform is a better option for today's job seekers to put their educational credentials and personal information online, where it may be seen by recruiters and/or companies looking for the most suitable job seekers. Internet use has the potential to lower the cost of discovering job prospects while also facilitating information flow between employers and job seekers. Additionally, as the program runs in a browser and is accessible with an internet connection, these users are not required to download it.

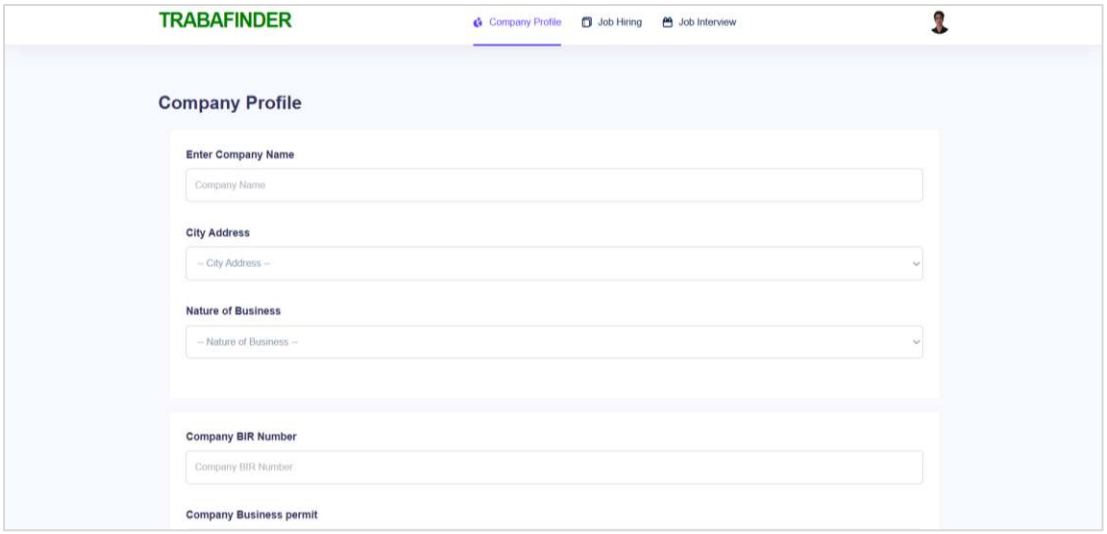

Figure 13. Company Profile/Registration

Figure 13 shows the part where the employer must register their businesses by filling out some information that is needed before accessing the system, and posting job vacancies.

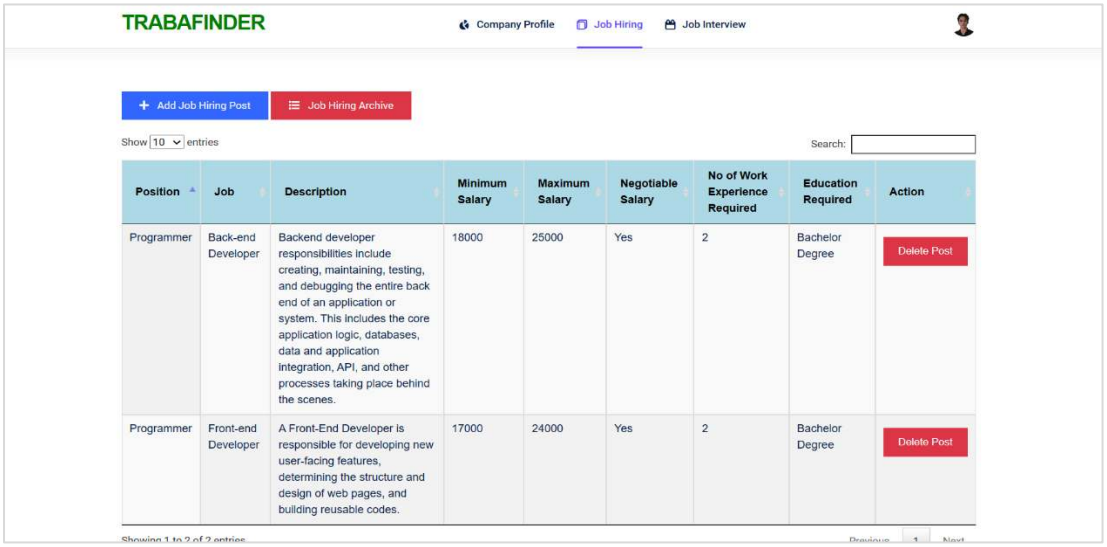

Figure 14. Job Posting

Figure 14 gives the employer an access to post job vacancies. This group interface shows job details. These are organized into sections according to their

position, job, salary, number of work experience required, thus employers could genuinely list jobs or services in this section by clicking Add Job Hiring Post. Employers can literally list their positions available within. It also has a Job Hiring Archive button that displays the Employers' deleted jobs for the purpose of archiving the data.

2. To develop an application for resume auto-generation in which job seekers can fill up their personal information and work credentials.

The developers have integrated a useful feature that enables job seekers to enter and upload their personal information thru resume auto generation, such as their educational background, skills, work experience, or credentials by typing directly into fields. Using this feature, prospective employers from different local companies in Calabarzon (Region IV-A) can give a brief overview and analyze the work credentials as the job seeker submits a resume. The fact that job seekers may also choose if they want to upload a file in a format like PDF, which would also aid to make it easier to upload a resume, is what makes this a good system. A web-based online job system like this is quite beneficial for someone looking for work who wants something simpler and needs something cost effective. Nevertheless, it can be said that this auto generation for resume feature is useful as it allows users or job seekers to successfully and conveniently submit their resumes.

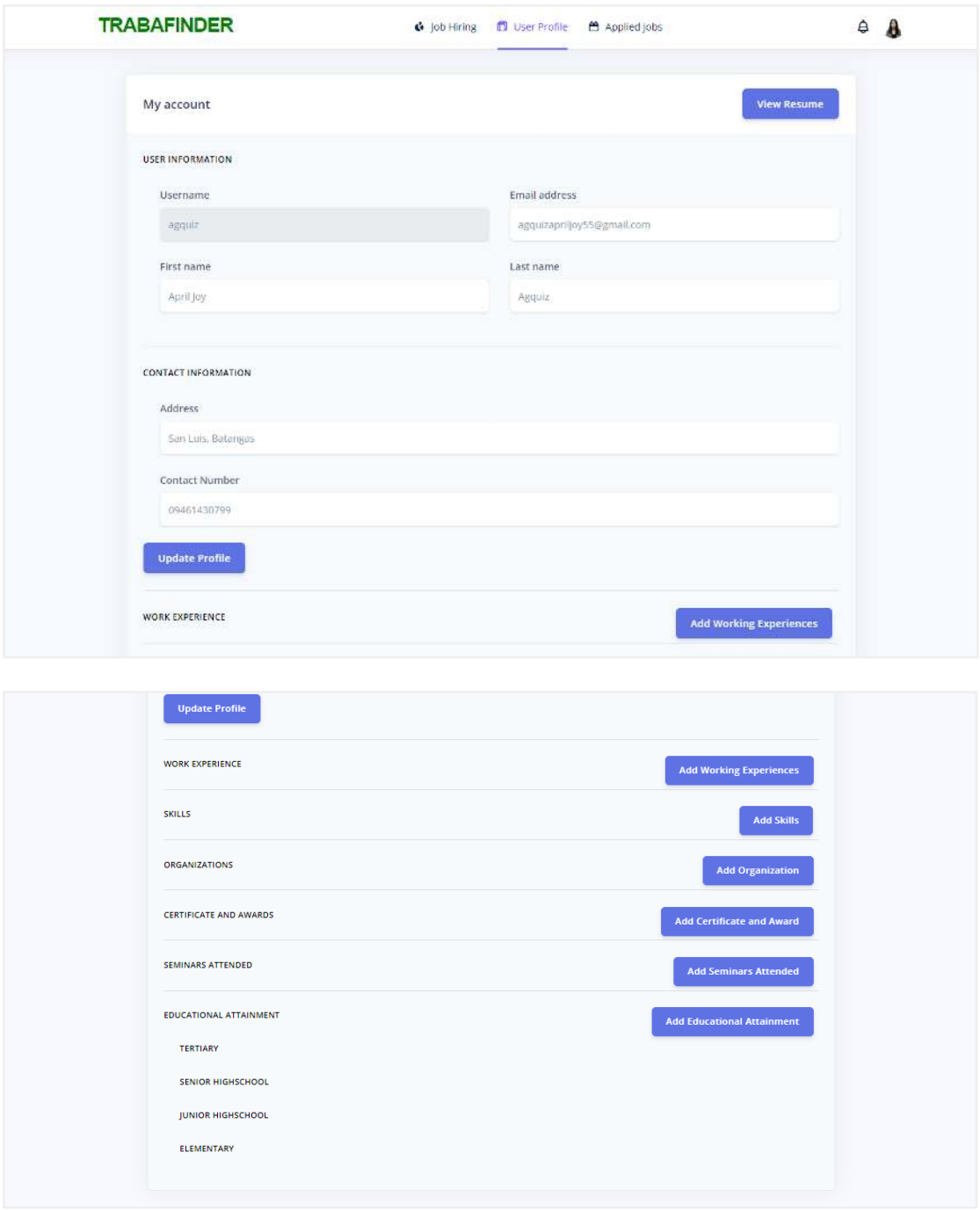

Figure 15. Resume Auto-Generation

The illustration shows the resume auto-generation for the job seeker. Job seekers could modify their basic information in this section including their work experiences, skills

in different fields, and educational background. The job seeker could also upload and update their resume easily.

3. To create an online interview application through which job seekers and employers can interact and conduct job interviews for the job employment.

The developers create useful features that make it simple for employers and job seekers to communicate with one another via online interviews. Using these features, it provides a feasible way for employers and job seekers to interact. Job seekers who pass the initial screening with their resumes. Both would benefit from the TrabaFinder: A Web - Based Online Job System in Calabarzon Region IV-A feature by lowering the cost and time required for the entire hiring process.

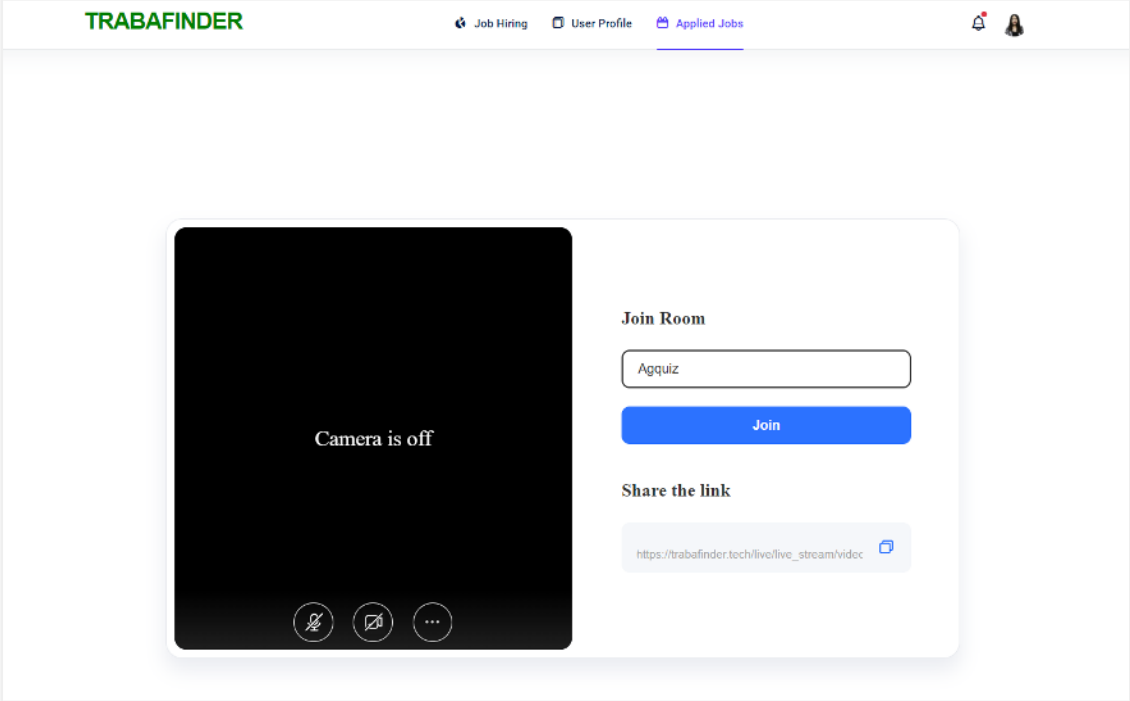

Figure 16. Online Interview

Once the Employer has approved the Job Seeker's Application. The user now has access to online interviews, but the employer needs first to select a schedule for them to conduct an online meeting. Both employers and job seekers can engage and exchange questions and answers using this feature. The online interview includes messaging or chat throughout this feature.

4. To provide reports and infographics on the number of employees, job seekers, and job offers.

The developers create a Web-Based Online Job System with features such as reports and infographics that provide a visual representation of the number of employers, job seekers, and job offers by the company, and addresses using charts. It enables the administrator to gain insights into which job offers have the most job applications by visualizing the collected data. The admin can also print reports containing up-to-date permanent data, which provides critical insights and data. With these, it provides statistics and reports, allowing the administrator to see specific information.

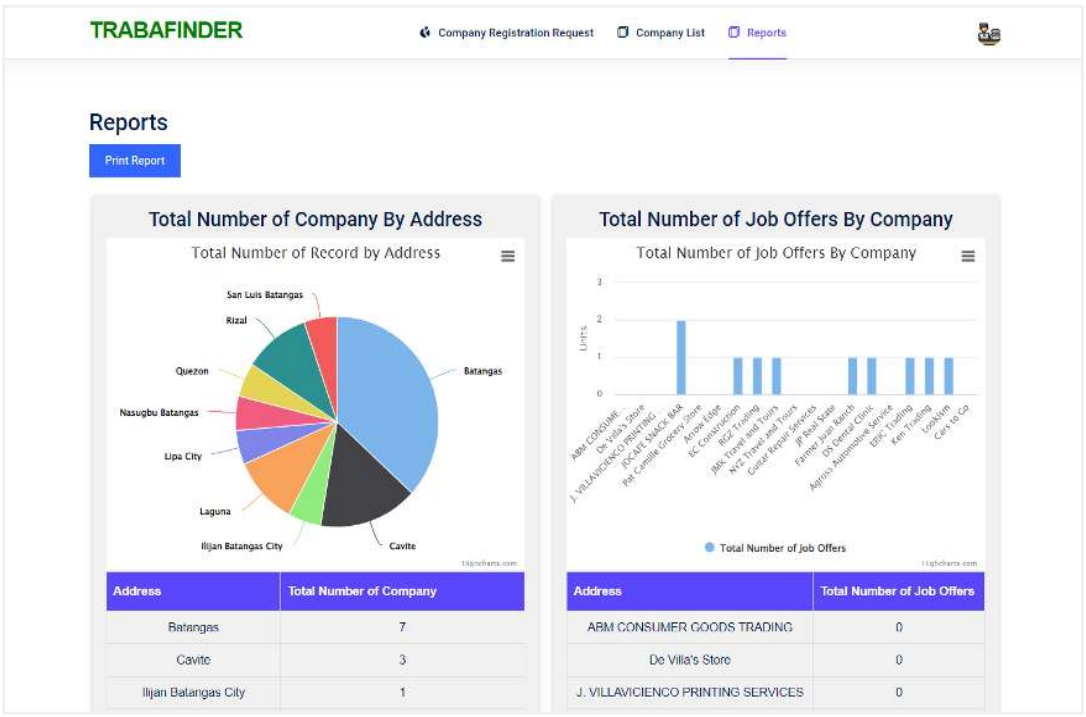

Figure 17. Reports

Upon successfully logging in, the administrator would view the dashboard and reports. There is a graphical representation of the number of job seekers, employers, job offers. Additionally, the administrator can print employers' records and can download the charts. The figure shows the number of companies by address, job offers by company, number of registered job seekers and employers with information that could be used as a reference.

Survey Process and Results

The study's respondents include job seekers, employers, and the system administrator. In order to obtain the weighted mean of the results, the survey was conducted in a short period of time in November 2022. To satisfy the total number of respondents for the study, the researchers recruited 50 jobseekers, 5 employers,

and 3 personnel as system administrators, for a total of 58 respondents. However, the quantity of respondents per user type has no effect on the outcome of this study and has no consequence on the results.

The authors of the questionnaire used for this study in terms of usability, reliability, and functionality utilization of both the mobile applications and web-based system developed were drawn from the questions of TELUS and STETSON's System Usability Scale and Lewis, J. R. IBM Computer Usability Satisfaction Questionnaire, 1995.

Usability

This section carefully evaluated the system's usability as perceived by its intended users. The jobseekers, employers, and system administrators were requested and encouraged to use and test the system before filling out the survey questionnaires for usability testing. Table 12 shows that the system is usable and consistent, as planned.

The estimated weighted mean of all usability testing findings from the survey is shown in Table 12. This also demonstrates the evaluation's outcome in terms of the usability of the mobile application and web-based system. According to Table 12, respondents agree on the system's usability, as indicated by the weighted mean of 4.7, implying that the system could be used on a regular basis, that the numerous

features were effectively integrated, and that most end-users would be able to quickly learn and use the system.

Table 10

Usability among the Three User Types of Respondents

Question	Job Seekers		Employer		System Administrator			
	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.	**W.M.**	**V.I.**
1	6.6	SA	6.8	SA	5	SLA	**6.1**	**A**
2	2.3	D	2	D	1	SD	**1.7**	**SD**
3	6.5	SA	6.8	SA	7	SA	**6.7**	**SA**
4	2.8	SLD	2	D	1.3	SD	**2**	**D**
5	6.6	SA	7	SA	7	SA	**6.8**	**SA**
6	2.2	D	2.4	D	1.3	SD	**1.9**	**D**
7	6.6	SA	7	SA	7	SA	**6.8**	**SA**
8	2.4	D	1.2	SD	1	SD	**1.5**	**SD**
9	6.6	SA	6.8	SA	7	SA	**6.8**	**SA**
10	5	SLA	1.4	SD	2	D	**2.8**	**SLD**
11	6.7	SA	7	SA	7	SA	**6.9**	**SA**
12	7	SA	7	SA	7	SA	**7**	**SA**
COMPOSITE MEAN	***5.2***	***A***	***5***	***SLA***	***5***	***SLA***	***4.7***	***SLA***

**W.M. = Weighted Mean*
**V.I. = Verbal Interpretation*
**SD = Strongly Disagree*
**D = Disagree*
**SLD = Slightly Disagree*
**U = Undecided*
**SLA = Slightly Agree*
**A = Agree*
**SA = Strongly Agree*

Reliability

The system was tested in terms of reliability using an After Scenario Questionnaire, in which each scenario is equal and based on real-life testing scenarios and respondents' experiences with the system. To assess the system's reliability, all respondents were requested to try and test the system as well as complete the questionnaire.

In 1995, Lewis created the After Scenario Questionnaire, which is given to a research subject after the test has conducted a steady state condition scenario. If a question is skipped, the ASQ can be calculated by averaging the remaining scores. Table 13 presents the matching ASQ for each sequence allocated (A, B, C) in the survey to evaluate the system's reliability.

Table 11

After Scenario Questionnaire

After Scenario Questionnaire Sequence	After Scenario Questionnaire
A	Overall, I am satisfied with the ease of completing this task.
B	Overall, I am satisfied with the amount of time it took to complete this task.
C	Overall, I am satisfied with the support information (on-line help, messages, documentation) when completing this task.

Table 11 shows the results of the system's testing and evaluation in terms of reliability. The system was tested by job seekers, who discovered that it was reliable.

Table 12

Job Seekers Reliability Test Result

SCENARIO	ASQ Sequence						General	
	A		B		C			
	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.
1. Registration of User	6.7	SA	6.6	SA	7	SA	**6.8**	**SA**
2. Logging In	7	SA	6.6	SA	7	SA	**6.9**	**SA**
3. Filling-up Data/Resume	6.6	SA	6.6	SA	7	SA	**6.7**	**SA**
4. Viewing and Searching Job	7	SA	7	SA	6.6	SA	**6.9**	**SA**
5. Applying Jobs	5	SLA	5.4	SLA	5	SLA	**5.1**	**SLA**
6. Receive a Notification	6.6	SA	6.6	SA	6.6	SA	**6.6**	**SA**
7. Access Online Interviews	6.6	SA	6.6	SA	6.5	SA	**6.7**	**SA**
COMPOSITE MEAN	***6.5***	***SA***	***6.4***	***SA***	***6.5***	***SA***	***6.5***	***SA***

**W.M. = Weighted Mean*
**V.I. = Verbal Interpretation*
**SD = Strongly Disagree*
**D = Disagree*
**SLD = Slightly Disagree*
**U = Undecided*
**SLA = Slightly Agree*
**A = Agree*
**SA = Strongly Agree*

Table 12 shows the reliability evaluation and testing results for the system. The system was tested by job seekers, resulting in the system being reliable.

Table 13

Employer Reliability Test Result

SCENARIO	ASQ Sequence						General	
	A		B		C			
	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.	W.M.	V. I.
1. Registration of User	7	SA	7	SA	7	SA	**7**	**SA**
2. Logging In	7	SA	7	SA	7	SA	**7**	**SA**
3. Updating Personal Information	7	SA	6.8	SA	7	SA	**6.9**	**SA**
4. Posting Job Vacancies	7	SA	6.8	SA	7	SA	**6.9**	**SA**
5. View Job Seeker's Application	7	SA	6.8	SA	7	SA	**6.9**	**SA**
6. Set Online Interviews for Job Application	6.6	SA	6.8	SA	7	SA	**6.8**	**SA**
7. Modify Job Seekers Application Status	7	SA	7	SA	7	SA	**7**	**SA**
8. View Dashboard	7	SA	7	SA	7	SA	**7**	**SA**
9. Notify Job Seekers of their Application Status	7	SA	7	SA	7	SA	**7**	**SA**
COMPOSITE MEAN	***6.9***	***SA***	***6.9***	***SA***	***7***	***SA***	***6.9***	***SA***

**W.M. = Weighted Mean*
**V.I. = Verbal Interpretation*
**SD = Strongly Disagree*
**D = Disagree*
**SLD = Slightly Disagree*
**U = Undecided*
**SLA = Slightly Agree*
**A = Agree*
**SA = Strongly Agree*

Table 13 shows the reliability evaluation and testing results for the system.

The system was tested by employer, resulting in the system being reliable

Table 14

System Administrator Reliability Test Result

SCENARIO	ASQ Sequence						General	
	A		B		C			
	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.	W.M.	V.I.
1.Registration of User	7	SA	7	SA	6.6	SA	**6.9**	**SA**
2. Logging In	7	SA	6.6	SA	7	SA	**6.9**	**SA**
3. Updating Personal Information	7	SA	7	SA	6.6	SA	**6.9**	**SA**
4. View the dashboard	6.3	A	6.3	A	6.6	SA	**6.4**	**A**
5. Evaluate Posted Job Application from Employer	6.6	SA	6.6	SA	6.6	SA	**6.6**	**SA**
6. View the user log/ activities of the employer and job seeker	6.6	SA	6.3	A	6.3	A	**6.4**	**A**
7. View the list of the Qualified Job Seeker for the Job	6.6	SA	6.6	SA	6.6	SA	**6.6**	**SA**
COMPOSITE MEAN	***6.7***	***SA***	***6.6***	***SA***	***6.6***	***SA***	***6.7***	***SA***

**W.M. = Weighted Mean*
**V.I. = Verbal Interpretation*
**SD = Strongly Disagree*
**D = Disagree*
**SLD = Slightly Disagree*
**U = Undecided*
**SLA = Slightly Agree*
**A = Agree*
**SA = Strongly Agree*

Table 14 shows the reliability evaluation and testing results for the system. The system was tested by administrator, resulting in the system being reliable.

Functionality

Functionality refers to a collection of various functions that meet the users' norms and requirements. The system's effectiveness was demonstrated and validated through testing. Several tests were carried out in order to analyze the requirements and generate trust in the built system. Functionality testing was carried out based on the role of each user type.

The system's top-down design necessitates the integration of the various created functions. The entire system was tested to assure its performance and functionality. Integration testing must be examined in another function to verify that inconsistencies are corrected and performance and compliance with requirements are improved. This would also aid in establishing whether the system operated properly after being combined and collected in both normal and unacceptable situations.

It summarizes the system's testing and evaluation findings. The system was tested by the jobseeker, who validated that it was stable and functioned as intended for the stated jobseeker who is applying for employment in Calabarzon. All system features and functionalities were designed and implemented to ensure accuracy and error-free results.

The functionality testing shows that all the results have Full compliance functionality, suggesting that all of the required functionalities were effectively handled and produced in accordance with the client's needs, as well as conversations between coder and jobseekers.

Table 15

Job Seekers Functionality Test Result

Function	W.M.	V.I.	Remarks
Log-in	3	Full Compliance	
Correct credential of email and password	3	Full Compliance	
Login button	3	Full Compliance	
Registration	3	Full Compliance	
Input Details	3	Full Compliance	
Accept Terms and Conditions Checkbox	3	Full Compliance	
Register Button	3	Full Compliance	
Home	3	Full Compliance	
View Landing Page	3	Full Compliance	
Display Recently Added Jobs	3	Full Compliance	
Search	3	Full Compliance	
Input Details	3	Full Compliance	
Search Button	3	Full Compliance	
Display Company List	3	Full Compliance	
Job Hiring	3	Full Compliance	
Display Company List	3	Full Compliance	
Apply Button	3	Full Compliance	
User Profile	3	Full Compliance	
Display Account Details	3	Full Compliance	
Update Details	3	Full Compliance	
Update Profile Button	3	Full Compliance	
Add Skills	3	Full Compliance	
Add Skills and Experience Button	3	Full Compliance	

Close Button	3	Full Compliance	
Add Educational Attainment	3	Full Compliance	
Add Work Experience	3	Full Compliance	
Applied Jobs	3	Full Compliance	
Display Job Details List	3	Full Compliance	
Search	3	Full Compliance	
Start Interview Button	3	Full Compliance	
Notification	3	Full Compliance	
Receive a notification for application request	3	Full Compliance	
Receive a notification for interview	3	Full Compliance	
Account Setting	3	Full Compliance	
Change password button	2.7	Partial Compliance	
Sign Out	3	Full Compliance	
Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***2.9***	***Full Compliance***	

To summarize Table 15, a composite mean of 3 indicates that job seekers agreed that the system's functionality was completely satisfied in the TrabaFinder Website and is ready for job applications.

Table 16

Employer Functionality Test Result

Function	W.M.	V.I.	Remarks
Log - in	3	Full Compliance	
Correct credential of email and password	3	Full Compliance	
Login button	3	Full Compliance	
Registration	3	Full Compliance	
Input Details	3	Full Compliance	
Accept Terms and Conditions Checkbox	3	Full Compliance	
Company Profile	3	Full Compliance	
Display Company Account	3	Full Compliance	
Display Job Seekers Application	3	Full Compliance	
Job Hiring	3	Full Compliance	
Add Job Hiring Post	3	Full Compliance	
Display Job Hiring Post	3	Full Compliance	
Search button	3	Full Compliance	
Delete post	3	Full Compliance	
Job Interview	3	Full Compliance	
Display job seekers application	3	Full Compliance	
Start Interview	3	Full Compliance	
Join button	3	Full Compliance	
Share the link	3	Full Compliance	
Decline application of job seekers	3	Full Compliance	
View profile of job seekers	3	Full Compliance	
View resume	3	Full Compliance	
Account Setting	3	Full Compliance	

Change password button	3	Partial Compliance	
Sign Out	3	Full Compliance	
Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***3***	***Full Compliance***	

Table 16 clearly illustrates that the employers in Calabarzon companies agreed that the system functionality was completely satisfied and fully complied with the TrabaFinder Website, as indicated by the composite mean of 3.

It clearly demonstrates that the functions on the employer side are working properly and in complete compliance. This also means that the online employment application system in Calabarzon Region IV-A has been made fully functional.

Table 17

System Administrator Functionality Test Result

Function	W.M.	V.I.	Remarks
Login	3	Full Compliance	
Correct credential of username & password	3	Full Compliance	
Login button	3	Full Compliance	
Company Registration Request	3	Full Compliance	
Display Company Details	3	Full Compliance	
Company List	3	Full Compliance	
Display list of company	3	Full Compliance	
View Job Offers	3	Full Compliance	
Reports	3	Full Compliance	
Print report	3	Full Compliance	
Display dashboard	3	Full Compliance	
View full image	3	Full Compliance	
Save as png, jpeg, pdf	3	Full Compliance	
Print chart	3	Full Compliance	
Account Setting	3	Full Compliance	
Change password button	3	Partial Compliance	
Sign Out	3	Full Compliance	
Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***3***	***Full Compliance***	

To summarize Table 17, a composite mean of 3 shows that the assigned system administrator has approved that the TrabaFinder web-based system's functionality is entirely compliant.

It clearly shows that the functions on the administrator side are working properly and in full compliance. This also indicates that the Trabafinder web-based system in Calabarzon Region IV-A is completely operational and trustworthy for managing and storing data that an administrator is able to utilize.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.

This chapter discusses the summary of findings, conclusions, and recommendations of Trabafinder: A Web-Based Online Job System to enhance the developed system further.

Summary of Findings

The Trabafinder: A Web-Based Online Job System in Calabarzon Region IV-A was developed to automate the manual job application procedure. This method would help shorten the time needed for the job search. It would aid workers and employers in lowering the amount of personnel needed in a business and increase flexibility for job seekers throughout the process. Users can engage with the system with little to no understanding of the browser, the internet, or the company policies, as well.

Various research papers with comparable interests that focused on grant administration locally and internationally were developed and examined. The research study serves as a solid foundation for the created study. The designed system made use of software tools and models to achieve its specific goals and objectives. The Agile Methodology was employed in the study since it emphasizes frequent change as well as the flexibility to respond to current changes.

Other designs and procedures were used to visualize the skeletal body of the study. Data Flow Diagram, Use Case Diagram, System Architecture, Context Diagram, and Sequence Diagram. This diagram helps the researchers to identify and

clearly understand the functionalities of the system. The use of a multitude of tools to achieve the objectives helps the researchers to fulfill their study that could help its end users such as the scholars, coordinators, and the admin.

1. The developed platform would guarantee that the uploaded job applications are genuine. It may give job seekers a means to hunt for employment chances by directly browsing web applications, and it might give employers a way to post their valid employment opportunities in Calabarzon Region IV-A. On the other side, the system would ensure the privacy and confidentiality of their users' data.
2. The developed system could make the traditional resume-writing processes easier. The usage of auto-generation would make it simpler and easier for job seekers to write and structure resumes. As a result, the prospective employer would specifically request that the candidate submit their resume in a PDF format, either by uploading it or creating it through the system itself.
3. The developed system contains a functional feature for an online interview. It would allow the employer to interact with the candidate job seekers once they pass the initial screening through their resume. Online interviews enable companies to thoroughly assess potential hires while remaining at home, reducing the cost and time needed for the entire hiring process.
4. The developed system gives statistics and reports so the admin may observe the precise and efficient numbers of users who log like employers, job seekers, and also job offers. This feature provides a better understanding of

the collected data through visualization, allowing the administrator to obtain insights into which job offers have the most job applications. Furthermore, he or she can print reports containing accurate permanent information that would provide vital insights and provide a data summary during decision-making. The findings also implied that the infographics provide a clearer picture of data that would be used to draw up business perception.

Conclusions

Based on the findings of the study, the following conclusions were presented.

1. The researchers claimed that the utilization of the system allows employers to have a platform for employers to post and for job seekers to seek various job opportunities. It also found that the given functionalities are effective for improving the collaboration of users, employers, and job seekers in terms of transaction processing and discussion by presenting clear information on each related job application.
2. The TrabaFinder: A Web-Based Online Job System in Calabarzon Region IV-A has a resume auto-generation application that allows job seekers to submit their personal information and professional qualifications. Furthermore, the researchers state that the main purpose of the resume is to keep records. It would certainly make it easier for businesses to assess job applicants' credentials.
3. By providing features such as an online interview application, job seekers and employers can communicate and conduct job interviews for job

employment. The researchers concluded that video interviews are a popular technique for online recruitment since they save an organization time and money when compared to traditional, in-person, or face-to-face interviews.

4. Researchers concluded that the reports and infographics provide a visual representation of data from businesses and job seekers, as well as in-depth research of recruiting trends, to assist employers in navigating the current proprietary of job offers.

Recommendations

Based on the findings and conclusions identified in the study the following are hereby recommended:

After testing all the functionalities, the researchers recommend that the system is essential to be pursued since the system would contribute a lot of help to the users; Job seekers, and Employers for having an easier process for employment in Calabarzon Region IV-A.

The researchers specifically suggest the following:

1. Messaging features - The researchers recommend having a chat or messaging feature that makes it simple for job seekers and employers to communicate with each other anywhere by sending and receiving messages in real time. Users of a chat or messaging feature can experience the same lively and engaging interactions via custom messaging features as they would in person.
2. Personalization and Customization - The researchers recommend enabling consumers to modify interfaces tailored to their tastes or actions.

3. Applicant Tracking System - The hiring manager should continue to assess the potential of each job seeker. From job posting to selection, the applicant tracking system (ATS) gives the hiring, job management, and employee engagement processes a competitive edge. Finding excellent and competent job candidates is made simpler by using an ATS. Employers may easily handle, analyze, and track applications using an all-inclusive technology called an applicant tracking system (ATS). An ATS examines all the job posting data automatically and assigns the filtering tasks in accordance with the job requirements. With important alerts and notifications, this tracking system automatically and efficiently communicates throughout the employment process.

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Pedamkar, P. (2023, March 13). *What is visual studio code?: Features and advantages: Scope & Career*. EDUCBA. https://www.educba.com/what-is-visual-studio code/?fbclid=IwAR3zVv09Vg7yt47ZdPGmpkTG5qxvL3ytURRV7X0AECOXpRXE7_zAKyhPOiw

APPENDIX A

Schedule and Timeline

Table 18

Gantt Chart for Scheduled and Timeline

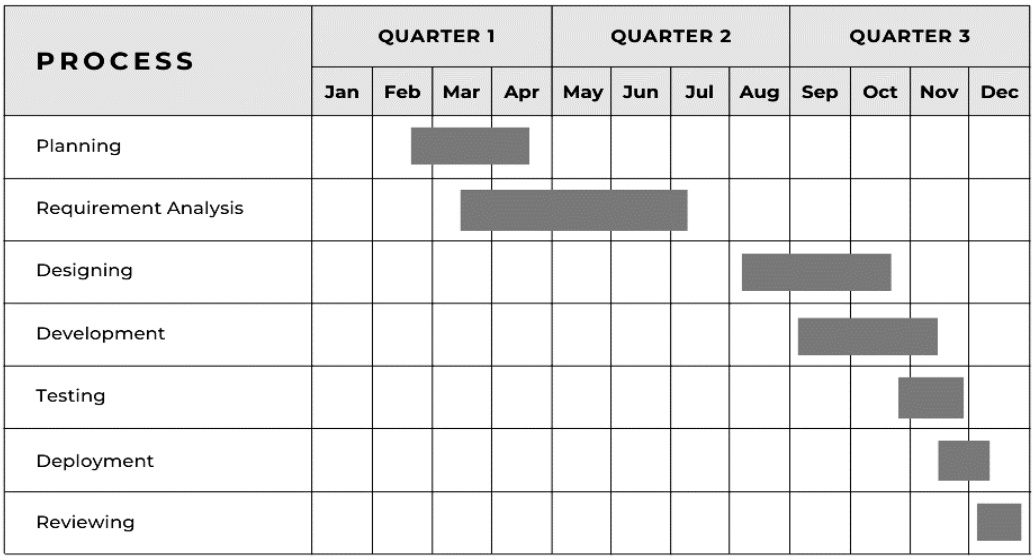

Table 18 presents the timetable that organizes project tasks and activity durations of Trabafinder: A Web-based Online Job System in Calabarzon Region IV-A.

APPENDIX B

Project Team Roles and Responsibilities

The project team must contribute to the planning of project activities and execute assigned tasks/work within the specified quality standards in order to meet the overall project objectives and individual team deliverables and ensure the project's success

.

Table 19.
Project Team Roles and Responsibilities

Role	Name	Address	Contact No.
Project Manager, Software Developer, and UI Designer	April Joy Agquiz	San Luis, Batangas	09461430799
Requirement Analyst	Aira Mae Onda	San Luis, Batangas	09095058739
Software Analyst	Ken A. Manalad	San Luis, Batangas	09383552641

Table 19 highlights the roles as well as the name of the stakeholders or issuing organization as well as contact numbers which serve as points of contacts for the system. To further elaborate, each role would be specified along with its underlying responsibilities:

Project Manager (PM): Ms. Agquiz is responsible for monitoring the progress and managing time.

Software Developer and UI Designer: Ms. Agquiz is accountable for using technical requirements, communicating the status of how the project system works, and building the system.

Requirement Analysts: Ms. Onda is responsible for checking the progress and performance of the project system. Requirement analysts form a bridge between clients and programmer.

Software Analyst: Mr. Manalad is accountable for making better business decisions about the software project. And he is also responsible for overlooking the system's lack.

Activities and Tasks

Before the programmers build the system, the researchers ensure a plan and coordination. The developers do repeat communication and planning of the system for its accomplishment.

APPENDIX C

Budget Cost

Table 20 illustrates the personnel and their designation in creating the system.

Table 20.
Budget Cost

Equipment	Description of Use	No. of Unit	Cost of Unit	Total Cost
Desktop	Creating the system	1	PHP 50,000.00	PHP 50,000.00
Laptop	Documentation	3	PHP 45,000.00	PHP 135,000.00
Tables	For facilities	2	0.00	0.00
Chair	For facilities	3	0.00	0.00

The software we used to integrate the system are desktop for coding and testing, laptop for documentation, and tables and chairs.

Software	Description of Use	No. of Unit	Cost of Unit	Total Cost
Figma	Design	1	0.00	0.00
HTML	Coding	1	0.00	0.00
CSS	Design	1	0.00	0.00
Javascript	Design	1	0.00	0.00
PHP	Coding	1	0.00	0.00
Bootstrap	Design	1	0.00	0.00
MySQL	Database	1	0.00	0.00
jQuery	Coding	1	0.00	0.00
Microsoft Visual Studio	Coding	1	0.00	0.00
Xampp	Database	1	0.00	0.00
Hostinger	Hosting	1	1500	0.00
Microsoft Office	Documentation	1	0.00	0.00

The software we used to integrate the system are; Figma, CSS, Javascript and Bootstrap for designing. MySQL, and XAMPP for the database. Microsoft Office for creating documentation. Microsoft Visual Studio for Coding. The researchers also subscribed to hostinger for hosting the web-based system.

Personnel	Designation	Monthly Wage	Total Wage
Agquiz	Programmer, Documenter	0.00	0.00
Manalad	Tester, Documenter	0.00	0.00
Onda	Designer, Documenter	0.00	0.00

APPENDIX D

Results of Functionality Testing

Table 17 displays the Job Seekers Functionality Test Result testing and evaluation outcomes of the developed system. The testing is carried out by many users and evaluated by the respondent. The result in this table shows that all of the system's functions and features are working.

Table 15

Job Seekers Functionality Test Result

Function	W.M.	V.I.	Remarks
Log-in	3	Full Compliance	
Correct credential of email and password	3	Full Compliance	
Login button	3	Full Compliance	
Registration	3	Full Compliance	
Input Details	3	Full Compliance	
Accept Terms and Conditions Checkbox	3	Full Compliance	
Register Button	3	Full Compliance	
Home	3	Full Compliance	
View Landing Page	3	Full Compliance	
Display Recently Added Jobs	3	Full Compliance	
Search	3	Full Compliance	
Input Details	3	Full Compliance	
Search Button	3	Full Compliance	
Display Company List	3	Full Compliance	
Job Hiring	3	Full Compliance	
Display Company List	3	Full Compliance	
Apply Button	3	Full Compliance	
User Profile	3	Full Compliance	
Display Account Details	3	Full Compliance	

Update Details	3	Full Compliance	
Update Profile Button	3	Full Compliance	
Add Skills	3	Full Compliance	
Add Skills and Experience Button	3	Full Compliance	
Close Button	3	Full Compliance	
Add Educational Attainment	3	Full Compliance	
Add Work Experience	3	Full Compliance	
Applied Jobs	3	Full Compliance	
Display Job Details List	3	Full Compliance	
Search	3	Full Compliance	
Start Interview Button	3	Full Compliance	
Notification	3	Full Compliance	
Receive a notification for application request	3	Full Compliance	
Receive a notification for interview	3	Full Compliance	
Account Setting	3	Full Compliance	
Change password button	2.7	Partial Compliance	
Sign Out	3	Full Compliance	
Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***2.9***	***Full Compliance***	

To summarize Table 15, a composite means of 2.9 indicates that job seekers agreed that the system's functionality was completely satisfied in the TrabaFinder Website and is ready for job applications.

Table 16

Employer Functionality Test Result

Function	W.M.	V.I.	Remarks
Log - in	3	Full Compliance	
Correct credential of email and password	3	Full Compliance	
Login button	3	Full Compliance	
Registration	3	Full Compliance	
Input Details	3	Full Compliance	
Accept Terms and Conditions Checkbox	3	Full Compliance	
Company Profile	3	Full Compliance	
Display Company Account	3	Full Compliance	
Display Job Seekers Application	3	Full Compliance	
Job Hiring	3	Full Compliance	
Add Job Hiring Post	3	Full Compliance	
Display Job Hiring Post	3	Full Compliance	
Search button	3	Full Compliance	
Delete post	3	Full Compliance	
Job Interview	3	Full Compliance	
Display job seekers application	3	Full Compliance	
Start Interview	3	Full Compliance	
Join button	3	Full Compliance	
Share the link	3	Full Compliance	
Decline application of job seekers	3	Full Compliance	
View profile of job seekers	3	Full Compliance	
View resume	3	Full Compliance	
Account Setting	3	Full Compliance	
Change password button	3	Partial Compliance	
Sign Out	3	Full Compliance	

Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***3***	***Full Compliance***	

Table 16 clearly illustrates that the employers in Calabarzon companies agreed that the system functionality was completely satisfied and fully complied with the TrabaFinder Website, as indicated by the composite mean of 3.

Table 17

System Administrator Functionality Test Result

Function	W.M.	V.I.	Remarks
Login	3	Full Compliance	
Correct credential of username & password	3	Full Compliance	
Login button	3	Full Compliance	
Company Registration Request	3	Full Compliance	
Display Company Details	3	Full Compliance	
Company List	3	Full Compliance	
Display list of company	3	Full Compliance	
View Job Offers	3	Full Compliance	
Reports	3	Full Compliance	
Print report	3	Full Compliance	
Display dashboard	3	Full Compliance	
View full image	3	Full Compliance	
Save as png, jpeg, pdf	3	Full Compliance	
Print chart	3	Full Compliance	
Account Setting	3	Full Compliance	
Change password button	3	Partial Compliance	

Sign Out	3	Full Compliance	
Interview	3	Full Compliance	
Accept Interview	3	Full Compliance	
Reject Interview	3	Full Compliance	
COMPOSITE MEAN	***3***	***Full Compliance***	

To summarize Table 17, a composite mean of 3 shows that the assigned system administrator has approved that the TrabaFinder web-based system's functionality is entirely compliant.

APPENDIX E

Source Code

Dashboard.js

```
$(document).ready(function () {
"use strict";

new Chartist.Line('#ct-visits', {
labels: ['2008', '2009', '2010', '2011', '2012', '2013',
'2014', '2015'],
series: [
[5, 2, 7, 4, 5, 3, 5, 4]
, [2, 5, 2, 6, 2, 5, 2, 4]
]
}, {
top: 0,
low: 1,
showPoint: true,
fullWidth: true,
plugins: [
Chartist.plugins.tooltip()
],
axisY: {
labelInterpolationFnc: function (value) {
return (value / 1) + 'k';
}
},
showArea: true
});

$(".counter").counterUp({
delay: 100,
time: 1200
});

var sparklineLogin = function () {
$('#sparklinedash').sparkline([0, 5, 6, 10, 9, 12, 4, 9], {
type: 'bar',
height: '30',
barWidth: '4',
resize: true,
barSpacing: '5',
barColor: '#7ace4c'
});
$('#sparklinedash2').sparkline([0, 5, 6, 10, 9, 12, 4, 9],
{
type: 'bar',
height: '30',
barWidth: '4',
resize: true,
barSpacing: '5',
barColor: '#7460ee'
});
$('#sparklinedash3').sparkline([0, 5, 6, 10, 9, 12, 4, 9],
{
type: 'bar',
height: '30',
barWidth: '4',
resize: true,
barSpacing: '5',
barColor: '#11a0f8'
});
$('#sparklinedash4').sparkline([0, 5, 6, 10, 9, 12, 4, 9],
{
type: 'bar',
height: '30',
barWidth: '4',
resize: true,
barSpacing: '5',
barColor: '#f33155'
});
}
var sparkResize;
$(window).on("resize", function (e) {
clearTimeout(sparkResize);
sparkResize = setTimeout(sparklineLogin, 500);
});
sparklineLogin();
});
```

Profile.php

```
<?php
include('../auth.php');
include('../connect.php');
$id=$_SESSION['SESS_MEMBER_ID'];
$result = mysql_query("SELECT * FROM login
WHERE id='$id'");
while($row = mysql_fetch_array($result))
{
$username = $row['username'];
}

$result2 = mysql_query("SELECT * FROM user
WHERE username='$username'");
while($row2 = mysql_fetch_array($result2))
{
$name = $row2["fname"].' '.$row2['lname'];
$image = $row2['image'];

}
?>
<!DOCTYPE html>
<html lang="en">
<head>
<script async
src="https://www.googletagmanager.com/gtag/js?id=
UA-90680653-2"></script>
<script>
window.dataLayer = window.dataLayer || [];
```

```
function gtag(){dataLayer.push(arguments);}
gtag('js', new Date());

gtag('config', 'UA-90680653-2');
</script>
<link rel="stylesheet" href="add.css">
<meta charset="utf-8">
<meta name="viewport" content="width=device-
width, initial-scale=1, shrink-to-fit=no">

<script type="text/javascript"
src="https://code.jquery.com/jquery-
1.9.1.js"></script>
<script type="text/javascript"
src="https://code.jquery.com/ui/1.9.2/jquery-
ui.js"></script>
<link rel="stylesheet" type="text/css"
href="https://code.jquery.com/ui/1.9.2/themes/base/jq
uery-ui.css">
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/1.10.1/css/jquery.data
Tables.css">
<script type="text/javascript"
src="https://cdn.datatables.net/1.10.1/js/jquery.dataTa
bles.min.js"></script>
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/responsive/1.0.0/css/d
ataTables.responsive.css">
<script type="text/javascript"
src="https://cdn.datatables.net/responsive/1.0.0/js/data
Tables.responsive.js"></script>
<style>

.column1 {
float: left;
width: 50%;
padding: 0 10px;
}

.row1 {margin: 0 -5px;}

.row1:after {
content: "";
display: table;
clear: both;
}

@media screen and (max-width: 600px) {
.column1 {
width: 100%;
display: block;
margin-bottom: 20px;
}
}

.card1 {
box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2);
padding: 16px;
text-align: center;
background-color: #f1f1f1;
}

.customers {
font-family: Arial, Helvetica, sans-serif;
border-collapse: collapse;
width: 100%;
}

.customers td, .customers th {
border: 1px solid #ddd;
padding: 8px;
}

.customers tr:nth-child(even){background-color:
#f2f2f2;}

.customers tr:hover {background-color: #ddd;}

.customers th {
padding-top: 12px;
padding-bottom: 12px;
text-align: left;
background-color: #5B47FB;
color: white;
}
</style>
<meta name="description" content="Responsive
Bootstrap 4 Dashboard Template">
<meta name="author" content="BootstrapDash">

<title>Trabafinder</title>

<link href="../lib/fontawesome-free/css/all.min.css"
rel="stylesheet">
<link href="../lib/ionicons/css/ionicons.min.css"
rel="stylesheet">
<link href="../lib/typicons.font/typicons.css"
rel="stylesheet">
<link href="../lib/flag-icon-css/css/flag-icon.min.css"
rel="stylesheet">

<link rel="stylesheet" href="../css/azia.css">

</head>
<body>

<div class="az-header">
<div class="container">
```

```
<div class="az-header-left">
<a href="index.php" class="az-logo"
style="color:green;text-
transform:uppercase"><span></span>
Trabafinder</a>
<a href="" id="azMenuShow" class="az-header-
menu-icon d-lg-none"><span></span></a>
</div>
<div class="az-header-menu">
<div class="az-header-menu-header">
<a href="index.php" class="az-logo"><span></span>
Trabafinder</a>
<a href="" class="close">&times;</a>
</div>
<ul class="nav">
<li class="nav-item active">
<a href="index.php" class="nav-link"><i class="typcn
typcn-chart-pie"></i> Company Profile</a>
</li>
<li class="nav-item ">
<a href="job.php" class="nav-link"><i class="typcn
typcn-book"></i> Job Hiring</a>
</li>
<li class="nav-item ">
<a href="interview.php" class="nav-link"><i
class="typcn typcn-calendar"></i> Job Interview</a>
</li>

</ul>
</div>
<div class="az-header-right">

<div class="dropdown az-profile-menu">
<a href="" class="az-img-user"><img
src="../uploads/<?php echo $image ?>" alt=""></a>
<div class="dropdown-menu">
<div class="az-dropdown-header d-sm-none">
<a href="" class="az-header-arrow"><i class="icon
ion-md-arrow-back"></i></a>
</div>
<div class="az-header-profile">
<div class="az-img-user">
<img src="../uploads/<?php echo $image ?>" alt="">
</div>
<h6><?php echo $name ?></h6>

</div>

<a href="account.php" class="dropdown-item"><i
class="typcn typcn-cog-outline"></i> Account
Settings</a>
<a href="../index.php" class="dropdown-item"><i
class="typcn typcn-power-outline"></i> Sign Out</a>
</div>
</div>
</div>
</div>

<div class="az-content az-content-dashboard">
<div class="container">
<div class="az-content-body">
<div class="az-dashboard-one-title">
<div>

</div>

</div>

<link rel="stylesheet" href="add.css">

<body>
<div class="main-content" style="margin-top:100px">

<?php
$username = $_GET['id'];
$result2 = mysql_query("SELECT * FROM user
WHERE username='$username'");
while($row2 = mysql_fetch_array($result2))
{
$name = $row2["fname"].' '.$row2['lname'];
$image = $row2['image'];
$fname =$row2['fname'];
$lname =$row2['lname'];
$email = $row2['email'];
$bday = $row2['bday'];
$contact = $row2['contact'];
$address = $row2['address'];
$image = $row2['image'];

}
?>
<div class="container-fluid mt--7">
<div class="row" style="width:100%">
<div class="col-xl-12 order-xl-1">
<div class="card bg-secondary shadow">
<div class="card-header bg-white border-0">
<div class="row align-items-center">
<div class="col-8">
<h3 class="mb-0">User Profile</h3>
</div>
<div class="col-4 text-right">

</div>
</div>
</div>
<div class="card-body">
```

```
<center><img src="../uploads/<?php echo $image ?>"
style="width:200px;height:200px;border-
radius:50%;border:1px solid #000">
</center>

</body>
</html>
```

Job.php

```
<?php
include('../auth.php');
include('../connect.php');
$id=$_SESSION['SESS_MEMBER_ID'];
$result = mysql_query("SELECT * FROM login
WHERE id='$id'");
while($row = mysql_fetch_array($result))
{
$username = $row['username'];
}

$result2 = mysql_query("SELECT * FROM user
WHERE username='$username'");
while($row2 = mysql_fetch_array($result2))
{
$name = $row2["fname"].' '.$row2['lname'];
$image = $row2['image'];

}
$result2a = mysql_query("SELECT * FROM
company WHERE username='$username'");
while($row2a = mysql_fetch_array($result2a))
{
$status = $row2a['status'];

}
if($status == '') {
echo '<script>alert("Please wait until administrator
approve your company
registration");window.location="index.php"</script>';
}
if($status == 'Declined') {
echo '<script>alert("Admistrator declined your
registration
request");window.location="index.php"</script>';
}
?>
<!DOCTYPE html>
<html lang="en">
<head>

<script async
src="https://www.googletagmanager.com/gtag/js?id=
UA-90680653-2"></script>
<script>
window.dataLayer = window.dataLayer || [];
function gtag(){dataLayer.push(arguments);}
gtag('js', new Date());

gtag('config', 'UA-90680653-2');
</script>

<meta charset="utf-8">
<meta name="viewport" content="width=device-
width, initial-scale=1, shrink-to-fit=no">

<script type="text/javascript"
src="https://code.jquery.com/jquery-
1.9.1.js"></script>
<script type="text/javascript"
src="https://code.jquery.com/ui/1.9.2/jquery-
ui.js"></script>
<link rel="stylesheet" type="text/css"
href="https://code.jquery.com/ui/1.9.2/themes/base/jq
uery-ui.css">
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/1.10.1/css/jquery.data
Tables.css">
<script type="text/javascript"
src="https://cdn.datatables.net/1.10.1/js/jquery.dataTa
bles.min.js"></script>
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/responsive/1.0.0/css/d
ataTables.responsive.css">
<script type="text/javascript"
src="https://cdn.datatables.net/responsive/1.0.0/js/data
Tables.responsive.js"></script>
<style>

.column1 {
float: left;
width: 50%;
padding: 0 10px;
}

.row1 {margin: 0 -5px;}

.row1:after {
content: "";
display: table;
clear: both;
}

@media screen and (max-width: 600px) {
.column1 {
width: 100%;
display: block;
margin-bottom: 20px;
```

```
}
}

.card1 {
box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2);
padding: 16px;
text-align: center;
background-color: #f1f1f1;
}

.customers {
font-family: Arial, Helvetica, sans-serif;
border-collapse: collapse;
width: 100%;
}

.customers td, .customers th {
border: 1px solid #ddd;
padding: 8px;
}

</head>
<body>
```

Interview.php

```
<?php
include('../auth.php');
include('../connect.php');
$id=$_SESSION['SESS_MEMBER_ID'];
$result = mysql_query("SELECT * FROM login
WHERE id='$id'");
while($row = mysql_fetch_array($result))
{
$username = $row['username'];
}

$result2 = mysql_query("SELECT * FROM user
WHERE username='$username'");
while($row2 = mysql_fetch_array($result2))
{
$name = $row2["fname"].' '.$row2['lname'];
$image = $row2['image'];

}
$result2a = mysql_query("SELECT * FROM
company WHERE username='$username'");
while($row2a = mysql_fetch_array($result2a))
{
$status = $row2a['status'];

}
if($status == '') {
echo '<script>alert("Please wait until administrator
approve your company
registration");window.location="index.php"</script>';
}
if($status == 'Declined') {
echo '<script>alert("Admistrator declined your
registration
request");window.location="index.php"</script>';
}
?>
<!DOCTYPE html>
<html lang="en">
<head>

<script async
src="https://www.googletagmanager.com/gtag/js?id=
UA-90680653-2"></script>
<script>
window.dataLayer = window.dataLayer || [];
function gtag(){dataLayer.push(arguments);}
gtag('js', new Date());

gtag('config', 'UA-90680653-2');
</script>

<meta charset="utf-8">
<meta name="viewport" content="width=device-
width, initial-scale=1, shrink-to-fit=no">
<script type="text/javascript"
src="https://code.jquery.com/jquery-
1.9.1.js"></script>
<script type="text/javascript"
src="https://code.jquery.com/ui/1.9.2/jquery-
ui.js"></script>
<link rel="stylesheet" type="text/css"
href="https://code.jquery.com/ui/1.9.2/themes/base/jq
uery-ui.css">
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/1.10.1/css/jquery.data
Tables.css">
<script type="text/javascript"
src="https://cdn.datatables.net/1.10.1/js/jquery.dataTa
bles.min.js"></script>
<link rel="stylesheet" type="text/css"
href="https://cdn.datatables.net/responsive/1.0.0/css/d
ataTables.responsive.css">
<script type="text/javascript"
src="https://cdn.datatables.net/responsive/1.0.0/js/data
Tables.responsive.js"></script>
<style>

.column1 {
float: left;
width: 50%;
```

```
padding: 0 10px;
}

.row1 {margin: 0 -5px;}
.row1:after {
content: "";
display: table;
clear: both;
}

@media screen and (max-width: 600px) {
.column1 {
width: 100%;
display: block;
margin-bottom: 20px;
}
}

.card1 {
box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2);
padding: 16px;
text-align: center;
background-color: #f1f1f1;
}

.customers {
font-family: Arial, Helvetica, sans-serif;
border-collapse: collapse;
width: 100%;
}

.customers td, .customers th {
border: 1px solid #ddd;
padding: 8px;
}

.customers tr:nth-child(even){background-color:
#f2f2f2;}

.customers tr:hover {background-color: #ddd;}

.customers th {
padding-top: 12px;
padding-bottom: 12px;
text-align: left;
background-color: #5B47FB;
color: white;
}
</body>
</html>
```

APPENDIX F

Grammarian Certificate

Republic of the Philippines
BATANGAS STATE UNIVERSITY
The National Engineering University
Alangilan Campus
Golden Country Homes, Alangilan, Batangas City, Philippines 4200
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CERTIFICATE OF EDITING

This is to certify that this Thesis/Dissertation entitled "**TRABAFINDER: A WEB-BASED ONLINE JOB SYSTEM IN CALABARZON REGION IV-A"** of **MANALAD, KEN A., AGQUIZ, APRIL JOY M., and ONDA, AIRA MAE D.**, in partial fulfillment of the requirements for the degree Bachelor of Science in Information Technology has been reviewed and edited by the undersigned based on the minutes of the Final Defense.

It now follows the standard format of the University and conventions of research writing.

MARIA ANGELICA S. LARAY
Editor
Date Signed: 5-20-2023

APPENDIX G

User Manual

TRABAFINDER: A WEB BASED ONLINE JOB SYSTEM IN CALABARZON REGION IV - A

USER'S MANUAL

Trabafinder: is a Web-based Online Job System in Calabarzon Region IV-A that automate the job application process from a manual operation. This technique would assist in reducing the amount of time spent on the job hunt. It would help employers to reduce the number of human resources required in a company and make the entire process more flexible for job seekers.

Go to the website trabafinder.tech

You will see this on the home page

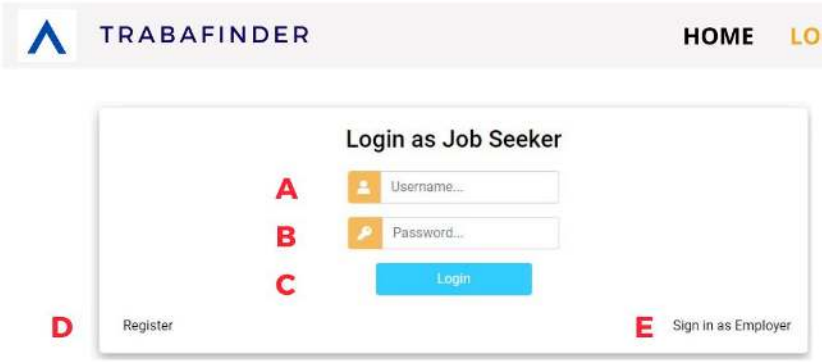
HOMEPAGE

Step 1: To look for a job, simply type job title or keywords **B**

Step 2: You can also either filter job based on it geography **C**

Simply click the **A** button to login

LOGIN PAGE



Enter your username A

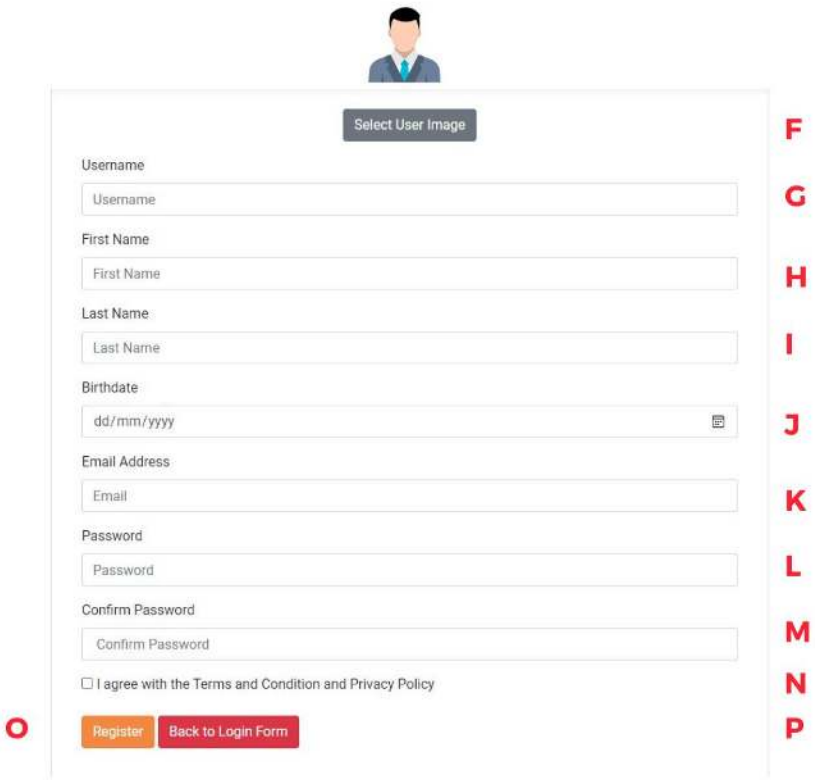
Enter your password B

Login C

Register D

Sign in as Employer or applicant E

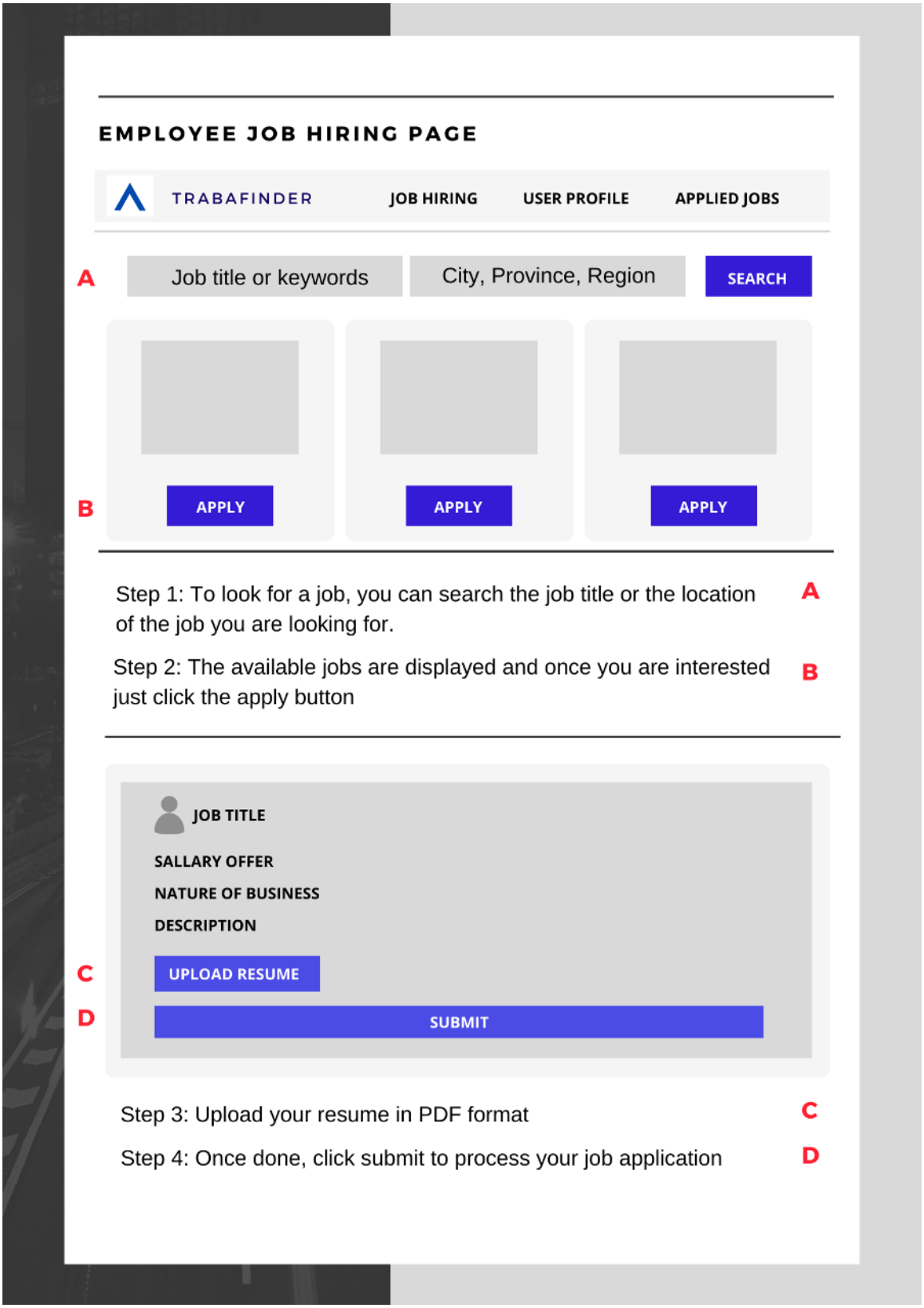
REGISTER AN ACCOUNT

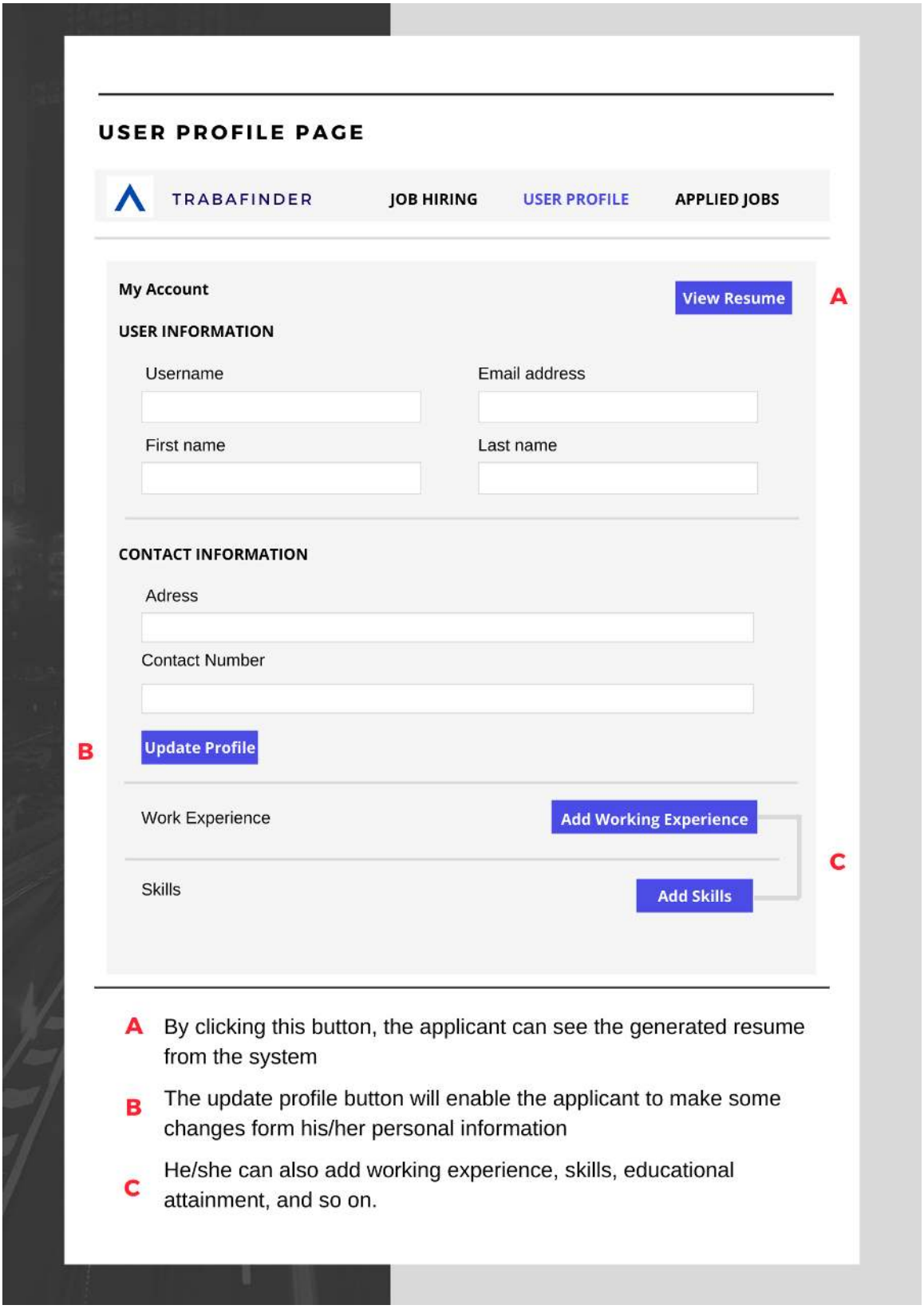


REGISTER AN ACCOUNT

If the user has no account, he/she can make one by filling up the required fields

Step 1: Choose a photo of your own that will identify you	F
Step 2: Think of a unique username of your choice	G
Step 3: Enter your first name.	H
Step 4: Followed by your last name	I
Step 5: Enter your birthdate	J
Step 6: Enter your Email address	K
Step 7: Think of a combination of password	L
Step 8: Re-enter your password for confirmation	M
Step 9: Put a check on the Terms and Condition once done reading it	N
Step 10: Click Register	O
Step 11: Go back to login form	P



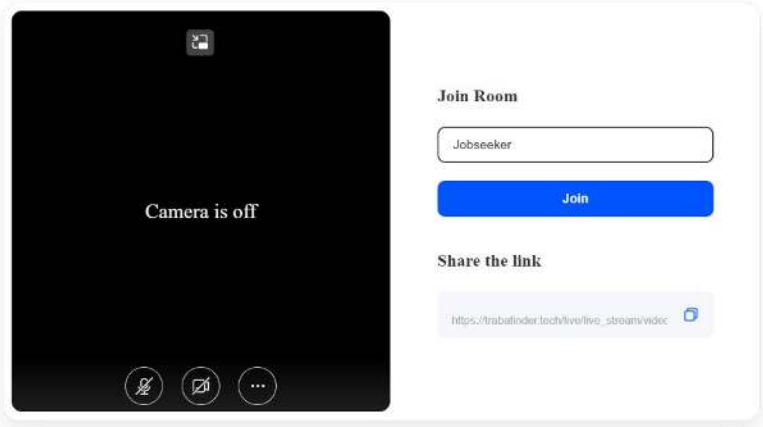


APPLIED JOB PAGE

A

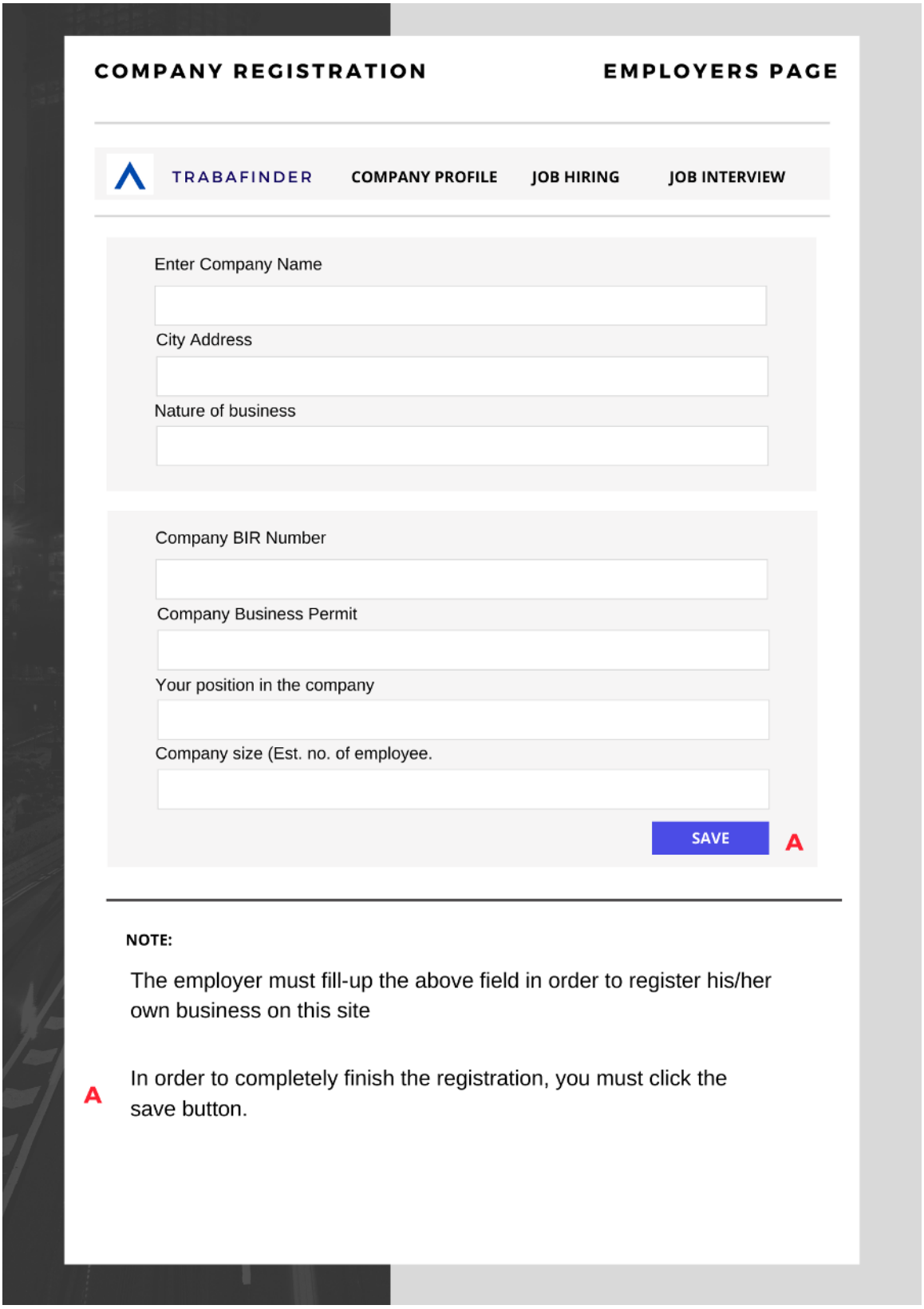
The employee can see the status of their job application in the Applied job, whether it is approved or not.

A Once the job application was approved, the job seeker can now join the online interview by clicking the button.



B

B The job seeker can now join the room once the employer starts the live broadcasting



JOB HIRING PAGE

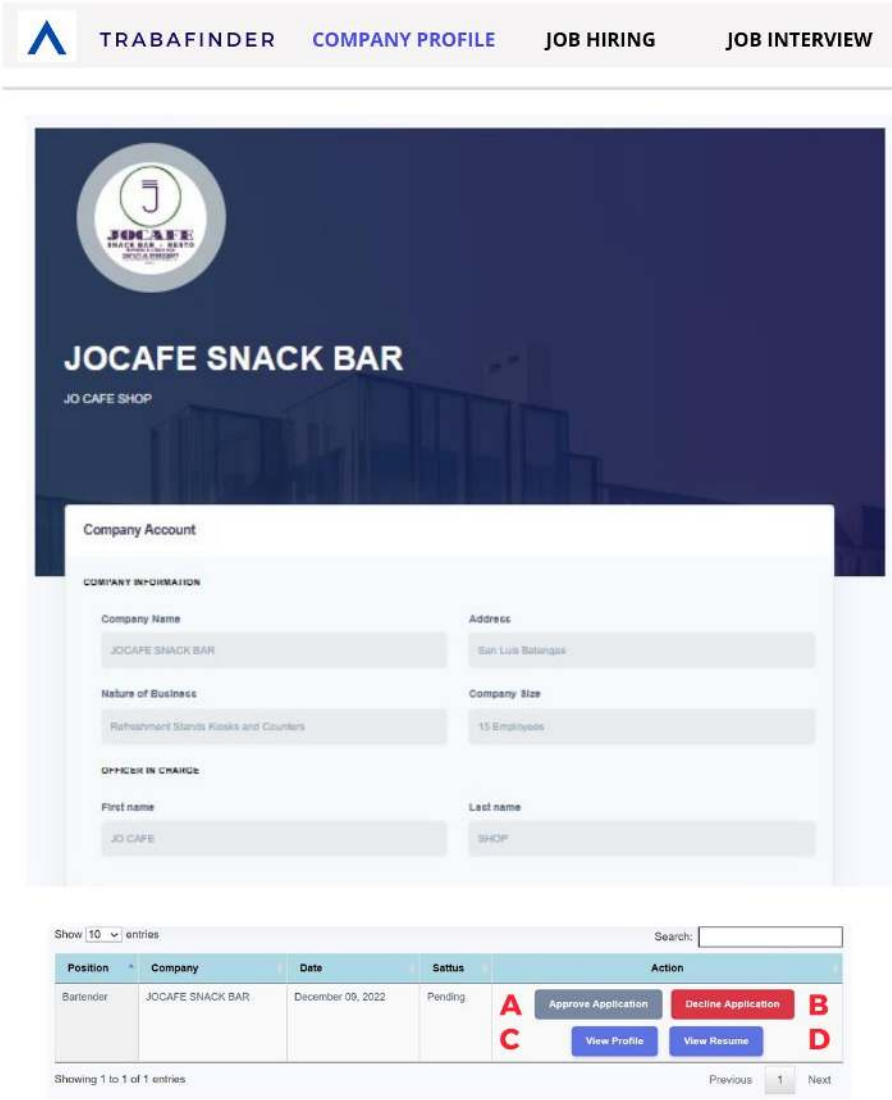
A The employer can add job vacancies once the admin approves their company registration request. Once done he/she can add job hiring post by clicking the button above.

NOTE:

The employer must fill-up every field to post job offers.

B Once you delete a posted job, it will appear in the job hiring archive

JOB HIRING PAGE



A The employer can approve job seeker application

B The employer can also decline job seeker application

C The employer can view job seeker profile

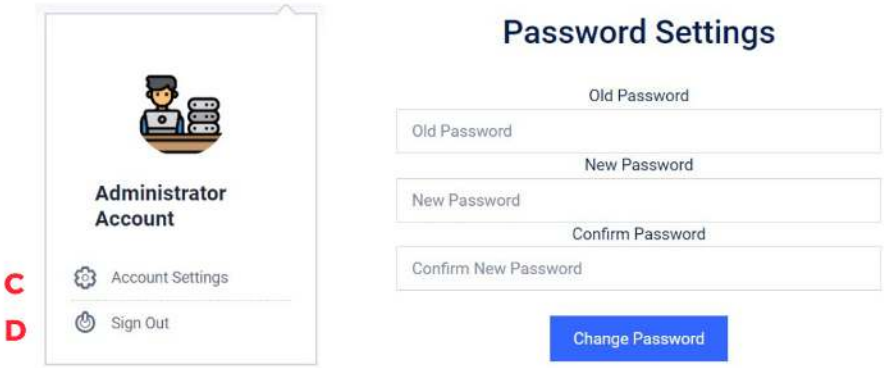
D The employer can also view job seeker uploaded resume

COMPANY REGISTRATION REQUEST

A The administrator can Approve registration request

B The administrator can also Decline registration request

ACCOUNT SETTING



C By clicking the account setting, you will be granted a capability to change you password

D \By clicking this, you will automatically sign out.

COMPANY LIST

A The View job offers display the list of all of the job posted by the Company

B By clicking the View applicants' button, it will also the list of the applicant who apply for a specific job.

REPORTS

C Print Report

C Print report button serves as a tool to print all of the gathered data from this site through charts and tables.

APPENDIX H

Bionote

April Joy M. Agquiz, 22 years old, was born in Lemery Batangas and now lives in Abiacao, San Luis, Batangas. She completed her Junior High School education in Sta. Monica National High School and graduated with honors from Lemery Colleges during Senior High School. She is now pursuing a Bachelor of Science in Information Technology with a major in Business Analytics. She completed Photoshop training at Tech4Ed in San Luis, Batangas, and was awarded a certificate of completion. She also has experience with video and photo editing software such as Adobe Photoshop and Adobe Illustrator. She has been on the dean's list from her third year-first semester and fourth year in College of Informatics and Computing Sciences in Batangas State University – The National Engineering University.

Ken A. Manalad, 22 years old, was born in San Luis Batangas and now lives in Sta. Monica, San Luis, Batangas. He graduated from Sta. Monica National High School and graduated with honors from San Luis Senior High School. He is now pursuing a Bachelor of Science in Information Technology with a major in Business Analytics. He was awarded a national certificate III in 2D animation. He was also recognized for his achievements in Information and Communication Technology and Communication Arts in San Luis Senior High School. He has been on the dean's list from his third year-first semester and fourth year in College of Informatics and Computing Sciences in Batangas State University – The National Engineering University.

Aira Mae D. Onda, 21 years old, was born in Lemery Batangas and now lives in Talon, San Luis, Batangas. She graduated Junior High School in Sta. Monica National High School and Senior High School at San Luis Senior High School. She is now currently taking a Bachelor in Science Information Technology Major in Business Analytics. She has been on the dean's list from her third year-first semester and fourth year in College of Informatics and Computing Sciences in Batangas State University – The National Engineering University.