**A web-based solution (HouseCare Connect) to Aid in Bridging the Gap between Service Providers in the Informal Sector and Customers**

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147163

**An Information System Project proposal submitted to Strathmore University in partial fulfilment of the requirements for the award of the Bachelor of Business Information Technology of Strathmore University**

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# **Declaration**

I declare that this work has not been previously submitted and approved for the award of a Bachelor’s degree by this or any other University. To the best of my knowledge and belief, the proposal contains no material previously published or written by another person except where due reference is made in the proposal itself.

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# **Approval**

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# Abstract

The informal service sector in Kenya is the major contributor to employment opportunities to the country’s citizens, yet it faces significant challenges such as limited reach in the market for service providers and quality assurance issues for both service providers and customers. This project aims to develop a web-based application, HouseCare Connect, to bridge the gap between service providers and customers. By taking advantage of the features of Information Technology, this platform will offer functionalities such as geographic vendor requests and tracking, as well as a rating system that will improve credibility and accessibility. The project identifies key issues in the sector including insufficient advertising , the prevalence of fraudulent and incompetent service providers and interference by the government in the conducting of business in the informal sector. Through the application of Object-Oriented Analysis and Design (OOAD) and the Waterfall model, the solution is designed to simplify the hiring process and improve service delivery. The project also considers limitations such as technological restrictions to highly populated urban areas and the need for continuous quality control to safeguard from fraudulent suppliers. HouseCare Connect aims to significantly improve the livelihoods of service provides in the informal sectors and ensure reliable access to maintenance services for household, thereby addressing a critical gap in Kenya’s informal sector.

Contents

[**Declaration** i](#_Toc166849785)

[**Approval** i](#_Toc166849786)

[Abstract ii](#_Toc166849787)

[**Chapter 1: Introduction** 1](#_Toc166849788)

[1.1 Background 1](#_Toc166849789)

[1.2 Problem Statement 2](#_Toc166849790)

[1.3 General Objective 3](#_Toc166849791)

[1.4 Specific Objectives 3](#_Toc166849792)

[3.1 Justification 3](#_Toc166849793)

[1.6 Scope 3](#_Toc166849794)

[1.7 Limitations 4](#_Toc166849795)

[1.7.1 Technological Restrictions 4](#_Toc166849796)

[1.7.2 Geographical Coverage 4](#_Toc166849797)

[1.7.3 Quality Control 4](#_Toc166849798)

[Chapter 2: Literature Review 5](#_Toc166849799)

[2.1 Introduction 5](#_Toc166849800)

[2.2 The Economic Environment for Informal Service Providers 5](#_Toc166849801)

[2.3 Challenges Faced by Service Providers and Customers in the Informal Service Industry 5](#_Toc166849802)

[2.3.1 Reachability challenges 5](#_Toc166849803)

[2.3.2 Quality assurance conflict 6](#_Toc166849804)

[2.3.3 Inefficient government oversight 6](#_Toc166849805)

[2.4 Review of existing Job-Finding Solutions 6](#_Toc166849806)

[2.4.1 LinkedIn 6](#_Toc166849807)

[2.4.2 MyJobMag 7](#_Toc166849808)

[2.4.3 Meetup 7](#_Toc166849809)

[2.5 Conceptual Framework 7](#_Toc166849810)

[Chapter 3: Methodology 9](#_Toc166849811)

[3.1 Introduction 9](#_Toc166849812)

[3.2 Research approach 9](#_Toc166849813)

[3.3 Methodology 9](#_Toc166849814)

[3.3.1 Requirements 10](#_Toc166849815)

[3.3.2 System Design 10](#_Toc166849816)

[3.3.2.1 System Architecture 11](#_Toc166849817)

[3.3.2.2 Use Case Diagram 11](#_Toc166849818)

[3.3.2.3 Context Diagram 11](#_Toc166849819)

[3.3.2.4 Sequence Diagrams 11](#_Toc166849820)

[3.3.2.5 Entity Relationship Diagram 11](#_Toc166849821)

[3.3.3 Implementation 12](#_Toc166849822)

[3.3.4 Testing 13](#_Toc166849823)

[3.3.4.1 User Testing 13](#_Toc166849824)

[3.3.4.2 Unit testing 13](#_Toc166849825)

[3.3.4.3 Integration Testing 13](#_Toc166849826)

[3.3.4.4 Stress Testing 13](#_Toc166849827)

[3.4 Deliverables 13](#_Toc166849828)

[3.4.1 User’s Module 13](#_Toc166849829)

[3.4.2 Service Provider module 14](#_Toc166849830)

[3.4.3 Administrator’s Module 14](#_Toc166849831)

[3.4.4 Security and Authentication 14](#_Toc166849832)

[3.4.5 System reports 14](#_Toc166849833)

[References iv](#_Toc166849834)

[APPENDIX A: TIME SCHEDULE vi](#_Toc166849835)

[Figure 1 8](#_Toc166847859)

[Figure 2 10](#_Toc166847860)

# **Chapter 1: Introduction**

* 1. Background

Providers in the service sector exists as unsung heroes today. In Kenya, very little research on the topic of the informal sector has actually been conducted (Murunga, 2021). This is in spite of it providing the majority of employment opportunities for the population. With population growth in urban areas, where lifestyles and commitments rarely leave time for one to be able to deal with these emergencies personally shall they occur, and the increase in cases of sub-par construction practices, which in turn only increases the chances of these emergencies occurring, these services have ended up being needed now more than ever before.

One of the most prominent issues plaguing this sector is a lack of reachability (Federation of Kenyan Employers, 2021). Service providers in this field operate as independent contractors, with no way of making the services they offer known to potential customers. Little more than word of mouth from their existing customer base serves as an effective advertisement method. This then leads to a problem of credibility, as it is impossible to ascertain the quality of one’s work purely of the word of one previous customer. This increases the chances of customers hiring either incompetent service providers, who give sub – par solutions that do not last, or fraudulent service providers, whose goal is to extort customers.

These challenges have a bigger impact on those who earn a low income (Ilinca, 2019). The lower disposable income they receive limits their options of service providers, thus exposing them even further to bad actors in the industry. Access to caretakers and care services is limited to those in lower tax brackets, even though the number of occupants per household is higher compared to rich households ( 4.4 household members in households in the top expenditure quintile to 6.8 household members in the lowest) (Ilinca, 2019). This will lead to overuse of the available low – quality amenities, leading to wear that will require maintenance, which cannot be comfortably footed by these households.

The current system, or lack thereof, lacks a unified platform that can address, and at the very least, mitigate, these shortcomings. A solution created with the users as the focus is required to streamline the already long and convoluted process of seeking out and hiring these services. This proposal outlines the development service provider locator platform that utilizes the abilities of Information Technology (IT) to address the issues affecting the maintenance service industry. The proposed platform will offer functionalities such as vendor tracking that will allow vendors of different services to be shown to the user based on geographical proximity. There will also be a rating system, through which users can compare vendors based on competence and pick the best choice available to them.

The current system, or lack thereof, lacks a unified platform that can address, and at the very least, mitigate, these shortcomings. A solution created with the users as the focus is required to streamline the already long and convoluted process of seeking out and hiring these services.

The current state of the maintenance and care service industry in Kenya presents a glaring risk to hundreds of thousands of households in the country. However, this also presents an opportunity for the use of Information Technology to create an efficient, reliable and user-friendly solution. By creating a vendor locator platform that bring service providers and consumers together, we can improve the lives of Kenyans, as well as preventing an untold number of household emergencies countrywide.

1.2 Problem Statement

The informal sector is the largest sector in Kenya in terms of occupants with a total of 15.96 million people, making up 83 percent of the total employed people in the country in 2022 (Cowling, 2023). This is due to its low barrier of entry to the market, requiring at most acquisition of a technical skill such as carpentry. The informal sector suffers from a reachability problem. Four out of five informal enterprises do no advertise their products or services (Federation of Kenyan Employers, 2021)They rely on little more than word-of-mouth referrals. As a networking tool, word of mouth is insufficient as it lacks reach, frequency and impact (Dobinson, 2016).

Job listings in newspapers like "The Star" and "MyJobMag" attempt to address this problem by advertising a variety of openings on the favoured platforms; however, because the listings are not profession-specific, the majority of them are missed by job searchers. This is because these sites tend to favour formal employment opportunities, as they are more focused on written credentials (Raymond, 2024) Most of the listings are not taken despite being relisted a few times since some of them do not include all the information needed to complete the work, such as compensation, location, and number of hours necessary.

Many people in these professions take out loans to cover their tuition or to purchase specialized equipment that would enable them to provide services more effectively (Federation of Kenyan Employers, 2021). These loans must be repaid, but the majority of borrowers fail to do so, and the equipment they purchase is seized or declared bankrupt by the banks, which makes it much more difficult to get employment. Most people who are unemployed experience sadness or turn to criminal activity in an attempt to survive.

1.3 General Objective

To create a web-based application that offers a link between customers and service providers in the informal sector.

1.4 Specific Objectives

1. To understand the challenges that service providers in the informal sector such as plumbers, technicians and guardians go through.
2. To review existing systems that will be used by service providers in the informal sector.
3. To design a web application and USSD solution that will allow the posting of specific job listings within a designated geographic area.
4. To develop the designed system
5. To test the developed system.
   1. Justification

This solution will help residents reach vital services in times of emergencies, when it is required and at prices that they are able to afford. This will help in keeping hygiene levels in homes at a consistently high level, while at the same time enabling homeowners to fix potentially life-threatening emergencies such as faulty electrical wires, clogged pipes and gas leaks when they occur, preventing possible injuries and fatalities.

This project also gets to help the service providers by connecting them to a wide customer base, thus promoting their businesses. Through a rating system, fraudulent or incompetent service providers will be essentially purged from the ecosystem, eliminating cases of such and ensuring quality work from the service providers for customers.

1.6 Scope

By connecting qualified service providers with clients in need of their skills and establishing a strong local services ecosystem, HouseCare Connect aims to decrease the number of unemployed individuals with technical competence. The system will be focused on how best to bridge the gap between demand and willing and competent service providers. Issues such as pricing and official paperwork will be left out as they cannot be covered with the time allotted. This is because since pricing will be handled on a service provider – to customer basis (where it is on both to agree on a suitable payment) and legal credentials fall on a separate field of expertise that would take up time to research and learn.

1.7 Limitations

There are certain limitations that must be acknowledged.

1.7.1 Technological Restrictions

The access and running of this solution are dependent entirely on access to a stable internet connection. Areas with limited access to internet connection will unlikely be unable to use the platform effectively, or at all.

1.7.2 Geographical Coverage

For the platform to be used optimally, focus will be placed on specific geographic areas, such as urban areas and towns. Coverage on remote areas will pose logistical challenges.

1.7.3 Quality Control

While the rating system aims to help uphold service quality from associated providers, its effectiveness requires continuous supervision. As it is reliant on human opinion, false or biased ratings will only hurt the credibility of the platform.

Chapter 2: Literature Review

2.1 Introduction

This chapter goes through literature regarding existing challenges faced by informal service providers. Existing solutions and alternatives have also been reviewed and a conceptual framework has been provided to illustrate how the proposed system will work to meet gaps overlooked by existing solutions.

2.2 The Economic Environment for Informal Service Providers

This project will be targeting the service industry, since it focuses on the experiences that service providers such as plumbers and electricians go through regardless of their level of experience.

In most developed and developing countries, vocations like plumbers and electricians are in short supply. Continents like Europe, with countries having pivoted to focus more on providing formal education to its citizens, have experienced to a higher degree, with 19 of 24 countries reporting a shortage of such personnel, and 9 of these 19 reporting a high shortage (McGrath, 2021). This mainly affects urban areas, as increase in general populations and lifestyles put a strain on existing resources within towns, requiring maintenance, as opposed to rural areas, which tend to rely on more traditional methods of waste management, drainage and energy usage.

This solution will be focused on, at the very least, exposing this small supplier base to a potential wide market. This also has the possibility of increasing the number of potential service providers by providing an avenue to enter the market easily.

2.3 Challenges Faced by Service Providers and Customers in the Informal Service Industry

2.3.1 Reachability challenges

Service providers in the informal service industry face several challenges. Primarily, they face a problem of reachability (Federation of Kenyan Employers, 2021). Very few service providers are contracted under large firms as in-house maintenance personnel, or banded together with others to form a small business that can advertise the services they offer. The majority operate as independent contractors, taking to training in more than one area of expertise. This is done to make up for the narrow demand of each of them by being a supplier in all fields at once, from menial labour like cleaning to more skill-intensive vocations like metalwork.

2.3.2 Quality assurance conflict

Both service providers and customers in this field are faced with a quality assurance problem. Customers have little to go on in regard to verifying the quality of a service provider’s work, save from word of mouth. This can be seen as a consequence of the nature of the informal sector in Kenya, which is characterized by a significant portion of it including activities that are usually unrecorded.

Conversely, service providers are faced with an ever-growing number of suppliers in a market that goes largely unregulated. This leads to unrestricted access to any potential suppliers, regardless of skill. On top of this, there is a low level of unionization for informal workers. 99% of informal workers do not belong to any trade union (Federation of Kenyan Employers, 2021). This can pose a threat to customer safety as independent agents are left to conduct business with little to no oversight.

2.3.3 Inefficient government oversight

The informal sector is faced with an issue of licensing (Federation of Kenyan Employers, 2021). Due to the large pool of service providers, the government is unable to fully certify all suppliers in the market. Thus, taxing exercises on the informal sector has been lacking (Murunga J. M., 2021). To make up for this, the government imposes higher tax rates on the formal sector.

Service providers are also faced with harassment from local authorities (Federation of Kenyan Employers, 2021). This mainly comes from county authorities that either confiscate or destroy their merchandize, along with frequent arrests while conducting business.

2.4 Review of existing Job-Finding Solutions

The existing solutions in this area are as stated below.

2.4.1 LinkedIn

LinkedIn is a professional networking and job-searching platform where users are able to apply for positions both domestically and internationally. It also facilitates training programmes to its users as a means of broadening career prospects. LinkedIn has continued to be a pioneer in facilitating networking in the corporate field since 2003, though it is not without shortcomings. One major drawback is its barrier of entry. To be able to make any headway on the platform, one will most likely require a list of credentials. This overreliance on quantifiable achievements serves to actively hinder jobs in the informal sector, where on-the-ground experience is deemed more important. Second, a lot of the site’s features are locked behind a paywall. This would lead to an imbalance within its ecosystem, where those who pay get preferential treatment by the algorithm in terms of exposure to potential employers (Amin, 2023).

2.4.2 MyJobMag

MyJobMag is website that primarily focuses on connecting its users to potential employers, rather than a tool for forming business networks. It has a much smaller scope than that of LinkedIn, narrowing it down to four major countries in Africa (namely Kenya, Nigeria, Ghana and South Africa), and constricting operations of users to their countries of origins. MyJobMag suffers from the same overreliance on credentials as LinkedIn, though at a lower severity. Due to their smaller scope, job options become even more limited. However, they are able to more accurately record statistics on jobs offered and searched on a yearly basis (MyJobMag, 2024).

2.4.3 Meetup

Meetup is an online application whose core focus is facilitating networking. Meetings range from leisure gatherings to corporate conferences. Gatherings posted on this platform are user-made, with little platform intervention (Techboomers, 2022). This means that most of the networking process is done physically, rather than on the platform itself. The platform’s ecosystem has developed over the years, pivoting to gatherings centred around the IT and business fields. The informal sector is a field majorly untouched by the platform’s users.

2.5 Conceptual Framework

This is a conceptual framework for how the proposed system will function. Customers will register to the platform using their name, phone number and address to a database. After successful registering and log in to the platform, the user will be able to choose from a variety of services. The platform will then populate a list of service providers that operate withing range of the customer’s address. Upon selecting a suitable service provider, the user will receive their contact information and are free to contact them directly.

For service providers, they will first have to register using their name, phone number, the service to be provided and their area of operation. They will then be entered into a database that will be called whenever user requests are made.

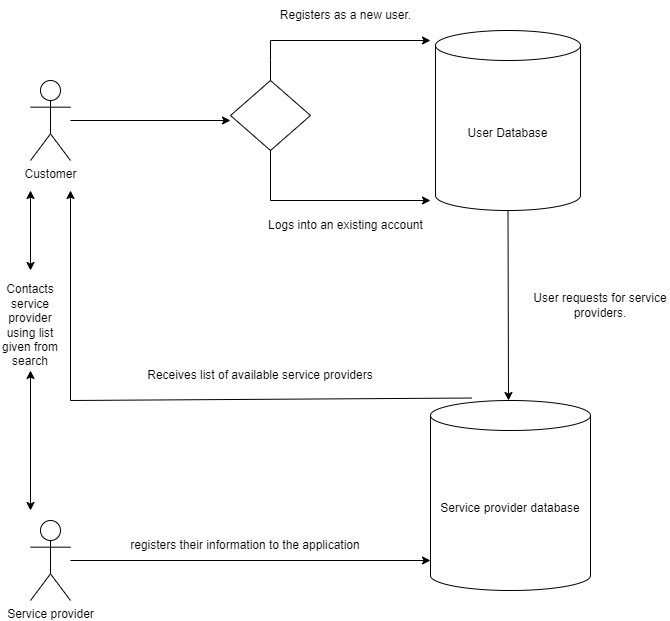


Figure 1

*Figure 1: Conceptional framework*

Chapter 3: Methodology

3.1 Introduction

The approach that will be taken to develop the suggested solution is explained in detail in this chapter. It provides comprehensive details about the requirements acquired for the suggested system, the designs it will go through, the development process, and the methods used to test its functionality. It was decided that the waterfall technique was the best option.

3.2 Research approach

OOAD, or object-oriented analysis and design, is a software engineering methodology that presents a system as a group of related objects. Every object in the system being modelled has a class, state (components of data), and behaviour that define it and make it meaningful. Assuming that the OOAD concepts allow for straightforward implementation integration with the preferred programming language, the OOAD method diagrams were chosen because they made it easier to move from the design to the implementation (coding) phases (Aslina Saad, 219).

3.3 Methodology

The waterfall model will be the approach taken in this case. A sequence of steps is followed in this software development process. This model follows a sequential progression during the production cycle. You can't get to the next step unless you finish the previous one. As a result, the requirements will be thoroughly understood, the stages will be precisely specified, and task organization will be simple.

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Figure 2

Waterfall Model

Institute Project management

3.3.1 Requirements

Reviews of documents and some literature on solutions aimed at resolving the labour shortage and unemployment in the technical sector satisfied the requirements gathering process. Reviewing a range of papers gave us a better understanding of the different problems in this field and made it easier for us to comprehend a number of things that we would not have known when conducting our research.

3.3.2 System Design

The appearance and functionality of the system will be defined at this stage through concepts. To see the intended appearance and functionality of the system, analysis and design diagrams will be produced. As a blueprint for the suggested solution, the following diagrams will be utilized:

3.3.2.1 System Architecture

The utilization of System Architecture is intended to demonstrate how the system functionality for User Interfaces and data transfer across modules will be implemented (System Architecture Diagram, 2021) .With modules for the patient, doctor, and admin, it contains the primary solution. The blockchain functions as a database, and smart contracts are used to transfer data to and from the blockchain. A centralized database is used to hold credentials for non-wallet users in the admin modules. It will guarantee that the plan is carried out effectively and that a solid framework is produced.

3.3.2.2 Use Case Diagram

A Use Case Diagram will demonstrate to users how the system functions (UML case Diagram, 2024)The users, system functionalities, and the connections between the users and functionalities will all be depicted in the diagrams. The users comprise the user, the service provider, and the administrators who enter the backend data on behalf of the other users. Signing in, logging in, wallet authentication, work data approval, service provider data request and review, and USSD data input are among the functionalities. Signing up, signing in, requesting services, approving jobs, making payments, confirming payments, and entering data pertinent to the fields on the solutions installed are among the functional requirements of the system.

3.3.2.3 Context Diagram

Data flows through the system will be displayed in a context diagram (Context diagram, 2024). It will include data storage, data inputs and outputs, and a number of smaller operations where the data is moved.

3.3.2.4 Sequence Diagrams

A sequence diagram will demonstrate how users, service provider, and administrators interact with the system and how information is distributed to each of them (Sequence Diagram, 2024)

3.3.2.5 Entity Relationship Diagram

The system model will be represented by the entity relationship diagram (Entity Relationship Diagram model, 2024)It will display all of the database tables' visual tools as well as the relationships between service providers, admin entities, and users. These entities will have characteristics, such the login and user ID, that expressly specify their characteristics.

3.3.3 Implementation

The technologies listed below will be used to implement our system's development in this instance. A blockchain-based decentralized application solution will be included with the USSD.   
Since Elarian SDK is a local Internet service provider, laravel will be utilized for the USSD because it is a user-friendly technology. JavaScript is used to create the front end of the decentralized application, and it functions best when combined with contemporary responsive frameworks. Because Ethereum has a large user base and robust support, the smart contracts will communicate with it using the Solidity language. PHP can be easily linked into other local database interactions, therefore it will be used as the backend for data transmission and reception.

|  |  |  |
| --- | --- | --- |
| TOOL | FUNCTION | REASON |
| HTML  and CSS | Builds the frontside of the application | Simple to compose and comprehend |
| JavaScript | It makes static web pages more dynamic by allowing for interaction and dynamic material. | has a wide range of frameworks accessible, making it easy to use. |
| PHP | Interact with the local database | Technical Knowhow |
| PHPMyAdmin | Stores and Transacts Data | User friendly |
| Solidity | Modify and Transact info on the blockchain | Wide acceptance with open-source codes |
| Ethereum Blockchain | Store smart contract data | Widespread technical knowledge in reference to building the decentralized Applications. |

3.3.4 Testing

This will guarantee that the suggested solution functions properly and satisfies the necessary requirements to be released onto the market.

3.3.4.1 User Testing

This will be done to assess how user-friendly the suggested solution is and how simple it is for users to use both the online application and the USSD.

3.3.4.2 Unit testing

This will be done to make sure every single part of the system functions, which will help to enhance performance and lessen the number of bugs.

3.3.4.3 Integration Testing

This is to guarantee consistency between the data on the local database and the blockchain, as well as between the USSD and the online application.

3.3.4.4 Stress Testing

To be completed with the automated vulnerability scanner tool Burp Suite. Knowing the suggested solution's load limit will be made easier by this.

3.4 Deliverables

There will be a number of modules and system reports in the suggested solution.

3.4.1 User’s Module

This module will show the details of the service provider, enabling the user to make a reservation, pay the provider, rate the job performed (adding stars and comments), and describe the tasks that still need to be completed.

3.4.2 Service Provider module

This module will show the user's uploaded work, the day the job needs to be completed (it can be one day or several days), the user's location, and the range of the payment amount.

3.4.3 Administrator’s Module

This module will show the transactions that are occurring, the work that has been posted and accepted by the service provider, the total number of jobs the provider has accepted, and a check to see if the payment for the job is acceptable.

3.4.4 Security and Authentication

In the suggested method, users will be asked to enter their names and passwords in order to gain access to the system, and service providers will be asked for their unique identities, which they may use to log in and access their data and advancement.

3.4.5 System reports

The system will produce reports on the work done by the service provider and their reviews in order to monitor the suggested fixes. Additionally, the system will provide payment reports.

# References

Amin, H. (2023, January 10). *Advantage & Disadvantage*. From linkedin.com: https://www.linkedin.com/pulse/advantage-disadvantage-hassan-amin/

Aslina Saad, H. M. (219, September). OOAD VS SSAD. *IJEAT*, pp. 82-86.

Context diagram. (2024, March). From https://www.geeksforgeeks.org/context-diagrams/

Cowling, N. (2023, October 18). *Individuals engaged in the informal sector in Kenya in 2022, by activity.* From statista.com: https://www.statista.com/statistics/1134287/informal-sector-employment-in-kenya-by-activity/

Dobinson, P. (2016, April 22). *Why word of mouth is not enough (or why we have to hunt!).* From linkedin.com: https://www.linkedin.com/pulse/why-word-mouth-enough-we-have-hunt-paul-dobinson-mba/

Entity Relationship Diagram model. (2024, April 8). From https://www.geeksforgeeks.org/introduction-of-er-model/

Federation of Kenyan Employers. (2021, March). *The Informal Economy in Kenya.* From https://webapps.ilo.org/wcmsp5/groups/public/---ed\_emp/---emp\_ent/documents/publication/wcms\_820312.pdf

Federation of Kenyan Employers. (2021, March). *webapps.io.* From International Labour Organization: https://webapps.ilo.org/wcmsp5/groups/public/---ed\_emp/---emp\_ent/documents/publication/wcms\_820312.pdf

Ilinca, S. D. (2019, December 18). *Socio-economic inequality and inequity in use of health care services in Kenya: evidence from the fourth Kenya household health expenditure and utilization survey.* From International Journal for Equity in Health: https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-019-1106-z#citeas

McGrath, J. (2021, November). *Report on Labour Shortages and Surpluses.* From https://www.ela.europa.eu/sites/default/files/2023-12/2021\_Labour\_shortages\_surpluses\_report.pdf

Murunga, J. M. (2021, November 22). *Estimating the size of the informal sectior in Kenya.* From Taylor & Francis Online: https://doi.org/10.1080/23322039.2021.2003000

Murunga, J. M. (2021, November 1). *Estimating the size of the informal sector in Kenya.* From Taylor & Francis Online.: https://www.tandfonline.com/doi/full/10.1080/23322039.2021.2003000

MyJobMag. (2024, January 30). *Kenya Job Search Report 2024*. From www.myjobmag.co.ke: https://www.myjobmag.co.ke/blog/kenya-job-search-report-2024

Raymond, D. (2024, April 17). *Top 10 Cons & Disadvantages of LinkedIn.* From ProjectManagers.net: https://projectmanagers.net/top-10-cons-disadvantages-of-linkedin/

Sequence Diagram. (2024, January 16). From https://www.geeksforgeeks.org/unified-modeling-language-uml-sequence-diagrams/

*System Architecture Diagram*. (2021, 11 30). From EdrawMax: https://www.edrawsoft.com/architecture-diagram.html

Techboomers. (2022, March 16). *What Is Meetup and How Does It Work?* From techboomers.com: https://techboomers.com/t/what-is-meetup-how-it-works

UML case Diagram. (2024). From https://www.geeksforgeeks.org/use-case-diagram/

APPENDIX A: TIME SCHEDULE

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