Handyman Services System

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147683

An Object-Oriented Programming Project proposal submitted to Strathmore Institute in partial fulfilment of the requirements for the award of the Diploma in Business Information Technology

Strathmore Institute
Strathmore University
Nairobi, Kenya

03/05/2022

Declaration

I Judith Nyabuto declare that this work has not been previously submitted and approved for the award of a Diploma Certificate 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.

Student's signature:

…………………………….………….. [*Signature*]

…………………………….………….. [*Date*]

Approval

The Object-Oriented Programming Project proposal of Judith Nyabuto was reviewed and approved *(for examination)* by:

Lecturer's signature:

……………………….………….. [*Signature*]

……………………….………….. [*Date*]

Abstract

Finding a handyman to repair something broken in the home is something every household will do at least once a year. Finding a handyman to do the job might be difficult. Households rely on friends, neighbors, family, and their workers to find a handyman when they need something fixed. Most of the time, the handyman they are referred to might not be well equipped to do the job. Other times, the handyman might not be a trusted person that could be left in the home to do the job while the household is attending to other activities.

The objective of this project is to build a system that will make it easier for households to find trusted and qualified handymen for the repairs that they need done. Plumbers, electricians, gardeners, carpenters, and all other handymen will sign up on the system. They will need to provide proof of training and qualification to do the job. They will also identify their locality to make it easier for clients in their locality to find them. Clients will visit the site and go through the listed handymen in their area then select the one they feel will best fit their needs based on his qualifications, locality, price, and portfolio.

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Chapter 1: Introduction

1.1 Background

Handyman services in Kenya are currently not viewed as a professional field that needs order and qualification. Households rely heavily on word of mouth to find handymen whenever they need repairs done in their homes. This applies to business owners as well. Most of the fixes currently being done are done by people who have learnt the skill through watching others perform the tasks but have no qualification.

A client will ask her neighbors, family, or friends for a referral. They will reach out to the handyman and the handyman will come to their home or business premise and asses the repairs that need to be made. The cost will be agreed upon. The handyman will do the job, receive their payment, and leave.

1.2 Problem Statement

Finding a handyman can be a headache. Because of having to rely on others, households and businesses might be forced to wait for hours and sometimes even days for a handyman to be available. Sometimes the person must travel a long distance to reach the client which can be time consuming.

The handymen that currently exist do not have a portfolio or testimonials from other clients. They are not properly documented, and it might be difficult to get someone who knows the job as well as they should. The price is normally discussed before the job is done and clients have no way of knowing whether they have been overcharged.

Households and businesses will most of the time sit and wait for the handyman to do their job because there is no way to tell if the person can be trusted to be left alone. Once the handyman leaves, there might not be a way to reach them again in case the job they did was not done very well. There is no way to give feedback regarding the services received or warm possible future clients of any unprofessional behavior that might have been experienced.

1.3 Aim

The purpose of this project is to build a system that will make it easy for households and businesses to locate reputable handymen within their locality. Handymen will also be able to find work easily and build a portfolio that will assist build their career.

The system will also help in eliminating the competition from non-trained handymen and allow trained professional to practice their trade and earn a living from it.

1.4 Specific Objectives

i. To review the challenges faced by businesses and household as they seek handyman services.
ii. To review the challenges faced by professional handymen in finding work and competing with non-trained handymen.
iii. To analyze the existing platforms for finding handymen in Kenya.
iv. To design a system that will automate the processes of finding a handyman for clients as well as the process of finding clients for handymen.
v. To successfully test the handyman services system.

1.4.1 Research Questions

i. How often do you need repairs done in your home or business premise?
ii. How do you currently find a handyman when you need repairs done?
iii. Rate the service you received from your last handyman out of 10.
iv. If there was an online system for finding a handyman, would you use it as opposed to asking your friends and family for referrals?

1.5 Justification

The use of a handyman services system will reduce the stress of finding a reputable handyman for services. Households and businesses will be able to find someone within their price range and locality with a few clicks of a button.

1.6 Scope and Limitations

The project will focus on creating a handyman services system. The aim is to make it easier for clients to find handymen within their area. The project also aims to get clients certified and reputable handymen. It is also aimed at helping certified handymen find clients more easily.

The biggest challenge the project will face is getting handymen to sign up as most of them are used to getting customers by referrals. Getting clients to sign up to use the service might also be a bit difficult at first as is with new things. Security of both customer and handyman data is also a vulnerability we anticipate as with everything online, there is always a hacking risk.

Chapter 2: Existing Handyman Services Systems

2.1 Introduction

This chapter will discuss the challenges encountered by households and businesses as they seek handyman services. It will also highlight the challenges faced by qualified handymen in finding work. The chapter will also discuss existing solutions in the market and their limitations.

2.2 Existing Handyman Services Systems

2.2.1 Jiji.ke

Jiji is an online platform where service providers and retailers can advertise their products and services. The site is free for both clients and sellers. The user interface is quite friendly, and clients can go through the listed service provider and choose the one they prefer. (https://jiji.co.ke/)
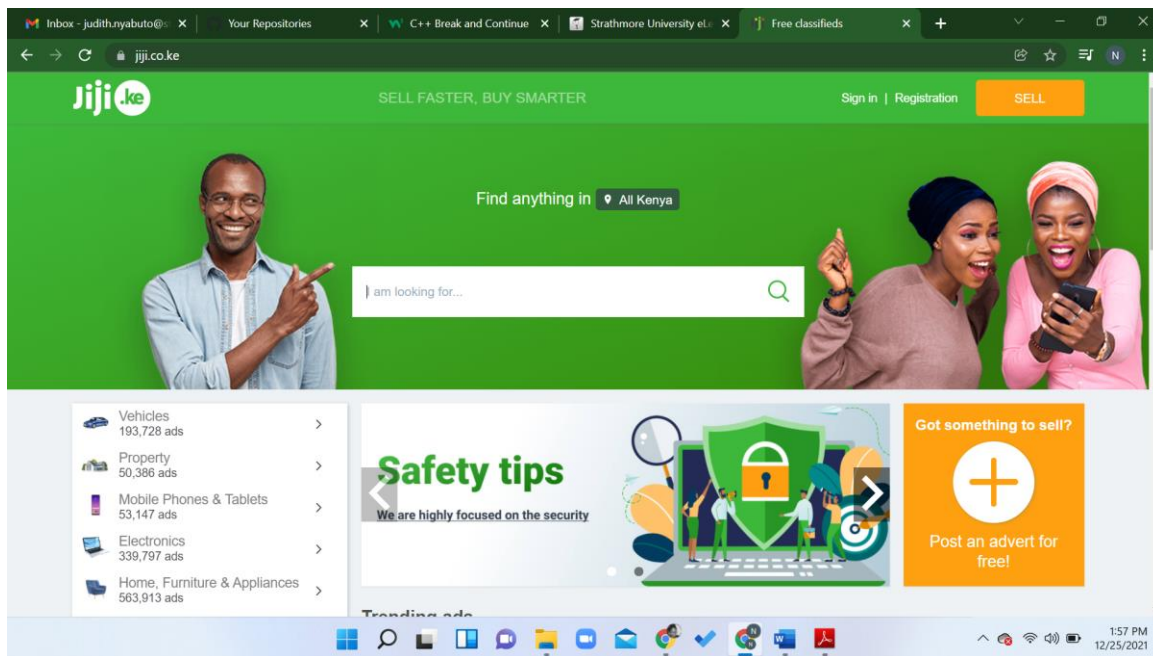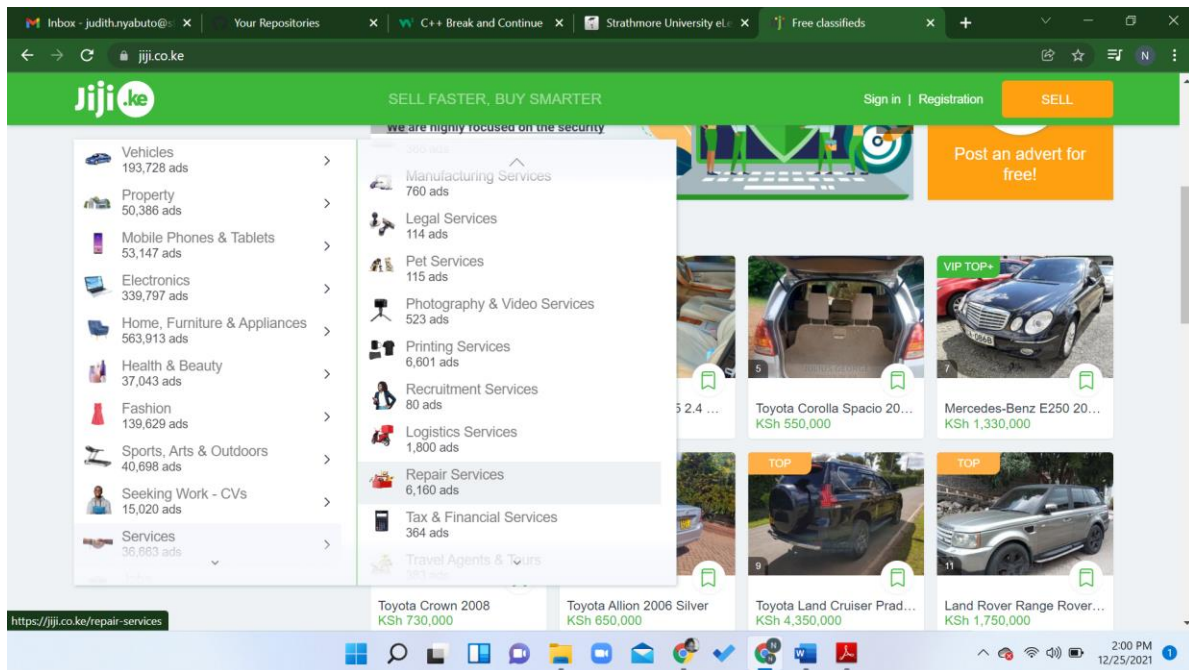

Figure 2.1: Jiji Interface

Figure 2.2: Jiji finding services menu

2.2.2 Houzz.com

Houzz is an international site that provides home services. The site offers a wide range of services including design ideas when building or renovating a home. (https://www.houzz.com/)
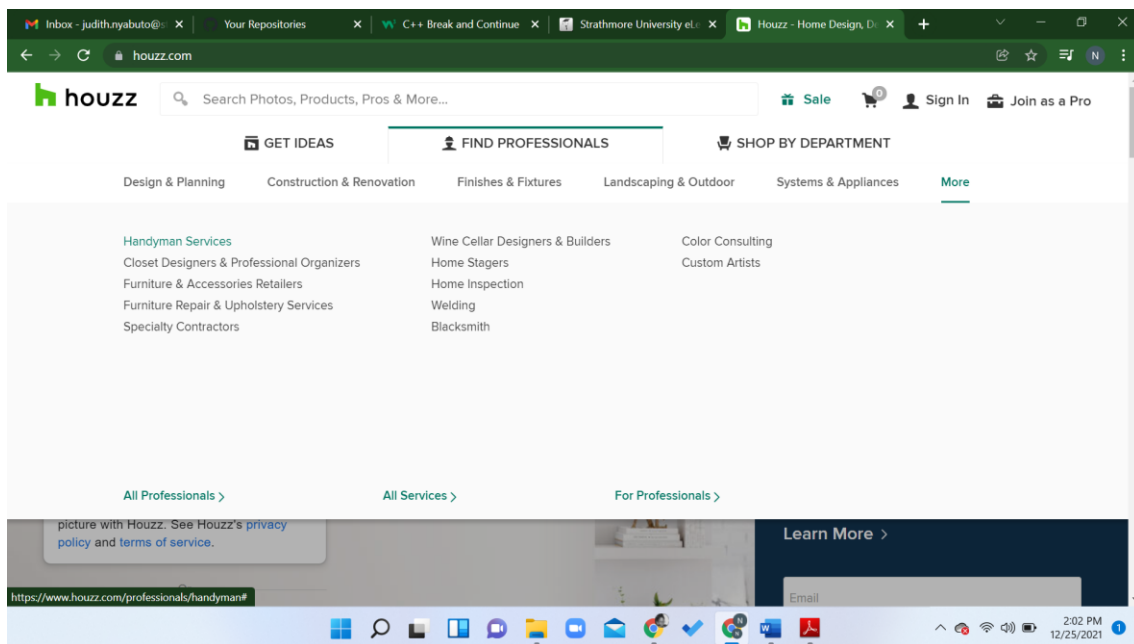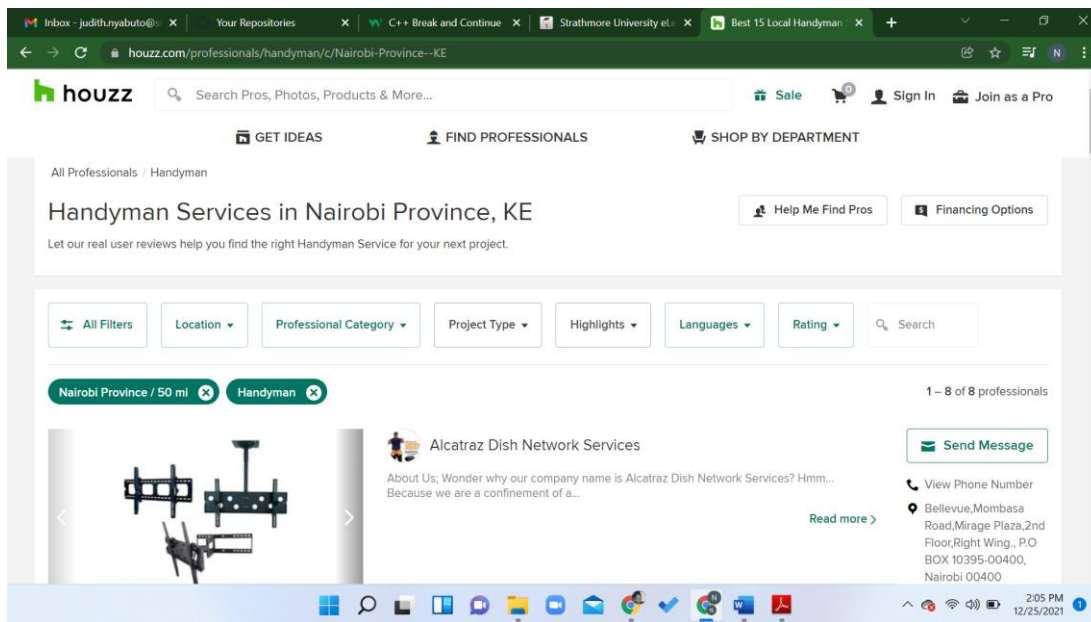

Figure 2.3: Houzz Homepage

Figure 2.4: Houzz handyman services in Nairobi list

2.2.3 Pigiame.co.ke

Pigiame has a wide variety of products and services listed. The site is free for both sellers and clients. Customers need to enter a keyword to search for the service or product they need then ask the service provider or seller to contact them. They can also choose to contact the seller directly. (https://www.pigiame.co.ke/)
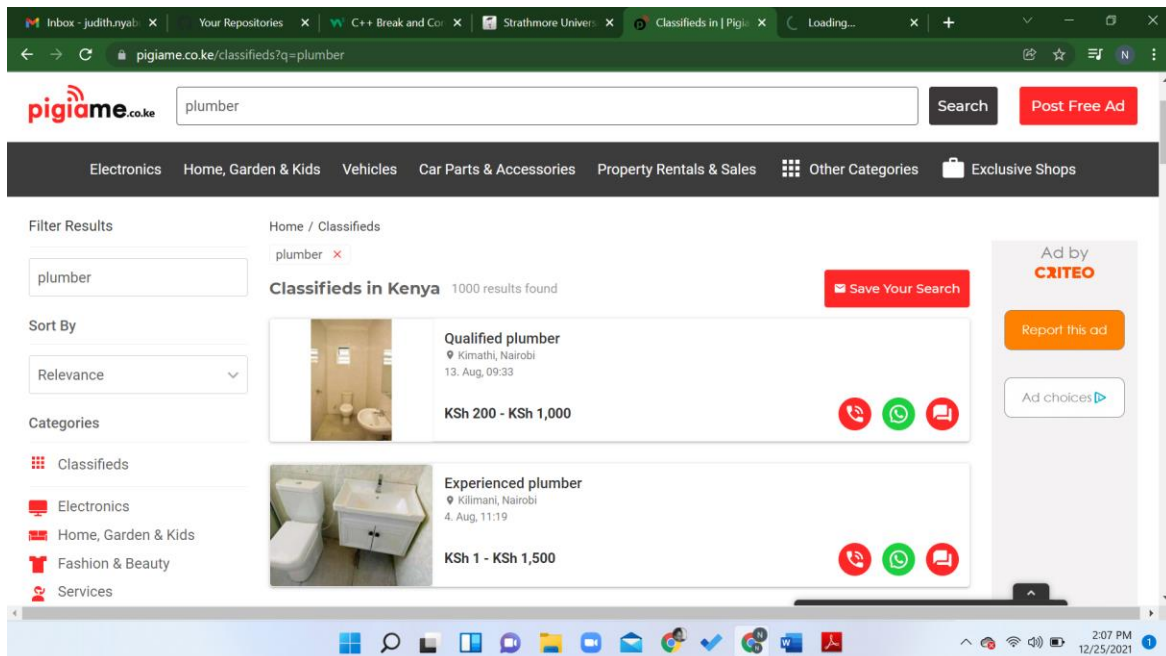

Figure 2.5: Pigiame service search results page

2.2.4 Quickfix Plumbers

This is a site that only offers plumbing services. (https://www.quickfixplumbers.co.ke/) The site offers both residential and commercial plumbing services. They have a number that client can call through. There is also an option of requesting a quote on the site.
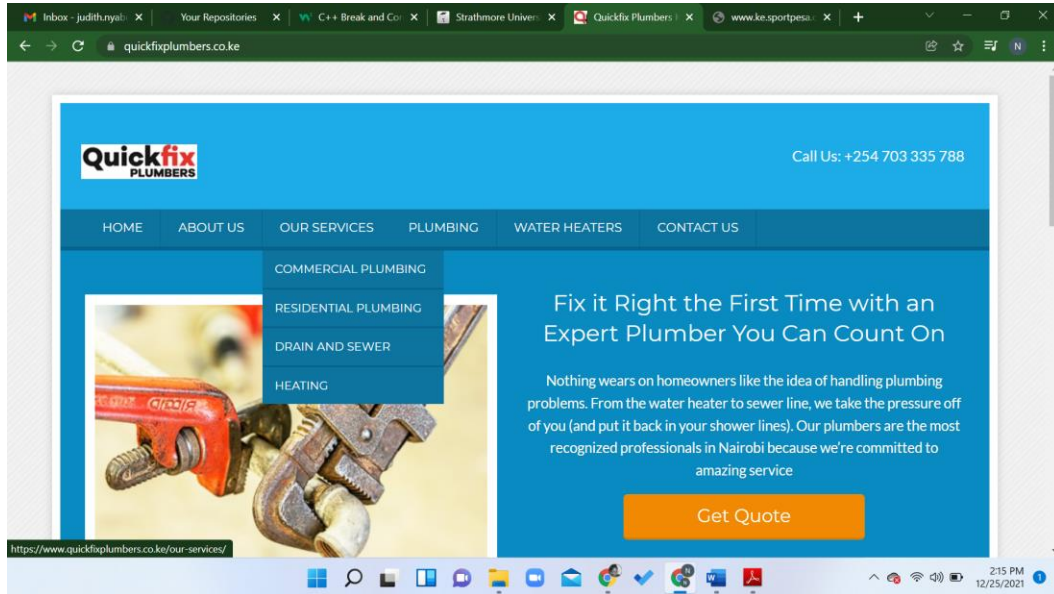

Figure 2.6: Quickfix plumbers home page

2.3 Gaps in The Existing Handyman Systems

2.3.1 Jiji.ke

- The site is not specific to handyman services. It has an array of products and services listed. Finding a handyman might take time.
- There is no way of guaranteeing good service. Handymen who list their services on the site are not vetted.
- Fraudsters could pose as handymen and defraud unsuspecting clients.
- Mostly plumbers and electricians are listed. It might be hard for a client to find other handymen such as carpenters and painters.

2.3.2 Houzz

- This is an international site and is more geared towards servicing clients in its country.
- The site is also not specific to handyman services. There are a lot of services listed which might be tiring for a user.
- There aren't many Kenyan service providers listed. Customers in Kenya do not have a lot of options to choose from.

2.3.3 Pigiame

- The site is not specific to handyman services. It has an array of products and services listed. Finding a handyman might take time.
- The user interface is not very friendly and can be tiring for a user.
- There is no way of guaranteeing good service. Handymen who list their services on the site are not vetted.
- Fraudsters could pose as handymen and defraud unsuspecting clients.

2.3.4 Quickfix Plumbers

The site only offers plumbing services and users might have to visit other sites for electrician, carpenter, painter, and other services.
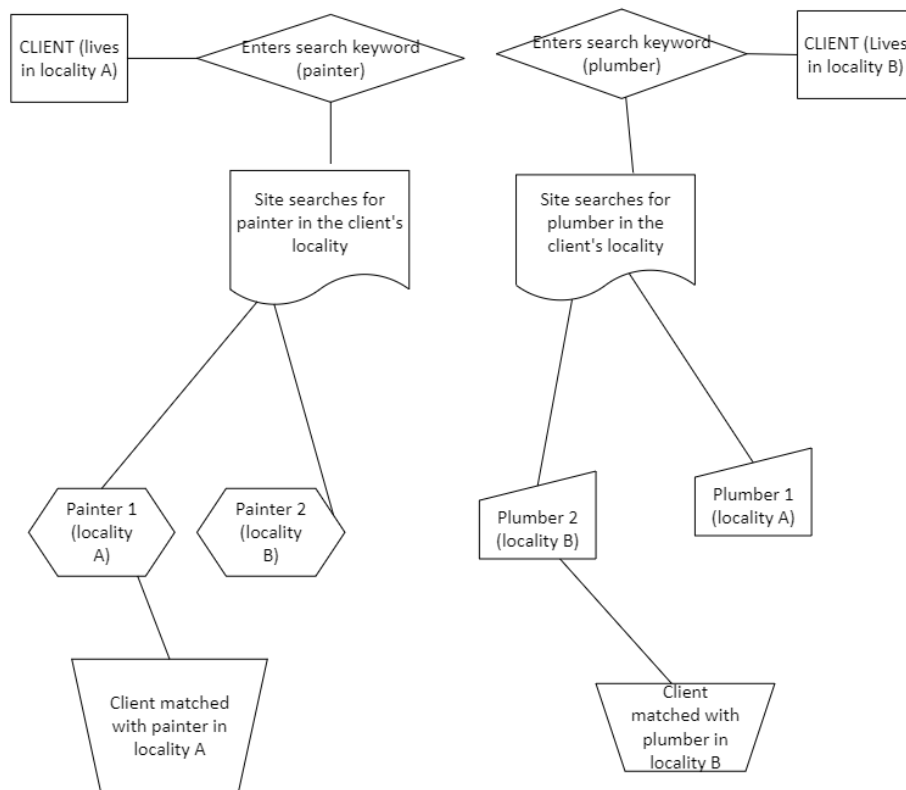
2.4 System Architecture Diagram

Figure 2.7: System Architecture Diagram the proposed solution

Chapter 3: Development Methodology

3.1 Introduction

This chapter will discuss the proposed solution's features and the development methodology. It will also look at the techniques and tools used in the development of this solution.

3.2 Proposed Solution

The proposed solution will list all the handyman services that a client may need in one place. Clients will have access to handymen testimonials and qualifications. They will have the option of choosing a handyman within their locality and giving their feedback and service rating after the service. Clients will be protected from fraudsters as handymen who list their services will go through a vetting process before they are approved and listed on the site.
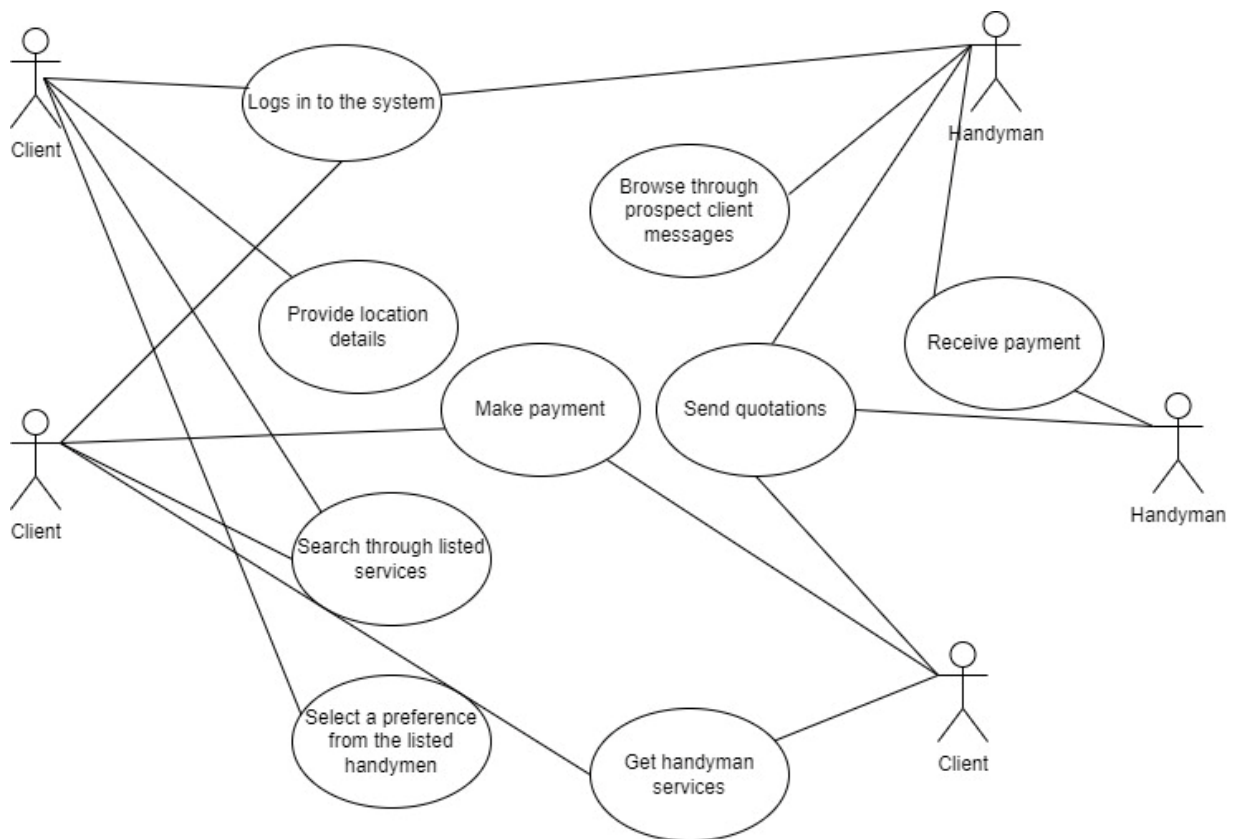

Figure 2.8: Proposed solution use case diagram

3.3 System Development Model

The RAD development model will be used for this project. This method is preferred as it will enable delivery of the project in small pieces and resources can be reused which makes the work simpler and easier.
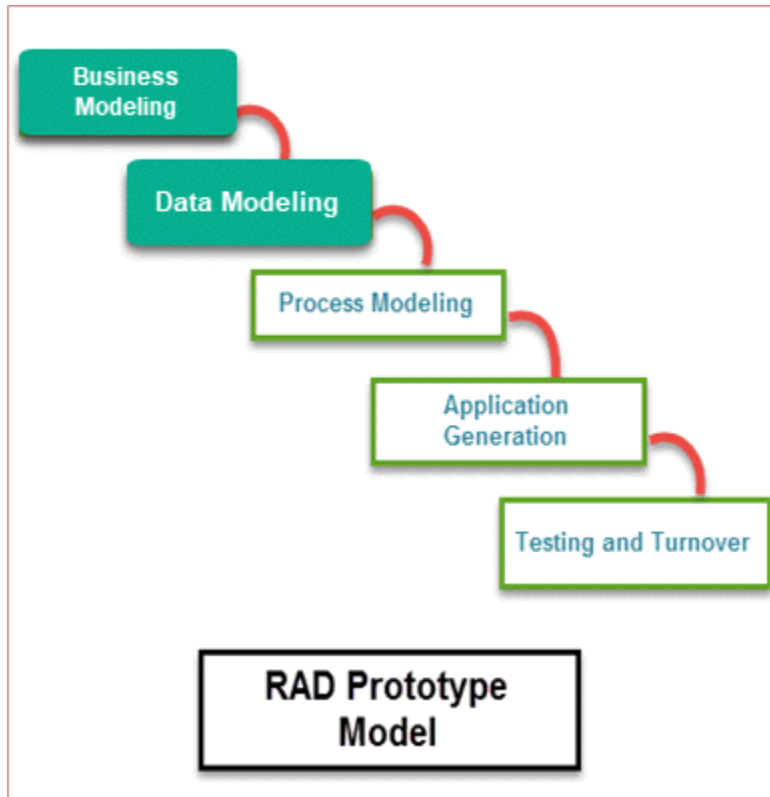

Figure 2.9: RAD Model Diagram (https://www.guru99.com/ 2022)

3.3.1 Analysis and Design

During this stage, system needs analysis will be conducted by observing the current existing solutions and how they operate. Information will also be collected from the public to help in the design process to ensure that the final solution bridges all the gaps in the current system and meets consumer needs.

The initial design will be put to test by sharing it with sample users from all stakeholder groups. The feedback given will help in cleaning up the design to ensure it meets stakeholder approval before moving on to the implementation stage.

3.3.2. Development

During the development stage, the code will be written, and the database created. The development process will be done in bits as testing continues to ensure that once a stage is done, there are minimal changes being made during the life of the project.
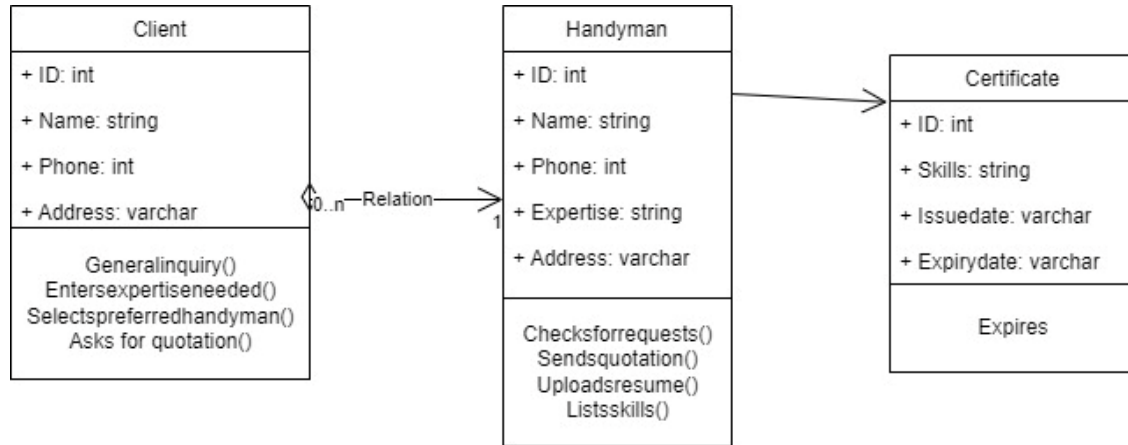
The diagram below shows a simple class structure.

Figure 2.10: Handyman System Class Diagram

3.3.3 Testing

Stakeholders will be given the chance to test the system and give their input and feedback before the solution is released to the market. Chosen stakeholders will be enrolled in a beta testing program where they will continue using the system as the development processes are ongoing. Having continuous users during the development stage will help in providing the feedback needed to ensure the system is optimal.

3.3.4 Implementation

The last phase of this project will be the implementation phase. The system will be fully done, and the link will be shared with all stakeholders for use. User support and training will be done to ensure users are well versed with how they can leverage the system and get the best out of it. There will be continuous maintenance of the system to ensure users are supported.

3.4 Deliverables
3.4.1 Clients Module

Clients looking for handyman services will interact with the system by running the link and searching for the service they need. A list of handymen will be provided, and they will choose the handyman they prefer.

The clients will also have the option to give feedback on the services they received and share testimonials regarding their experiences.

3.4.2 Handyman Module

Handymen who want to register their services on the system will have access to a module that requires for them to fill in the necessary registration details, the area that they come from and their contact information.

The handymen will also have the option of uploading their portfolio to stand out when clients are searching for services.

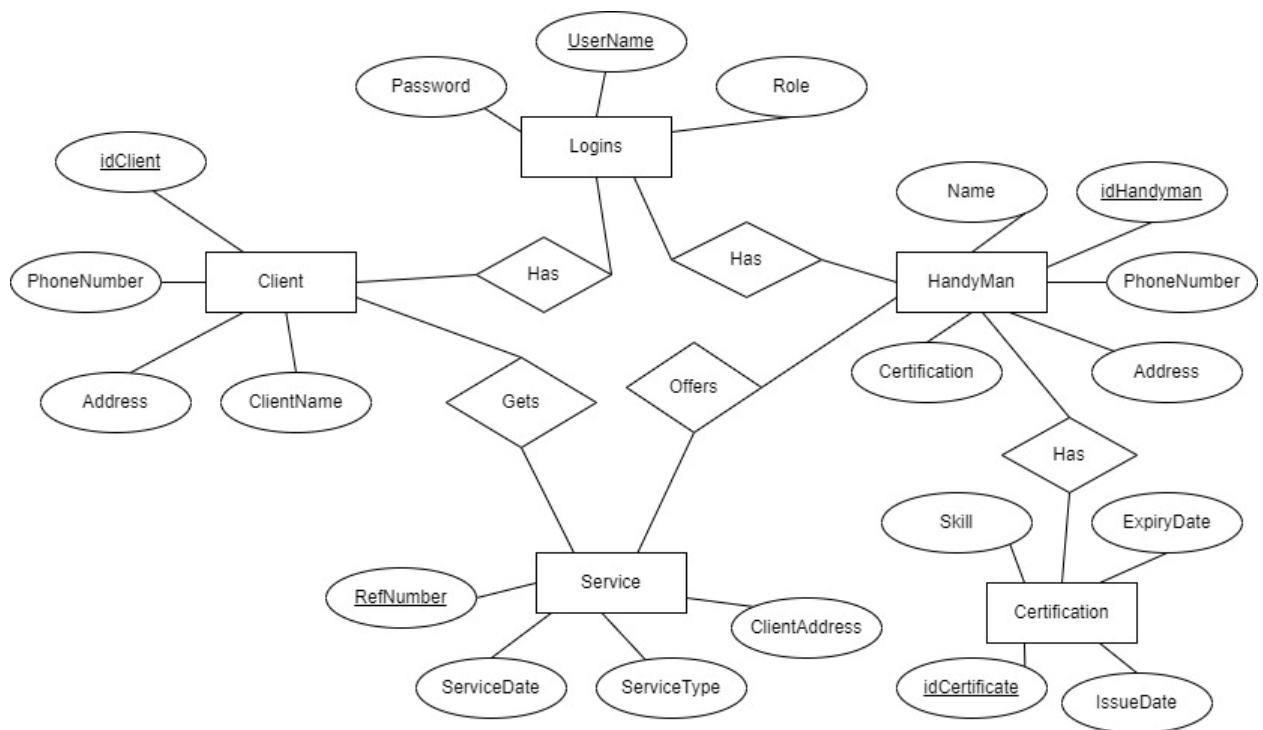The figure below shows the handyman system relational diagram.

Figure 2.11: Handyman System Entity Relationship Diagram

3.5 System Development Tools and Techniques

The system will be developed using the Java programming language. This is because it is the requirement for this course and is also one of the most popular object-oriented programing languages.

I will save my work in a local folder on my computer and on the Google Drive for back-up. For the user interface, I will use JavaFX as the site will need to have a user interface where clients and service providers will log in to connect.

The IDE of choice is NetBeans. This is because the IDE is the most recommended for Java, is free, and has a lot of resources and is easy to learn and use.

MySQL database will be used to store data on both the handymen and the clients.
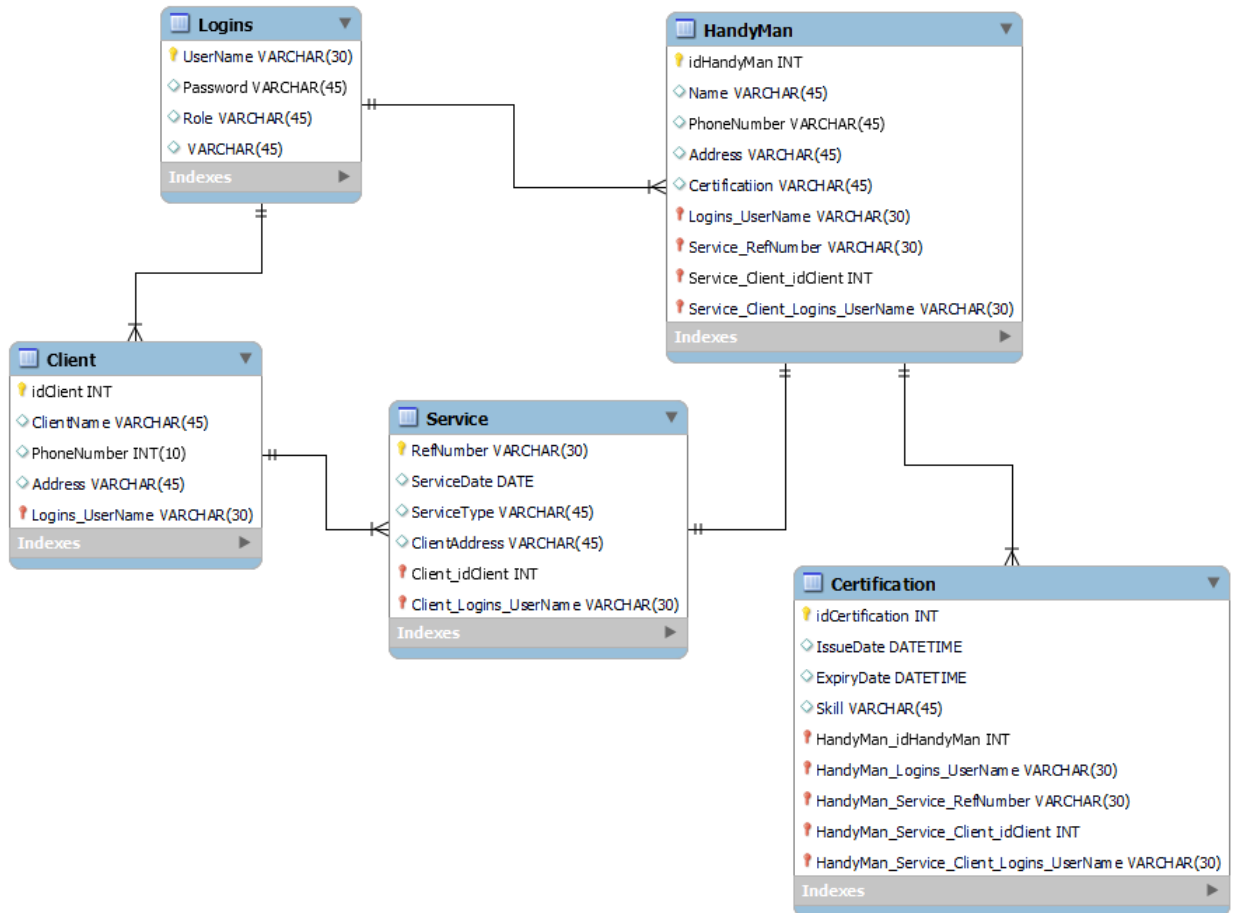

Figure 2.12: Database Schema Diagram

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((2022) https://www.quickfixplumbers.co.ke/)

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