

**SOFTWARE COMPUTING PROJECT**

**COLLEGE: KCAU MAIN CAMPUS**

**COURSE: BACHELOR OF SCIENCE IN SOFTWARE DEVELOPMENT**

**UNIT: SOFTWARE COMPUTING PROJECT (BSD 2205)**

**PROJECT TITLE: NYUMBA HOUSE RENTAL APPLICATION**

**REG\_NUMBER: 20/02924**

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**Declaration of originality of work**

I hereby attest that the research paper I have submitted is the result of my own independent and unique labor. All of the sources from which the thoughts and passages were derived have been properly credited.

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**Nyumba Mobile App**

# 1.Background

House hunting has been one of the most tedious and hectic things to do. Each and every semester, University students travelling from distant part of the country are stranded when they find most of the flats they occupy fully rented out. This is a common and recurring issue among the first year and second year students among various universities in the country. This also sets to be a problem to people relocating to new places. The process then turn to be very tedious and expensive when they have to book a hotel for several days before they get a house to rent and move in.

# 2. Problem Statement

The current and major problem is the lack of a booking system for rental properties. This also accompanied with the fact that landlords have no place to advertise and manage their houses has brought about major inconveniences among the tenants looking for these houses. Also, assumption that the houses at a certain flat are fully occupied have been haunting landlords as some rooms go unoccupied because of this.

# 3. Proposed Solution

The proposed solution to this problem is to create a Mobile app that will be responsible to make the house hunting problem easy. It is set to reduce the time and work needed to find a house around the place one wishes to stay at the comfort of their home.

The Nyumba mobile application is set to solve the tedious process of house hunting. It is set to offer a platform on to which to be tenants are able to view houses at a location in which he/she wishes to rent. The application will also see that the amenities offered by the landlord are seen by the to be tenants. This includes, water, proximity to a hospital, school, and distance from the main road among others. Also, to ensure there is transparency, the landlords are set to post the rent amount.

Also it is also set to offer an advertisement platform to the landlords in a certain area. These landlords are able to post their various houses in the application.

# 4. Project Objectives

The Nyumba rental application is intended to achieve the following objectives

* Create a platform that landlords can advertise their houses
* Create a platform that people looking for houses can see available houses and their amenities
* Create a platform that landlords and tenants can communicate.

# 5. Literature Review

Rental systems are not really new but the current one hold many shortcoming that it reduces the effectiveness.

The following are some of the systems and applications in place:

## 5.1. Jiji

Jiji is an African marketplace that provides buyers and sellers with a platform where they can trade. Among these sellers are landlords who use it as an advertisement platform to which they can post their rental spaces. Tenants looking for houses to rent can go there and contact the landlords

On the other hand with Jiji being a marketplace, the properties are mixed with other products. Refining a program to deal with just rental spaces will be a solution to this. And that is what Nyumba rental app will deal with. Jiji also fails to pinpoint the exact location a rental space is adding a google map integration to this is what will solve this.

## 5.2. Buy rent Kenya

Buy rent Kenya has been a rental service that has offered it services to mostly office rental spaces and suburban rental and houses that are for sale. However, it fails to attract the tenants looking for singles, bedsitters, and houses for the mid income families.

## 5.3. Airbnb

Airbnb is a worldwide accommodation application. It solves shortcoming of the previous two systems but a just goes ahead to have a shortcoming of its own. Airbnb fails to offer long term rental services. Renting from Airbnb’s proves to be expensive.

# 6. Methodology

## 6.1. Feasibility study

At this stage, research will be done to determine the merits and viability and merits of the Nyumba application. This study will be taken in Alsoaps. It will include questioners, interviews and surveys. The main participants will be landlords, students renting houses and current tenants of some flats

## 6.2. Analysis

At this point we will analyze the requirements needed for the system and alternatives to some of the things we will require. Also, it is at this point that we will examine the information needs of the end user to examine the system goals.

## 6.3. Design

The Nyumba system will be deigned through the Agile SDLC model. It will focus on producing a working model then work on refining the said application and while increasing the number of features and services provides. The first model is expected to allow the landlords to post their houses, give a description of the houses and type in the location together with their contacts. In this model, the tenants will be able to view the various houses offered by a certain landlord. This will be open without the need to create an account. After a test to ensure all this works, there will be an incremental of feature which include account creation to both the tenants and landlords. Also it will allow the landlord to pinpoint the exact location of the houses they are renting out. Creation of accounts will allow the tenants to save the houses they like for later viewing.

## 6.4. Testing

The application testing will happen throughout the development process with every feature added being tested before it makes it to the application. However, on a large scale, the application will go through a testing phase in which 10 actual landlords and 30 hypothetical tenants will test the app and test each of the features put in place.

## **6.5.** Implementation

The implementation of the app will be first done within the Mathare area 4 area, 2930 area and Alsoaps before proceeding to be implemented in other places.

# 7. Budget

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Quality** | **Availability** | **Estimate cost(kshs)** | **Actual cost(Kshs)** |
| **Laptop** | good | Available | 75000 | 55000 |
| **Visual studio code** | Good | Available | N/A | N/A |
| **Network** | Fair | Available | 1000 | 1000 |
| **Firebase cloud storage** | Excellent | Available | 500 | 500 |

# 8. Project Schedule

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **Budget time** | | **Actual time** | |
|  | **Task** | **Start Date** | **End Date** | **Start Date** | **End Date** |
| 1 | Proposal Presentation | 5/10/2022 | 5/10/2022 | 5/10/2022 | 5/10/2022 |
| 2 | System Requirements specifications | 15/9/2022 | 7/10/2022 | 15/9/2022 | - |
| 3 | System design | 21/9/2022 | 23/9/2022 | 30/9/2022 | - |
| 4 | coding | 1/10/2022 | 1/11/2022 | - | - |
| 5 | Testing | 2/11/2022 | 3/11/2022 | - | - |
| 6 | Final Presentation | 5/11/2022 | 10/11/2022 | - | - |
| 7 | Implementation | 17/11/2022 | 19/11/2022 | - | - |

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# 9. Risk Management

|  |  |  |
| --- | --- | --- |
| **Risk** | **Effect** | **Mitigation** |
| **Lack of enough time** | Unfinished application | Using agile model to ensure a prototype is produced within the shortest time |
| **Lack of enough resources** | An application that is not up to standard | Making the best use of the available resources and finding alternatives where necessary |
| **Mass account registration during testing** | The application may break | Developing an application that is easy to scale up. |

# 10. References

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