**SmartHome Software Requirements Document (SRD)**

### 1. Introduction

**1.1 Project Overview** SmartHome is a digital real estate platform designed to streamline rental and property sales experiences in Kenya. It addresses critical issues such as tenant fraud, vacant units, and service setup delays by providing verified listings, identity assurance, and optional service integration (e.g., WiFi, water).

**1.2 Purpose** The purpose of this document is to define and communicate the functional and non-functional requirements for the SmartHome platform based on market research, user feedback, and technical feasibility.

**1.3 Scope** The platform will serve tenants, landlords, and property developers by offering: - Verified listings - Fraud prevention via user verification - Integrated utility/service onboarding - Direct communication between users - Secure digital contracts

### 2. Stakeholder Identification

| Stakeholder | Role | Interests |
| --- | --- | --- |
| Tenant | End-user | Verified, fraud-free listings and ready-to-move-in homes |
| Landlord | Property owner | Reliable tenants and minimized vacancy periods |
| Developer | Real estate developer | Showcase properties, capture leads, digital buyer engagement |
| SmartHome Team | Product owners | User satisfaction, platform adoption, regulatory compliance |

### 3. Data Collection Summary

Data was collected through: - **Primary research**: Questionnaire targeting tenants, landlords, and developers - **Secondary research**: Market reports, competitor analysis

**Key Findings:** - 4.18/5 average trust rating in verified platforms - 45.5% prefer move-in ready services - Top frustrations: scams, poor communication, false listings - Top features requested: verified listings, direct contact, digital contracts, reviews

### 4. System Overview

SmartHome will be a mobile-first web application that: - Allows listing, searching, and filtering properties - Supports verification of all users - Facilitates digital lease agreements and payments - Integrates optional services (WiFi, water, cleaning) - Enables real-time chat and updates between parties

### 5. Functional Requirements

| ID | Description | Rationale | Acceptance Criteria |
| --- | --- | --- | --- |
| FR-01 | System shall allow users to register and log in using email/phone. | Identity verification | User can log in with valid credentials. |
| FR-02 | System shall allow tenants to search for properties using filters (location, price, services). | Ease of discovery | Search results match input filters. |
| FR-03 | System shall verify identity using ID upload or eCitizen integration. | Fraud prevention | Only verified users can post or apply. |
| FR-04 | System shall allow landlords to list properties with images, location, rent, and amenities. | Listing visibility | Properties display all details. |
| FR-05 | System shall allow tenants to apply for listed properties and initiate lease. | Application process | Tenants can digitally apply and receive status. |
| FR-06 | System shall support bundled service selection (WiFi, water, etc.). | Move-in readiness | Tenant can choose add-on services. |
| FR-07 | System shall allow communication via in-platform messaging. | Transparency | Messages can be sent/received in real time. |
| FR-08 | System shall generate digital lease agreements with e-signature. | Contractual clarity | Both parties can view and sign lease online. |
| FR-09  FR-10 | System shall allow payment of rent via MPESA or card.  System shall allow users to manage their profile. | Convenience  Flexibility | Payments are reflected in system.  Should verify the updated information |

### 6. Non-Functional Requirements

| ID | Description |
| --- | --- |
| NFR-01 | The system shall load pages within 2 seconds under normal use. |
| NFR-02 | The system shall support up to 10,000 concurrent users. |
| NFR-03 | The system shall encrypt all data in transit using AES encryption. |
| NFR-04 | The system shall maintain 99.9% uptime, excluding scheduled maintenance. |
| NFR-05 | The UI shall meet WCAG 2.1 accessibility standards. |
| NFR-06 | The system shall store user-uploaded documents securely and in compliance with Kenya’s Data Protection Act (2019). |

### 7. Assumptions and Constraints

* Users will have access to mobile internet.
* Government ID verification systems (eCitizen) are accessible.
* Payment systems like MPESA will remain integrated.
* Landlords and developers can digitize documentation.
* Initial deployment will be for Kenya only.

### 8. Acceptance Criteria

Each functional requirement is accepted when: - The feature is implemented and passes internal testing - It meets the acceptance criteria stated in the requirement - It passes UAT (User Acceptance Testing) with target stakeholders

### 9. Functional Requirements Traceability Matrix

| Requirement ID | GitHub Issue # | Developer Assigned | Status | Test Case Ref | Verified |
| --- | --- | --- | --- | --- | --- |
| FR-01 | #101 | AlvinKiprotich-dev | In Progress | TC-01 | Pending |
| FR-02 | #102 | AlvinKiprotich-dev | To Do | TC-02 | No |
| FR-03 | #103 | AlvinKiprotich-dev | To Do | TC-03 | No |
| FR-04 | #104 | Bartholom3 | In Progress | TC-04 | Pending |
| FR-05 | #105 | AlvinKiprotich-dev | To Do | TC-05 | No |
| FR-06 | #106 | Abdel-Karim-cmds | To Do | TC-06 | No |
| FR-07 | #107 | Bartholom3 | To Do | TC-07 | No |
| FR-08 | #108 | Muchina-254 | To Do | TC-08 | No |
| FR-09  FR-10 | #109  #110 | AlvinKiprotich-dev  AlvinKiprotich-dev | To Do  To Do | TC-09  TC-10 | No  Pending |

### References

* Kenya National Bureau of Statistics, 2023
* Data Protection Act, 2019 (Kenya)
* GitHub Project Board Documentation: https://docs.github.com/en/issues/planning-and-tracking-with-projects
* Atlassian RTM Template: https://www.atlassian.com/software/confluence/templates/requirements-traceability-matrix
* Market Research & Questionnaire Data (Internal)