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**1. Introduction**

**1.1 Purpose**

The objective of this project is to design and implement a web-based Property Listing solution for client **George Ndichu**. The project will be executed by the Designolic Team, with **Jayant Khanna** serving as the lead.

**1.2 Intended Audience and reading purpose**

The project will be available for utilization by any party authorized by the client, **George Ndichu**. Upon completion, the Designolic Team will transfer ownership and control of the project to the client, and will not have any input regarding its usage. Prior to the transfer, the project will **only** be accessible and tested by the internal team of Designolic.

**1.3 Project Scope**

The purpose of the Property Listing Application is to provide a platform for real estate agents, property owners, and tenants to easily search, list, and manage properties. The application will allow users to create detailed listings of properties with photos, descriptions, and information on amenities, location, and availability. Users will be able to search for properties based on various criteria such as location, price, and type of property. Overall, the House Listing Application aims to streamline the process of buying, renting, and managing properties and make it easier for users to find the perfect home.

**1.4 Payment Details**

Upon completion of the project, the client will make a payment of **200 US Dollars** via an **online payment method** and will also bear the cost of the domain name payable at the time of purchase irrespective of the completion of said project. The project team, Designolic, will utilize a free 1-year Ubuntu EC2 instance for hosting, however, if the hosting becomes paid for any reason, Designolic will not be held responsible for payment. The website will only be transferred to George for beta testing once all payments have been cleared.

**1.5 Beta Testing**

Beta testing is a software testing phase in which end-users test a newly developed product in a real-world environment. The goal of beta testing is to identify any bugs, usability issues, etc. If the client finds any **bugs** in any features/pages (discussed below) **we will be correcting them for free** and no additional/hidden costs will be there. However, if the client wants to **Change/Update/Improve** a working feature that would be **payable** depending on the feature.

**2. Overall Description**

**2.1 Product Perspective**

The product perspective for a house listing application is to provide a user-friendly, efficient, and reliable platform for individuals, real estate agents, and property management companies to list, search, and manage properties. The platform should offer a comprehensive database of properties, including details such as location, price, amenities, and images, as well as an intuitive interface for creating and managing listings. Additionally, the platform should provide features for communicating with potential buyers or renters. The ultimate goal of the house listing application is to streamline the process of buying, selling, and renting properties and provide a one-stop solution for all property-related needs.

**2.2 Product Pages and their Features**

**2.2.1 Login Page**

1. Email Field
2. Password Field
3. Login Button
4. A header with options to link to a Landing page, Pricing, Contact and Submit an ad
5. Link to reset password
6. Link to create an account if one does not have an account

**2.2.2 Sign-Up Page**

1. Email Field
2. Password Field
3. check box to confirm compliance with our linked terms of use and privacy policy. (one must check otherwise cant create an account)
4. Create Account
5. create an account button
6. Link to log in if one has an account
7. A header with options to link to a Landing page, Pricing, Contact, and **Add a listing**
8. Will send OTP to the email address to confirm the mail and Phone
9. Type of user ie Property seeker, Individual seller, or agency
10. Full names Field
11. phone field
12. Description
13. Package - which package user will be buying
14. Image
15. Social Media links - Facebook, Insta, Twitter

NOTE: For a better User Interface we will be dividing the Sign-up page into two parts - Signup and User Onboarding. The user will have to fill in the information on both pages to move forward/Login. The signup page will contain points a to h and the User Onboarding page will be containing all points h to o

**2.2.3 Landing Page**

1. Header Section containing account icon with a drop-down for Sign-Up or Login Button if a user is not logged in
2. Header Section containing user image and a modal with features such as settings, Log out, User dashboard
3. Link to pages such as Pricing, Contact, **Add a listing**
4. A search Feature
5. List of 9 latest listings
6. Each listing card will be containing the following features:

Price

Name

Location

Category

Rent/Sale Tag

Like Button (only if the user is logged in)

A small description

Featured tag

1. A footer with all relevant links

**2.2.4 Submit Ad Page**

1. Header with Links for Landing page, Contact, Pricing
2. Type of Property: Rent, Sale
3. Title of Property
4. Price of Property
5. Seller Name, Email, Phone
6. Category: Real Estate, Restaurants, Hotels, Events, Lands, Commercial Building, Airbnb
7. Features, Details
8. Location
9. Gallery to Upload pictures
10. Option to ask for a 360 Degree view (A link to an MS/Google Form)
11. . links to the social media pages of the listers

**2.2.5 Single Item Page**

1. Images of property
2. Details such as Type, Category, Tags, Date Added, Location, Features, Price
3. Description
4. Option to like/ rate
5. Option to Get in Contact with the owner of the property via Email or Phone
6. Button/image to view the virtual tour which will redirect to a new window showing the virtual tour
7. A footer with all relevant links
8. recommended listings or listings by the same owner
9. Property Location

**2.2.6 Seller Details**

1. Image (if available) of owner
2. Name
3. Rating
4. Comments
5. Ads by seller
6. Short description
7. Write a review feature
8. A footer with all relevant links

**2.2.7 Listing Full View**

1. All Listing that matches the search query

**2.2.8 Pricing Page**

1. Pricing cards where user can buy one of two pricing
2. Data for who bought what will be stored on the backend
3. Payment will be done using **Paypal / Pesapal only (Errors regarding pesapal have been conveyed by Mail)**
4. After payment is confirmed users can avail of its features

**2.2.9 User Dashboard**

1. User Image
2. Option to Edit their information
3. All their Listings with details on likes etc. (Approved and not approved)
4. Reviews
5. Their Rating
6. Edit any listing
7. Change Password

**2.2.10 Admin Dashboard**

1. See the Listing waiting for approval
2. Categories
3. Option to add/delete category and all listings in that category
4. Expired Listings
5. Active Listings
6. All Registered Users and their Subscription Information
7. See the total amount of money from subscriptions in durations eg monthly

**2.2.11 Contact Page**

1. Email, Name, Subject, Message field
2. Send Mail Button
3. Toast to verify whether the mail was sent or not

**2.3 Operating Environment**

The operating environment for the project is listed below :

1. Django Backend
2. HTML, CSS, JS, jQuery, Ajax Frontend
3. SQLite Database
4. AWS Hosting
5. Operating System Ubuntu
6. Figma Designing
7. Gmail Communication
8. Domain Name Client’s choice

**3. External Interface Requirements**

**3.1 End User Interface**

End Users can use any device with a Browser and the Internet to access the website. Some devices include but are not limited to Laptops, Mobiles, Ipads, etc.

**3.2 Hardware Interface**

The hosting of the website for the house listing application will be on a Ubuntu Server hosted on Amazon Web Services (AWS). The hardware responsible for the server and its maintenance will be the sole responsibility of the engineers at AWS and not Designolic.

**3.3 Software Interface**

The Designolic Team will be responsible for all software interfaces, including design, development, testing, and all other phases.

**3.4 Communication Interface**

All communications between the client and Designolic will be conducted via email. Within the website, all communication will be managed through email, while the phone number of the sellers will be available for external communication.

**4. Non Functional Requirements**

**4.1 Safety Requirements**

While SQLite offers fast input-output operations on the database, it may not be the safest option in case of a system crash. Hence, it is important to implement additional safety measures such as regular backups and data redundancy to ensure the protection of sensitive information stored in the database. It is advisable to migrate data to another database once the website starts getting lots and lots of traffic.

**4.2 Security Requirements**

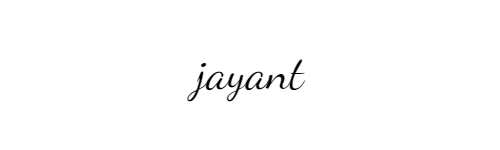
Here are a few key security requirements that can be included in the design and implementation of a house listing application:

1. Data Encryption: All sensitive data such as user passwords, financial information, and property listings will be encrypted in transit and at rest to prevent unauthorized access or theft.
2. Middleware verification is done
3. CSRF middleware will be added to prevent CSRF attack
4. Default Security and Safety features will be added
5. Safety against DOS or DDoS Attack
6. Safety against SQL and NoSql injections

**5. Declaration**

**5.1 Designolic Declaration**

As the leader of the Designolic team, I, **Jayant Khanna**, affirm that I will strive to create high-quality products and provide all the specified pages and features as outlined in our agreement. I anticipate that the development phase will commence upon completion of the design phase and review of all designs, and will be completed within a timeframe of 30-35 days. I further assure you that I will not omit any features and if any bugs are present in the mentioned features/pages or any delays occur, I take sole responsibility.



Signature

**5.2 Client’s Declaration**

I, George Ndichu, hereby declare that upon the completion of the project, I will promptly make full payment for all services rendered. I will create an AWS account for hosting the website and will also bear the cost of acquiring the domain name. In return, I expect the project to be delivered within the agreed-upon timeframe and to the specified quality standards. If any bugs or issues are encountered, I agree to bring them to the attention of the designolic team. I also understand that any updates, improvements, or changes requested after the initial project completion will require additional compensation. If I am unable to make full payment, I agree to promptly remove the website.

Signature