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| DEVELOPMENT PLAN |
| MLS System for Philippine Real Estate Board Inc. (PAREB) |

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| Emmanuel P Olivas  4-9-2024 |

PROJECT TITLE

Multiple Listing Service for Real Estate Practitioners of Philippine Associations of Real Estate Board Inc. (PAREB)

OBJECTIVE:

* To establish an online system dedicated to supporting all PAREB members, ensuring the swift and efficient sale of their property listings
* To develop and implement an income-generating online system tailored for PAREB, aiming to diversify revenue streams and enhance financial sustainability for the organization.

REQUIREMENTS:

* Webs Server / Web Hosting
  + PHP Hosting Server with MySQL
  + A web hosting that accommodates 2 level directory structure for subdomains
* Domain Name *e.g.* [*www.google.com*](http://www.google.com)

DETAILED SPECIFICATION

* Access, Privileges and Permissions
  + Dedicated Administrator subdomain for management
  + Dedicated Customer Service subdomain for management
  + Dedicated Web Admin subdomain for management
  + Dedicated Account subdomain for management
  + No simultaneous dual account logins permitted.
  + No cross-domain logins allowed.
  + Password reset functionality is available.
  + Permission-based access allows users to access content only if granted by the account holder.
  + Limited Privileges granted to accounts

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| **Privileges** | **Possible Values** | **Sample Default Value** |
| **Max Property Listing** | 0 - 999999999 | 3 |
| **Max Users** | 0 - 999999999 | 1 |
| **MLS Access** | True or false | true |
| **Chat Access** | True or false | false |
| **Comparative Analysis Table** | True or false | false |
| **API Access** | True or false | false |
| **Handshake Limit** | 0 - 999999999 | 1 |
| **Featured Listings** | 0 - 999999999 | 0 |

* Account

The system has the following functions:

* Creating, updating, and deleting accounts.
* Creating, updating, and deleting users.
* Email notifications are sent for account activities
* Each account is provided with a PIN; the PIN can be used as login credentials for Customer Service Personnel to assist registered accounts in resolving issues.
* The account holder can set permissions for users to access information

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| **Permissions** | **Access** |
| *Registered Accounts* | |
| **Account Information** | View and update information of account |
| **Account Users Information** | View, update and delete users from account |
| **Account Leads Information** | View, update and delete leads from account |
| **Account Property Listings** | View, update and delete properties from account |
| **Account Premium Subscription** | Subscribe to premium |
| **Account Transactions** | View transactions of account |
| *Administrators, Web Admin and Customer Service* | |
| **Account** | Create, modify and delete accounts |
| **Account Users** | Create, modify and delete account users |
| **Settings** | Modify system settings |
| **Web Settings** | Modify public website settings |
| **KYC Process** | Verify and accept documents |
| **Articles** | Create, update, publish and delete articles from website |
| **Premium** | Create, modify and delete Premiums from system |
| **Transactions** | View all transactions |
| **Reports** | Access and generate reports |

* Featured Ad
  + When the premium subscription includes a Featured Ad and is activated, property listings can be set as featured.
  + Featured ads will be displayed in the MLS (Multiple Listing Service)
* Settings

The administrator possesses the authority to modify all system settings, encompassing a wide range of controls and configurations within the system:

* Setting default account privileges
* Enabling/disabling KYC verification
* Enabling/disabling premium features
* Specifying the email address for email notifications
* Turning Value Added Tax (VAT) on/off
* Setting up analytics script
* Configuring custom header script
* Providing office contact information and address
* Account Premiums
  + Creating, modifying, and deleting premiums
  + Generating invoices for each successful transaction
  + Invoices will be sent to the email address registered to the account.
  + Adding, suspending, and deleting account subscriptions
  + Subscriptions automatically expire based on the subscription end date.
  + Expired subscriptions will revert to account default privileges. Users and property listings will be deactivated.
  + Only one premium subscription package is allowed per account.
  + Integrating PayPal for payment processing

Sample Premium

This premium offering is provided as a sample only and can be enhanced and utilized.

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| **Packages** | **Bronze** | **Silver** | **Gold** | **Platinum** |
| Max Property Listing | +15 | +50 | +80 | +120 |
| Max users | - | +2 | +3 | +5 |
| Featured Listings | +1 | +2 | +3 | +5 |
| MLS Access | Yes | Yes | Yes | Yes |
| Chat Access | No | Yes | Yes | Yes |
| Comparative Analysis Table | No | No | Yes | Yes |
| API Access | No | No | No | Yes |
| Duration | 30 days | 30 days | 30 days | 30 days |
| **Amount** | **Ᵽ 499** | **Ᵽ 1,499** | **Ᵽ 2,499** | **Ᵽ 3,499** |

* KYC Management
  + List of all verified account holder
  + Verify/Deny submitted Identification documents
  + Provided documents for KYC automatically expire based on the ID expiration date.
* Chat Messaging
  + Users may receive notifications when new messages are received.
  + Can send text, images, and link-based messages
  + End-to-end encryption (E2EE)
  + Thread messages are downloadable.
* Property Listings Management
* Listing Creation
* Data Entry and Maintenance
* Categorization and Tagging
* Analytics and Reporting
* Strategically determine advertising placement
  + - Local Board MLS, Regional MLS, MLS Wide, Public Website and/or Personal Use
  + Scoring a property based on the fields
  + Sold properties do not count towards the MAX\_POST limit.
  + When the MAX\_POST limit is reached, sold properties cannot be set as available.
  + Posted listings automatically expire based on the selected duration.
* Multiple Listing Service Platform
  + Local Board MLS
  + Regional Board MLS
  + MLS Wide
  + A featured ad will be displayed after every 4th listing
* Comparative Analysis Table
  + Comparative analysis table can be shared with durations
  + And can be download as excel format
* Handshake
  + Accepting, Denying and Canceling Handshake Request
  + The Commission Share and Authority to Sell type can be displayed once the handshake is accepted
  + Handshake to share information of listings between two accounts
  + Handshake automatically cancels after 30 days of acceptance and/or in pending status
* Website Content Management
  + Page Ads Management (Create, update and delete)
  + Articles Management (Create, Update and delete)
  + Update About Content
  + Update contents of Data Privacy Policy and Terms of Service
* Leads Generation
  + Create, update and delete Leads
  + End-to-end encryption (E2EE)
    - Name, email, contact number and message
* Traffic Reporting
  + Traffic recording is based on a 30-minute session duration
  + Pages and listings have traffic reporting capabilities
* Transactions Report
  + Detailed Report Per Transactions
  + Monthly & Yearly Transaction Report
  + Subscriber Per Board
  + Total Transactions Per Board
* MLS System API

The MLS System provides an API, a RESTful systems that use standard HTTP methods to perform operations on resources.

* + The API solely provides data and does not accept any input for storage
  + Masking table columns for security reasons
  + API Documentation
  + Each account is assigned a unique API KEY
  + If the premium subscription does not include API ACCESS, the API KEY cannot be used.
* Page Ads Management

**Page ads impression algorithm**

Each ad placement is allocated a time slot per hour and designated for viewing during specific times of the day by website visitors.

time\_duration\_per\_hour = 60 / total\_ads\_in\_placement

hours\_in\_minutes = 24 \* 60

time\_slots = hours\_in\_minutes / time\_duration\_per\_hour

Where **time\_duration\_per\_hour** represents the duration of each impression in minutes per hour, **hours\_in\_minutes** denotes the total minutes in a 24-hour period, and **time\_slots** indicates the total impressions per day.

* Property Listing Score Computation

This points system considers various criteria such as title, tags, long description, category, price, reservation, lot area, thumbnail image, and YouTube URL, image dimensions, recent modifications and total amenities selected. Each criterion contributes differently to the overall points, ensuring a comprehensive assessment of the uploaded data.

* Title, Tags, Long Description, Category, Price, Reservation, Lot Area, Thumbnail Image, and YouTube URL - each of these fields has points calculated as follows:
  + Points: 1 divided by 14 for each non-empty field
* Image Dimension Points:
  + Each uploaded image is resized to a maximum width of 1024px
  + Points calculated based on the width and height of images
  + Formula: (Width / 1024) + (Height / 1024)
  + Additionally, the total accumulated points of uploaded images are divided by 10
* Modification Date Points:
  + If modification date is within 7 days
  + Points: 1 divided by 14
* Com Share, Authority to Sell Expiration, Authority Type, Tax Allocation, Payment Mode, Option Money Duration - each of these fields has points calculated as follows:
  + Points: 1 divided by 3 for each non-empty field
* Village, Street, and Municipality fields - each field contributes points calculated as follows:
  + Points: 1 divided by 6 for each non-empty field
* Amenities Points:
  + Points: total amenities selected divided by 10
* Required Subdomains

Using a subdomain structure allows for better organization, scalability, and management of different functionalities within the system. It can also facilitate easier deployment, maintenance, and scaling of individual components, as well as provide improved security and performance isolation.

* + **cdn.**domain.com
    - This subdomain is used for hosting static assets such as images, JavaScript files, and CSS files. Separating these assets onto a dedicated subdomain can improve website performance by offloading these resources to a separate server optimized for content delivery.
  + **api.**domain.com
    - This subdomain is dedicated to hosting the application programming interface (API) endpoints. APIs allow different software systems to communicate with each other, enabling functionalities such as retrieving data, processing requests, and performing actions. Separating the API onto its own subdomain helps to isolate and manage API-related traffic independently from other parts of the application.
  + **cs**.domain.com
    - This subdomain is stand for "Customer Service." Used to provide customer support resources and KYC Verification. Having a dedicated subdomain for customer support can streamline access to support services and improve the overall user experience.
  + **webadmin**.domain.com
    - This subdomain is used for hosting the web-based administrative interface of a website. It provides a separate environment for managing site content, settings, and other administrative tasks. Separating the administrative interface onto its own subdomain helps to enhance security and control access to administrative functionalities.
  + **admin**.domain.com
    - Similar to "webadmin.domain.com," this subdomain also host administrative interfaces but serve a different purpose and used for internal administrative tasks or management of backend systems.
  + **manage**.domain.com
    - This subdomain used for hosting user account management functionalities such as user profiles, settings, preferences, and account-related actions. It provides users with a dedicated space for managing their accounts and personal information.
* Deliverables and Schedules

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| Description | Timeline | Duration |
| **Presentation of Actual System** | Within 30 days following the execution of the agreement | 1 day |
| **Setting up the System on the Customer's Web Server/Web Hosting Account** | Within 7 days after the acceptance of the Development Plan. | 3 days |
| **Resolve Compatibility Issues with the System and server** | Will start after the propagation of subdomains, which may take 24 to 72 hours after setup, depending on the server. | 2 - 15 days |
| **System Administrator Training** | Once the compatibility issue has been resolved and the system is free of errors | 1 day |
| **Modification and Testing**  (Will only start if there are additional or modifications to the current specifications of the system) | Will start after the completion of training | Depending on the revised specifications |
| **System Manual** | Within 30 days following the completion of the system setup |  |

* Development Cost & Payment Schedule

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| System Development Cost | | P660,000 |
| Payment Schedule | | |
|  | Down Payment | P330,000 |
| Remaining | | |
|  | After successful setup, compatibility issues addressed, and acceptance of the system | P230,000 |
|  | Upon Completion of 6 months maintenance | P100,000 |

Accepted By Customer Representatives

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**Enrique G Santos**

*PAREB President*

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**Abigail Joan O. Lim**

*Secretary General*