Technical Documentation Outline for Creating a System for Foreclosing Properties

1. Introduction

1.1 Purpose

- This document provides a detailed technical description of the Pag-IBIG Foreclosure System, designed to assist users by making it easier for them to view the details and descriptions of their target properties. The primary purpose of this system is to address the housing backlog of Pag-IBIG and optimize the bidding process, ensuring transparency and efficiency in property acquisition.

1.2 Scope

- The system will cater to both low-income home buyers and real estate investors by providing an online platform for viewing, bidding on, and purchasing Pag-IBIG-acquired foreclosed properties.

1.3 Audience

- This document is intended for the following readers:
    - Developers: To understand the technical requirements and architecture of the system.
    - Testers: To design test cases and ensure the system functions as expected.
    - Project Managers: To track project progress and ensure alignment with business objectives.
    - Business Analysts: To gather and document system requirements and ensure they meet user needs.
    - Stakeholders: To understand the capabilities and features of the system.

1.4 Definitions and Acronyms

- Pag-IBIG: Home Development Mutual Fund, a government agency in the Philippines that provides affordable housing loans.
- Foreclosed Property: A property seized due to the original owner's failure to pay mortgage payments.
- User: Individuals using the system to view or purchase properties.
- Admin: Individuals who manage the system including the add delete modify the properties.
- Bidding: The process of placing offers on foreclosed properties.
- UI: User Interface, the part of the system with which users interact.
- UX: User Experience, the overall experience users have while interacting with the system.
- API: Application Programming Interface, a set of protocols for building and interacting with software applications.
- DB: Database, an organized collection of data stored and accessed electronically.

1.5 References

- Acquired Assets: Acquired Assets (pagibigfund.gov.ph)
- How to Buy Foreclosed Properties in Pag-IBIG (2023 Guide): How to Buy Foreclosed Properties in Pag-IBIG (2023 Guide) (moneymax.ph)

2. System Overview

2.1 System Architecture

- The system consists of a web application with a user-friendly interface for accessing property details, a backend server to handle business logic, and a database to store property and user information.

2.2 Key Features

- Detailed property listings with descriptions and images: Provides comprehensive details about each foreclosed property, including photos, descriptions, and pricing.
- Search and filter functionalities: Allows users to search for properties based on various criteria such as location, price range, and property type.
- Bidding process management: Facilitates the bidding process by enabling users to place bids, view current highest bids, and track bid statuses.
- User notifications and alerts: Sends notifications to users about new properties, bid status updates, and other relevant events.
- Step-by-step guidance on purchasing properties: Offers tutorials and guides to help users understand the foreclosure purchasing process.
- Digitized Bidding: Enables users to participate in the bidding process online, making it convenient and accessible.

2.3 User Roles and Permissions

Admin

- Full access to all system functionalities.
- Can add, update, and delete property listings.
- Manage user accounts and permissions.
- Oversee and manage the bidding process.

Registered User

- Can view property listings and details.
- Search and filter properties.
- Place bids on properties.
- Receive notifications and alerts.
- Access tutorials and guides.

Guest User

- Can view basic property listings and descriptions.
- Limited search and filter capabilities.
- Can access general information about the foreclosure process.
- Must register to place bids and receive notifications.

3. Functional Requirements

3.1 Property Management

- Adding new properties.
- Updating property details.
- Deleting properties.

3.2 Foreclosure Process

- Initiating foreclosure proceedings.
- Documenting foreclosure notices.
- Managing foreclosure timelines.

3.3 Notifications

- Configuring notifications for stakeholders.
- Sending automated notifications (email, SMS).

3.4 Reporting

- Generating foreclosure reports.
- Customizing report templates.

3.5 Security

- User authentication and authorization.
- Data encryption and protection.

3.6 Bidding Process

User Registration for Bidding

- Users register to participate in property bidding.
- Collect necessary user information such as name, contact details, and authentication credentials.

Bid Declaration

- Registered users declare their bid amount for selected properties.
- Users can view current highest bids to inform their bidding decisions.

Bid Notification

- Notify users of bid status updates, including confirmation of bid submission and winning bid notifications.
- Notifications can be sent via email, SMS, or through the system's notification center.

Winner Declaration

- Declare the winning bidder for each property auction based on the highest bid amount.
- Notify the winning bidder through appropriate channels.

Property Description Viewing

- Users can view detailed descriptions of foreclosed properties before placing bids.
- Property descriptions include information such as property type, size, location, amenities, condition, and any additional relevant details.
- Users can use property descriptions to assess whether the property aligns with their preferences and needs before bidding.
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4. Non-Functional Requirements

4.1 Performance

- Response time requirements.
- Throughput requirements.

4.2 Scalability

- Ability to handle increasing numbers of properties.
- Strategies for scaling the system.

4.3 Reliability

- System uptime requirements.
- Failover and recovery mechanisms.

4.4 Usability

- User interface design principles.
- Accessibility considerations.

4.5 Compliance

- Legal and regulatory compliance.
- Data retention policies.

5. System Design

5.1 Database Design

- Database schema diagram.
- Tables, relationships, and indexing strategies.

5.2 Application Architecture

- Detailed application architecture diagram.
- Description of modules and components.

5.3 External Interfaces

- Interfaces with external systems (e.g., banking systems, legal databases).
- API specifications.

5.4 Data Flow Diagrams

- Data flow within the system.
- Data flow between system components.

5.5 User Interface Design

5.5.1 Wireframes

- Provide wireframes for key screens and functionalities.
- Describe the purpose of each wireframe.
- Highlight navigation and interaction points.

5.5.2 User Experience (UX) Considerations

- Describe the UX principles applied.
- Detail user journey maps and scenarios.

6. Implementation

6.1 Development Environment

- Tools and technologies used.
- Setting up the development environment.

6.2 Coding Standards

- Coding guidelines and best practices.
- Code review process.

6.3 Deployment

- Deployment architecture.
- Steps for deploying the system.

6.4 Configuration Management

- Version control strategy.
- Configuration files and parameters.

7. Testing

7.1 Testing Strategy

- Types of testing (unit, integration, system, user acceptance).
- Testing tools and frameworks.

7.2 Test Cases

- Detailed test cases for each functional requirement.
- Expected results.

7.3 Defect Management

- Process for reporting and tracking defects.
- Defect prioritization and resolution.

8. Maintenance and Support

8.1 Maintenance Procedures

- Regular maintenance tasks.

- Backup and restore procedures.

8.2 Support Plan

- Support levels and response times.
- Contact information for support.

8.3 Troubleshooting

- Common issues and solutions.
- System logs and monitoring.
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