

PROJECT REPORT: REAL ESTATE AGENCY MANAGEMENT APPLICATION

1. Introduction

Problem Presentation:

Real estate agencies need to efficiently manage available properties, clients, and transactions. The complexity of interactions and manual processes can lead to errors, delays, and inefficiencies.

Main Objective:

Develop a terminal-based real estate agency management application that allows:

- Management of properties (adding, modifying, deleting).
- Client registration and login (buyers, sellers, renters, landlords).
- Management of real estate transactions.
- Integration of bank accounts associated with users.

Benefits:

- Centralization of information on properties, clients, and transactions.
 - Automation of contract generation.
 - Optimization of payment and transaction tracking.
 - Easy to use with an intuitive text-based interface.
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2. Requirements Analysis

2.1 Functional Requirements

- **Property Management:**
 - Add, modify, and delete properties.
 - Search for properties by criteria (price, location, owner).
- **Client Management:**
 - Create client accounts (buyers, sellers, renters, landlords).
 - Modify and delete personal information.
- **Transaction Management:**
 - Create transactions associated with properties.
 - Manage purchase or rental requests.
- **Bank Account Management:**
 - Associate bank accounts with clients.
 - Manage payments and balances.

2.2 Non-Functional Requirements

- **Intuitive User Interface:** Based on interactive menus displayed in the terminal.
 - **Performance:** Fast response time for all operations.
 - **Security:** Account access limited by unique identifier.
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3. Design

Use Cases:

- **Buyer:** Search for properties, add transactions, manage account.
- **Seller:** Add properties, accept requests, track sales.
- **Renter:** Search for rentals, manage transactions.
- **Landlord:** Add rental properties, accept requests.

Classes:

The code is organized into classes representing different domains:

- **Clients:** Buyers, sellers, renters, landlords (Buyers, Sellers, Renters, LandLords).
 - **Properties:** Property class manages real estate properties.
 - **Transactions:** Transaction management (BuyerSellerTransactions, RenterLandLordTransactions).
 - **Bank Accounts:** Accounts class manages bank accounts.
 - **Reports:** Contract class automates contract generation.
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4. Development

Technologies Used:

- **Development Language:** Java (terminal-based application).
- **Custom Packages:**
 - `src.clients`: Manages users (buyers, sellers, renters, landlords).
 - `src.properties`: Manages real estate properties.
 - `src.transactions`: Manages transactions.
 - `src.bankAccount`: Manages bank accounts.
 - `src.reports`: Manages report generation.

Description of Main Functions:

- **Sign_up():** Creates a user account based on type (buyer, seller, etc.).
- **Sign_in():** Allows user login with ID verification.
- **displayMenu():** Displays available options based on user account type.

- **Transaction Management:**
 - Add a transaction.
 - Delete a transaction.
 - Accept purchase/rental requests.
 - **Property Management:**
 - Add, modify, and delete real estate properties.
 - **Bank Account Management:**
 - Create a bank account.
 - Modify or delete an account.
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5. Features

5.1 Property Management

- Adding and modifying properties.
- Deleting properties.
- Searching properties by various criteria (price, location, owner).

5.2 Client Management

- Account creation for buyers, sellers, renters, and landlords.
- Modifying and deleting client information.

5.3 Transaction Management

- Transaction creation.
- Payment tracking and contract management.

5.4 Document Generation

- Automatic contract generation upon transaction acceptance.
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6. Conclusion and Future Perspectives

Summary of Benefits:

The application provides an efficient solution for comprehensive real estate agency management. It centralizes information while automating several key processes.

Future Improvements:

- Integration of a graphical user interface (JavaFX or Swing).
- Database integration for persistent data storage.

- Addition of a property geolocation module.
- Automation of notifications via email or SMS.