# < README> REAL ESTATE DATABASE

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## **Introduction:**

In the dynamic world of real estate, efficient management of transactions and client relationships is paramount to success. To address the needs of a real-estate office aiming to streamline its operations, this project embarks on designing a robust database system. The system is tailored to manage agents, buyers, sellers, properties on the market, and recently sold properties, catering primarily to residential real estate transactions.

## **Project Overview:**

The goal of this project is to design a database system for a real-estate office to manage agents, buyers, sellers, properties on the market, and recently sold properties. The database system will facilitate tracking and management of real-estate transactions.

## **Key Features and Considerations:**

- **Agent Management**: Keeps track of agents including their contact information and performance metrics.
- **Buyer and Seller Management**: Maintains information about buyers and sellers, including their contact details and preferences.
- **Property Management**: Manages properties on the market, including details such as address, price, size, and features.
- **Transaction History**: Tracks recently sold properties, including transaction details and parties involved.
- **User-Friendly Interface**: Considering the management's limited computer literacy, the systemhave a simple and intuitive interface.

## **Design and Implementation Approach:**

- Requirement Analysis: We first analyzed the needs of the real-estate office by studying the provided information and real-estate websites.
- Entity-Relationship (E-R) Modeling: We created an E-R diagram representing the conceptual design of the database. Include entity sets for agents, buyers, sellers, properties, and relationship sets representing interactions between them.
- Database Schema Design: We converted the E-R model into a relational schema. Define tables for each entity set, ensuring primary keys and appropriate attributes are included.

- Refinement: We normalized all the relations to achieve the goal of minimum redundancy. All the tables are in Boyce-Codd Normal Form (BCNF).
- **Populate Sample Data**: We Populated the database with sample data to demonstrate its functionality. Ensure data privacy by using fictional information.

#### **How to Run:**

- **SQL file:** The SQL files can be run on MySQL workbench.
- Web Interface: To run the web interface:
  - Install node modules running 'npm i' in both client and server folder.
  - To run the server use 'node index.js'
  - To run the Client use 'npm start'

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