# Case-Study Discussion on Dream Home

## 1. Mission Statement

The DreamHome Database System aims to centralize and manage all property rental operations across its branch offices. Its mission is to provide a reliable, accessible, and secure platform that supports day-to-day operations, enables real-time updates, and facilitates better decision-making for staff, managers, clients, and property owners.

## 2. System Definition

### A) System Entities and Data Domains

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| Stakeholder Category | Main Data Domains (Entities/Records) |
| Branch Managers & Staff | Branch\_Records, Staff\_Profiles, Role\_Assignments, Salary\_Details |
| Property Managers & Agents | Property\_Listings, Property\_Details, Management\_Records |
| Property Owners | Owner\_Profiles, Ownership\_Contracts, Payment\_Records |
| Clients | Client\_Profiles, Property\_Preferences, Registration\_Logs |
| Marketing & Advertising | Newspaper\_Listings, Ad\_Campaigns, Publication\_Logs, Costs |
| Legal & Lease Management | Lease\_Records, Payment\_Histories, Deposit\_Logs, Contract\_Documents |
| IT & Database Administration | DB\_Schemas, User\_Access\_Logs, Backups, Security\_Events |

## 3. Requirements Gathering

### A) Database Scale & Structure

Initial Size: Approximately 100 branches, 2,000 staff, 100,000 properties, 60,000 owners, 100,000 clients, 400,000 leases, 4 million property viewings, 50,000 ad records. The system will be scalable to handle growth.

### B) Data Access Patterns

Frequent searches for properties, clients, and leases will be supported. Real-time synchronization across all branches is essential.

### C) Performance Requirements

Single-record queries should execute in under 1 second, multi-record queries in under 5 seconds under normal load.

### D) Security & Compliance

Role-based access, daily incremental backups, weekly full backups, and encryption for sensitive data.

### E) Technology Environment

OS: Windows/Linux/MacOS  
DBMS: PostgreSQL  
Access: Web-based GUI

### F) User & Stakeholder Requirements

Intuitive interface, customizable reports, integration with payroll and marketing, real-time alerts.

### G) Data Integrity & Audit

Referential integrity across all related records and complete audit logs for all changes and access.

## 4. ERD Model

Entities: Branch, Staff, Property, Owner, Client, Lease, Viewing, Advertisement, Newspaper.  
Relationships: Branch employs Staff (1:M), Staff manages Property (1:M), Property belongs to Owner (M:1), Client registers at Branch via Staff (M:1), Client views Property (M:N via Viewing), Client leases Property (M:N via Lease), Property advertised in Newspaper (M:N via Advertisement).