**REAL ESTATE MANAGEMENT SYSTEM**

A real estate management system is a software application designed to streamline and automate various processes involved in managing properties, transactions and relationships with the real estate industry. These systems are commonly used by real estate agencies, property management companies, brokers, and individual agents to efficiently handle their operations.

**Summary of entities and its attributes:**

**Domain Description:**

**1.Property:** Represents real estate assets with attributes such as address, type, price and square footage.

**Attributes:**Property\_ID(PK),Address,Type,Bedrooms,Bathrooms,Price,Square\_footage.

**2.Agent:** Individuals involved in purchasing property transactions, with details like name, contact information, commission, and license number.

**Attributes:** Agent\_ID(PK), Name, Contact\_info, Commission, License\_No.

**Buyer:** Individuals interested in purchasing properties, characterized by their name and contact information.

**Attributes:** Buyer\_ID(PK),Name, Contact\_info.

**Seller:** Individuals looking to sell properties, identified by their name and contact details.

**Attributes:** Seller\_ID(PK), Name, Contact\_info.

**Listing:** Records property listings created by agents, including the date listed and current status.

**Attributes:**Listing\_ID(PK),Agent\_ID(FK),Property\_ID(FK),Date\_Listed,Status.

**Contract:** Documents agreements between buyers and lenders, specifying signing date and status.

**Attributes:**Contract\_ID(PK),Buyer\_ID(FK),Seller\_ID(FK),Date\_Signed,Status.

**Mortgage:** Details financial arrangements between buyers and lenders, covering loan amount, interest rate and term.

**Attributes:**Mortgage\_ID(PK),Buyer\_ID(FK),Lender,Amount,Interest\_Rate,Term.

**Inspection:** Tracks property inspections conducted, including the date and description of findings.

**Attributes:** Inspection\_ID(PK), Property\_ID(FK), Date, Description.

**Neighborhood:** Represents areas surrounding properties, featuring names, locations and crime rate statistics.

**Attributes:** Neighbourhood\_ID(PK), Name, Location, Crime\_rate.

**Report:** Summarizes inspection findings with information like the inspector’s ID, date and description.

**Attributes:** Report\_ID(PK), Inspector\_ID(FK), Date, Description.

**Summary of entity relationship:**

1. Property-Agent:

* An agent can list multiple properties(one-to-many).
* A property is listed by one agent(many-to-one).

1. Property-Listing:

* A property can have multiple listings over time(one-to-many).
* Each listing corresponds to one property(many-to-one).

1. Agent-Listing:

* An agent can have multiple listings(one-to-many).
* Each listing is managed by one agent(many-to-one).

1. Buyer-Contract:

* A buyer can be involved in multiple contracts (one-to-many).
* Each contract is associated with one buyer (many-to-one).

1. Seller-Contract:

* A seller can be involved in multiple contracts (one-to-many).
* Each contract is associated with one seller(many-to-one).

1. Buyer-Mortgage:

* A buyer can have multiple mortgages(one-to-many).
* Each mortgage is associated with one buyer(many-to-one).

1. Property-Inspection:

* A property can have multiple inspections(one-to-many).
* Each inspection is conducted for one property(many-to-one).

1. Neighbourhood-Property:

* Properties belong to specific neighbourhoods (one-to-many).
* Each neighbourhood can have multiple properties(many-to-one).

1. Inspector-Inspection:

* An inspector can conduct multiple inspections(one-to-many).
* Each inspection is conducted by one inspector(many-to-one).

1. Inspector-Report:

* An inspector can generate multiple reports(one-to-many).
* Each report is generated by one inspector(many-to-one).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| PropertyID | Address | Type | Bedrooms | Bathrooms | Price | Square Footage |
| 1 | 123main st,cityville | Apartment | 2 | 1 | $2,00,0000 | 1000 |
| 2 | 456elm st,townsville | House | 3 | 2 | $3,50,000 | 2000 |
| 3 | Oak st, village ton | condo | 1 | 1 | $1,50,000 | 800 |

Agent:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| AgentID | Name | Contact\_info | Commission | Licenseno |
| 101 | John | 7416453502 | 50,000 | AGT1234 |
| 102 | Emily | 9676283502 | 50,000 | AGT5678 |

Buyer:

|  |  |  |
| --- | --- | --- |
| BuyerID | Name | Contact\_info |
| 201 | Michael | 8756695467 |
| 202 | Sarah | 9867533590 |

Seller:

|  |  |  |
| --- | --- | --- |
| SellerID | Name | Contact\_info |
| 301 | David | david@example.com |
| 302 | Amanda | amanda@example.com |

Listing:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ListId | AgentID | PropertyID | Datelisted | Status |
| 501 | 101 | 1 | 2024-04-01 | Active |
| 502 | 102 | 2 | 2024-03-15 | Sold |

Contract:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ContractID | BuyerID | SellerID | Datesigned | Status |
| 701 | 201 | 301 | 2024-04-05 | Active |
| 702 | 202 | 302 | 2024-04-20 | Sold |

Mortgage:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MortgageID | BuyerID | Lender | Amount | Interestrate | Term |
| 801 | 201 | Bankofx | $1,60,000 | 3.5 | 30yrs |
| 802 | 202 | Bankofy | $2,80,000 | 4.0 | 20yrs |

Inspection:

|  |  |  |  |
| --- | --- | --- | --- |
| InspectionID | PropertyID | Date | Description |
| 901 | 1 | 2024-04-07 | Good condition |
| 902 | 2 | 2024-04-21 | Minor repairs needed |

Neighbourhood:

|  |  |  |  |
| --- | --- | --- | --- |
| NeighbourhoodID | Name | Location | Crimerate |
| 1 | harsha | cityvile | low |
| 2 | sravani | Townvile | medium |

Report:

|  |  |  |  |
| --- | --- | --- | --- |
| ReportID | InspectorID | Date | Description |
| 1001 | 901 | 2024-04-07 | Property Inspection |
| 1002 | 902 | 2024-04-21 | Property inspection |

Er diagram:s