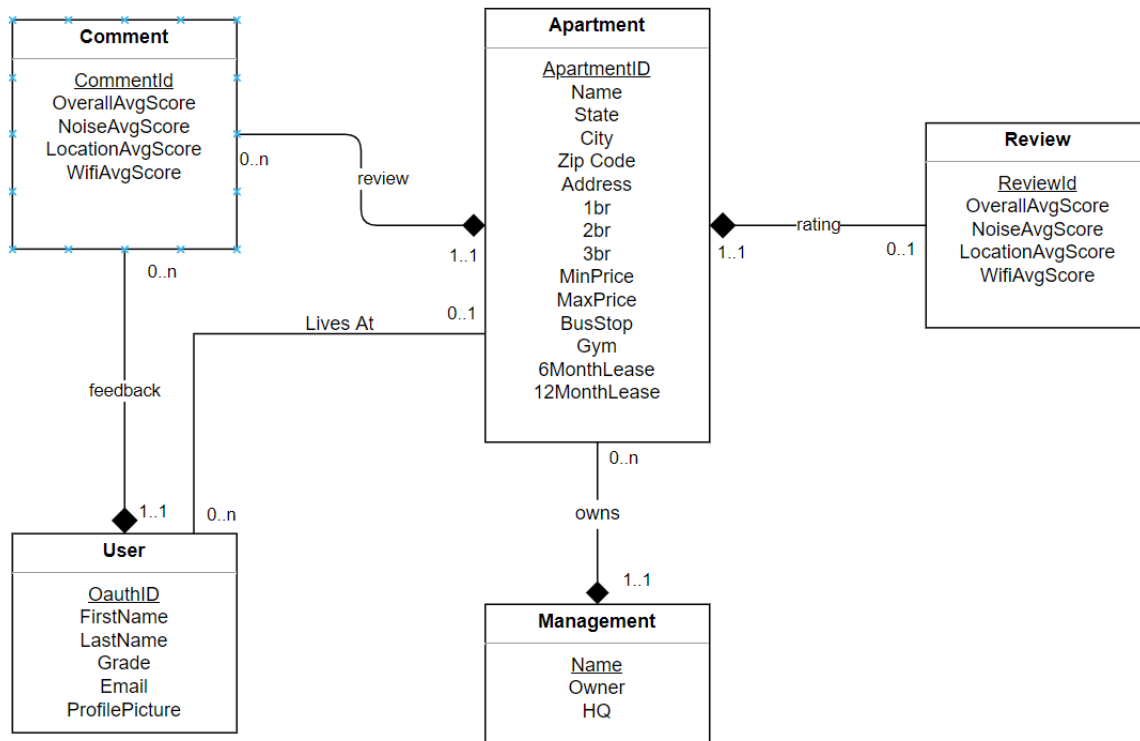# UML Diagram

Entity Assumptions

For the CS 411 Project, we assume the following to be true:

Apartment

Each apartment will have 0 or 1 review associated with it. An apartment will have 0 reviews if there has not been any comments left on that apartment. Otherwise, the apartment will have a corresponding review that tracks the overall statistics of the apartment.

Each apartment will be linked to exactly 1 management group. An apartment cannot exist without some managing group associated with it and an apartment cannot be linked to multiple managing groups.

Each apartment will have any number of comments associated with it representing each user's comment on the apartment.

Each apartment will have any number of users that are associated with it representing the current residents of the apartment.

Management

Each management group will "own" any number of apartments.

Review

Each review will be linked with exactly a single apartment because only a review will apply to a single apartment.

User

Each user will be able to leave any number of comments. Though, this may be constrained to a certain amount per an apartment later for realism.

Each user will also be associated with 0 or 1 apartments that represent the current apartment they are living in.

Comment

Each comment will be linked to a single user and a single apartment. It does not make sense for a single comment to be left by multiple users (no group comments) and for that comment to apply to multiple apartments

Relational Schema

State Abbreviations

AL	CO	HI
AK	CT	ID
AZ	DE	IL
AR	FL	IN
CA	GA	IA

KS	NV	SC
KY	NH	SD
LA	NJ	TN
ME	NM	TX
MD	NY	UT
MA	NC	VT
MI	ND	VA
MN	OH	WA
MS	OK	WV
MO	OR	WI
MT	PA	WY
NE	RI	

Apartment(
      ApartmentID: INT [PK],
      Name: VARCHAR(100),
      State: ENUM(State Abbreviation),
      ManagementID: VARCHAR(50) [FK to Management.Name],
      CITY: VARCHAR(50),
      ZIPCODE: INT,
      Address: VARCHAR(50),
      1br: BOOLEAN,
      2br: BOOLEAN,
      3br: BOOLEAN,
      MinPrice: INT,
      MaxPrice: INT,
      BusStop: BOOLEAN,
      Gym: BOOLEAN,
      6MonthLease: BOOLEAN,
      12MonthLease: BOOLEAN
)

User(
      OauthId: INT [PK],
      FirstName: VARCHAR(30),
      LastName: VARCHAR(30),
      Grade: ENUM('F', 'So', 'J', 'S'),

Email: VARCHAR(50),
ProfilePicture: VARCHAR(150),
ApartmentId: INT [FK to Apartment.ApartmentId]
)

Management(
Name: VARCHAR(50) [PK],
Owner: VARCHAR(60),
HQ: ENUM(State Abbreviation)
)

Review(
ReviewId: INT [PK],
OverallAvgScore: REAL,
NoiseAvgScore: REAL,
LocationAvgScore: REAL,
WifiAvgScore: REAL,
ApartmentId: INT [FK to Apartment.ApartmentId]
)

Comment(
CommentId: INT [PK],
OverallAvgScore: REAL,
NoiseAvgScore: REAL,
LocationAvgScore: REAL,
WifiAvgScore: REAL,
ApartmentId: INT [FK to Apartment.ApartmentId]
)