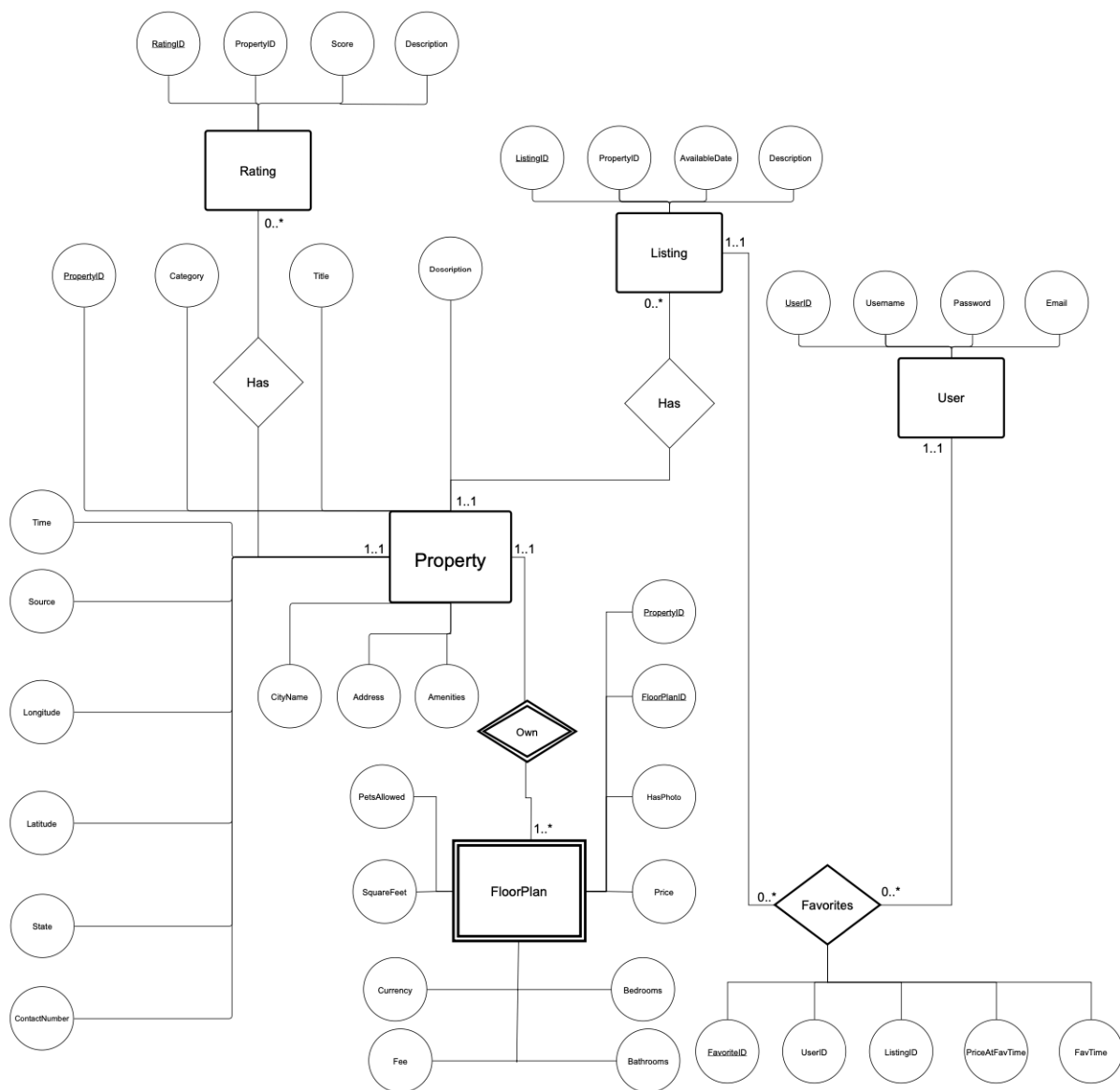## Stage 2 Comments resubmission

TA comments: FloorPlan should be a weak entity because a floor plan cannot exist without a property.

First, we fixed our ER diagram and made the FloorPlan entity as a weak entity to Property(FloorPlan was previously considered as an independent entity, the Floor Plan is now modeled as a weak entity because it cannot exist without an associated Property.). In the document, we added the reason why it is a weak entity. We also modified the corresponding relationship between them as well as made the PropertyID key attribute. The modified version is as below:

Second, we rewrite our relational schema part, specifically, the FloorPlan part. Since the FloorPlan is now a weak entity to Property, the FloorPlan will have FloorPlanID and PropertyID as its Primary Key, and also PropertyID as its Foreign Key referring Property.PropertyID. The modified relational schema is:

FloorPlan(
    FloorPlanID: INT [PK],
    PropertyID: BIGINT [PK], [FK to Property.PropertyID],
    Bedrooms: INT,
    Bathrooms: INT,
    SquareFeet: INT,
    Price: DECIMAL,
    Currency: VARCHAR(50),
    Fee: DECIMAL(10,0),
    HasPhoto: TINYINT,
    PetsAllowed: VARCHAR(255)
)

Third, as for the BCNF, we adjusted the BCNF for the FloorPlan entity, considering FloorPlanID and PropertyID as a composite key, ensuring all other attributes are fully functionally dependent on this composite key, thus meeting BCNF requirements and ensuring data integrity.

Fourth, we modified our Entity Assumption part regarding FloorPlan, stating that it is a weak property and can only be identified by the PropertyID it belongs to as well as its own FloorplanID.