Presentation for Project

2022-23

Course - CS F212
Course Name - Database Systems
Evaluation - Mid semester evaluation

BITS Pilani

Group Details

Group number: **61**
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EER Diagram- Business Rules

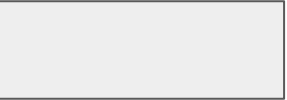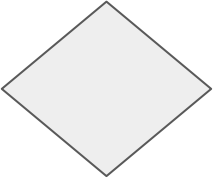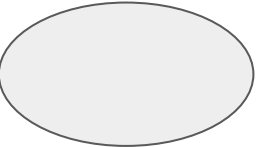| Business Rules |
| --- |
| 1)A property may not have a tenant |
| 2)A property must be either residential or commercial type |
| Permissions |
| 1)The DBA can add/ modify/ delete the users of the system. |
| 2)The Managers can add/ modify/ delete the properties. |

EER Diagram- Assumptions

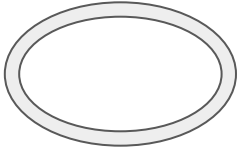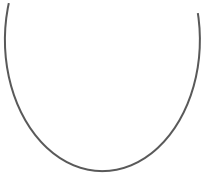| Assumptions |
| --- |
| A tenant will rent AT LEAST 1 property |
| A property will have NOT MORE THAN 1 tenant at a time |
| A manager is not an owner or a tenant |
| The DBA doesn't own/rent properties |
| One property will have ONLY ONE owner |
| One owner can OWN 0 to N properties |

EER Diagram

Notations used:

	Strong entity
	Relationship
	Attributes

	Multi valued attributes
	Subclass of an entity

EER Diagram
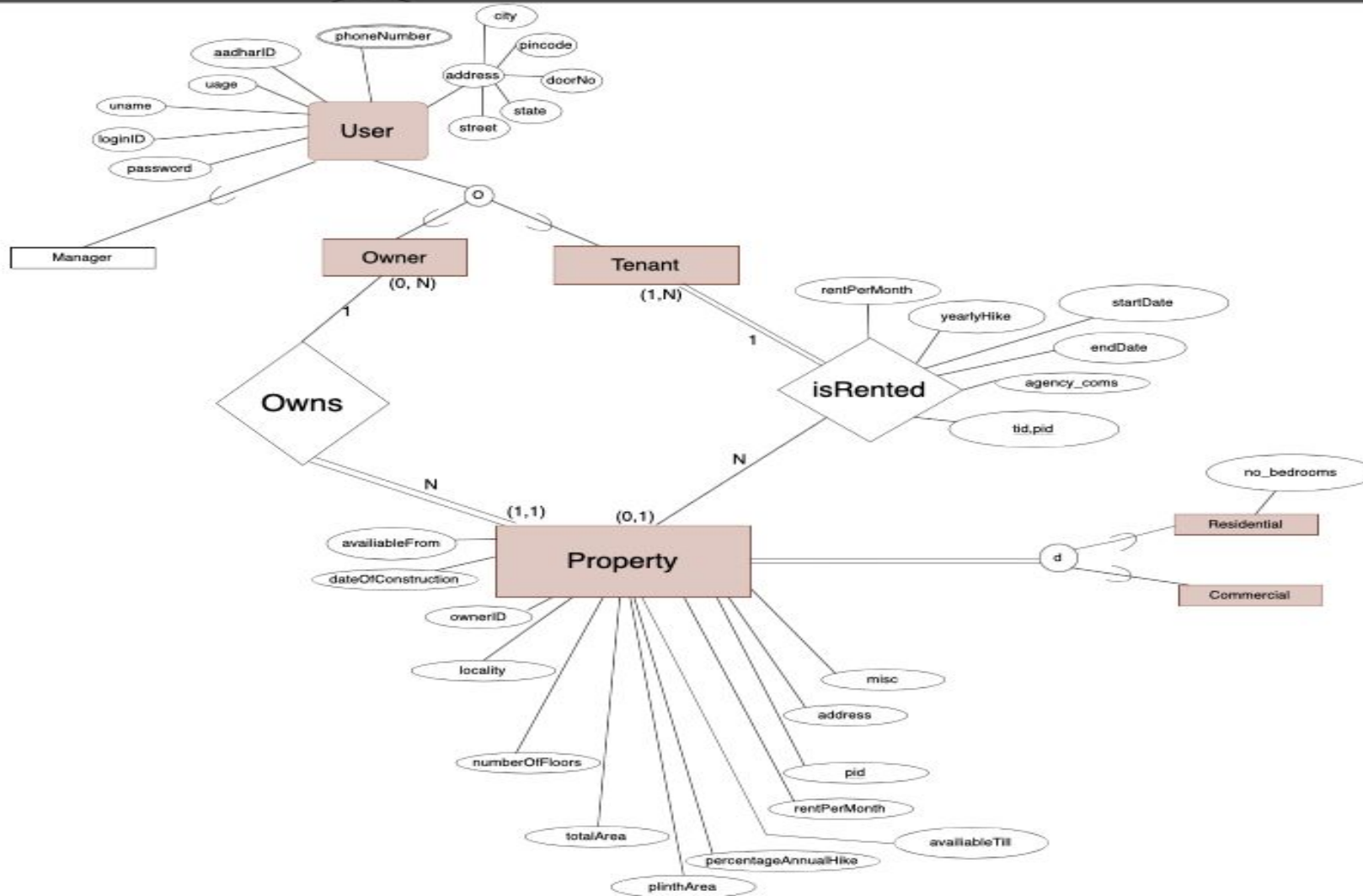
Mapping EERD to Relations

Mapping Rules followed:

1:N cardinality (owner:property)	Adding ID of subclass "Owner" to the "Property" table to capture relation between owner and property
Disjoint and Total(residential and commercial types in property)	Since only 1 attribute, adding that in the main table itself and having a typeID for identification
Relationship Attributes (isRented and Tenant)	Combination of pid and tid as PK in a separate relation along with the relationship attributes

Mapping EERD to Relations

Mapping Rules followed:

Overlap Disjoint	OwnerID in Owner table pointing towards aid in User table
Multivalued attribute(Contact Number)	Making a separate relation and making aid and phone_no combination as primary key
Role Identification	Having roleID in User and mapping it to Role table RoleID to identify DBA or Manager. For Tenants and Owner, separate tables exist.

Relational Schema

Relational Schema Link
https://drive.google.com/file/d/1fHDd7nX1Qp3Cw4NXEwQQjL
ew1_1Vj8IY/view

Relational Schema Format

Relation Formal Link:

https://drive.google.com/file/d/1MO0OaTzENnJ-6pY97W5tGHPzVWXY4LAp/view?usp=sharing

Relation Format

Relation Format Diagram

User
+ aadharId: number
+ uname: varchar[10]
+ age: number
+ doorNo: number
+ street: varchar[20]
+ city: varchar[20]
+ state: varchar[20]
+ username: varchar[20]
+ roleId: number
+ password: varchar[20]

Tenant
Residential
+ rpid: number
+ availability: DATE
+ enddate: DATE
+ ownerID: number
+ address: varchar[50]
+ rpm: number
+ pcntHIKE: number
+ totalAREA: NOT NULL
+ plinthAREA: NOT NULL
+ NoOfFloors: NOT NULL
+ locality: NOT NULL
+ YearOfCons: number
+ NoOfBedrooms: number
Commercial
+ cpid: number

roleId	rname
1	DBA
2	Manager

Property
+ availiableFrom: date
+ dateOfConstruction:: date
+ locailty: varchar[20]
+ numberOfFloors: number
+ totalArea: not Null
+ plinthArea: not Null
+ percentageAnnualHike: number
+ availiableTill: date
+ rentPerMonth: number
+ pid: number
+ address: varchar[100]
+ misc: varchar[50]
+ typeId: number
+ ownerId : number

Phone_no
+ aadharID: number
+ contactno: number

Owner
+ oid: number

typeId	typeName
1	Residential
2	Commercial

Thank You