Reviews:

Review #1:

Hi Sankalp and Michael,

The overview describes the need for a relationship database by stating the purpose of the application and the Information needed to be stored with it. The purpose is to help OSU students find housing, and the Information needed to do this involves relationships between Users, Tenants, Seekers, Information request, and Properties.

The overview is specific about the number of Users that the application may have (40,000), the location (Corvallis, OR) and university involved (OSU), and attributes that will need to be stored in the database.

The overview refers to several unique entities, including: mentions ratings (Reviews), addresses (Properties), Owners (Tenant), and Seekers.

The outline does a good job describing the purpose of each entity, their relationships, their attributes, each attributes datatypes, and some constraints.

The outline incorrectly formulates some of the relationships (saying a relationship is 1:1 where the other table says 1:M), but the ERD has them correct. I do not see a M:M relationship. The ERD is detailed well.

I would recommend using a consistent case style for attributes. There are currently some attributes with snake case (User.user_id), pascal case (Seekers.UserID), and other non-standard cases (Reviews.user_id, Properties.Sq\ ft). Table names are inconsistently pluralized. The overview also refers to tables and attributes inconsistently.

The draft is a good start. After making names more consistent and including a M:M relationship, you have a really good design.

Review #2:

Hi Sankalp and Michael, it looks like you guys put together a great project design. Your overview clearly states the problem of students being able to find somewhere to live and taking a database of which rooms are vacant/occupied. Your overview also lists a specific number of 40,000 needed rooms and used the population of OSU as your reference, which was a great idea.
There are at least 4 entities in your project design (6), and it looks like they all serve a purpose. You also listed all of the datatypes for the entities and their relationships to each other for each entity.

To me, it appears that all of the 1:M relationships are correctly formulated. For example, One Property can have multiple Tenants, so you identified it as 1:M correctly. I don't see any Many-to-Many relationships in your project draft, though. The ERD absolutely presents the project well and all of its relationships; all of the details present in the entities section can be seen in the ERD.

The names of entities and attributes are consistent all around the document, including your ERD.

The only suggestion I would give you guys is to find somewhere to add a M:M relationship, but it is an overall great project draft! I really like the idea of splitting up the Users into the Owner and Seeker groups.

Review #3:

- Does the overview describe what problem is to be solved by a website with a relational database back end?
    - This seeks to store information of people looking for rooms such that they can be paired together.
- Does the overview list specific facts?
    - 40,000 students
        - Might want to come up with some numbers on the number of properties, number of seekers etc.
    - Are at least four entities described and does each one represent a single kind of object/idea to be stored?
        - user, tenant, seekers, properties, reviews
    - Does the outline of entity details describe the purpose of each entity as well as its...
        - Attributes and their respective datatypes and constraints?
            - Looks good
        - The relationships between entities?
            - Looks good
    - Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a sufficiently detailed view of the database?
        - Looks good
    - Are the names of entities and attributes--including plural/singular forms and capitalization--consistent across the document?
        - Looks like the capitalization in Seekers_Users_user_id is wrong. Should only be capital at the beginning if it fits with the rest of the pattern.

Review #4:

- Does the overview describe what problem is to be solved by a website with a relational database back end? The overview describes the problem and solution clearly. It states the need for this database and the methods of which the team set out to achieve this. The target group is also listed as the 40,000 students attending OSU.
- Does the overview list specific facts?Yes, the overview does list the the target audience and the size. It also lists some functionality where its users need to be able to customize information like names, addresses and preferences.
- Are at least four entities described and does each one represent a single kind of object/idea to be stored?

Yes there are 6 distinct entities described in the overview, namely, users, seekers, tenants, reviews, properties and information request.

- Does the outline of entity details describe the purpose of each entity as well as its...
    - Attributes and their respective datatypes and constraints?
    - The relationships between entities?

Yes, the outline does show the relationships of each entity and their attributes. They also show the constraints of each attribute.

- Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a sufficiently detailed view of the database?

There looks like there are multiple 1:M relationships but no M:M relationships in the ERD and overview.

- Are the names of entities and attributes--including plural/singular forms and capitalization--consistent across the document?

Capitalization in the overview and the drawn ERD diagram are slightly different. In the overview, we see the first letter of each attribute capitalized but not in the ERD.

Overall i think this is a great idea and database. There needs to be a M:M relationship and a more consistent capitalization over all the documents.

Revision Plan:

1. Make the format of entities and attributes consistent.
    a. Entities should be capitalized and attributes should be all lowercase

2. Add a M:M relationship
    a. Planning on adding a M:M relationship between Tenants and Properties (Multiple Tenants can live in one Property and - theoretically - one Tenant could live at multiple Properties)
    b. Will make a composite entity - Tenant Directory - to capture this relationship

Upgrades to the Draft version

1. Made entity and attribute names consistent
2. Added more detail to the overview
3. Added a M:N relationship between Tenants and Properties
    a. Added a composite table to facilitate this

Revised Project Design:

Title: NestQuest

Team Members: Sankalp Patil and Michael Molineaux

Overview:

Our project is to develop a web application that allows students at Oregon State University to find roommates and places to live. It also allows landlords to post information about their properties to attract tenants. Our database will be a relational database tasked with storing and listing information about vacant rooms in Corvallis, Oregon. This application is intended for students at Oregon State University. There are approximately 40,000 students, most of which live in apartments or townhomes off campus. As such, our database needs to have the storage capacity and flexibility to accommodate a large variety of living situations. Users need to be able to insert, delete, and modify certain information from this database given their current living situation and goals. This database will contain information such as names, addresses, ratings, and preferences - such as non-smoking, pets, and noise levels. Additionally, people will be classified into two categories. Owners are people who currently reside in a Property and are looking for roommates. Seekers are people who are looking for a place to live.

Database Outline:

Primary keys have a star*

- **Users**: Holds the data of anyone who uses the application
  - user_id*: int, auto_increment
  - email: varchar
  - phone: varchar
  - smoking: varchar
  - pets: varchar
  - gender: varchar
  - age: varchar
  - Relationships:
    - A 1: 0 or M relationship between Users and Reviews (A User can write many Reviews).
    - A 0 or 1 relationship between Users and Tenants (If a User exists, they can either be a Tenant or not a Tenant.)
    - A 0 or 1 relationship between Users and Seeker(If a User exists, they can either be a Seeker or not a Seeker.)

- **Tenants**: Holds the data of people residing in a Property who are looking for roommates
  - user_id*: int
  - role: varchar
  - Relationships:
    - A 1: 1 or M relationship between Tenants and Tenant Directory (Many Tenants can be living in many Properties).
    - A 1:1 relationship between Tenants and Users (If a Tenant exists, they must be a User)

- **Seekers:** Holds data of people currently looking for roommates and a place to live.
  - user_id*: int, auto_increment
  - price_upper: int
  - price_lower: int
  - Relationships:
    - A 1: 0 or M relationship between Seekers and Information request (A Seeker can send out multiple Information requests).
    - A 1:1 relationship between Seekers and Users (If a Seeker exists, they must be a User)

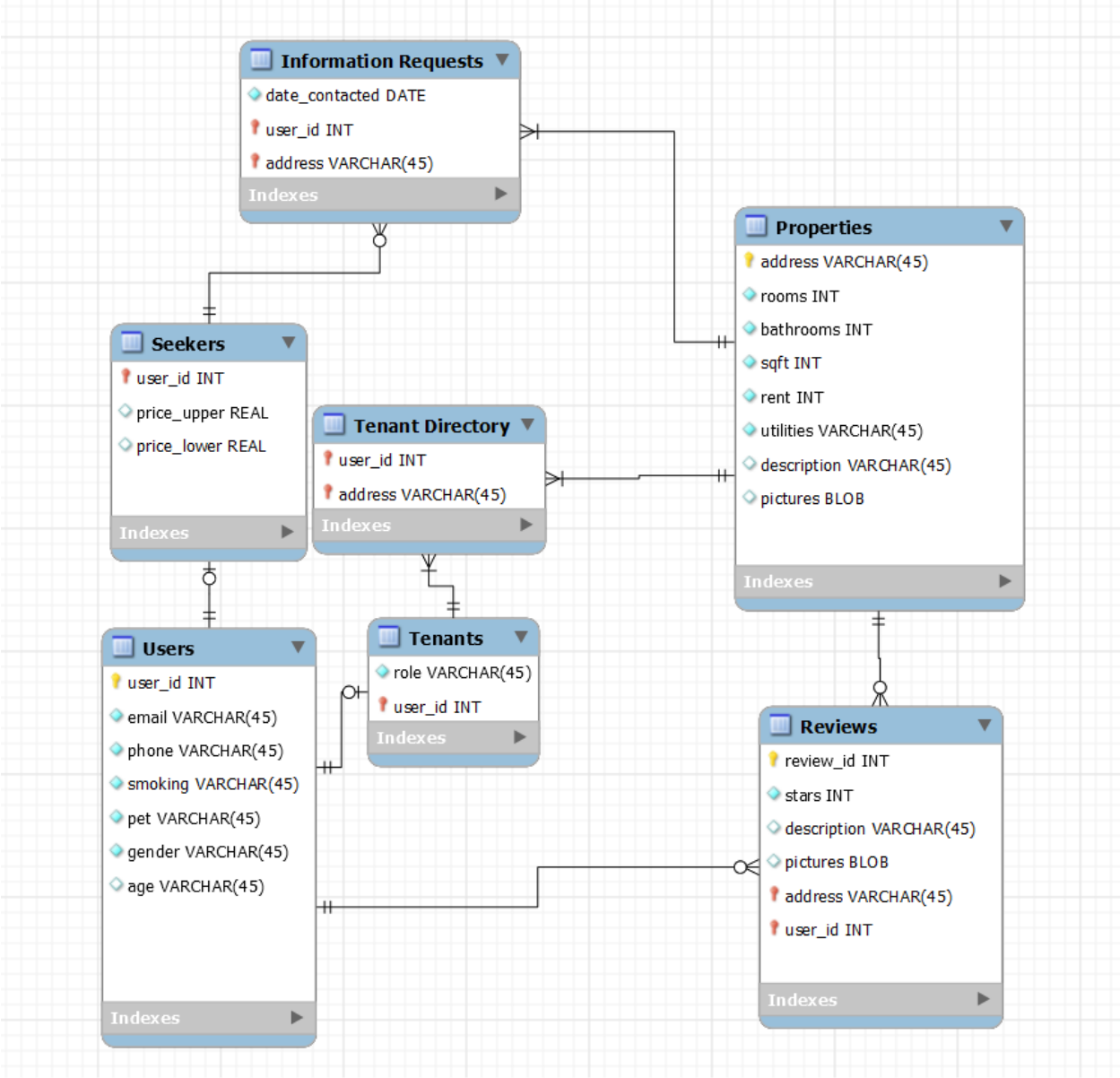
- **Information Requests:** Hold data about requests for Information about Properties sent by Seekers
  - user_id*: int, not NULL, unique
  - date_contacted: DATE, not NULL
  - address: varchar, not NULL
  - Relationships:
    - A 1:1 relationship to Seeker(One Information request must have one Seeker)
    - A 1:1 relationship to Property(One Information request can be about only one Property)

- **Properties:** The Properties that Tenants are living at where openings are available
  - address*: varchar, not NULL, unique
  - rooms: int, not NULL
  - bathrooms: int, not NULL
  - sq_ft: varchar, not NULL
  - rent: varchar, not NULL
  - utilities: varchar, not NULL
  - description: varchar
  - pictures: BLOB
  - Relationships:
    - A 1: 0 or M relationship to Information Request (One Property can have multiple Information requests)
    - A 1: 0 or M relationship to Tenant Directory (One Property can house multiple Tenants)
    - A 1: 0 or M relationship to Reviews (One Property can have none or multiple Reviews)

- **Reviews:** These are Reviews written by Users of the app about Properties
  - review_id*: int, auto_increment, not NULL
  - user_id: int, not NULL
  - address: varchar, not NULL
  - stars: int, not NULL
  - description: varchar
  - pictures: BLOB
  - Relationships:
    - A 1:1 relationship with Users (Any given review can only be written by one User)
    - A 1:1 relationship to Properties (A review can only be related to one Property)

- **Tenant Directory:** This is an intersection table between Tenants and Properties
  - user_id int, not NULL (Note, the pk is the combination of the two)
  - address varchar
  - Relationships:
    - A 1:1 relationship to Tenants
    - A 1:1 relationship to Properties

Entity Relationship Diagram:



Sample Data

Users						
user_id	email	phone	smoking	pet	gender	age
1	rob@gmail.com	1234567890	yes	no	male	22
2	amy@outlook.com	987654321	no	no	female	20
3	jim@oregonstate.edu	5413214567	no	yes	male	25
4	jordan@gmail.com	3219876540	yes	yes	female	20
5	bill@oregonstste.edu	4436758766	no	no	male	24
6	jace@yahoo.com	4336751369	no	yes	male	21

Tenants	
user_id	role
4	owner
5	tenant
6	tenant

Seekers		
user_id	price_upper	price_lower
1	750	0
2	950	300
3	600	0

Properties						
address	rooms	bathrooms	sqft	rent	utilities	description
12345 Berry st	3	3	1550	750	water, sewage, garbage, washer/dryer	Townhome 2.2 miles from campus
23465 west ave	2	2	1450	850	water, sewage, garbage, washer/dryer	Apartment room located 5 minutes from campus
876 robin blvd	4	3	1650	600	electricity, water, sewage, garbage, washer/dryer	nice place
23819 bald mtn rd	4	4	1800	650	electricity, water, sewage, garbage, washer/dryer	House from the 80s but in great condition.

Information Request		
date_contacted	user_id	address
12-11-2022	1	12345 Berry st
09-28-2022	2	12345 Berry st
02-24-2023	3	23819 bald mtn rd

Tenant Directory	
user_id	address
4	12345 Berry st
4	23465 west ave
5	876 robin blvd
6	23819 bald mtn rd

Reviews					
review_id	stars	description	pictures	address	user_id
1	4	great place! The location is nice		23819 bald mtn rd	1
2	4	Included electricity is a huge plus.		876 robin blvd	2
3	3	The rooms have a weird smell and the carpets are discolored		23465 west ave	2