MTM_03.1 Software Development Basics
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ASSIGNMENT NR 1

App Project: StayEasy
StayEasy is a rental marketplace where users can list, discover, favourite, and comment on housing offers in different cities.

IDEATION: MVP USER FLOW
User signs up / logs in
User creates offer with details (title, description, rent, size, city, available date)
User (role: Guest) browses offers by city or tags.
User (role: Guest) can favourite offers to save them.
User (role: Guest) can comment on offers of other **Users** to ask questions or leave reviews.

Both sides interact: simple discovery and engagement loop.

MODEL DESCRIPTION:
User: username, email, role, password
City: name
Offer: title, body, status, rent, size, available_from, created_at
Favourites: user_id, offer_id, created_at
Comments: body, created_at
Tag: name
Offer_tags: offer_id, tag_id (Together, these form a **composite primary key** so no duplicates exist)

NAMING OF THE RELATIONS
A **User** hasMany **Offers** (1–N)
An **Offer** belongsTo **a User** (N–1)
A **City** hasMany **Offers** (1–N)
An **Offer** belongsTo **a City** (N–1)
A **User** hasMany **Comments** (1–N)
A **Comment** belongsTo **a User** (N–1)
An **Offer** hasMany **Comments** (1–N)
A **Comment** belongsTo **an Offer** (N–1)
A **User** hasMany **Favourites** (1–N)
A **Favourite** belongsTo **a User** (N–1)
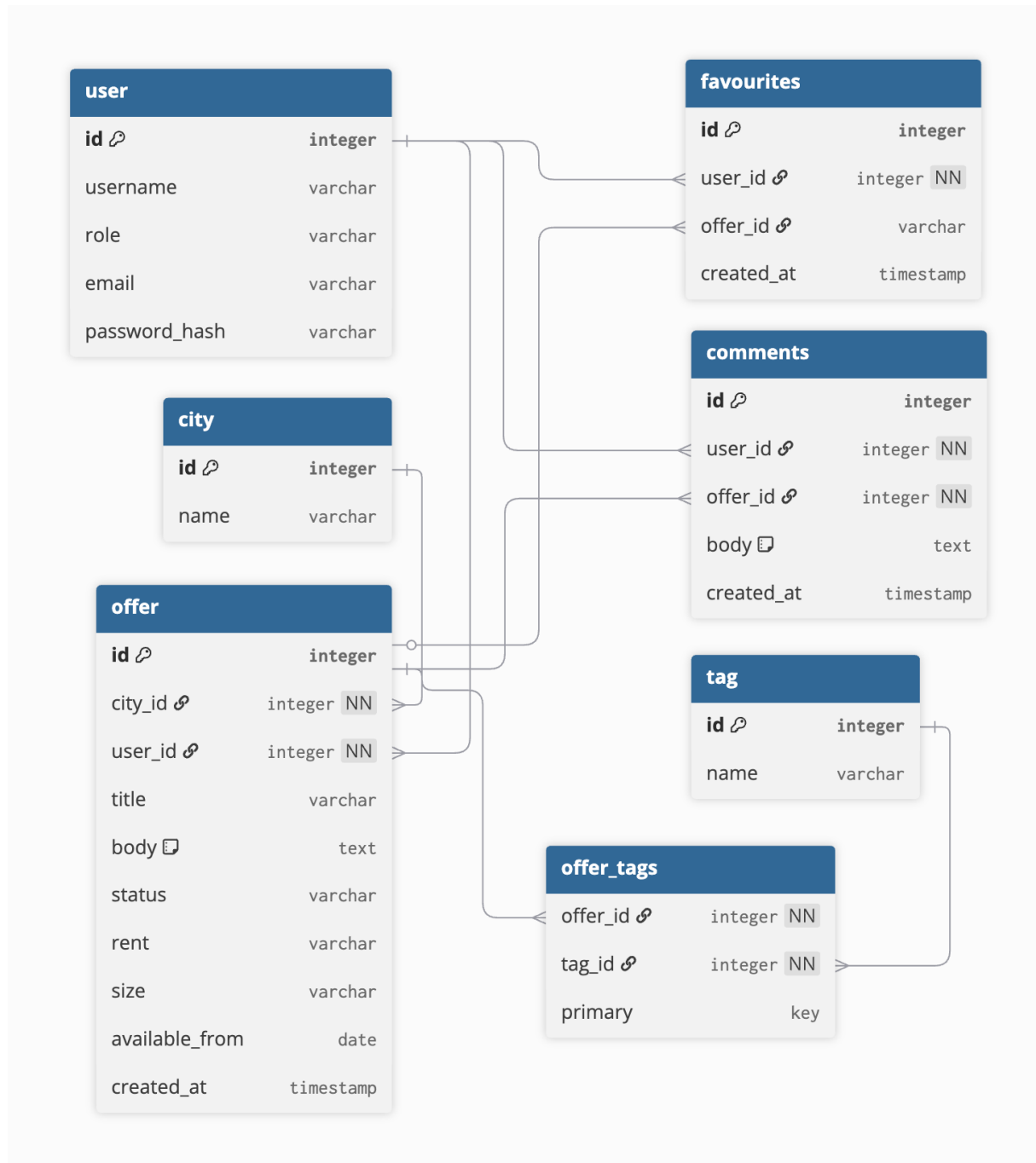An **Offer** hasMany **Favourites** (1–N)
A **Favourite** belongsTo **an Offer** (N–1)
    IDEA for N-M integration
    An **Offer** belongsToMany **Tags** (N–M, via pivot offer_tags)
    A **Tag** belongsToMany **Offers** (N–M, via pivot offer_tags)

MODEL VISUALITION:

```
3
4     Table tag {
5       id integer [primary key]
6       name varchar // balcony; garden; fridge
7     }
8
9     Table user {
10      id integer [primary key]
11      username varchar
12      role varchar
13      email varchar
14      password_hash varchar
15    }
16
17    Table favourites {
18      id integer [primary key]
19      user_id integer [not null]
20      offer_id varchar
21      created_at timestamp
22    }
23
24    Table city {
25      id integer [primary key]
26      name varchar
27    }
28
29    Table offer {
30      id integer [primary key]
31      city_id integer [not null]
32      user_id integer [not null]
33      title varchar
34      body text [note: 'Content of the offer']
35      status varchar
36      rent varchar
37      size varchar
38      available_from date
39      created_at timestamp
40    }
41

41
42    Table comments {
43      id integer [primary key]
44      user_id integer [not null]
45      offer_id integer [not null]
46      body text [note: 'Content of the comment']
47      created_at timestamp
48    }
49
50    Table offer_tags {
51      offer_id integer [not null]
52      tag_id integer [not null]
53      primary key
54    }
55
56
57    Ref: offer.user_id > user.id
58
59    Ref: offer.city_id > city.id
60
61    Ref: comments.user_id > user.id
62
63    Ref: comments.offer_id > offer.id
64
65    Ref: favourites.user_id > user.id
66
67    Ref: favourites.offer_id > offer.id
68
69    // Idea: (M:N through offer_tags)
70    Ref: offer_tags.offer_id > offer.id
71    Ref: offer_tags.tag_id > tag.id
72
73
74
75
76
```