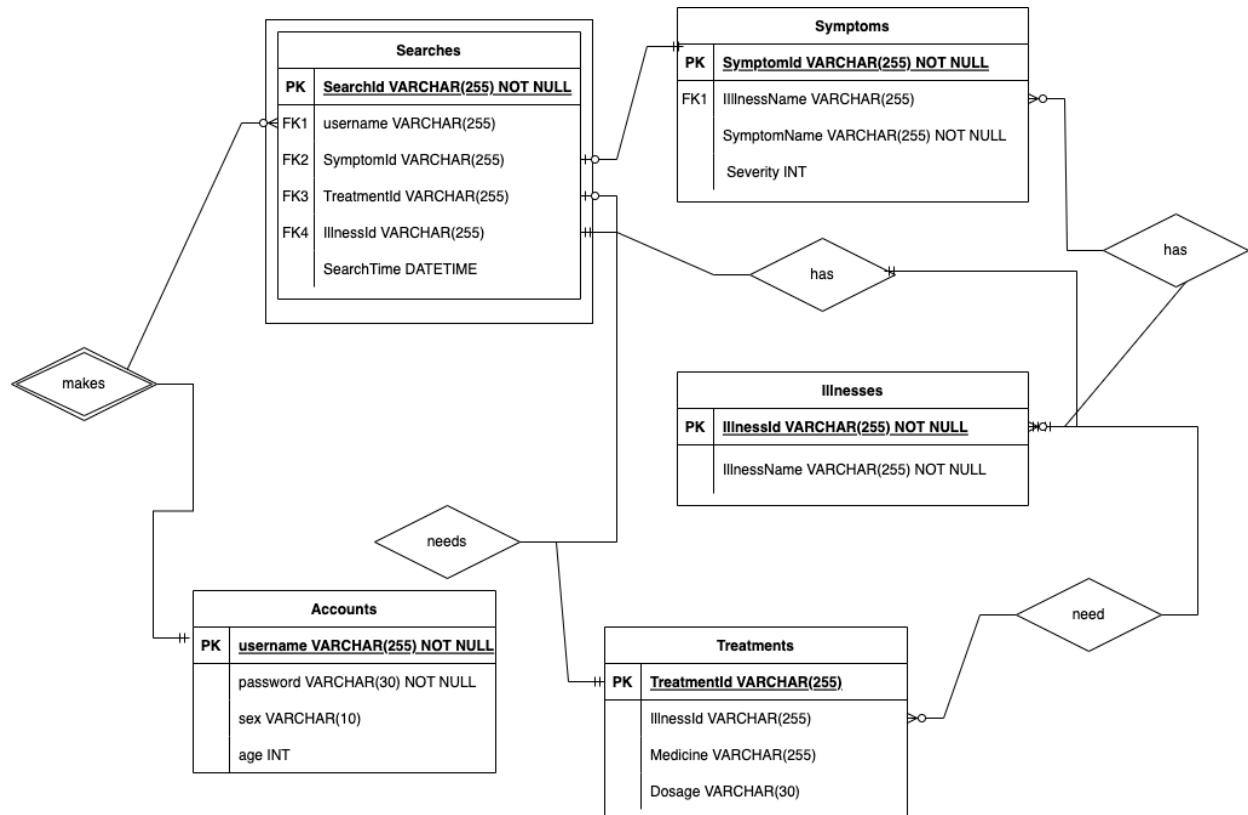Stage 2, Project Track 1

ER Diagram

Descriptions and Assumptions
Accounts is an entity storing user information such as their username, password, sex, and age.

Symptoms is an entity storing given tracked symptoms, such as the symptom itself, severity (integer rating), the illness name and a unique id for the symptom tracking to a particular illness. We are assuming that a symptom can be linked to multiple illnesses. An illness can be linked to multiple symptoms.

Treatments is an entity storing given treatments. It holds a treatment id, an illness id, medicine and dosage. We are assuming that a treatment may be prescribed to multiple illnesses.

Illnesses is an entity storing various given illnesses in the dataset. It contains the unique illness id and the illness name.

Searches is an entity storing saved searches from users. It stores the search id, username, symptom id, treatment id, illness id, and search time. A user can have multiple searches. Every search is either a search for a symptom, a treatment or an illness so only one of the fields

(symptom id, treatment id, illness id) will have a non-null value for any given search. Only a set number of searches are saved for a given user.

Involved relationships, cardinality

FOREIGN KEY(Symptoms.IllnessName) REFERENCES (Illness.IllnessId). It's a many-many relationship.

FOREIGN KEY(Treatments.IllnessId) REFERENCES (Illness.IllnessId). It's a 1-many relationship.

FOREIGN KEY(Searches.IllnessId) REFERENCES (Illness.IllnessId). It's a 1-1 relationship.

FOREIGN KEY(Searches.SymptomId) REFERENCES (Symptoms.SymptomId). It's a 1-many relationship.

FOREIGN KEY(Searches.TreatmentId) REFERENCES (Treatments.TreatmentId). It's a 1-many relationship.

FOREIGN KEY(Searches.username) REFERENCES (Accounts.username). It's a 1-many relationship.

Relational Schema

Accounts(Username:VARCHAR(255)[PK], Password:VARCHAR(30), Sex:VARCHAR(10), Age INT)

Symptoms(SymptomId:VARCHAR(255)[PK], SymptomName:VARCHAR(255) NOT NULL, IllnessName:VARCHAR(255)[FK to Illnesses.IllnessId], Severity:INT)

Treatments(TreatmentId:VARCHAR(255)[PK], IllnessId VARCHAR(255)[FK to Illnesses.IllnessId], Medicine VARCHAR(255), Dosage VARCHAR(30))

Illnesses(IllnessId:VARCHAR(255)[PK], IllnessName VARCHAR(255) NOT NULL)

Searches(SearchId:VARCHAR(255)[PK], Username:VARCHAR(255)[FK to Accounts.Username], SymptomId:VARCHAR(255)[FK to Symptoms.SymptomId], TreatmentId:VARCHAR(255)[FK to Treatment.TreatmentId], IllnessId:VARCHAR(255)[FK to Illness.IllnessId], SearchTime:DATETIME)