Section B Group 6
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What changes were made in the ERD?

Initially, we were all off in terms of assigning the right forgein keys to the correct entities. None of us were "following the fork" and this was the first big change that we made. From there, it was mostly adding new tables and creating associative entities. Some changes included adding an entity called SPECIALITIES, replacing DOCTOR_TYPE, that we connected to the DOCTOR table because every doctor has a certain specialty. We also linked DOCTOR and PATIENT to the PRESCRIPTION entity, because we need to keep track of who the patient and doctor were for each prescription. This led to both DoctorID and PatientID being added as foreign keys to PRESCRIPTION. Then we took out BrandName from DRUG and created a new table called BRAND. Then we linked BRAND to DRUG and added the foreign key BrandID to DRUG. Then we deleted DIAGNOSIS and replaced it with DOC_DIAG_SYM. Then we created a DOCTOR_DIAGNOSIS_MEASURABLE table that we connected to DOCTOR_DIAGNOSIS. Also, we created a MEASURABLE table, with attributes like Weight, Height, and BloodPressure, that we linked to DOCTOR_DIAGNOSIS_MEASURABLE. Lastly, we added more attributes to the DRUG table, like GenericName, Imprint, Strength, Color, and Shape, in order to get more accurate details about the drug being prescribed to the patient.

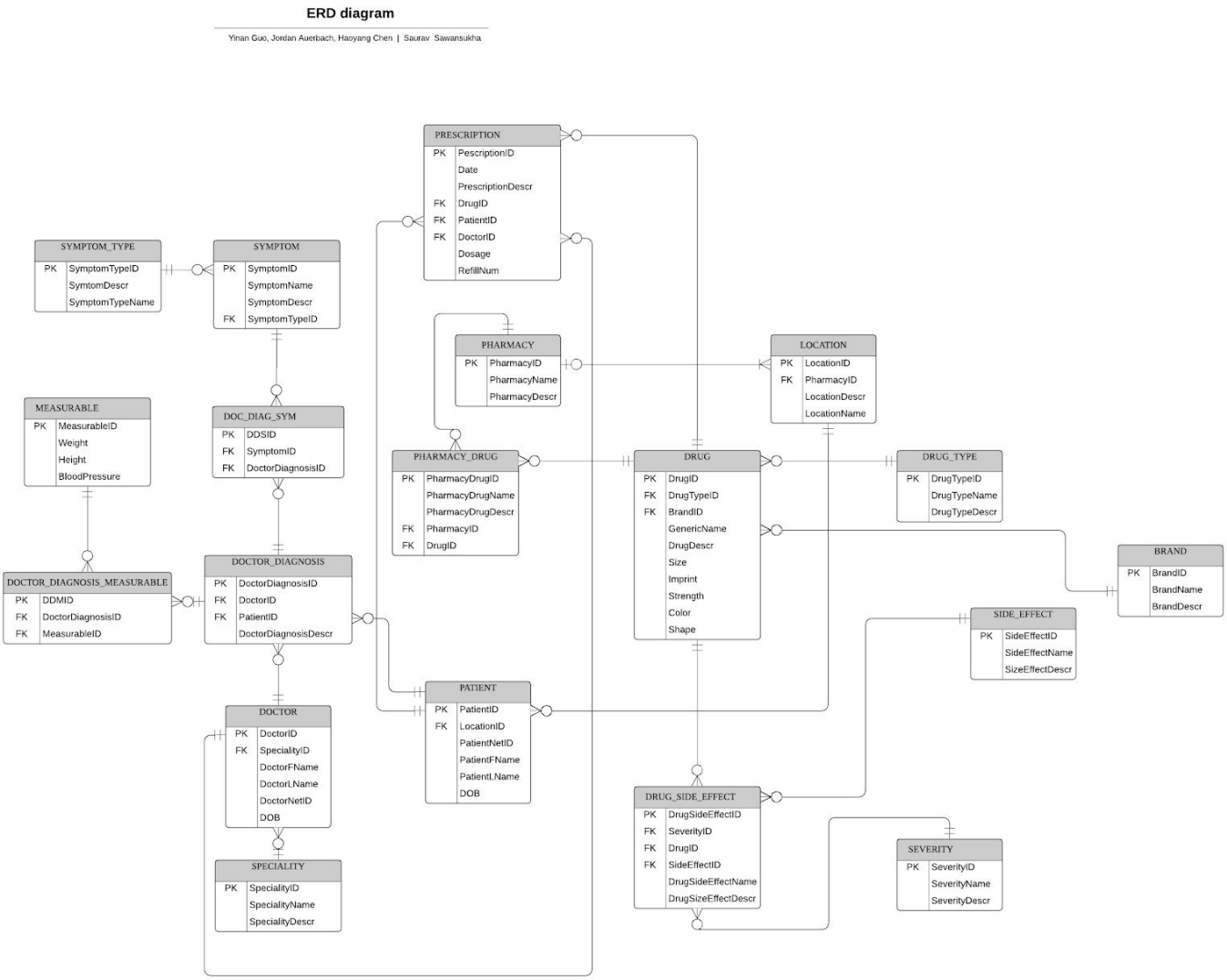
Why were these changes made?

The changes that were made throughout the week allowed us to see a high-level view of the database before we began to develop them with SQL. Thus, we were able to capture the entities and the attributes that will best accommodate the client trying to keep track of their medication. When initially started, the ERD was more of a brainstorming session, where the entities were characteristics that the doctor may use to give the medication and the client to keep track of their medication. This had an impact on generating more than 30 tables that were unviable to code and violated many business rules. For example, we had the crows feet in the wrong direction, had foreign keys placed in one to one tables and did not have associative entities for the many to many relationships. The initial stage of our ERD would have caused our system to crash and be redundant thus not following the organize or die principle. However, after refining and listening to the professor we were able to cut down to 19 entities and each entity being unique and having the sole purpose for the client. The purpose of this change was also to make the system simplistic and so our bosses and clients can understand the features that will be presented in the database.

What were the underlying principles or best-practices that I was following?

1. Understand the background, know what are the necessary main entity.
2. Branch out from these main entities, add other entities, and identify relationships with these entities.
3. Add attributes, and along the way edit entity when needed to fit the better needs
4. Complete the diagram.

Revised ERD


ERD diagram
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PRESCRIPTION
PK PescriptionID
Date
PrescriptionDescr
FK DrugID
FK PatientID
FK DoctorID
Dosage
RefillNum
SYMPTOM_TYPE
PK SymptomTypeID
SymtomDescr
SymptomTypeName
SYMPTOM
PK SymptomID
SymptomName
SymptomDescr
FK SymptomTypeID
PHARMACY
PK PharmacyID
PharmacyName
PharmacyDescr
LOCATION
PK LocationID
FK PharmacyID
LocationDescr
LocationName
MEASURABLE
PK MeasurableID
Weight
Height
BloodPressure
DOC_DIAG_SYM
PK DDSID
FK SymptomID
FK DoctorDiagnosisID
PHARMACY_DRUG
PK PharmacyDrugID
PharmacyDrugName
PharmacyDrugDescr
FK PharmacyID
FK DrugID
DRUG
PK DrugID
FK DrugTypeID
FK BrandID
GenericName
DrugDescr
Size
Imprint
Strength
Color
Shape
DRUG_TYPE
PK DrugTypeID
DrugTypeName
DrugTypeDescr
BRAND
PK BrandID
BrandName
BrandDescr
DOCTOR_DIAGNOSIS_MEASURABLE
PK DDMID
FK DoctorDiagnosisID
FK MeasurableID
DOCTOR_DIAGNOSIS
PK DoctorDiagnosisID
FK DoctorID
FK PatientID
DoctorDiagnosisDescr
SIDE_EFFECT
PK SideEffectID
SideEffectName
SizeEffectDescr
PATIENT
PK PatientID
FK LocationID
PatientNetID
PatientFName
PatientLName
DOB
DOCTOR
PK DoctorID
FK SpecialityID
DoctorFName
DoctorLName
DoctorNetID
DOB
DRUG_SIDE_EFFECT
PK DrugSideEffectID
FK SeverityID
FK DrugID
FK SideEffectID
DrugSideEffectName
DrugSizeEffectDescr
SEVERITY
PK SeverityID
SeverityName
SeverityDescr
SPECIALITY
PK SpecialityID
SpecialityName
SpecialityDescr