ALLERGY DETECTION DATABASE

By: Noelia Aubá, Carlo Bottini, Carmen Caballero, Pablo Hita

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ALLERGIES AROUND THE WORLD

- Around 15% of World´s population
- ½ for 2050
- 300 million suffer from Asthma

WHAT IS THIS PROJECT FOR?

→ Who is our target audience?

→ How do we use the program?

GOALS:

- Enhance Patient Care.

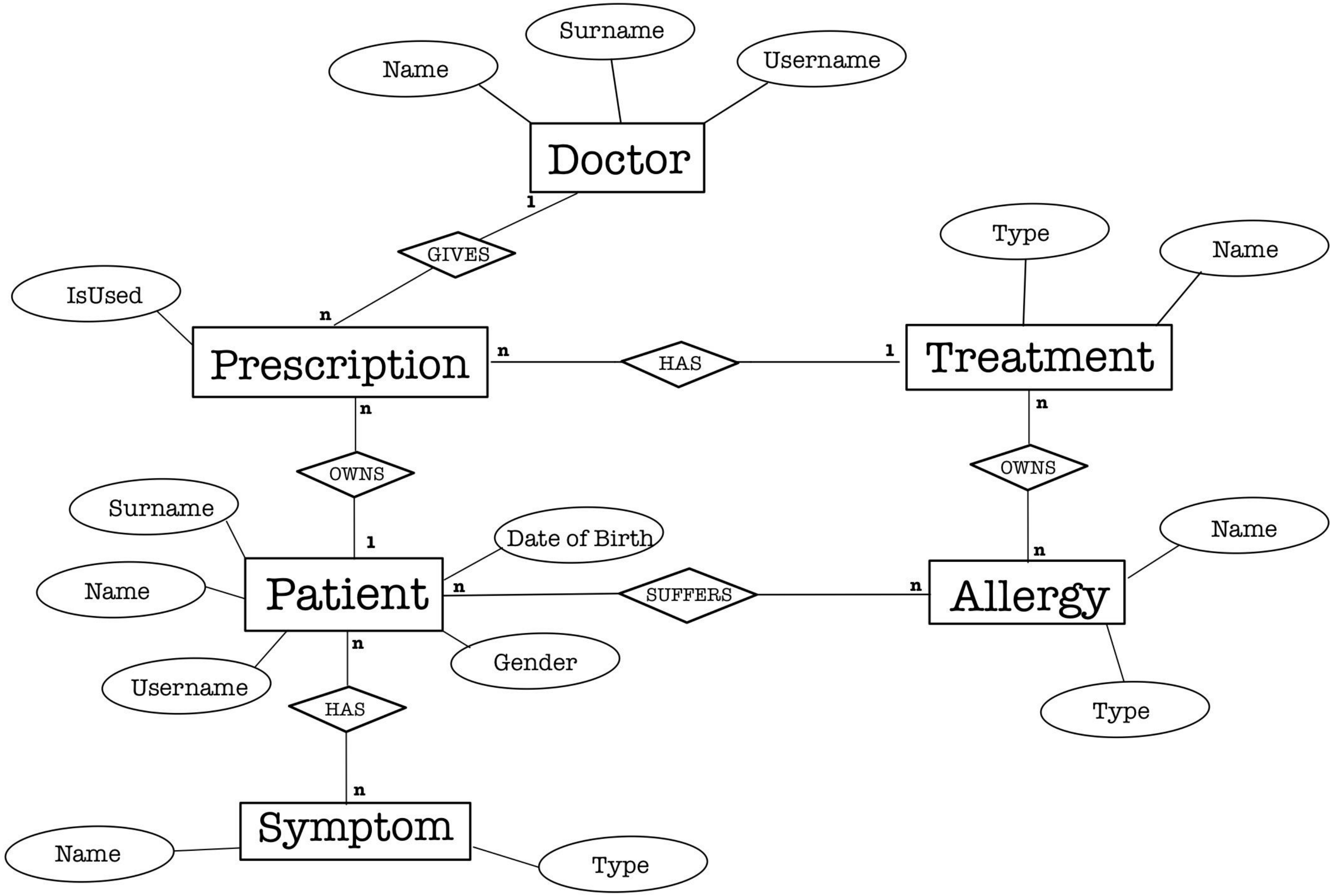
- Accessibility.

- Improve Communication.

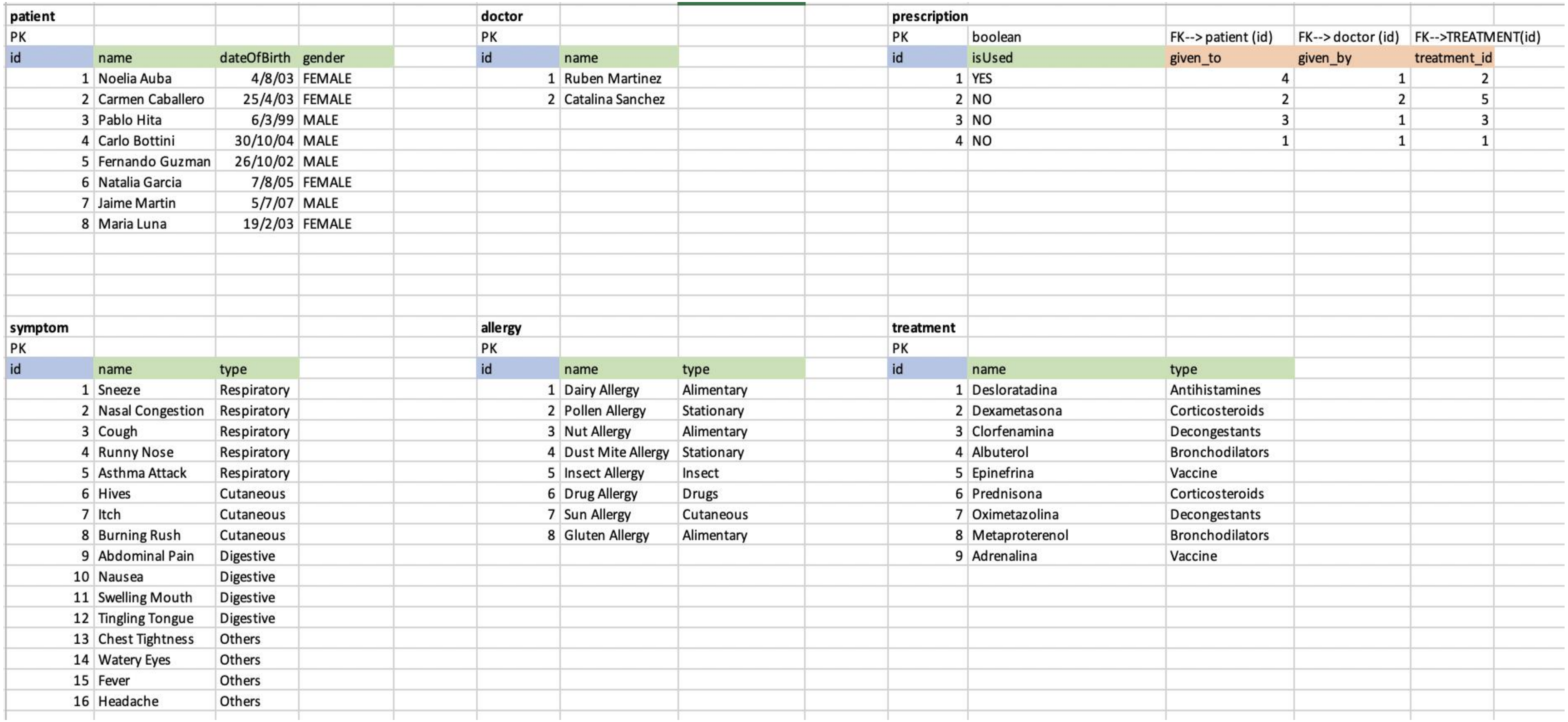
- Continuous Improvement.

- Comprehensive Allergy Databases.

E-R DIAGRAM


Name
Surname
Username
Doctor
1
GIVES
n
IsUsed
Prescription
n
HAS
1
Treatment
Type
Name
n
OWNS
n
OWNS
n
Surname
Name
Patient
1
Date of Birth
n
SUFFERS
n
Allergy
Name
Type
Username
n
Gender
HAS
n
Symptom
Name
Type

TABLES



patient

PK			
id	name	dateOfBirth	gender
1	Noelia Auba	4/8/03	FEMALE
2	Carmen Caballero	25/4/03	FEMALE
3	Pablo Hita	6/3/99	MALE
4	Carlo Bottini	30/10/04	MALE
5	Fernando Guzman	26/10/02	MALE
6	Natalia Garcia	7/8/05	FEMALE
7	Jaime Martin	5/7/07	MALE
8	Maria Luna	19/2/03	FEMALE

doctor

PK	
id	name
1	Ruben Martinez
2	Catalina Sanchez

prescription

PK	boolean	FK--> patient (id)	FK--> doctor (id)	FK-->TREATMENT(id)
id	isUsed	given_to	given_by	treatment_id
1	YES	4	1	2
2	NO	2	2	5
3	NO	3	1	3
4	NO	1	1	1

symptom

PK		
id	name	type
1	Sneeze	Respiratory
2	Nasal Congestion	Respiratory
3	Cough	Respiratory
4	Runny Nose	Respiratory
5	Asthma Attack	Respiratory
6	Hives	Cutaneous
7	Itch	Cutaneous
8	Burning Rush	Cutaneous
9	Abdominal Pain	Digestive
10	Nausea	Digestive
11	Swelling Mouth	Digestive
12	Tingling Tongue	Digestive
13	Chest Tightness	Others
14	Watery Eyes	Others
15	Fever	Others
16	Headache	Others

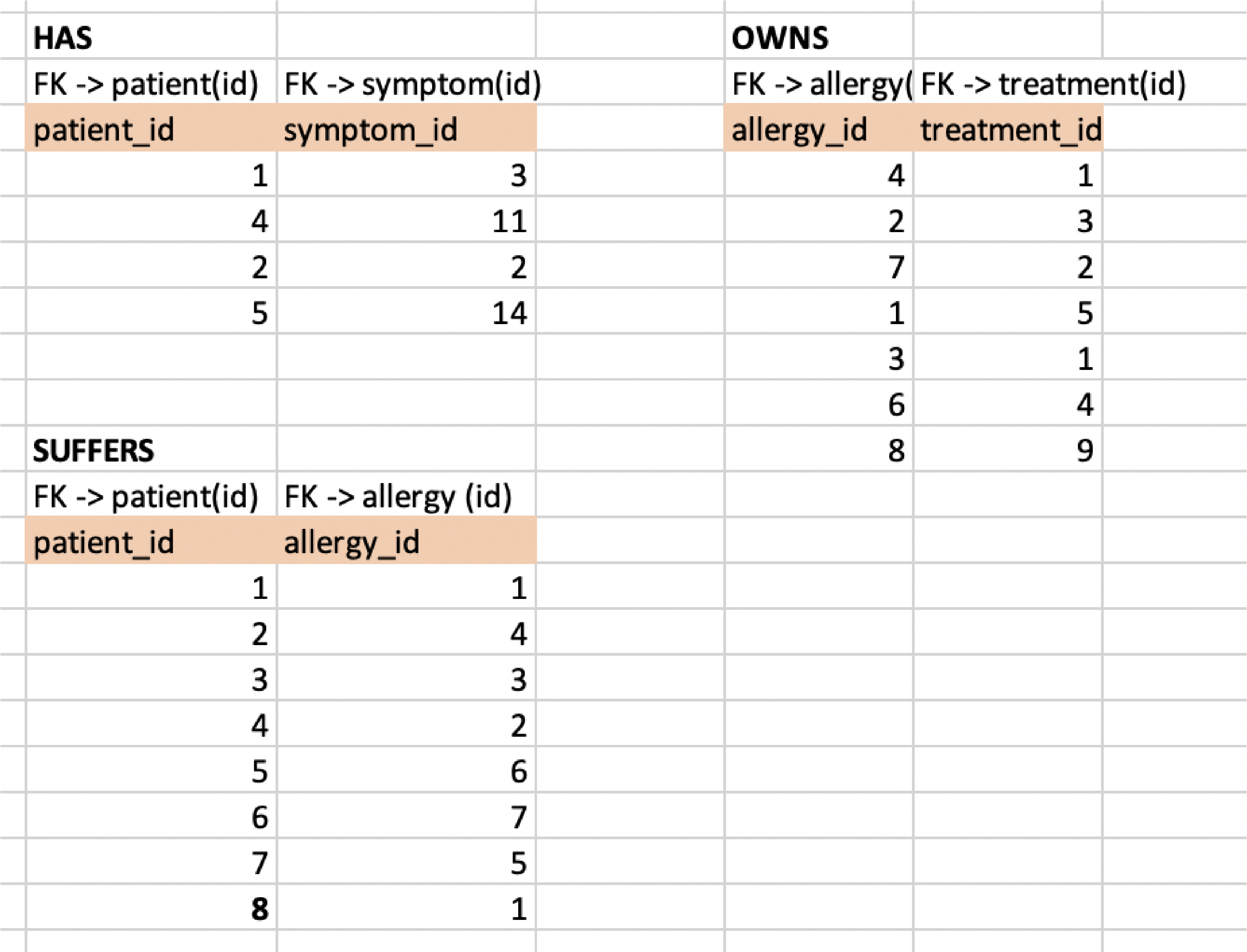
allergy

PK		
id	name	type
1	Dairy Allergy	Alimentary
2	Pollen Allergy	Stationary
3	Nut Allergy	Alimentary
4	Dust Mite Allergy	Stationary
5	Insect Allergy	Insect
6	Drug Allergy	Drugs
7	Sun Allergy	Cutaneous
8	Gluten Allergy	Alimentary

treatment

PK		
id	name	type
1	Desloratadina	Antihistamines
2	Dexametasona	Corticosteroids
3	Clorfenamina	Decongestants
4	Albuterol	Bronchodilators
5	Epinefrina	Vaccine
6	Prednisona	Corticosteroids
7	Oximetazolina	Decongestants
8	Metaproterenol	Bronchodilators
9	Adrenalina	Vaccine

RELATIONSHIP TABLES



HAS

FK -> patient(id)	FK -> symptom(id)
patient_id	symptom_id
1	3
4	11
2	2
5	14

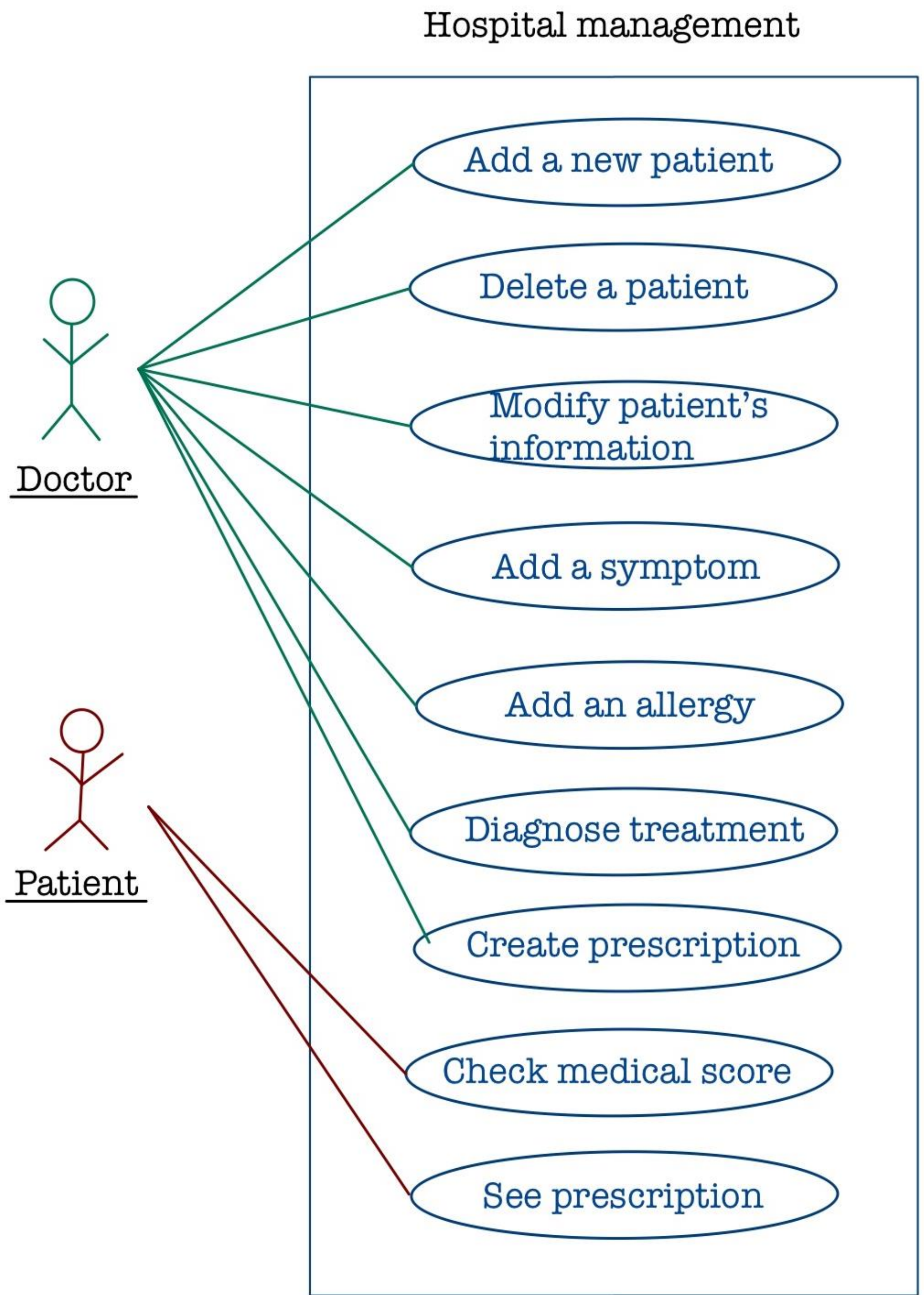
SUFFERS

FK -> patient(id)	FK -> allergy (id)
patient_id	allergy_id
1	1
2	4
3	3
4	2
5	6
6	7
7	5
8	1

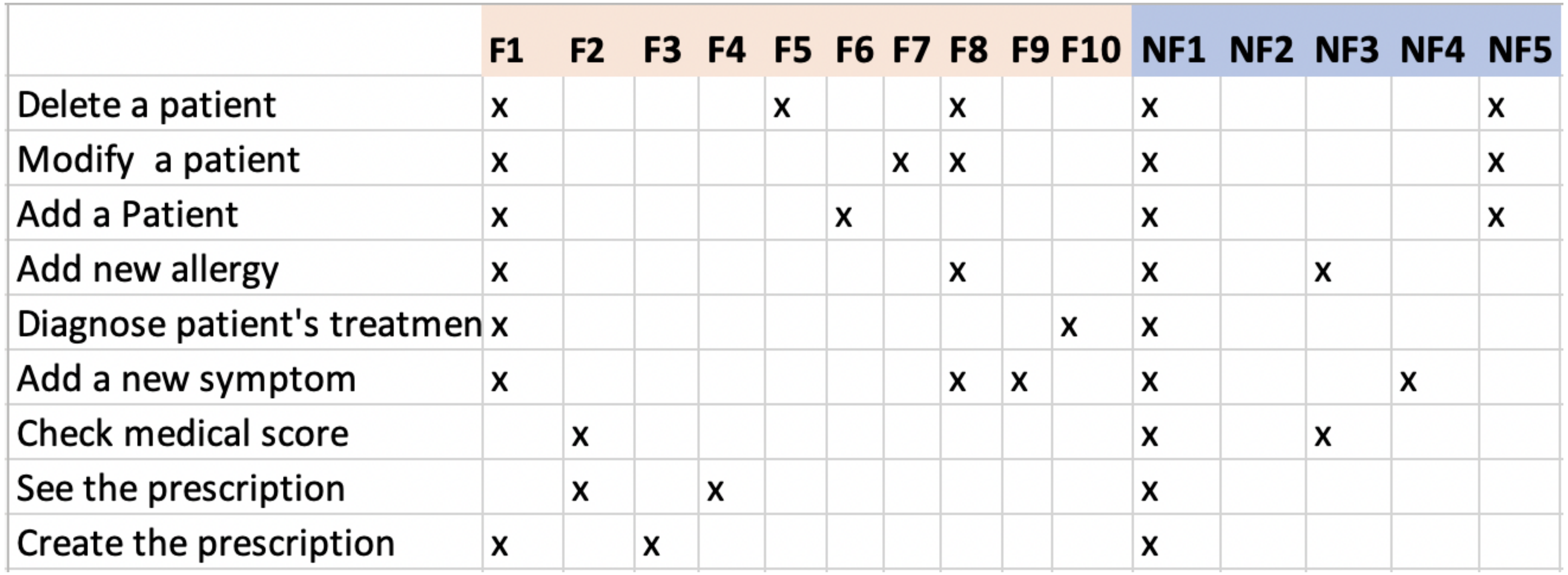
OWNS

FK -> allergy(	FK -> treatment(id)
allergy_id	treatment_id
4	1
2	3
7	2
1	5
3	1
6	4
8	9

USE CASE DIAGRAM



TRACEABILITY MATRIX



	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	NF1	NF2	NF3	NF4	NF5
Delete a patient	x				x			x			x				x
Modify a patient	x						x	x			x				x
Add a Patient	x					x					x				x
Add new allergy	x							x			x		x		
Diagnose patient's treatmen	x									x	x				
Add a new symptom	x							x	x		x			x	
Check medical score		x									x		x		
See the prescription		x		x							x				
Create the prescription	x		x								x				

REQUIREMENT´S LIST:

Functional

- The doctor have access to the system. (**F1**).

-The patient have access to the system. (**F2**).

- The doctor can create a prescription. (**F3**).

- The patient can see the prescription. (**F4**).

- The doctor can delete a patient. (**F5**).

- The doctor can add a patient. (**F6**).

- The doctor can modify a patient. (**F7**).

- The doctor can search a patient. (**F8**).

- The doctor add the symptoms. (F9).

- The doctor assigns a treatment to allergies. (**F10**).

Non Funcional

- The system will complete the commands in less than 2 seconds. (**NF1**).

- The system is programmed in Java. (**NF2**).

- The same allergy cannot be registered twice. (**NF3**).

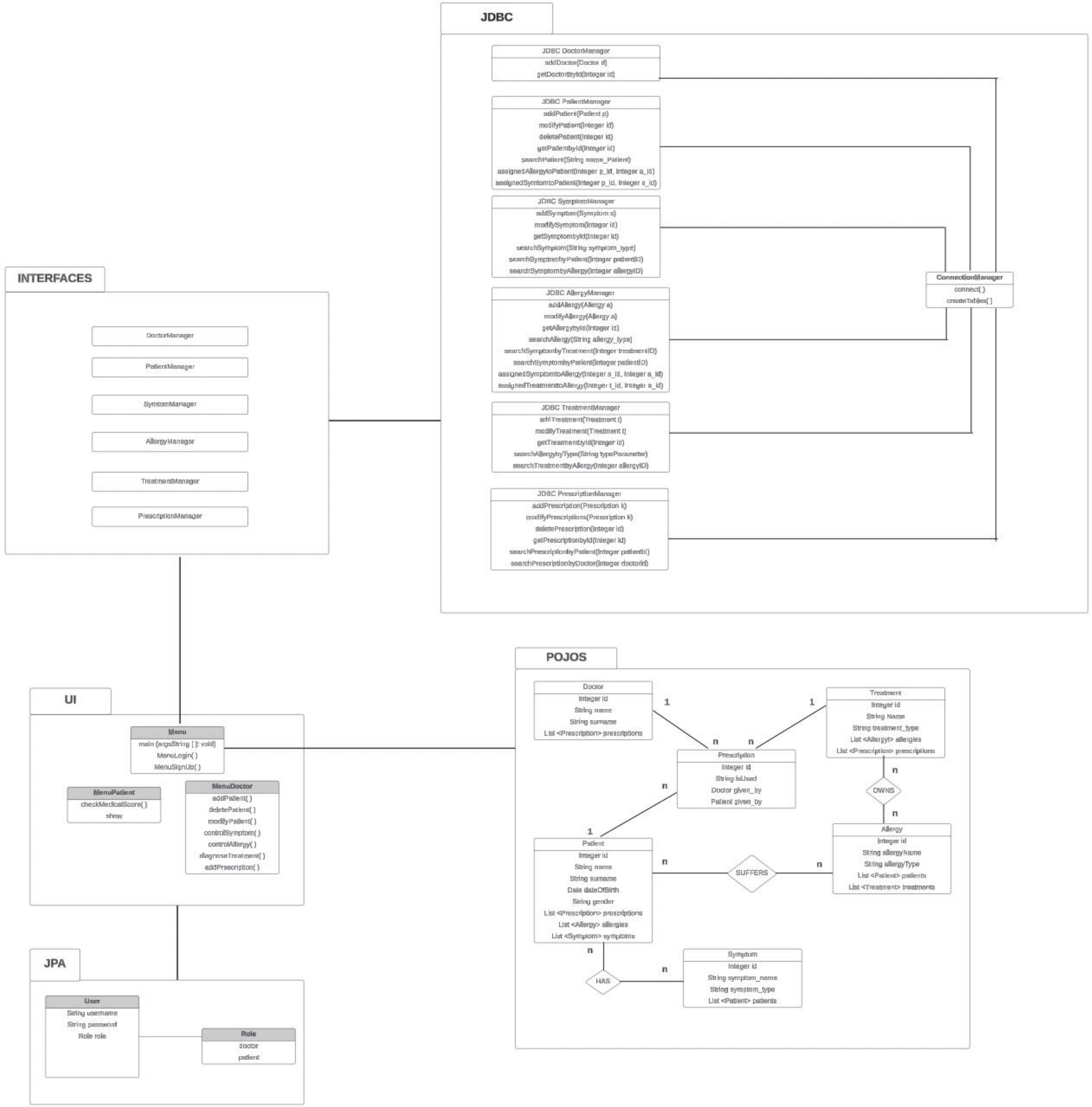
- There are no symptoms. (**NF4**).

- The same patient cannot be registered twice. (**NF5**).

UI MOCKUP

- https://app.mural.co/t/mockupbatabaseproyect9546/m/mockupbatabaseproyect9546/1710780784922/805a8ac5800fd8b751891e80d0aa2d8b4657a41f?sender=u83d35c18692736f8de918685

UML



JDBC

JDBC DoctorManager
addDoctor(Doctor d)
getDoctorbyId(Integer id)

JDBC PatientManager
addPatient(Patient p)
modifyPatient(Integer id)
deletePatient(Integer id)
getPatientbyId(Integer id)
searchPatient(String name_Patient)
assignedAllergytoPatient(Integer p_id, Integer a_id)
assignedSymtomtoPatient(Integer p_id, Integer s_id)

JDBC SymptomManager
addSymptom(Symptom s)
modifySymptom(Integer id)
getSymptombyId(Integer id)
searchSympiom(String symptom_type)
searchSymptombyPatient(Integer patientID)
searchSymptombyAllergy(Integer allergyID)

JDBC AllergyManager
addAllergy(Allergy a)
modifyAllergy(Allergy a)
getAllergybyId(Integer id)
searchAllergy(String allergy_type)
searchSymptombyTreatment(Integer treatmentID)
searchSymptombyPatient(Integer patientID)
assignedSymptomtoAllergy(Integer s_id, Integer a_id)
assignedTreatmenttoAllergy(Integer t_id, Integer a_id)

JDBC TreatmentManager
addTreatment(Treatment t)
modifyTreatment(Treatment t)
getTreamentbyId(Integer id)
searchAllergybyType(String typeParameter)
searchTreatmentbyAllergy(Integer allergyID)

JDBC PrescriptionManager
addPrescription(Prescription k)
modifyPrescriptions(Prescription k)
deletePrescription(Integer id)
getPrescriptionbyId(Integer id)
searchPrescriptionbyPatient(Integer patientId)
searchPrescriptionbyDoctor(Integer doctorId)

ConnectionManager
connect( )
createTables( )

INTERFACES

DoctorManager
PatientManager
SymtomManager
AllergyManager
TreatmentManager
PrescriptionManager

UI

Menu
main (argsString [ ]: void)
MenuLogin( )
MenuSignUp( )

MenuPatient
checkMedicalScore( )
show

MenuDoctor
addPatient( )
deletePatient( )
modifyPatient( )
controlSymptom( )
controlAllergy( )
diagnoseTreatment( )
addPrescription( )

JPA

User
String username
String password
Role role

Role
doctor
patient

POJOS

Doctor
Integer id
String name
String surname
List <Prescription> prescriptions

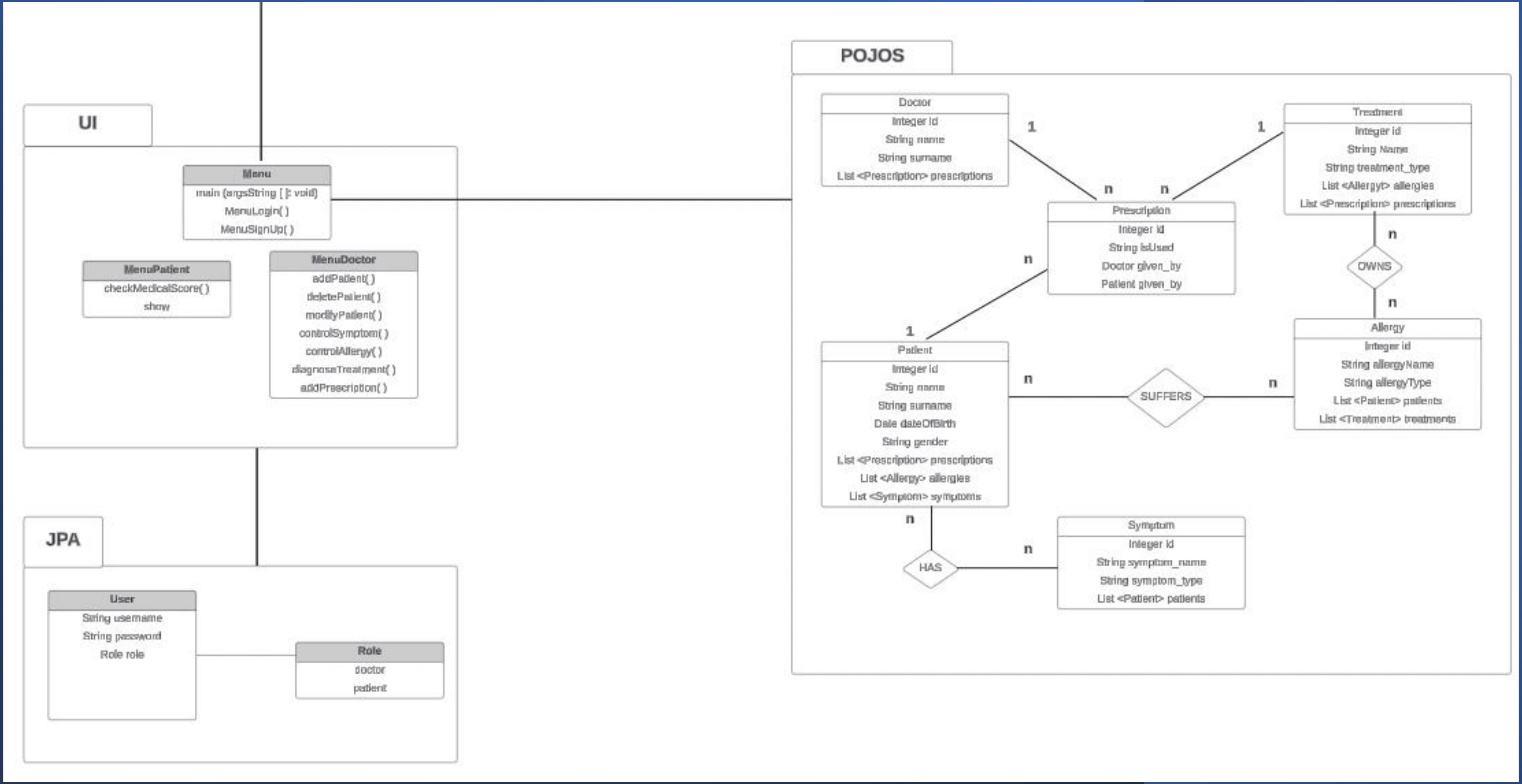
Treatment
Integer id
String Name
String treatment_type
List <Allergyt> allergies
List <Prescription> prescriptions

Prescription
Integer id
String isUsed
Doctor given_by
Patient given_by

Patient
Integer id
String name
String surname
Date dateOfBirth
String gender
List <Prescription> prescriptions
List <Allergy> allergies
List <Symptom> symptoms

Allergy
Integer id
String allergyName
String allergyType
List <Patient> patients
List <Treatment> treatments

Symptom
Integer id
String symptom_name
String symptom_type
List <Patient> patients



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controlAllergy( )
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addPrescription( )

JPA

User
String username
String password
Role role

Role
doctor
patient

POJOS

Doctor
Integer id
String name
String surname
List <Prescription> prescriptions

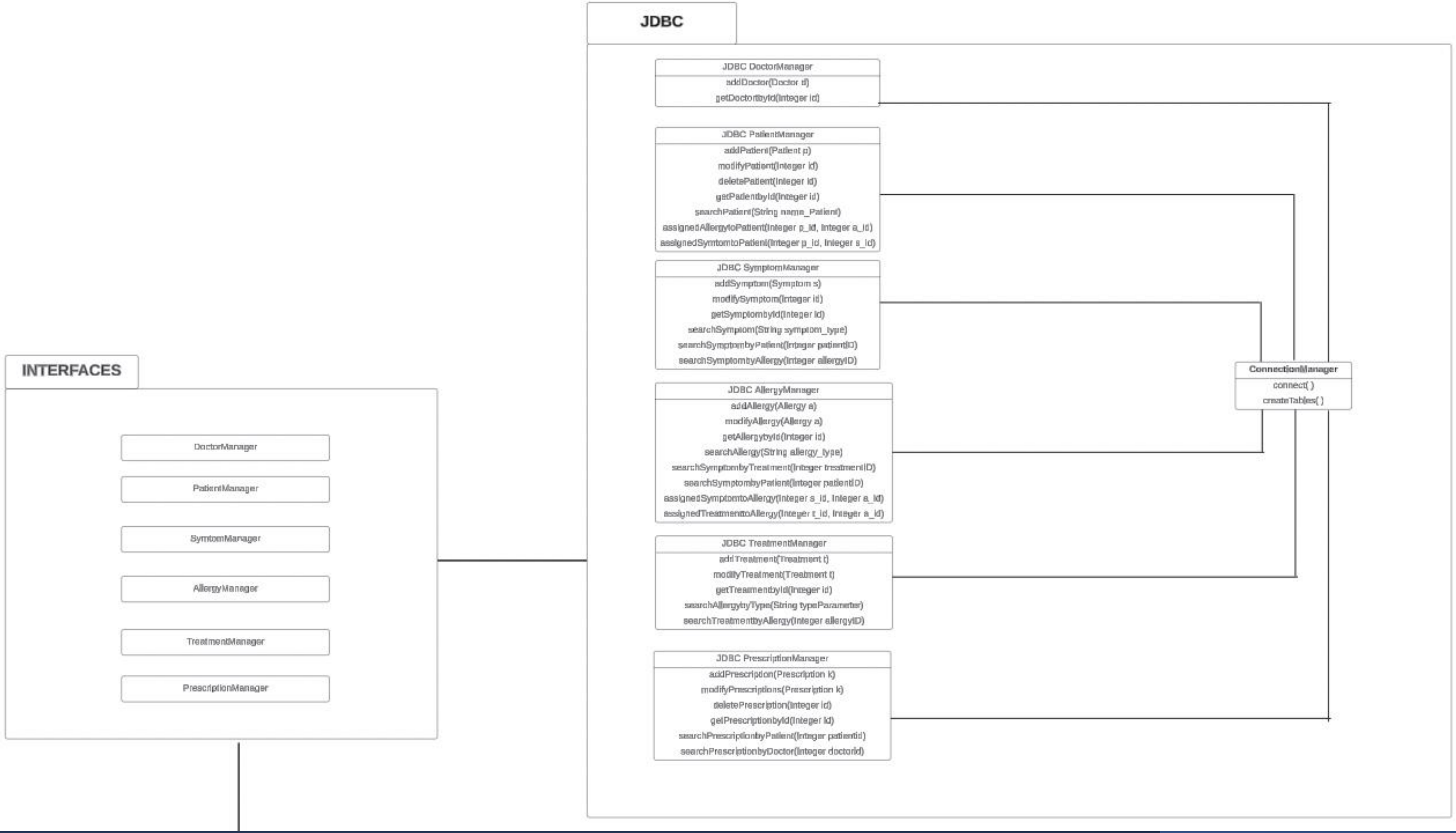
Treatment
Integer id
String Name
String treatment_type
List <Allergyt> allergies
List <Prescription> prescriptions

Prescription
Integer id
String isUsed
Doctor given_by
Patient given_by

Allergy
Integer id
String allergyName
String allergyType
List <Patient> patients
List <Treatment> treatments

Patient
Integer id
String name
String surname
Date dateOfBirth
String gender
List <Prescription> prescriptions
List <Allergy> allergies
List <Symptom> symptoms

Symptom
Integer id
String symptom_name
String symptom_type
List <Patient> patients



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THANKS FOR YOUR ATTENTION