

# Database Design Project Phase 3 Submission

## CS 3200 - Spring 2023

### Directions:

1. Copy the **Table of Links** at the bottom of this page to your Phase 2 submission document. Change the headers to reflect “Phase 3”
2. Paste in the described links.
3. If your database model changed substantively as you were doing phase 3, please add a new copy of the DataGrip ER Diagram **under** the current one towards the end of this document. You DO NOT need to update any other parts of the proposal.
4. Download a PDF of this document (File Menu > Download > PDF Document).
5. Submit the PDF to Gradescope.
  - a. You DO NOT need to submit the SQL Bootstrap info as you did with Phase 2.
  - b. Submission on Gradescope will be by group.
  - c. The team member submitting needs to indicate/choose all team members during the submission process. **If you do not do this, grades will not get properly synced with Canvas.**

Please note, your group can take creative liberties with the look and feel of this document. You can change the fonts, colors, etc. However, please leave the information in the same order as it is in this document. Additionally, I fully expect that as you’re working on Phase 3, your team will want to make some modifications to what you submitted in Phase 1 and 2 - maybe you want to update or change some user stories, or maybe you realize two of your personas are actually the same. That is completely fine.

### Project Links

Description	Link
Link to shared copy of this exact Google Doc	<a href="https://docs.google.com/document/d/18vvzHiBHRZ9QWsKKG-SqhBrAHGFABjUOjEq97NfR4s/edit?usp=sharing">https://docs.google.com/document/d/18vvzHiBHRZ9QWsKKG-SqhBrAHGFABjUOjEq97NfR4s/edit?usp=sharing</a>
Github Project Repo (Flask code and DB Bootstrap files repo)	<a href="https://github.com/jpan1234/23f-project-final">https://github.com/jpan1234/23f-project-final</a>
Github Appsmith Repo	<a href="https://github.com/jpan1234/23-f-project-final-appsmith">https://github.com/jpan1234/23-f-project-final-appsmith</a>
Link to shared demo video (guidelines in Project Phase 3 Document)	<a href="https://drive.google.com/file/d/1MFKvSpSgVW_cDPoLeg16ZSPs7ivI_jD9/view?usp=sharing">https://drive.google.com/file/d/1MFKvSpSgVW_cDPoLeg16ZSPs7ivI_jD9/view?usp=sharing</a> (can also download)

## Part 1: Team and Project Info

Team Name:	Healthy Huskies
Product/Project Name:	HuskyHealth

Team Members:

	Name (as appears on Canvas):	Northeastern Email Address:
Member 1 (Point Person)	Jeffrey Pan	pan.je@northeastern.edu
Member 2	Krystal Qiao	qiao.k@northeastern.edu
Member 3	Justin Soto	soto.ju@northeastern.edu
Member 4	Joseph King	king.jos@northeastern.edu
Member 5 (optional)	Emily Liu	liu.emi@northeastern.edu

## Part 2: Brief Synopsis of Project/Product

HuskyHealth is a Personal Health Record (PHR) System designed exclusively for the Northeastern University community. As a hub for health data management, HuskyHealth empowers Northeastern students, faculty, and staff to take charge of their health information with ease and security. Tailored to students, HuskyHealth provides a centralized digital hub where users can manage their medical histories, track medications, and receive wellness assistance. The platform is engineered to align with the health dynamics of a diverse student body and campus professionals, ensuring that each user can maintain a complete and up-to-date health profile that complements their active lifestyle. Integrating directly with the university health services, HuskyHealth streamlines the appointment scheduling process, offering an interface to book health consultations, counseling sessions, and wellness check-ups. It also provides timely reminders for upcoming appointments and vaccinations, ensuring that members of the Northeastern community remain proactive about their health. The system boasts a secure communication channel, facilitating confidential conversations between students and healthcare providers. Whether it's a question about a sudden health concern or the need for prescription refills during finals week, HuskyHealth ensures that quality guidance is just a message away. Furthermore, HuskyHealth is a source of personalized wellness education. It delivers tailored content, ranging from stress management strategies during exam periods to nutrition tips for on-the-go students. HuskyHealth thus provides an essential, user-friendly resource for the Northeastern University community, championing health management with ease and efficiency.



## Part 3: User Personas

### Persona 1: Patient/Student

**Name:** Maya Chen



**Bio:**

Maya is a 21-year-old junior majoring in Environmental Science at Northeastern University. She juggles her academic responsibilities with her passion for rock climbing and volunteering at local community gardens. She prefers quick, healthy meals and is always looking for ways to stay healthy on a budget.

**Age:** 21

**Gender:** Female

**Occupation:** Full-time Student

**Hobbies:** Rock climbing, volunteering, cooking

**Likes:** Health-conscious eating, outdoor activities, mobile apps for productivity

**Dislikes:** Time-consuming administrative tasks, complicated app interfaces

#### *User Stories for Persona 1:*

- As a student-athlete, I want to efficiently manage my personal health records by logging my various wellness goals so that I can maintain optimal health and performance.
- As a busy student-athlete, I want instant access to my lab results through an app so that I can promptly take necessary actions without it interfering with my studies or training schedule.
- As a student-athlete with a tight schedule, I want to be able to view my scheduled appointments with campus health services through an app and receive timely notifications so that I can manage my time effectively.
- As a student-athlete, I want the ability to quickly contact my doctors, insurance reps, or wellness coach through an app for any health or bill-related advice or concerns so that I can

- easily manage my healthcare and billing needs, especially during peak academic times.
- As a budget-conscious student, I want a billing management feature within the HuskyHealth app that allows me to track bills, insurance claims, and out-of-pocket expenses so that I can maintain control over my healthcare spending.
- As a student who wants to manage their medication, I want to be able to view all prescriptions that I have and the dates that I received them.

## Persona 2: Doctor

**Name:** Dr. Samuel Booker



### **Bio:**

Dr. Booker is a 45-year-old general practitioner who has been with Northeastern University's Health and Counseling Services for a decade. He is tech-savvy and embraces innovations that can improve patient care. Outside the clinic, he enjoys cycling, reading historical fiction, and playing the saxophone.

**Age:** 45

**Gender:** Male

**Occupation:** University Doctor

**Hobbies:** Cycling, reading, playing the saxophone

**Likes:** Technological advancements in healthcare, efficiency, patient education

**Dislikes:** Redundant paperwork, missed appointments, lack of patient engagement

### *User Stories for Persona 2:*

- As a dedicated physician, Dr. Booker wants the ability to access and review his patients' digital health records within the app so that he can have a comprehensive view of their health history, leading to more informed consultations and better continuity of care.
- As a busy doctor, Dr. Booker would like a feature in the HuskyHealth app to easily manage his appointment schedule to ensure he can maximize his time with each patient.
- As a healthcare provider, Dr. Booker wants a feature that enables him to upload and share lab results with patients directly through the HuskyHealth app, to streamline the communication process and help patients follow up on their care plans promptly.
- As a physician, Dr. Booker seeks to use an e-prescribing feature within HuskyHealth to send

prescriptions, enhancing efficiency and convenience for his patients.

- As a physician who wants the best for his patients, Dr. Booker desires a secure communication channel within the HuskyHealth app to respond to patient queries, provide follow-up advice, and reinforce treatment adherence.
- As a doctor who wants to gather as much financial information for their patient to prescribe the proper medicines (brands), Dr. Booker also wants communication with associated providers.

## Persona 3: Wellness Coach

**Name:** Jordan Lee



**Bio:**

Jordan is a 28-year-old certified wellness coach who collaborates with Northeastern to promote healthy lifestyles among students and staff. He is all about holistic health, mindfulness, and sustainable habits. Jordan is active on social media, sharing wellness tips, and enjoys urban gardening and pottery.

**Age:** 28

**Gender:** Male

**Occupation:** Wellness Coach

**Hobbies:** Urban gardening, pottery, social media

**Likes:** Mindfulness, holistic health, community engagement

**Dislikes:** Short-term diets, passive health strategies, misinformation online

### *User Stories for Persona 3:*

- As a wellness coach, Jordan wants access to client health records, while maintaining privacy and consent, so that he can tailor wellness programs more effectively to each individual's medical background.
- As a wellness coach, Jordan wants to use the app's scheduling feature to book and manage sessions with clients, optimizing his time and ensuring he can offer personalized attention during each session.
- As a wellness professional, Jordan plans to use HuskyHealth to share educational content like diet plans, weight-loss strategies, and information on wellness activities, enhancing the value

he provides to his clients.

- As a fitness and nutrition expert, Jordan wants the ability to set and monitor goals within the app so that he can work with clients to track their progress in areas such as weight management, fitness levels, and nutritional intake, keeping motivation high and results tangible.
- As a wellness coach, Jordan wants the platform to open up new lines of communication with both patients and healthcare providers, enabling him to stay updated on his clients' health changes and collaborate with doctors to align on the best approaches for patient wellness.

## Persona 4: Insurance Provider

**Name:** Alicia Ramirez



**Bio:**

Alicia is a 35-year-old insurance claims handler who specializes in student health plans. She's passionate about helping students understand and utilize their health benefits fully. Alicia is a data enthusiast and uses insights to improve service delivery. She enjoys salsa dancing on the weekends and blogs about work-life balance.

**Age:** 35

**Gender:** Female

**Occupation:** Health Insurance Provider

**Hobbies:** Salsa dancing, blogging, data analysis

**Likes:** Clarity, informed customers, data-driven decision-making

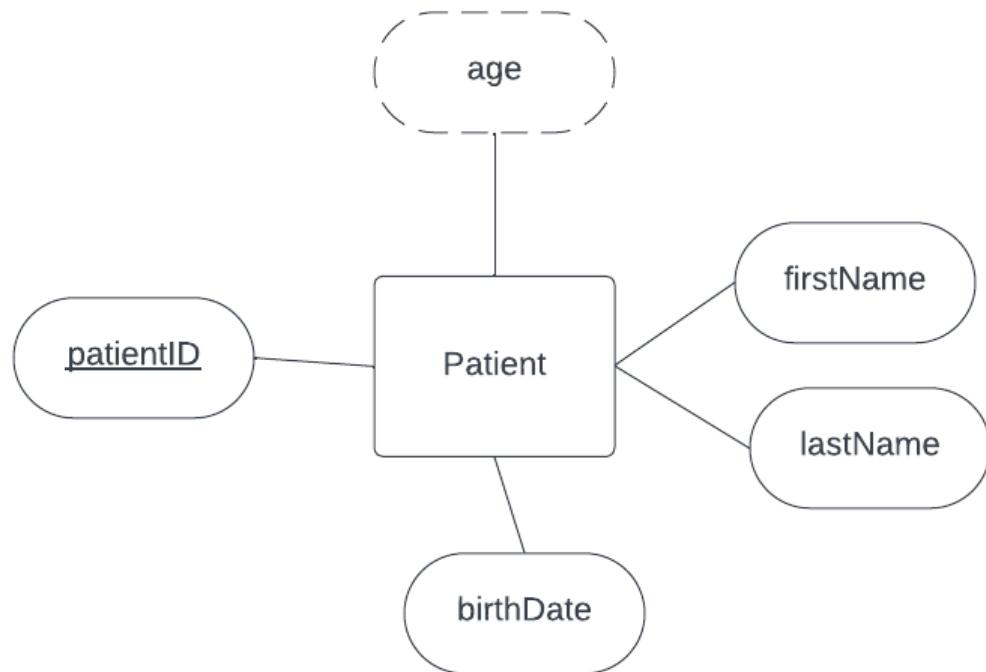
**Dislikes:** Misunderstandings about coverage, manual data entry, inefficiencies

### *User Stories for Persona 4:*

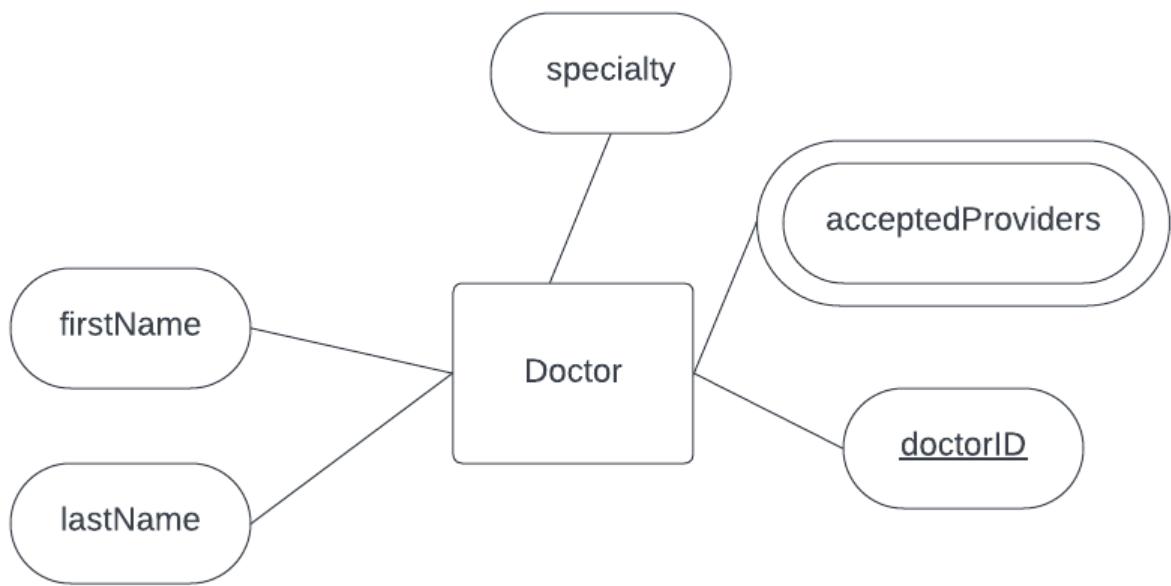
- As an insurance provider, Alicia would value the ability to view a patient's medical history while ensuring privacy compliance, so that she can better understand their needs and guide them to the right coverage package
- As an insurance package designer, Alicia wants to use HuskyHealth to craft and adjust bespoke coverage packages for students, ensuring that their health benefits are well-suited to their lifestyles and medical needs.
- As a healthcare fund manager, Alicia wants the platform to enable her to oversee and allocate funds more efficiently, ensuring that appointments, visits, and medications are covered without causing financial stress to the insured.
- As an insurance coordinator, Alicia wants a direct line to doctors and specialists via HuskyHealth so that she can resolve any issues swiftly, facilitate approvals, and coordinate better care for the insured.

## Part 4: Localized ER Diagrams

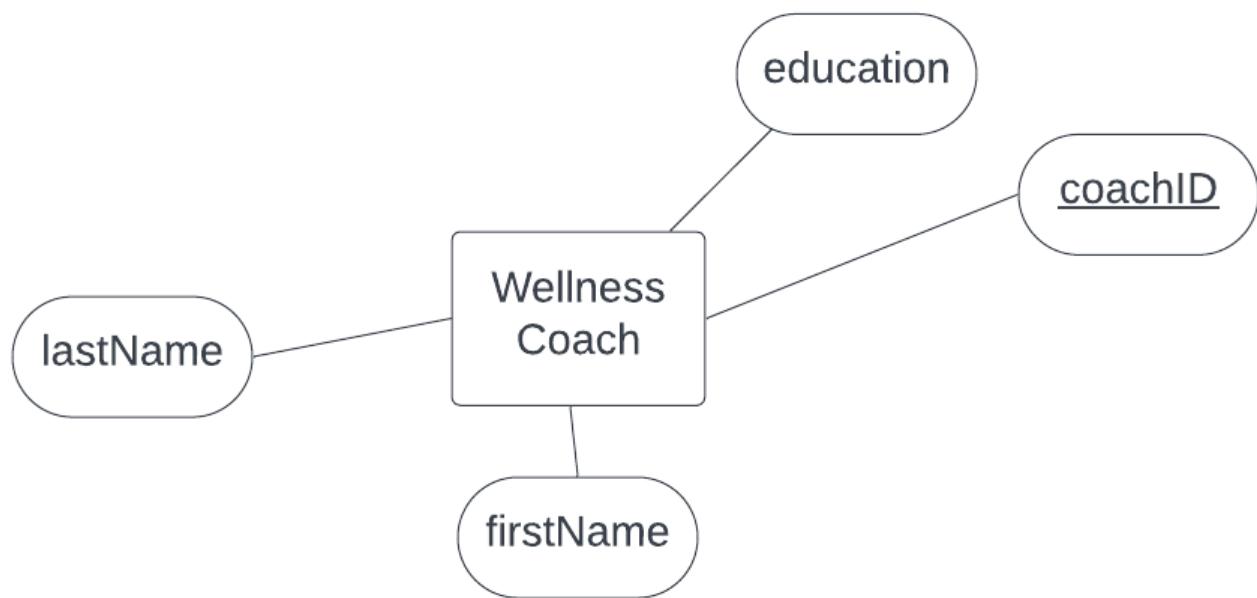
### User Persona 1: Patient/Student



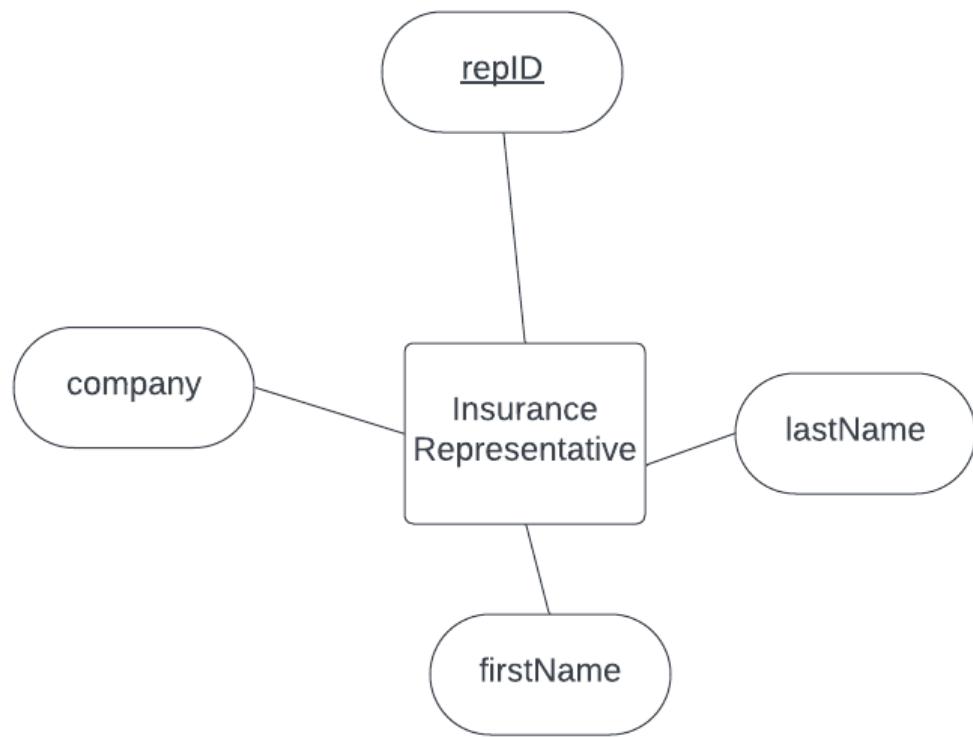
## User Persona 2: Doctor

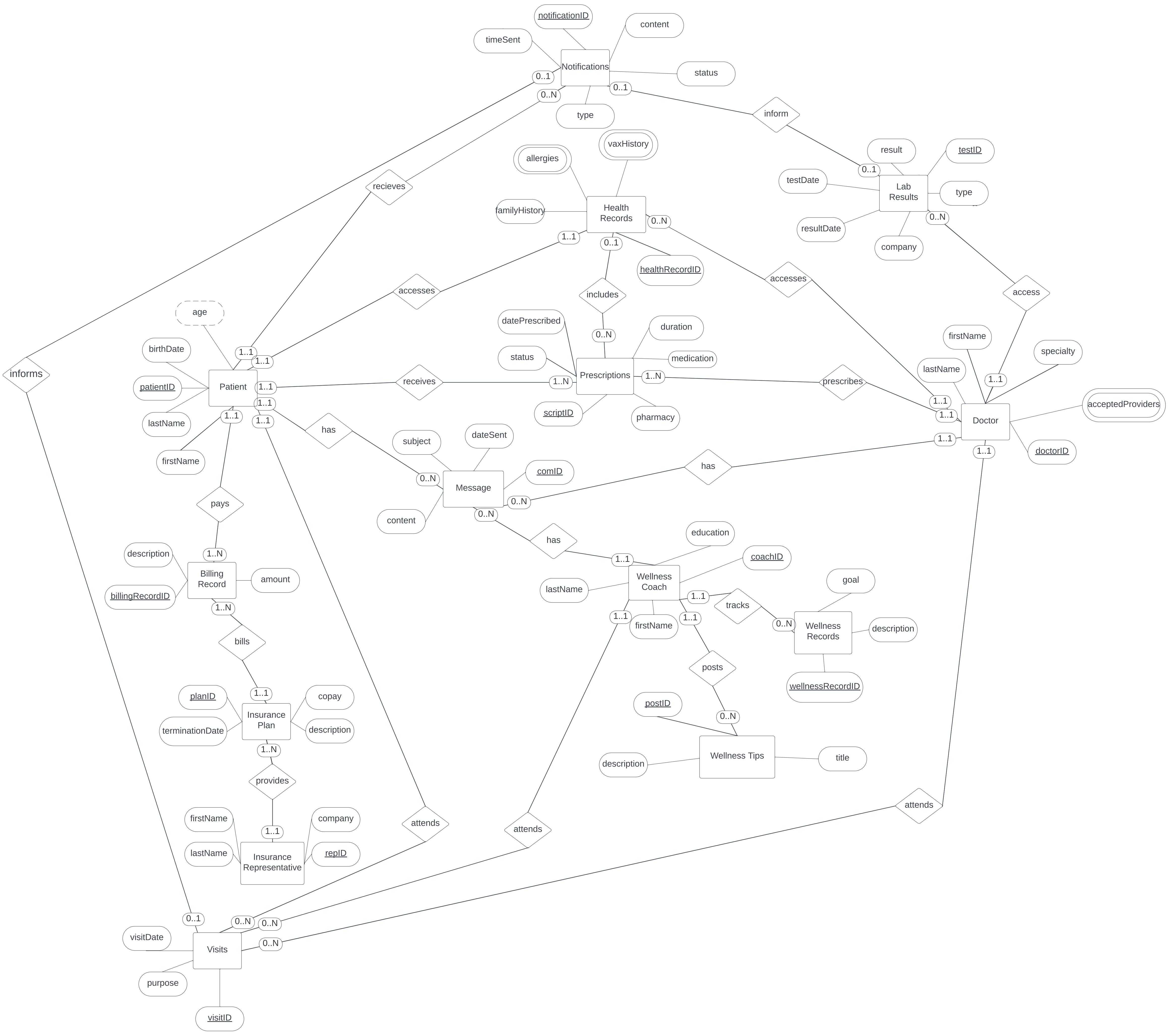


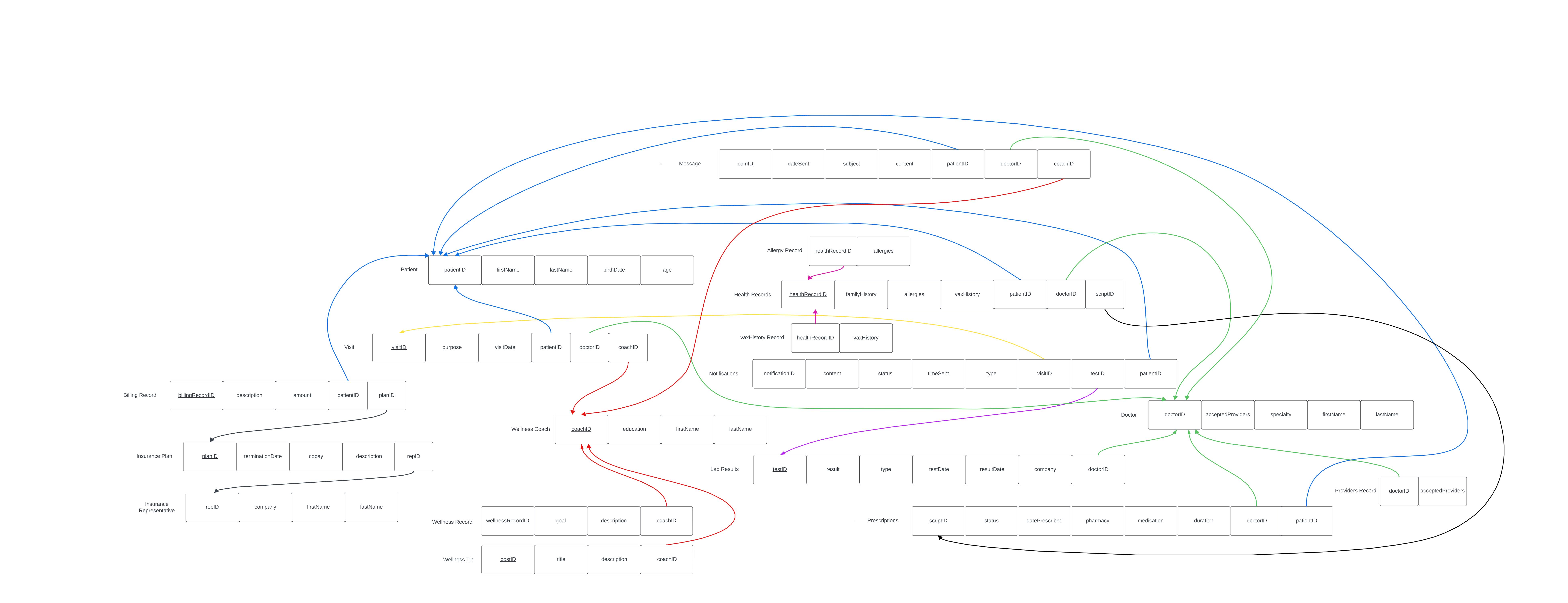
### User Persona 3: Wellness Coach



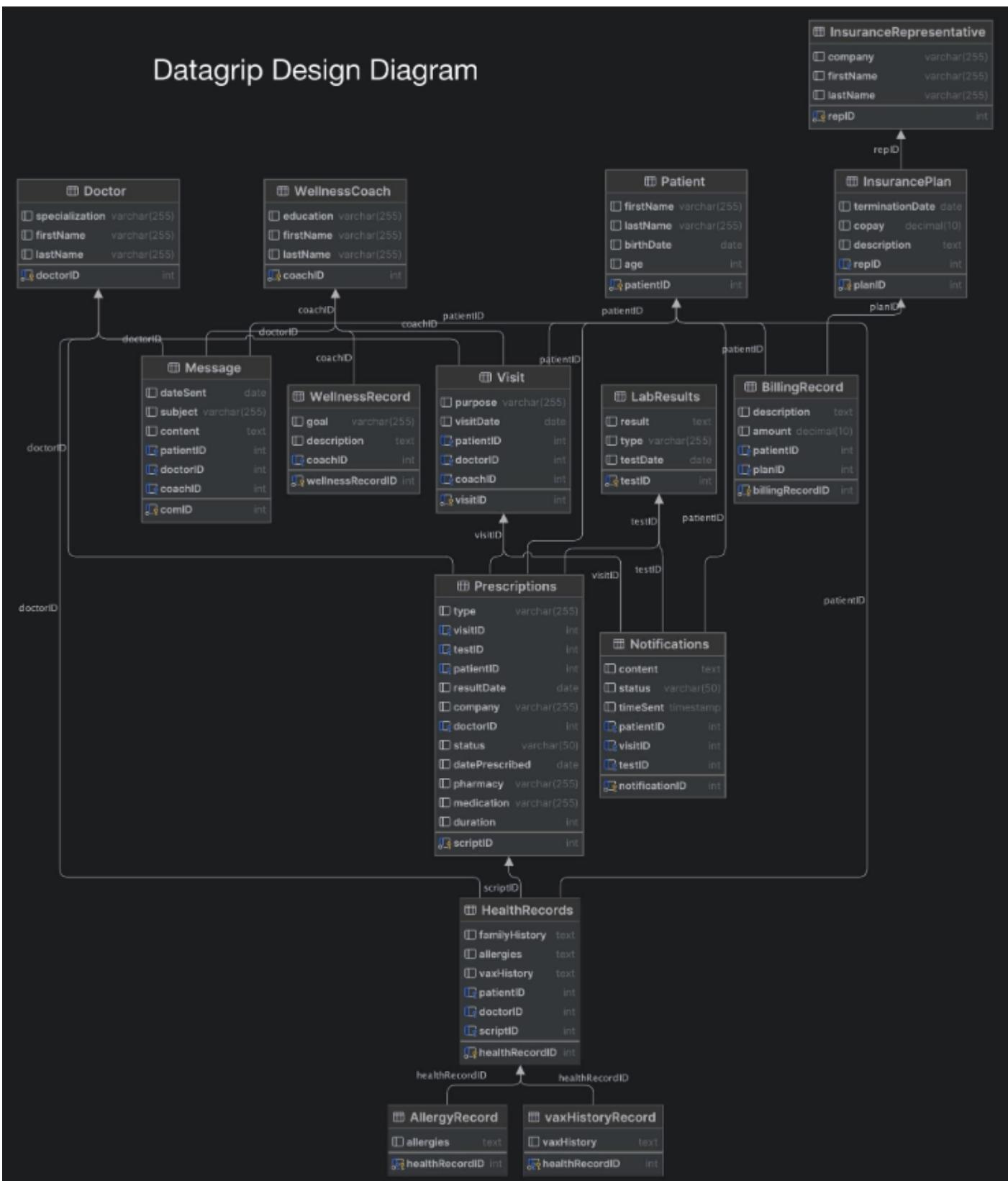
#### User Persona 4: Insurance Provider



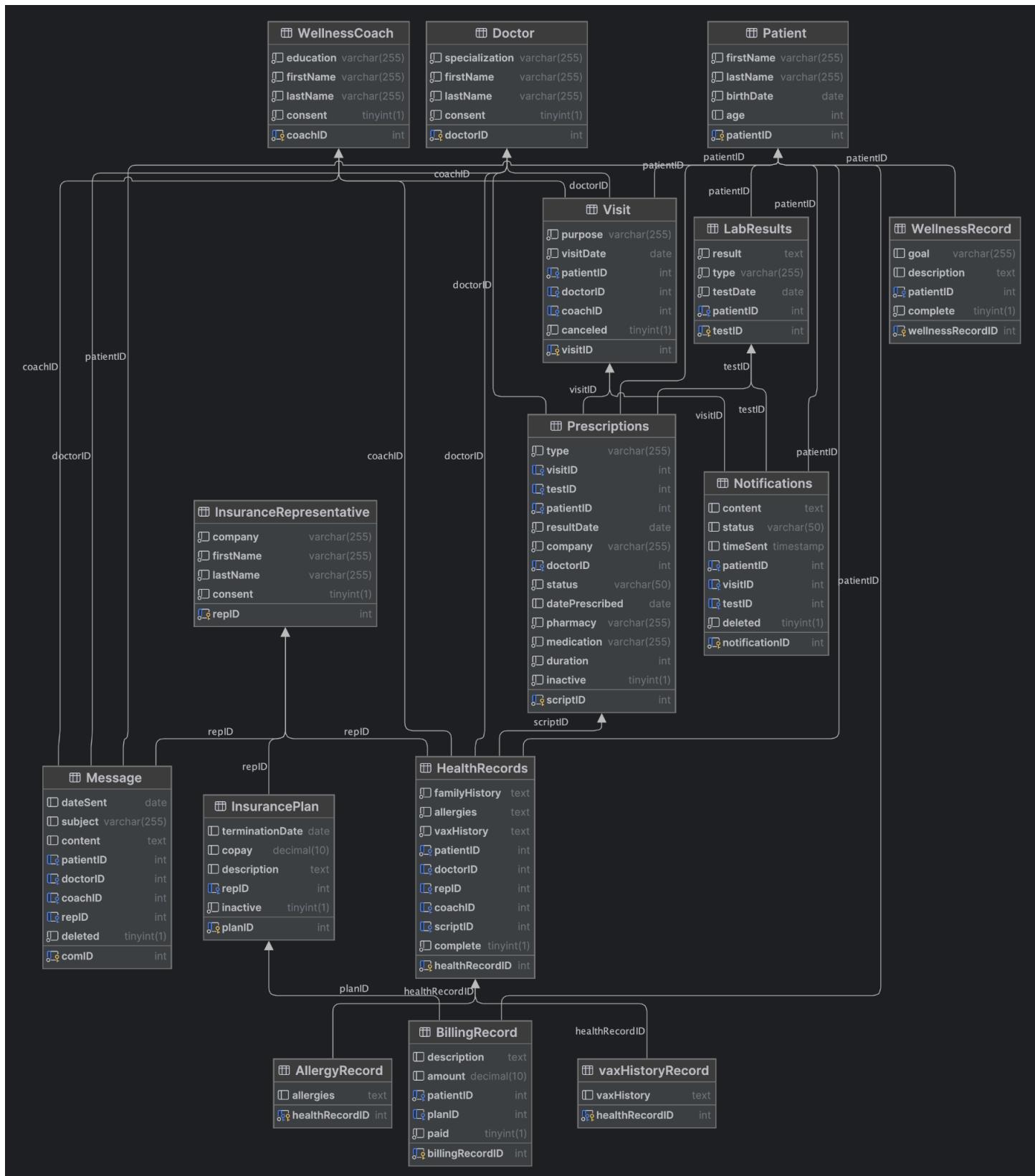




## OLD SQL DIAGRAM:



## UPDATED SQL Diagram (updated as project went on):



## RestAPI Matrix:

CS 3200 - Fall 2023

Final Version of API to reflect project code/routes

Patient

User Story	Resource	GET	POST	PUT	DELETE
[patient-6]	/prescriptions/{patientid}	Return a list of the patient's prescription	n/a	n/a	n/a
[patient-3]	/notifications/{patientid}	Return a list of all <u>unseen</u> notifications	n/a	n/a	n/a
[patient-4]	/messages/{patientid}	Return all the messages sent to this patient	n/a	n/a	n/a
[patient-1]	/healthrecords/{patientid}	Return a list of all health records for the patient	n/a	n/a	n/a
[patient-2]	/labresults/notifications/{patientid}	Return all lab detail information for a particular patient	n/a	n/a	n/a
[patient-3]	/visits/{patientid}	Return a list of all visit records for the patient	n/a	n/a	n/a
[patient-5]	/billingrecords/{patientid}	Return a list of all billing records associated with the patient	n/a	n/a	n/a
[patient-1]	/wellnessrecords/{patient id]	Return a list of all wellness goals for the patient	n/a	Update wellness goals as completed.	n/a
[patient-4]	/messagedoctor/{patientid}	n/a	Sends patient's message to the doctor	n/a	n/a
[patient-4]	/messagecoach/{patientid}	n/a	Sends patient's message to the wellness coach	n/a	n/a
[patient-4]	/messagerep/{patientid}	n/a	Sends patient's message to the insurance representative	n/a	n/a
[patient-3]	/visitdoctor/{patientid}	n/a	Uploads patient's visit with the doctor	n/a	n/a
[patient-3]	/visitcoach/{patientid}	n/a	Uploads patient's visit with wellness coach	n/a	n/a
[patient-3]	/messages/{comid}	n/a	n/a	Updates message sent by patient	n/a
[patient-1]	/wellnessrecords/{wellnessrecordid}	n/a	n/a	Updates wellness goals as completed or not {completed = 1}	n/a
[patient-3]	/visits/{visitid}	n/a	n/a	Cancels visit {canceled = 1}	n/a
[patient-3]	/notifications/{notification id}	n/a	n/a	n/a	Deletes notification

## Doctor

User Story	Resource	GET	POST	PUT	DELETE
[doctor-4]	/prescriptions/{doctorid}	Return a list of the doctor's patients prescription	The doctor can prescribe their patient with a prescription	The doctor can set a prescription as inactive (inactive = 1)	n/a
[doctor-5]	/notifications/{doctorid}	Return a list of all <u>unseen</u> notifications sent by the doctor's patient	n/a	n/a	n/a
[doctor-5]	/messages/{doctorid}	Return a list of all messages affiliated with the doctor's patient	n/a	n/a	Remove a message previously written by the doctor (set as deleted =1)
[doctor-1]	/healthrecords/{doctorid}	Return a list of all health records for the doctor's patient	The doctor can post the health records of their patient	n/a	n/a
[doctor-3]	/labresults/{doctorid}	Return all lab detail information for a doctor's patient	The doctor is able to share lab results with their patient	n/a	n/a
[doctor-2]	/visits/{doctorid}	Return a list of all visits associated with the doctor's patient	The doctor can add a visit to the system	n/a	n/a
[doctor-6]	/messages/{doctorid}	Returns messages between a doctor and a patient	Send a message between the doctor and rep	n/a	n/a
[doctor-6]	/messagepatient/{doctorid}	n/a	Sends message to patient	n/a	n/a
[doctor-6]	/messagerep/{doctorid}	n/a	Sends message to insurance representative	n/a	n/a
[doctor-6]	/messages/{comid}}	n/a	n/a	Updates message	n/a
[doctor-2]	/visits/{visitid}	n/a	n/a	Cancels visit	n/a
[doctor-5]	/notifications/{notificationid}	n/a	n/a	n/a	Deletes notification

## Wellness Coach

User Story	Resource	GET	POST	PUT	DELETE
[coach-2]	/notifications/{coachid}	Return a list of all <u>unseen</u> notifications sent by the coach's patient	n/a	n/a	n/a
[coach-2]	/messages/{coachid}	Return a list of all messages affiliated with the coach's patient	Post a message to the coach's patient	n/a	n/a
[coach-2]	/visits/{coachid}	Return a list of all visits associated with the coach's patient	The coach can add a visit to the system	The coach can cancel the visit (cancel = 1)	n/a
[coach-1]	/healthrecords/{coachid}/{patientid}	Return a list of all the client health records that have (coach enabled, coach = 1)	n/a	n/a	n/a

[coach-4]	/wellnessrecords/{coachid}	Return a list of all wellness goals for the patient	The coach can add a goal	The coach can update a goal	n/a
[coach-2]	/messages/{comid}	n/a	n/a	Updates message	n/a
[coach-2]	/deletenotifications/{notificationid}	n/a	n/a	n/a	Deletes notification

Insurance Provider:

User Story	Resource	GET	POST	PUT	DELETE
[rep-2]	/insuranceplans/{repid}/{patientid}	Look at the insurance plan provided to the patient by the rep	The rep can add an insurance plan for a patient but is limited to just one plan per patient at a time.	The insurance rep can update the insurance plan	n/a
[rep-2]	/insuranceplan	Provides a list of all unique insurance plans available	n/a	n/a	n/a
[rep-1]	/healthrecords/{repid}/{patientid}	Returns a list of all health records of the patient that the rep is authorized to see (rep = 1)	n/a	n/a	n/a
[rep-3]	/billingrecord/{repid}/{patientid}	Return the billing records of a particular patient that a rep has	Can add a new record to the billing records	Can set a billing record as paid (paid = 1)?	n/a
[rep-4]	/messages/{repid}/{doctorid}	Returns messages between a rep and a doctor	Send a message between the rep and doctor	n/a	n/a
[rep-4]	/messages/{repid}/{patientid}	Returns messages between a rep and a patient	Send a message between the rep and patient	n/a	n/a
[rep-4]	/messages/{comid}	n/a	n/a	Update a message to a doctor	n/a