Computing for Medicine
Assignment 1
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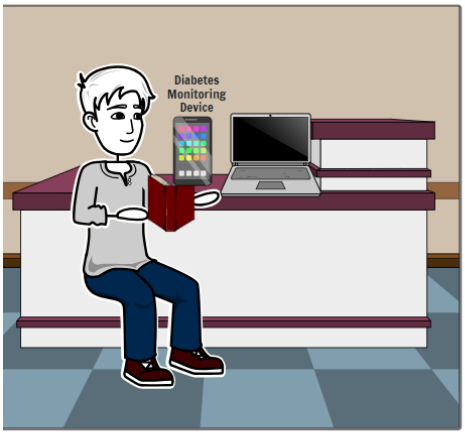
Use: Personalized Diabetes Management with FHIR
Actors:

- Aman: Patient
- Dr Jain: Endocrinologist
- Sonia: Dietitian

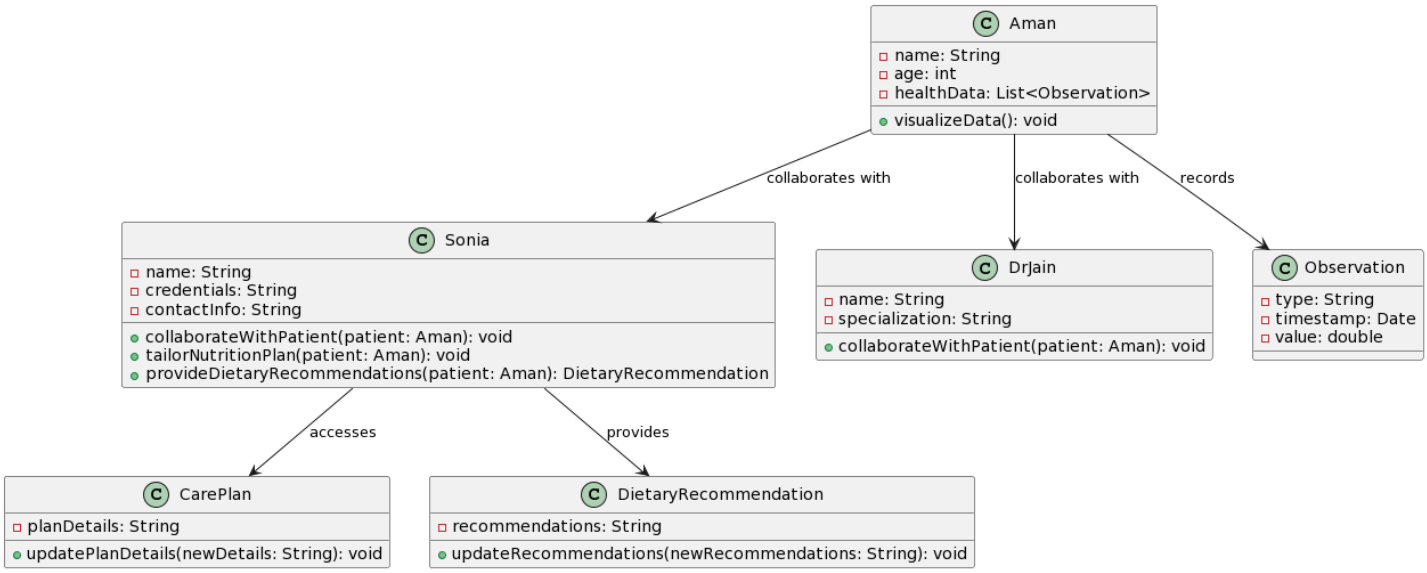
Story Board (Patient's Perspective):



Scene 1:	Scene 2:	Scene 3:
Aman, a final year engineering student, is seen multitasking with books, a laptop, and a diabetes monitoring device. "Meet Aman - A final year engineering student mastering data and health." This scene sets the stage for interoperability by introducing the concept of data collection and management, which will be shared across different platforms.	Aman's laptop displays graphs of blood glucose levels while his smartphone shows insulin doses. "Aman uses a diabetes app to visualize his health data - graphs show glucose trends, insulin doses, and meal intake." Aman is using a diabetes app, which suggests interoperability between the monitoring device, app, and potentially a central data repository where all this information is stored.	Dr. Jain, the endocrinologist, is on a video call with Aman, discussing his data. Sonia, the dietitian, appears on another screen. "Dr. Jain collaborates remotely with Aman and Sonia to ensure holistic care." The remote collaboration suggests that they have access to the same patient data, indicating interoperability between their respective systems and Aman's health data.

Scene 4: Aman compares his data with Dr. Jain's advice and Sonia's dietary suggestions on his laptop. "Data insights empower Aman to make informed decisions about his health, supported by his healthcare team." This scene demonstrates the interoperability of the data visualization tools and the data sources (app, healthcare providers) that empower Aman to make informed decisions.	Scene 5: Graphs and charts display Aman's improved glucose control and the effectiveness of his decisions. "Data-driven decisions lead to better glucose control, showcasing the synergy between Aman, Dr. Jain, and Sonia." The data-driven progress is made possible by interoperable systems that collect, analyze, and present data from multiple sources.	Scene 6: Aman stands confidently, surrounded by his laptop, smartphone, and healthcare team on screens. "Empowered by data and collaborative care, Aman manages his health and studies with confidence." This storyboard shows the success of interoperable systems and healthcare professionals working together to empower the patient.

Model:



FHIR Resources used:

- Patient Resource: To represent Aman, storing his demographic information, such as name and contact details.
- Observation Resource: To capture Aman's health data, including blood glucose levels, insulin doses, and meal intake. Each observation can include relevant metadata like timestamp, value, and interpretation.
- Practitioner Resource: To represent healthcare professionals like Dr. Jain (endocrinologist) and Sonia (dietitian). It stores their information, such as names and contact details.
- CarePlan Resource: To document and manage Aman's healthcare plan. It can include goals, activities, and instructions related to his diabetes management.
- Appointment Resource: To represent the virtual appointments between Aman, Dr. Jain, and Sonia. It can include details like date, time, participants, and telehealth links.
- DocumentReference Resource: To store documents such as educational materials, dietary recommendations, or summaries of healthcare visits.
- Device Resource: To represent Aman's diabetes monitoring device, linking it to relevant observations and measurements.
- Communication Resource: To capture exchanges between Aman, healthcare professionals, and other care team members, including text, audio, or video communication.