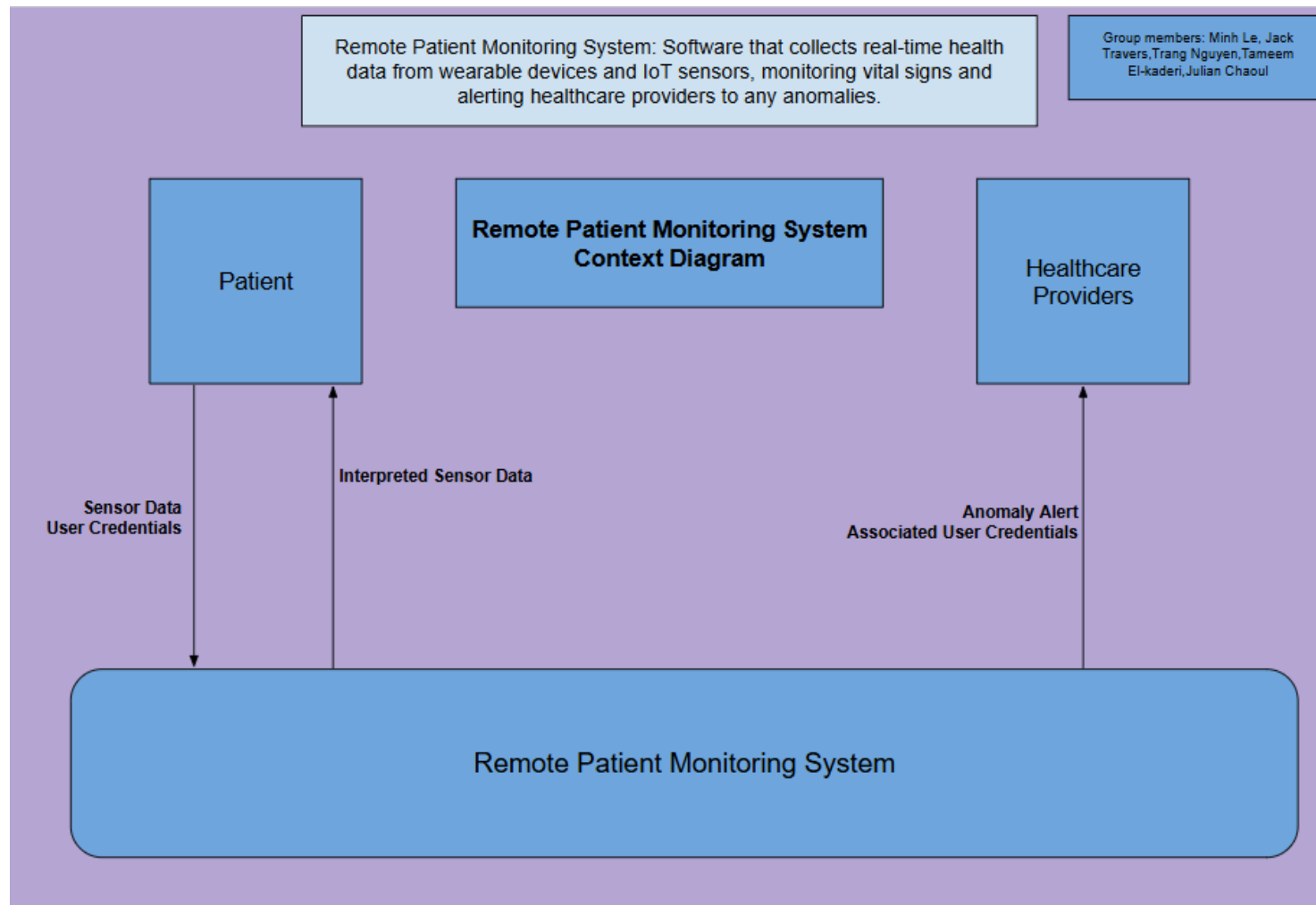**Group Members: Julian Chaoul, Tameem El-kaderi, Minh Le, Jack Travers, Trang Nguyen**
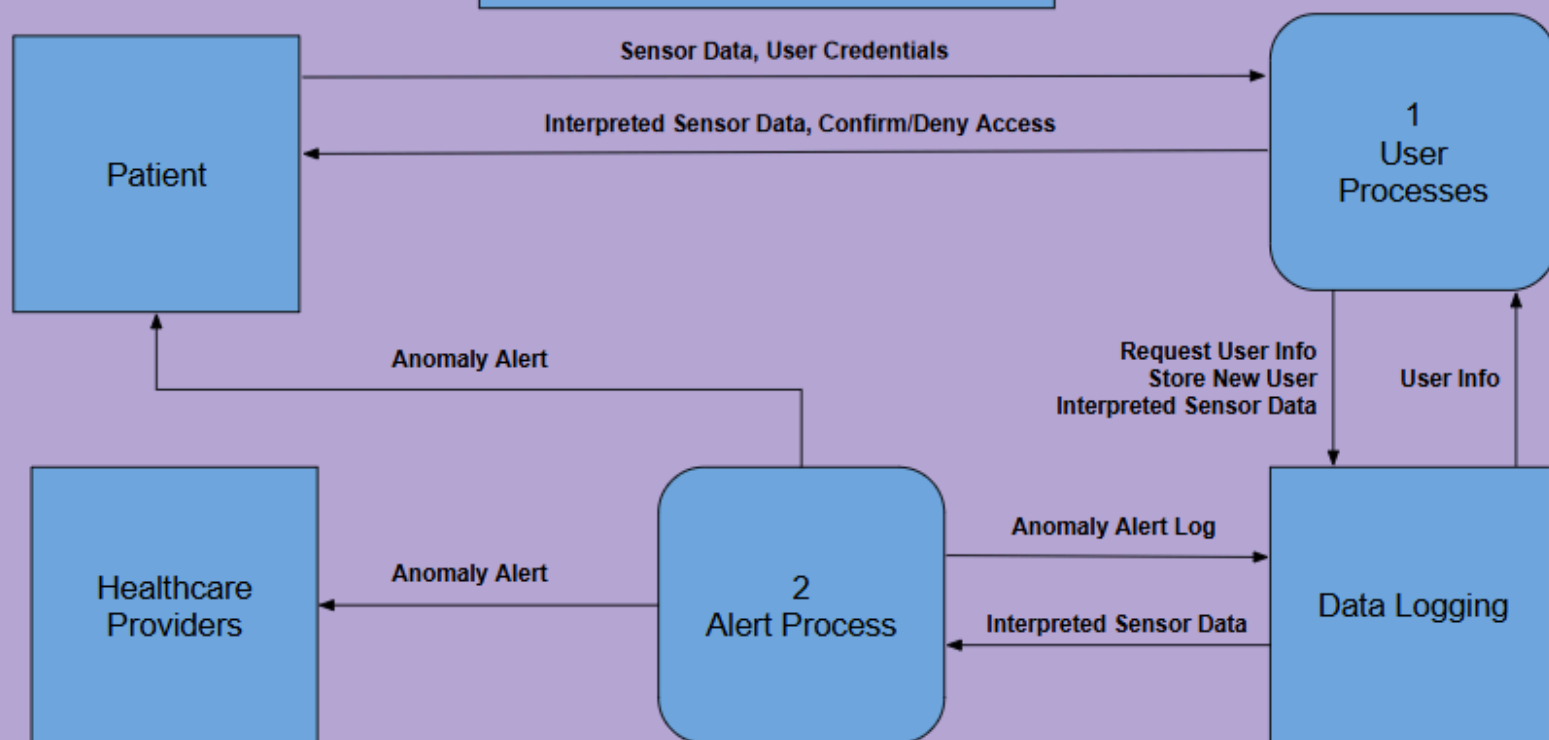
DEV 1 - DFDs

Remote Patient Monitoring System: Software that collects real-time health data from wearable devices and IoT sensors, monitoring vital signs and alerting healthcare providers to any anomalies.

Group members: Minh Le, Jack Travers, Trang Nguyen, Tameem El-kaderi, Julian Chaoul

Remote Patient Monitoring System Context Diagram

Patient

Healthcare Providers

Interpreted Sensor Data

Sensor Data
User Credentials

Anomaly Alert
Associated User Credentials

Remote Patient Monitoring System

Group members: Minh Le, Jack Travers,Trang Nguyen,Tameem El-kaderi,Julian Chaoul

Remote Patient Monitoring System Level 0 DFD

Patient

Sensor Data, User Credentials

Interpreted Sensor Data, Confirm/Deny Access

1
User Processes

Anomaly Alert

Request User Info
Store New User
Interpreted Sensor Data

User Info

Healthcare Providers

Anomaly Alert

2
Alert Process

Anomaly Alert Log

Interpreted Sensor Data

Data Logging

Remote Patient Monitoring System: Software that collects real-time health data from wearable devices and IoT sensors, monitoring vital signs and alerting healthcare providers to any anomalies.

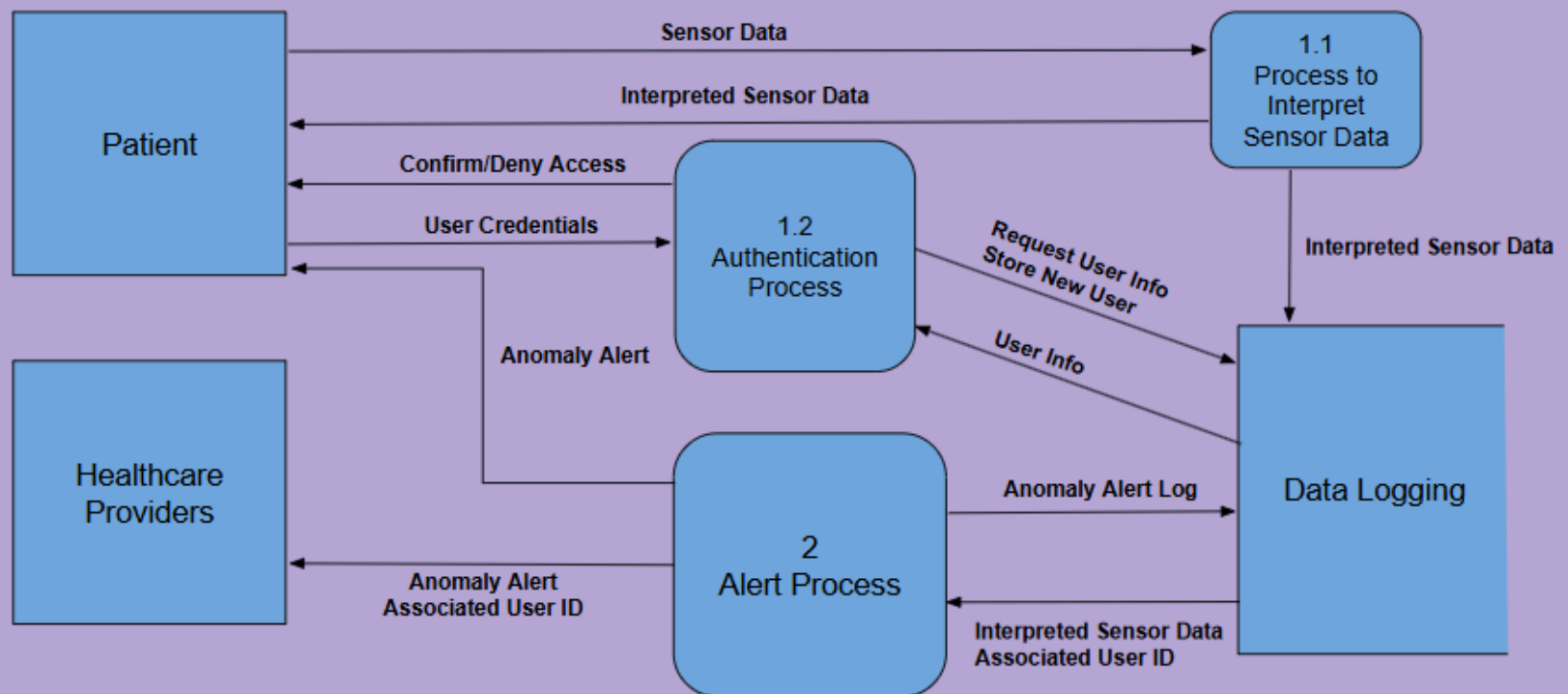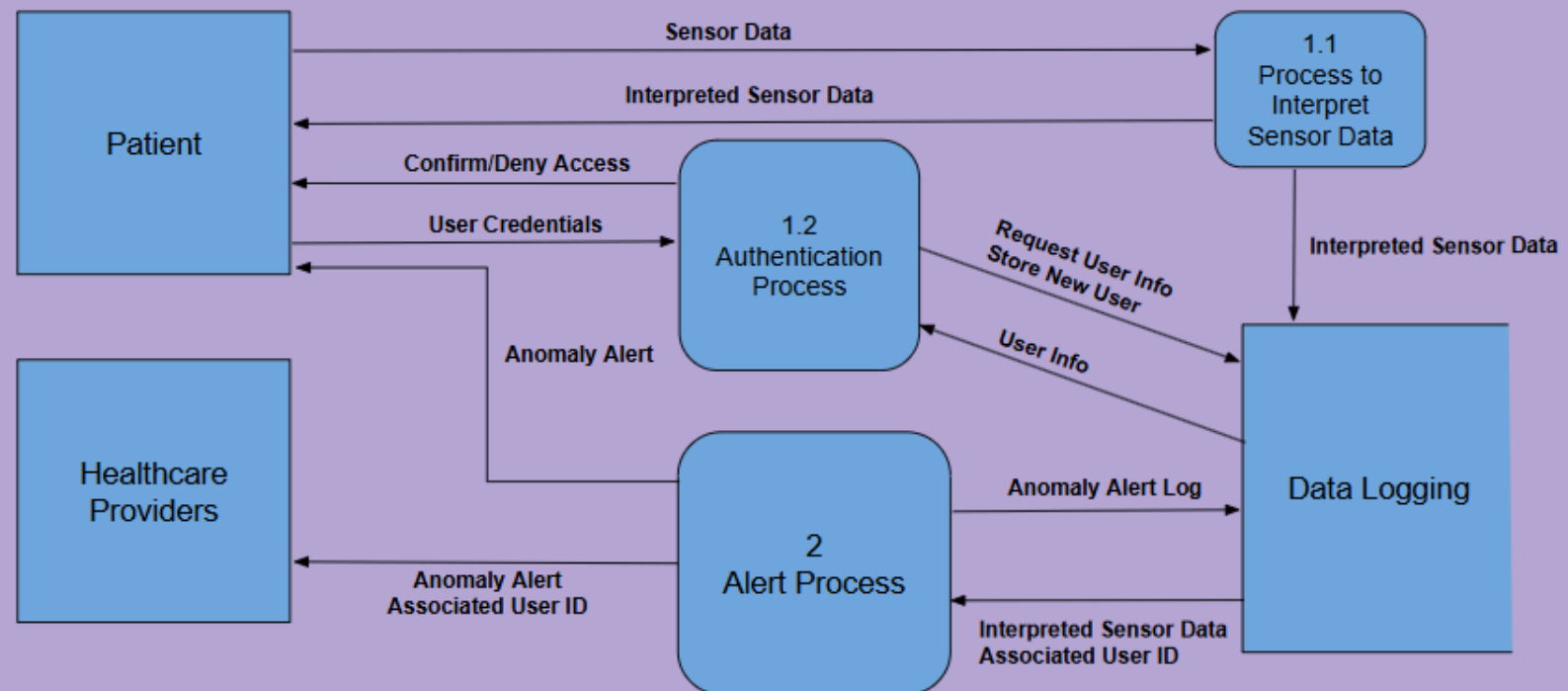Group members: Minh Le, Jack Travers,Trang Nguyen,Tameem El-kaderi,Julian Chaoul

**Remote Patient Monitoring System
Level 1 DFD 1:
User Processes**

Patient

Sensor Data

Interpreted Sensor Data

1.1
Process to Interpret Sensor Data

Confirm/Deny Access

User Credentials

1.2
Authentication Process

Request User Info
Store New User

User Info

Interpreted Sensor Data

Anomaly Alert

Healthcare Providers

Data Logging

Anomaly Alert Log

2
Alert Process

Anomaly Alert
Associated User ID

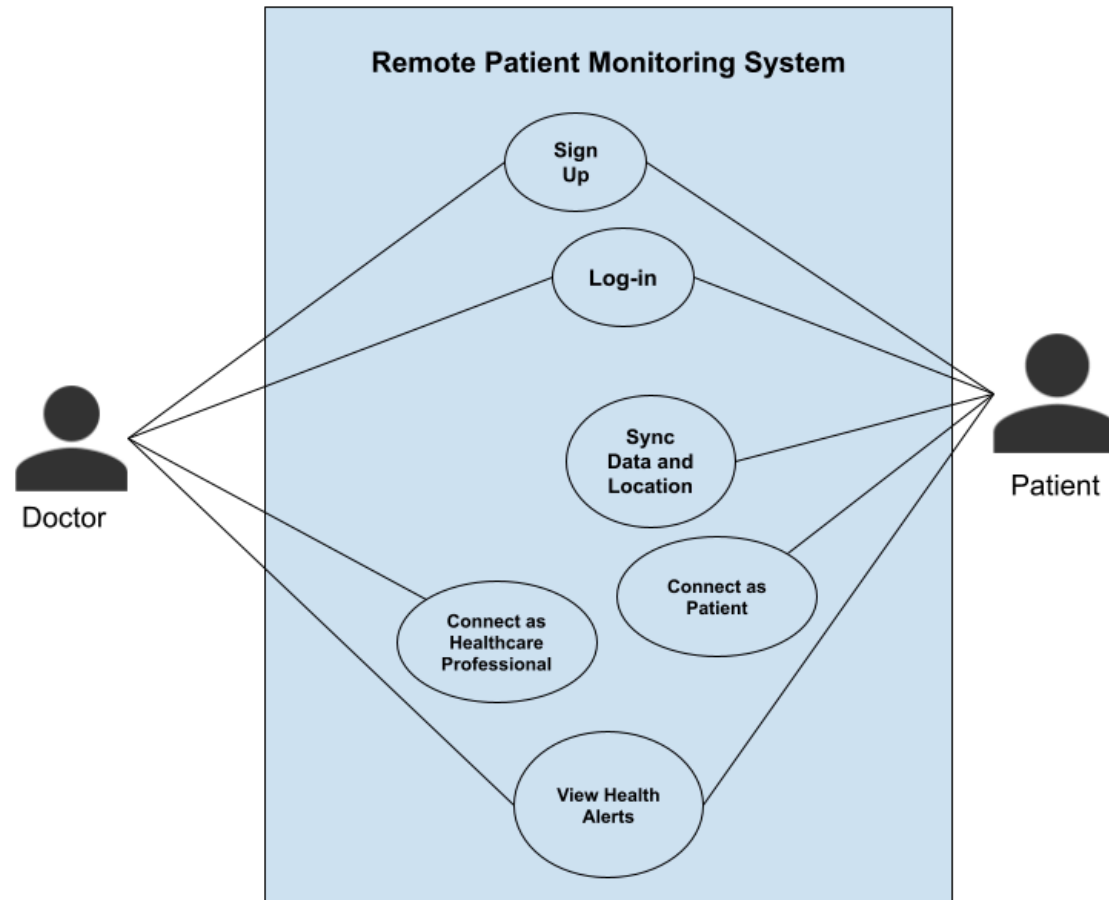Interpreted Sensor Data
Associated User ID

Remote Patient Monitoring System: Software that collects real-time health data from wearable devices and IoT sensors, monitoring vital signs and alerting healthcare providers to any anomalies.

Group members: Minh Le, Jack Travers, Trang Nguyen, Tameem El-kaderi, Julian Chaoul

Remote Patient Monitoring System
Level 1 DFD 1:
User Processes

Patient

Sensor Data

Interpreted Sensor Data

Confirm/Deny Access

User Credentials

1.1
Process to Interpret Sensor Data

Interpreted Sensor Data

1.2
Authentication Process

Request User Info
Store New User

User Info

Anomaly Alert

Healthcare Providers

2
Alert Process

Anomaly Alert
Associated User ID

Anomaly Alert Log

Data Logging

Interpreted Sensor Data
Associated User ID

DEV 2 - Use Cases

Remote Patient Monitoring System

- Sign Up
- Log-in
- Sync Data and Location
- Connect as Healthcare Professional
- Connect as Patient
- View Health Alerts

Doctor

Patient

Name:	Remote Patient Monitoring System
Description:	Software that collects real-time health data from wearable devices and IoT sensors, monitoring vital signs and alerting healthcare providers to any anomalies.
Actors:	Patients, Healthcare Providers
Entry Condition:	The actor selects login/register option

Basic Path:	1. The system presents the login/sign up screen with the following options:
	    a. Log-in Prompts: **[AP1]**
	       i. Input Name
	       ii. Input Username
	       iii. Input Password
	       iv. Log-in Account
	    b. Sign Up Account
	1. The actor selects the "Sign Up" option
	2. The system presents a screen prompting for the following input:
	    Name
	    Address
	    Date of Birth
	    Email
	    Username
	    Password
	    Confirm Password
	    Options within this screen
	       i. Confirm registration
	       ii. Go back
	3. Actor selects confirm registration **[AP2]**
	4. The system displays the following requests: **[BR2]**
	    Permission to sync to health devices (fitbit, apple watch, etc.)
	       i. Allow
	       ii. Deny
	    Permission to make use of live location
	       iii. Allow
	       iv. Deny
	5. The actor selects Allow **[AP3]**
	6. System validates information **[EP1] [BR1]**
	7. The system pushes the new user info to the user database
	8. The system prompts the actor with screen displaying the following options:**[AP4]**
	    Connect to Healthcare Provider
	    Connect as Healthcare Professional
	9. The actor selects Connect to Healthcare Provider
	10. The system presents a screen prompting the user for their healthcare provider information and their patient information
	11. The system validates the healthcare information **[EP2] [BR3]**
	12. The system gives a status to actor's account (patient or provider) **[BR4]**
	13. The system displays a message affirming connection and registration
	14. System displays home menu screen that displays alerts and lists patients for healthcare providers

Alternative Paths:	**[AP1] The actor logs in as a registered and connected user**
	    1. The actor inputs their username and password
	    2. The actor selects Log-in option
	    3. The system validates the Log-in information **[EP1]**
	    4. The use case goes to step 14 of the basic path **[AP3]**
	
	[AP2] The actor selects Go Back option
	    1. The use case returns to step 1 of the basic path
	
	[AP3] The actor selects deny option
	    1. System displays message indicating that syncing device and location is required **[BR2]**
	    2. The use case returns to step 5 of the basic path
	
	[AP4] The actor selects the Connect as Healthcare Professional option
	    1. The system presents a screen prompting the user for their professional information
	    2. The use case goes to step 12 of the basic path

Exception Paths:	**[EP1] Invalid Registration/Log-in/Healthcare information**
	    1. System displays error message saying that the information provided was invalid
	    2. The use case returns to step 1 of the basic path
	[EP2] Invalid Healthcare Provider/Healthcare Professional Information
	    1. System displays message saying that it failed to connect to the healthcare provider, and it tells the user to retry
	    2. The use case returns to step 9

Business Rules:	**[BR1]** All attributes are mandatory **[BR2]** Connecting a device and syncing location is mandatory **[BR3]** Connecting as a healthcare professional or a patient is mandatory **[BR4]** Healthcare professionals need permission to view all patients

DEV 3 Sprint 1:

Test Case Id	Test Scenario	Test Case	Pre-Condition	Test Steps	Test Data	Expected Result	Post Condition	Actual Result	Status (Pass/Fail)
Login_1	Verify login	Enter valid username and valid password	User has an active and valid account	1.Enter Username 2. Enter Password 3. Login	Valid Username Valid Password	Login to be successful	Be on the homescreen looking at options to go to new tabs	On homescreen	Pass
Login_2	Invalid password test	Enter valid username and invalid password	User has an active and valid account	1.Enter Username 2. Enter Password 3. Login	Valid Username Invalid Password	Login Fail	Stay on login page with pop up that says invalid password below	Same as expected	Fail
Login_3	Invalid username test	Enter invalid username and valid password	User has an active and valid account	1.Enter Username 2. Enter Password 3. Login	Invalid username	Login Fail	Stay on login page with a pop up that says the username does not exist	Same as expected	Fail

DEV 4 Sprint 2

Test Case Id	Test Scenario	Test Case	Pre-Condition	Test Steps	Test Data	Expected Result	Post Condition	Actual Result	Status (Pass/Fail)
SignUp_1	Sign up successfully	Enter name, valid email address, healthcare information, and password	User has a healthcare provider and valid email	1. Enter full name 2. Enter valid email (username) 3. Enter healthcare info 5. Create Password 6. Confirm password	Valid Email (username) Valid Healthcare data Valid password	User is on homescreen, Successful Sign In	Be on the homescreen looking at options to go to new tabs, new user account is created	User is on homescreen, successful sign in	Pass
SignUp_2	Invalid email address	Enter name, enter invalid email	User has a healthcare provider and valid email	1. Enter full name 2. Enter invalid email (username)	Invalid Email (username)	User will move on to create a password	Remain on Sign-Up screen	User is prompted to re-enter email because the entered email was invalid.	Fail
SignUp_3	Password requirements not met	Enter name, valid email address, healthcare information, and password	User has a healthcare provider and valid email	1. Enter full name 2. Enter valid email (username) 3. Enter healthcare info 5. Create Password	Valid Email (username) Valid Healthcare data Invalid password	User will be able to confirm password and sign up	Remain on Sign-Up screen	User is told of password requirements and prompted to re-create password	Fail

DEV 5 Sprint 3 - UML Diagram