RPM: Remote Patient Monitoring

Group 6: Amelie, Eleonora, Kacey, Jerry, Rick, Sherry

Background

Client Problem

At the UVic Health Authority, across multiple home-based care departments, patients and clinicians have expressed a desire for a sophisticated remote patient monitoring device that records patient vitals and can open voice communication between patients and providers

Some Issues with Existing Solution

- Patients unsatisfied with health vital recording device (too bulky and heavy)
- Clinicians having difficulty navigating data monitoring interfaces
- Not user-friendly
- Impeding clinical workflow

Analysts

BGW Analyst

A vibrant team of professionals with a wide range of skills in health information and computer science

- Amelie Wang | System Analyst
- Sherry Gu | System Analyst
- Jerry Jiang | System Analyst
- Rick Kuang | System Analyst

Clients

UVic Health Authority

Our goal is to provide timely, effective, and high-quality care to our patients anywhere, any time

- Eleonora Stoynova | Client
- Kacey Friesen | Client

Goals & Objectives

Improve Patient Satisfaction	Provide a solution that elevates quality of care and overall health care experience
Improve Interoperability	Smoothly integrate patient recording device with provider information system
Improve Patient Safety	Implement accident alerting system with GPS function
Improve Communication	Provide voice-calling function
Improve Care Provider Satisfaction	Provide solution that does not create additional burden on care team
Improve Stakeholder Satisfaction	Provide survey for stakeholder feedback per request

Requirements

Business Requirements

The system should improve patient health outcomes and satisfaction

Business Rules

The system must comply with all relevant privacy and security regulations

User Requirements

The system should offer multilingual support, allowing users who speak different languages to use it without language barriers

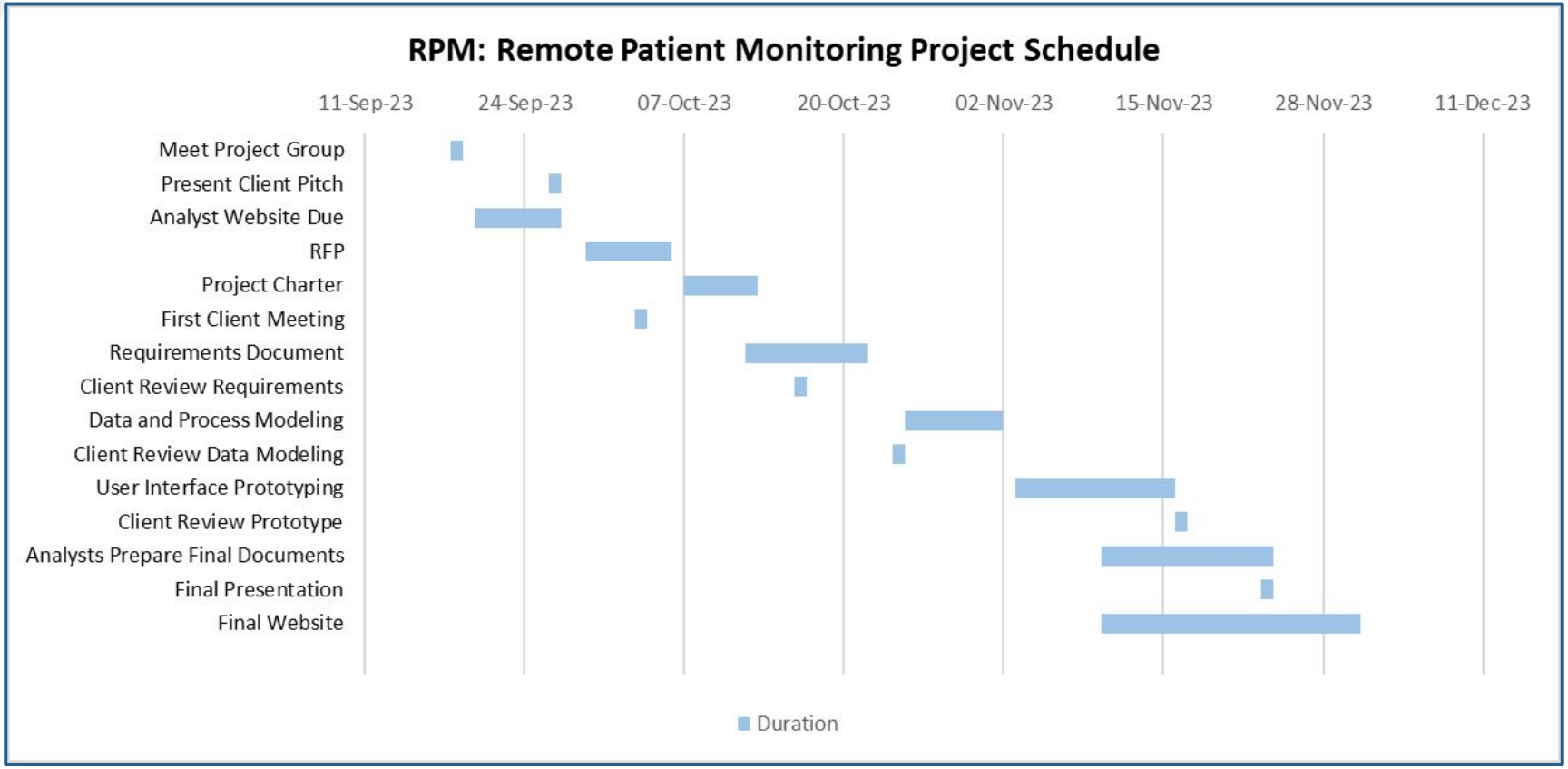
Functional Requirements

The system is required to ensure security during logon, both at the level of the operating system and within the application itself

Non- Functional Requirements

Patients and healthcare providers need to be able to easily access and use the system

Project Schedule



Solution

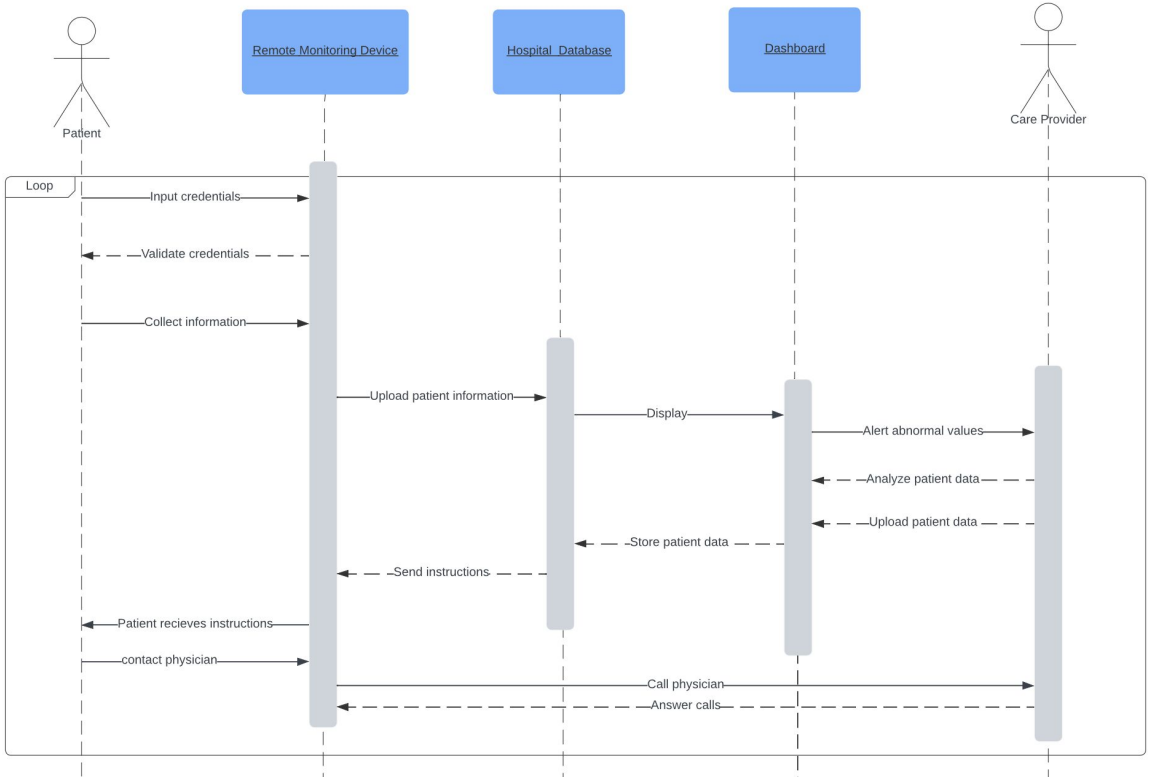
1

Health Monitoring
Smart Watch

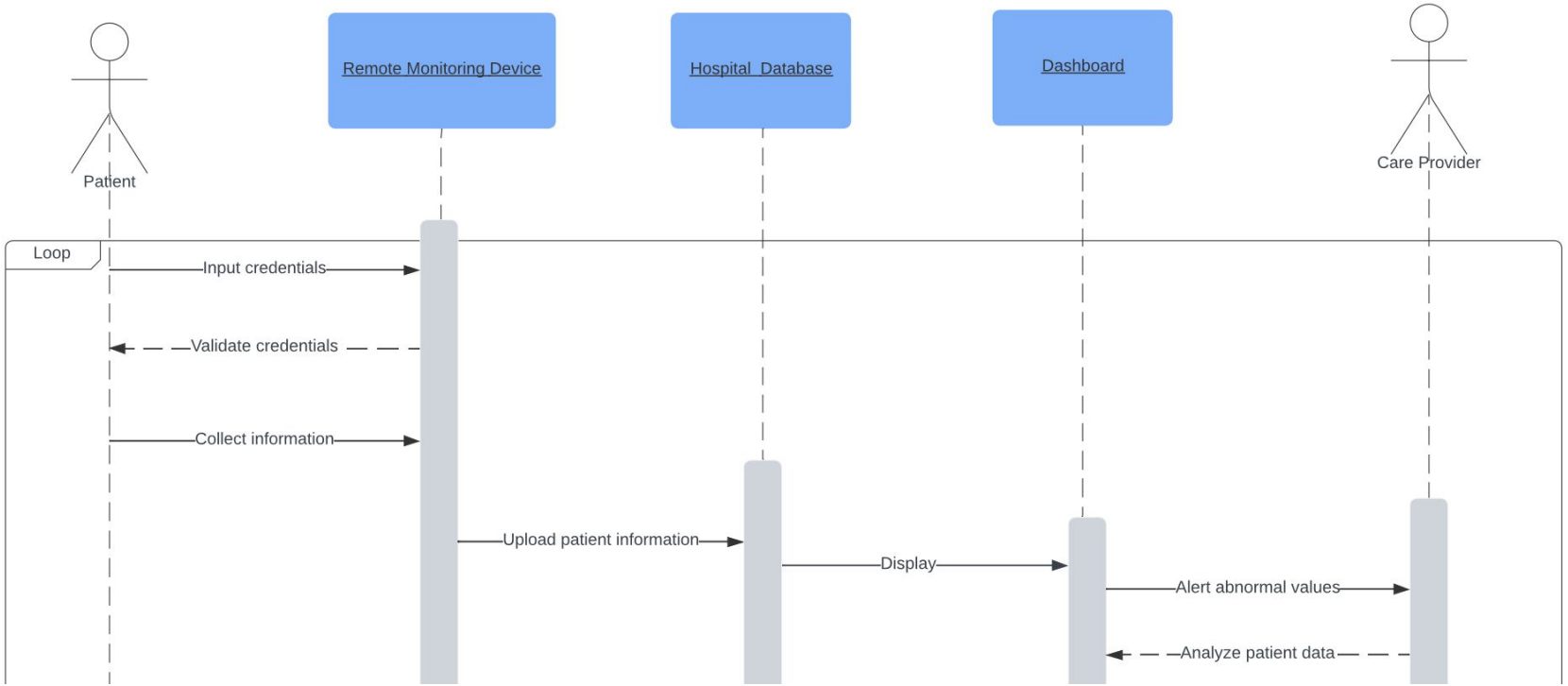
2

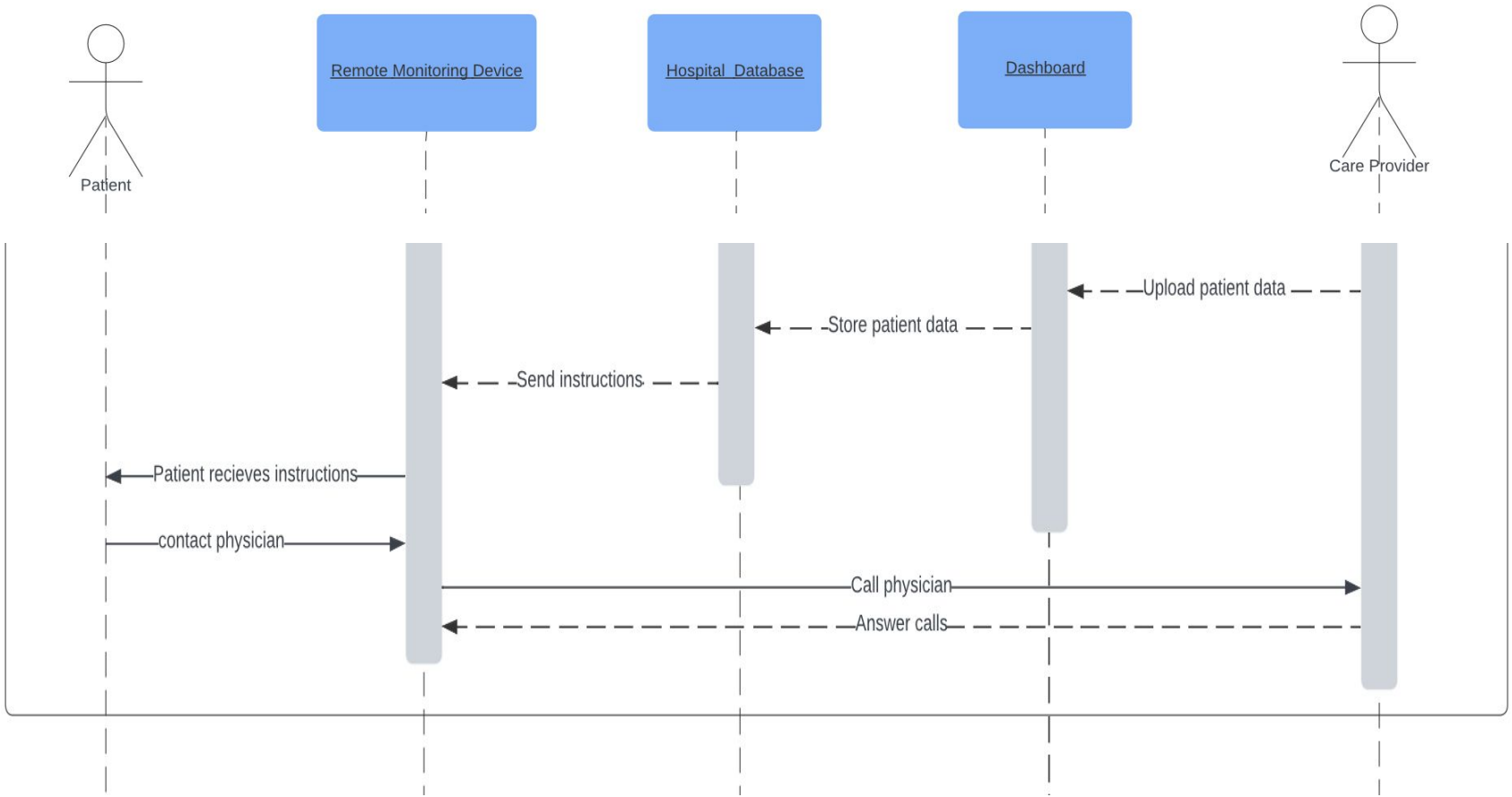
Care Provider RPM
Dashboard

Sequence Diagram



Sequence Diagram




Patient
Remote Monitoring Device
Hospital_Database
Dashboard
Care Provider
Upload patient data
Store patient data
Send instructions
Patient recieves instructions
contact physician
Call physician
Answer calls

Use Case Diagram: Abnormal Patient Vitals Detected

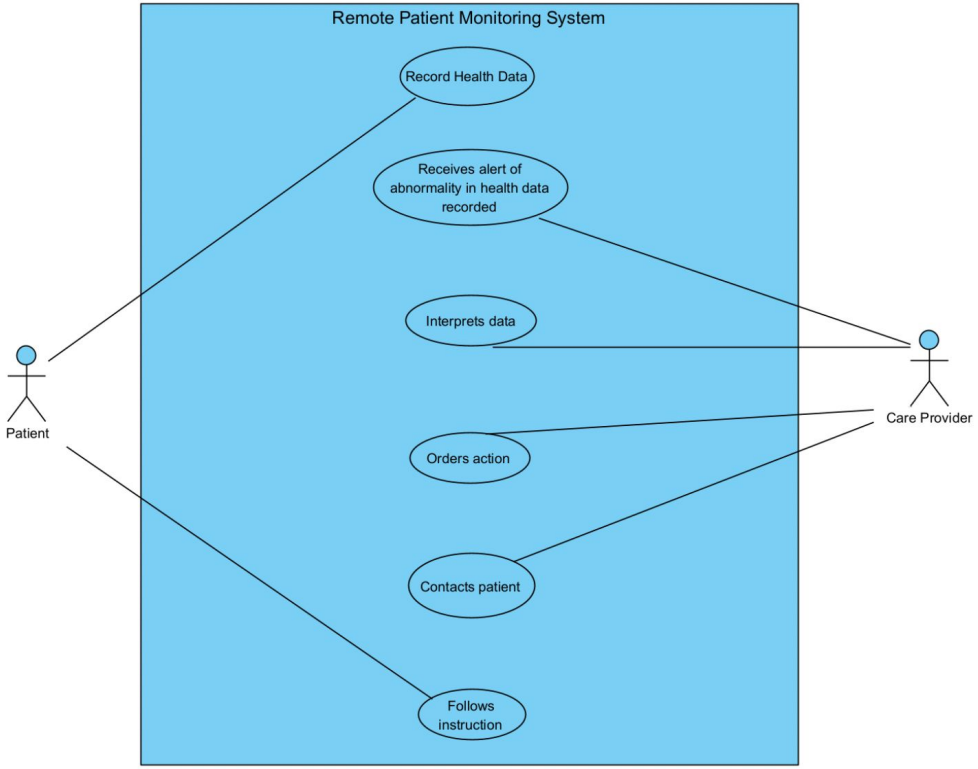
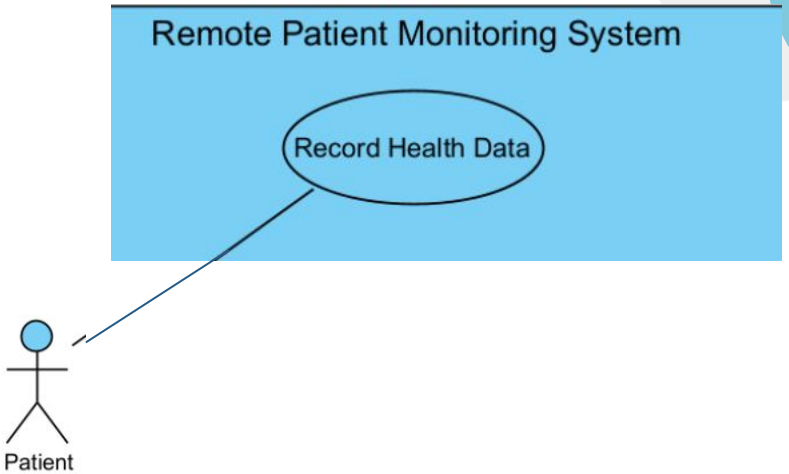


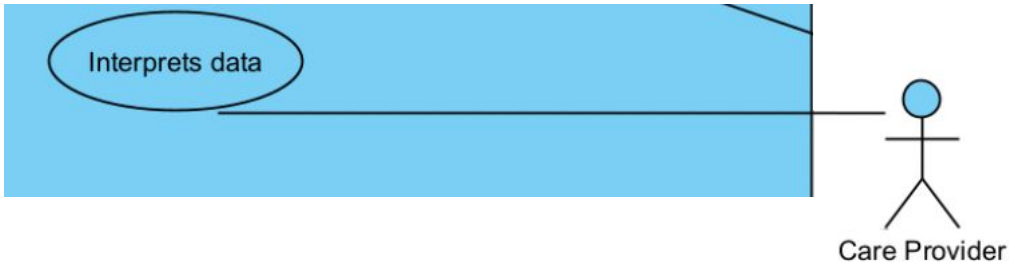
Figure 1 Remote Patient Monitoring System Use-Case Diagram

Step 1: The patient records health data using the device

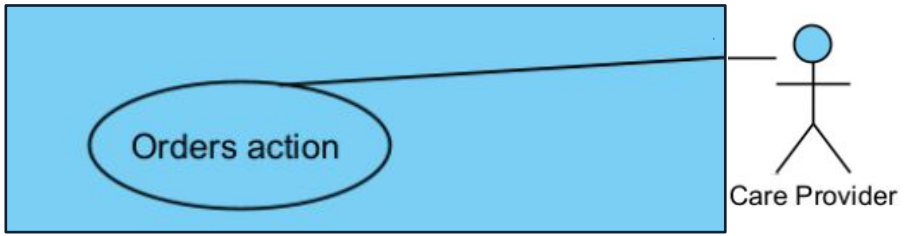


Step 2: The system generates an alert of abnormal patient vital values and sends it to the care provider

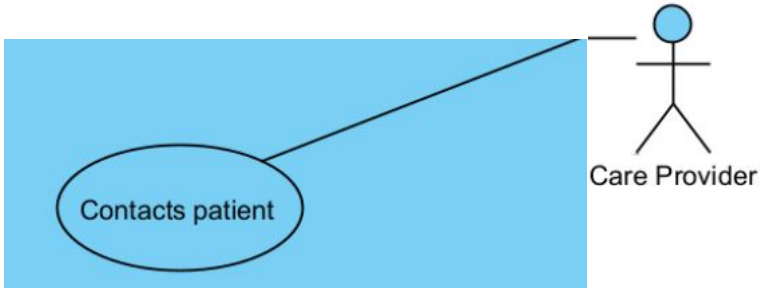
Step 3: Care provider interprets health data



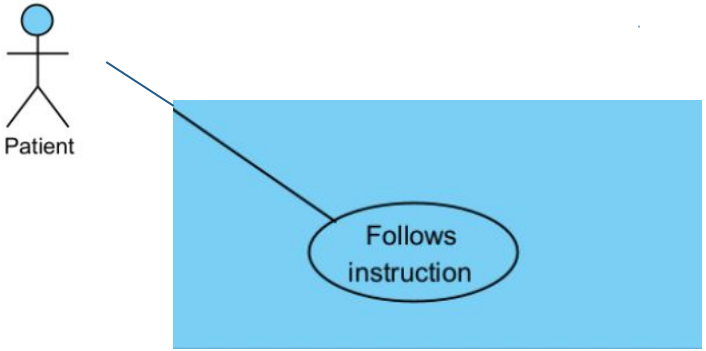
Step 4: Based on data interpretation, care providers order interventions (ex. order tests)



Step 5: Care provider contacts patient about further required action

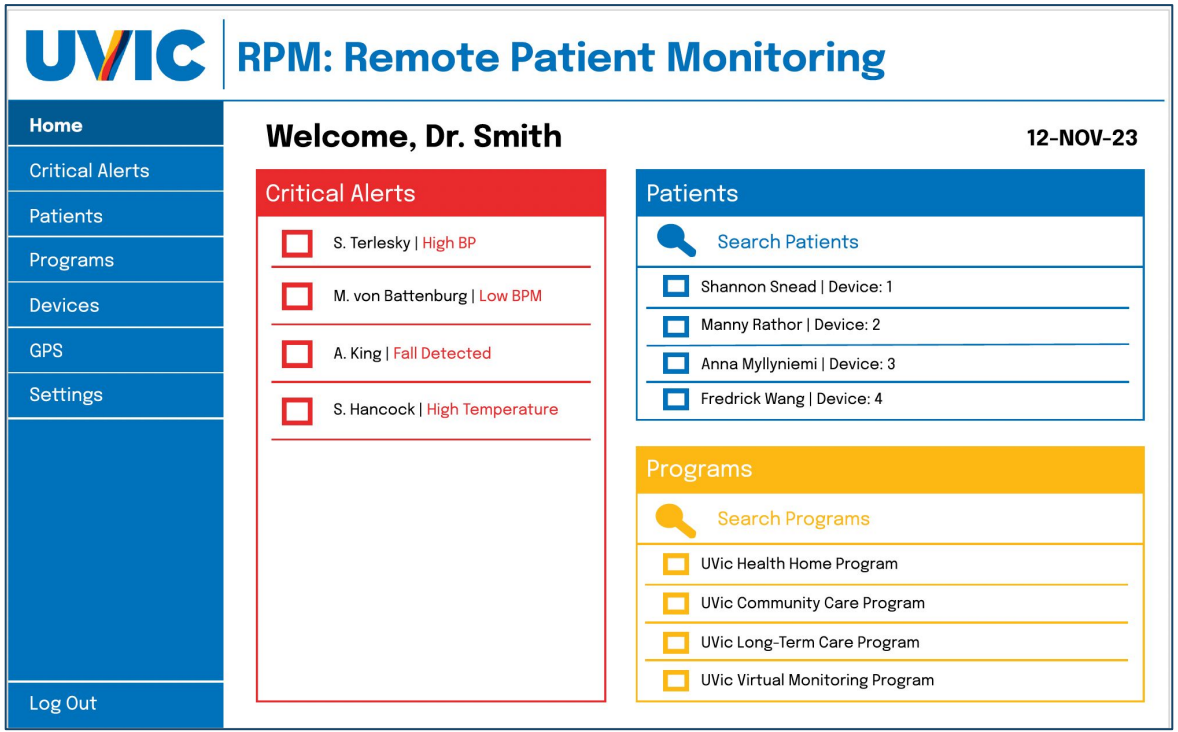


Step 6: Patient follows the instructions provided by the care provider



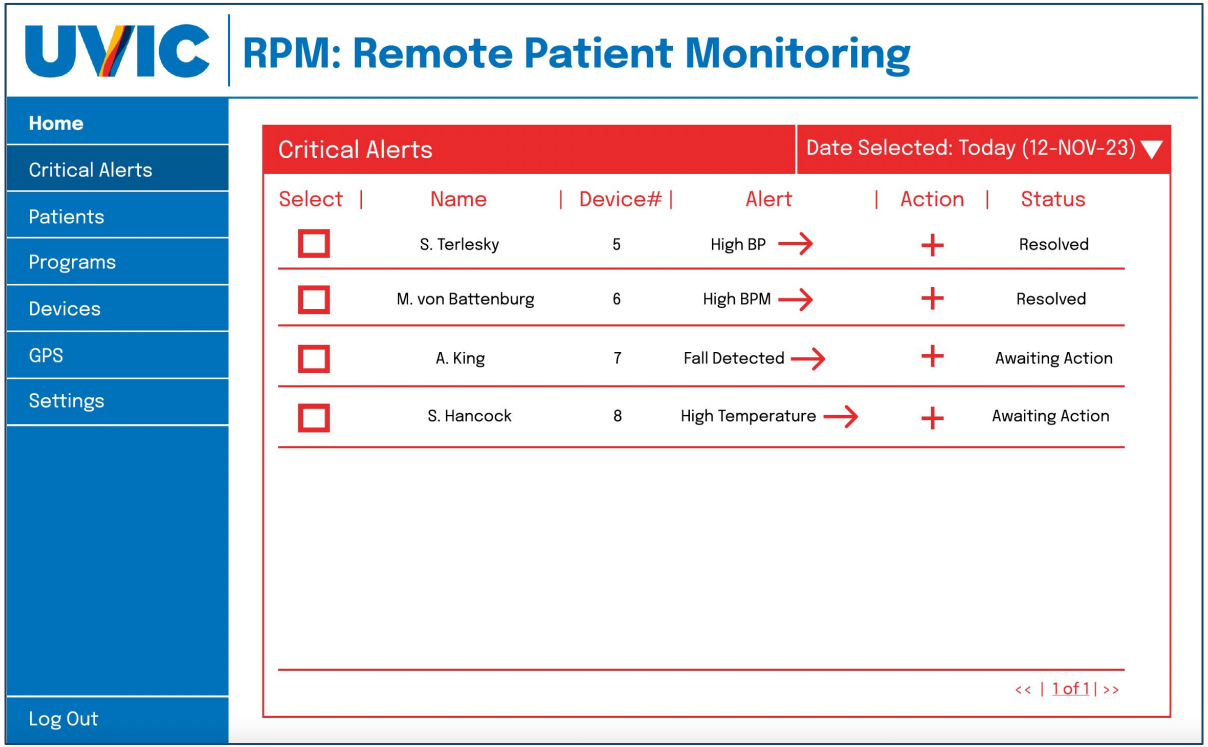
User Interface

Home Page



User Interface

Critical Alert Page



Benefits of Our RPM Solution

- Increased patient and provider satisfaction
- Reduced time care providers spend interpreting patient health vital reports
- Decreased hospitalization rates
- Reduced severity of patient conditions
- Increased care team acceptance

How Our RPM Solution Adds Value To The Market?

Intuitive Interface

Device: using a smartwatch to track health is easy to use and non intrusive on the patient

Dashboard: RPM dashboard is sleek and intuitive to learn and understand, makings the monitoring process very quick

Vastly Improves Patient Outcomes

Having care providers immediately alerted upon a patient's change in health status allows them to quickly respond to the situation and save lives

Streamlines Workflow

Allows care providers to track and monitor all health vitals in one place (BPM, BP, oxygen levels, temperature, falls)

Summary

- Remote Patient Monitoring for UVic Health Authority is a comprehensive project that aims to address current problems and challenges faced by both patients and the healthcare providers when it comes to monitoring health conditions at a distance

- Our solution improves patient safety and satisfaction while enhancing quality of care through introducing an alerting system, voice calling function and can be integrated into with other existing health systems

- This project highlights UVic Health Authority's commitment to leveraging technology to improve healthcare outcomes and experiences for all

THANK YOU!