Use Cases

Arfib

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Abstract

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Chapter 1

Requirements

An app is being developed for atrial fibrilation monitoring. This app is used by both patients monitoring this condition and respective doctors. This way, the app should allow for both patient and doctor separate interfaces.

A main part of this app is the ability to measure ECG signals, and display them in real-time while being measured. A patient has to have the ability to make new measurements as well as consult old ones. Each measurement should be analyzed, storing that information with the measurement result.

[Patient Symptoms]

Patients can also track their medication in the app. They should be able to log the medication that they need to take in each day, and see in which days they need to take which medications. For each medication certain information needs to be available to see and edit, if needed, and patients can add new medication filling out the required information. Patients should be able to see all medications in a simple view.

There is a blog inside the app, in which authorized personel can publish different posts. There should be an interface in which patients can see the blog posts and read each one in a dedicated page.

[Doctor Interface]

Chapter 2

Use Case Diagram

2.1 Actors

Considering the system requirements, it was possible to identify the actors represented in Figure 2.1.

2.1.1 Diagram

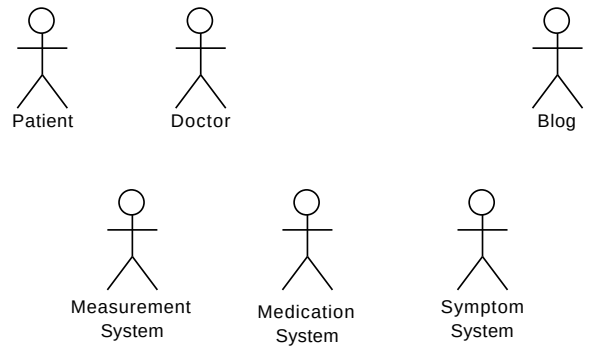

Figure 2.1: Actors.

2.1.2 Patient

2.1.3 Doctor

2.1.4 Measurement System

2.1.5 Medication System

2.1.6 Symptom System

2.1.7 Blog

2.2 Use Cases

Considering the actors and system requirements, the following diagram represents the use cases for this system.

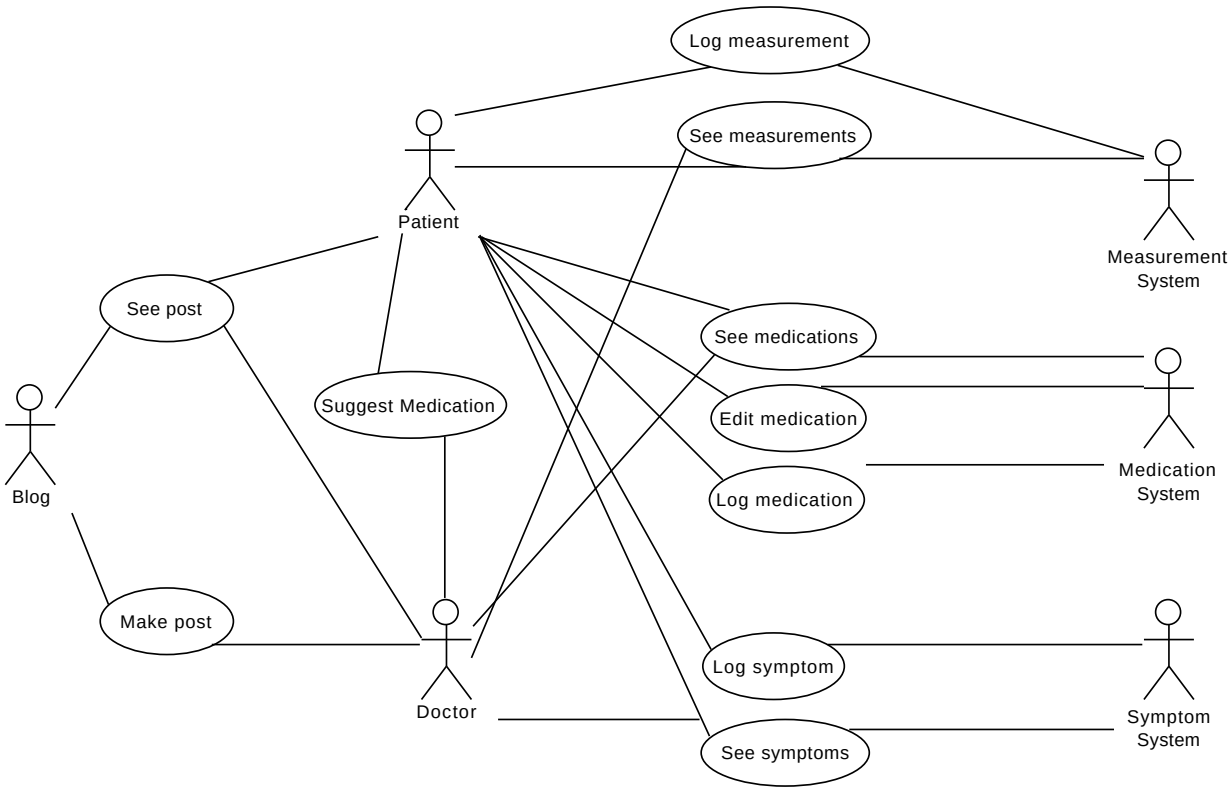

Figure 2.2: Use Case Diagram.

Chapter 3

Use Case Description

3.1 Measurement

3.1.1 Log Measurement

Brief Description This use case allows a patient to perform an ECG measurement using a device of their choosing. The patient must select a valid device, being abble to add new devices. The measurement is shown in real time and can be stopped during the process.

Flow of Events

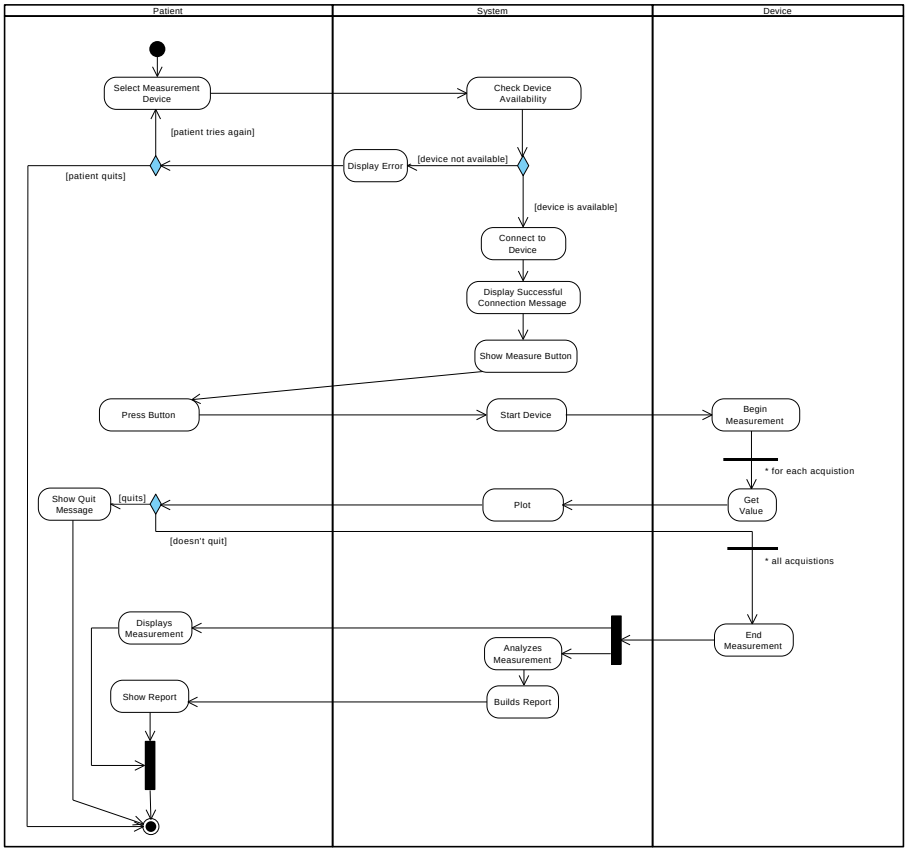

Figure 3.1: Log Measurement Activity Diagram.

3.1.2 See Measurement

Brief Description This use case allows a patient see its own previous measurements, or allows a doctor to see the previous measurements of their patients. Both have access to a list of the measurments, allowing them to choose a specific one to see in more detail.

Basic Flow

1. Select patient's measurements page.
2. Check access.
3. Display previous measurements.
4. Choose measurement of interest.
5. Display full information about measurement of interest.

Alternative Flows

A1. Doctor or patient does not have access.

A2. Show error message.

A3. Quit.

A4. See measurement closed.

3.2 Medications

3.2.1 Log Medication

Brief Description This use case allows a patient to affirme if they have taken their medication, and store that information.

Basic Flow

1. Select medication to log.
2. Confirm medication has been taken.
3. Change medication status.

Alternative Flows

A1. Select medication to remove log.

A2. Confirm mistake.

A3. Change status of the mistakenly logged medication.

3.2.2 See Medications

Brief Description This use case allows a patient see its medications and respective logs, or allows a doctor to see the medications and logs of their patients. Both have access to the medication's logs and to the medications' information.

Basic Flow

1. Select patient's medications page.
2. Check access.
3. Display medication logs.
4. Choose medication of interest.
5. Display information about medication of interest.

Alternative Flows

A1. Doctor or patient does not have access.

A2. Show error message.

A3. Quit.

A4. See medication closed.

3.2.3 Edit Medication

Brief Description Allows the patient to change information regarding their medication, such as intake quantity, frequency and select an end date, from which the medication will not need to be taken. Also, the use case allows adding new medications.

Basic Flow

1. Select medication.
2. Enter edit mode.
3. Choose parameter to change.
4. Exit edit mode.

Alternative Flows

A1. Select new medication.

A2. Fill the required information.

A3. Add new medication.

3.2.4 Suggest Medication

Brief Description This use case allows a doctor to suggest a new medication for a given patient.

Basic Flow

1. Select patient.
2. Select medication.
3. Fill the required information.
4. Check information.
5. Send to patient.
6. Alert patient of suggestion.

3.3 Symptoms

3.3.1 Log Symptom

Brief Description Text

Basic Flow

1. .

Alternative Flows

A1. .

3.3.2 See Symptoms

Brief Description Text

Basic Flow

1. .

Alternative Flows

A1. .

3.4 Blog

3.4.1 See Post

Brief Description Text

Basic Flow

1. .

Alternative Flows

A1. .

3.4.2 Publish Post

Brief Description Text

Basic Flow

1. .

Alternative Flows

A1. .