

Use Case 1: Add User

Primary Actor: User

Stakeholders and Interests:

User: - User Wants to be able to add a User in the App.

Precondition: None

Success Guarantee: The user adds another user to the app, using the app.

Main Success Scenario:

1. User opens the app
2. User navigates to the “Profiles” tab,
 - a. User selects the button labeled “New Profile”
3. New Page is Open with text boxes labeled
 - a. Weight, Height, Name,
 - b. Gender CheckBox
4. User the button labeled “Save”
 - a. User is added to the list of users.
 - b. User is returned to “Profile Info” tab

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. Information is not saved and the user restarts at Step 1.
- 3.1 User did not properly fill in the “Height” or “Weight” textbook
- 3.2 The application does not allow you to save.

Use Case 2: Change Current User

Primary Actor: User

Stakeholders and Interests:

User: - User changes which user is Active

Precondition: At least two profiles must exist

Success Guarantee: The user Changes who is active in the app, using the app.

Main Success Scenario:

1. User opens the app
2. User navigates to the “Profiles” tab,
 - a. All Users Profiles are displayed.
 - b. User, clicks on a Profile “Name”
3. User selects the Check-Box labeled “Profile for metering”
 - a. User clicks “save” or “back.png”
4. User is returned to the “Profiles” tab
 - a. The “current.png”, is placed on the Profile that was selected.

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. Information is not saved and the user restarts at Step 1

Use Case 3: Deleting User

Primary Actor: User

Stakeholders and Interests:

User: - User wants to be able to delete(s) a user's Profile, using the app.

Precondition: A profile must exist

Success Guarantee: The user deletes another user from the app.

Main Success Scenario:

1. User opens the app
2. User navigates to the "Profiles" tab
 - a. All User(s) Profile(s) are displayed.
3. User Clicks on a Profile
4. User Clicks on "Delete Profile" Button
 - a. User is returned to the "Profiles" tab, the selected Profile is absent

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. Profile is not deleted and the user restarts at Step 1.

Use Case 4: Updating User Profile

Primary Actor: User

Stakeholders and Interests:

User: - User Wants to be able to update an existing profile.

Precondition: None

Success Guarantee: The user successfully updates a pre-existing profile, using the app.

Main Success Scenario:

1. User opens the app
2. User navigates to the "Profiles" tab
 - a. A dropdown with all User(s) Profile(s) are displayed.
3. User clicks on a Profile, in the dropdown tab
 - a. The Profile information is displayed.
4. User Updates the Name, Weight or Height textboxes.
5. User select the button labeled "save"
 - a. App is updated with the new information
6. User is returned to the "Profile Info" tab

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. Information is not updated and the user restarts at Step 1.
- <4a> The updated information is empty
 - <4a.1> The app does not allow the user the current changes.

Use Case 5: Using Radotech

Primary Actor: User

Stakeholders and Interests:

User: - Use updates the current profile with Radotech readings.

Precondition: Radotech device must be on, and a profile must be selected

Success Guarantee: Users profile is successfully updated with Radotech readings.

Main Success Scenario:

1. User Opens App
2. User navigates to the “Measure” tab
3. User Clicks “Measure Now”
4. User places sensor in the first 1 of 24 positions
 - a. Reading was measured as the Graph is updated.
 - b. User Clicks on the button next to “Now Measuring: “
5. Go through all 24 points.
6. App is updated with all the sensor readings to the current profile.

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. Readings are not saved, User restarts at step 1
- 2a: Radotech is Off, user is prompted by a Message Box
 - 2a.1: User turns on “Radotech”
 - 2a.2: User continues to step 3
- 4a. User Turns off Radotech during “Reading”
 - 4a.1 The readings that were displayed are not saved
 - 4a.2 User Restarts at Step 3.
- 4b. Radotech battery is at 0%,
 - 4b.1 User is prompted by a message box
 - 4b.2 User charges battery,
 - 4b.3 Readings that were displayed are not saved
 - 4b.3 User restarts at Step 3.
- 4c. User simulates all readings at once
 - 4c.1 User selects the simulate readings checkbox
 - 4c.2 App generates readings
 - 4c.3 User is placed in Step 6

Use Case 6: Display Reading

Primary Actor: User

Stakeholders and Interests:

User: - User wishes to view the readings

Precondition: A reading must exist

Success Guarantee: User has viewed the readings.

Main Success Scenario:

1. User Opens App
2. User navigates to the “History” tab
 - a. User Select a reading
3. Bar Graph is displayed
 - a. User views the readings.
 - b. User switched to other chart views if needed.

Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. User restarts at step 1

Use Case 7: Recommendation Tab

Primary Actor: User

Stakeholders and Interests:

User: - User wishes to get recommendation and the Doctor/Specialist recommendation

Precondition: None

Success Guarantee: Users have viewed the Recommendation

Main Success Scenario:

1. User Opens App
2. User navigates to the “Recommendation” tab
3. App, generates recommendation based on the User, poor readings
 - a. User inputs the Doctor/Specialist recommendation into the textbox
 - b. User Clicks Save
4. User Selects the “Back.png” button

Optional:

- 3a: User wishes to clear recommendation textbox
 - 3a.1: User Selects “cancel” button
 - 3a.2: User Selects “Save” Button
 - 3a.3 The textbook is updated as blank

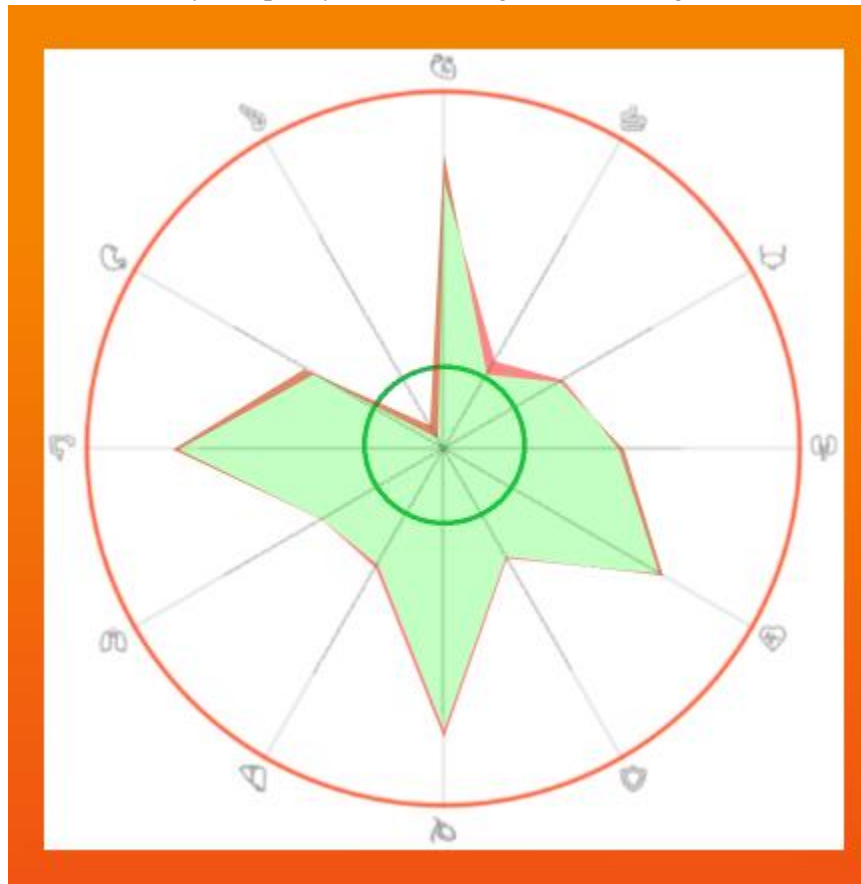
Extensions:

- <All steps> Application crashes.
 - a1. App crashes
 - a2. User restarts at step 1
- 3a. User does not Click “Save” button
 - 3a1. The recommendation text in the textbox is not saved

Design Explanation

Since the Radotech device would not record a reading if the device were not on the skin, our implementation assumes that the user has placed the sensor on their skin as soon as they click on the button that displays the point on their hand/foot they are reading. This is implicit and can only be confirmed when the user is in the Measure tab and is waiting for a point to show up on the reading graph. Alternatively, the person running the simulator can check the simulate checkbox, this option does not reflect how the device actually works and is included for convenience.

Circle chart has a minimum reading amount, this prevents you from getting a jagged and off looking graph. The Radotech app also has this implementation, we believe it is important to reiterate our own understanding of why we manipulate the readings. You could argue it is better to get the raw data then, get a manipulated graph but you can see the raw numbers in the “Chart” tab in the “History” Tab. The point of the Circle tab is to easily compare your left and right-side reading. Here is an example to show.



With the pancreas reading being close to 0,0 the user may get a false sense of worry. When the readings for the pancreas simply on average returns lower when compared to the heart or intestines readings.

We used the Singleton design pattern, as we value not having global variables, we instead shared data between classes, by using friend class attributes along with getters and setters where applicable.