

Team 38

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COMP3004A

### 3004 Team Project - Tests

#### **Power On Scenario (Use Case 1: Power On):**

- Start program
- Context: User wants to power the device on for use
- Testing:
  - Press, hold, and release the **powerButton**
  - Observe that the device powers on
  - Slide the **connectionSlider** or press the “**Connect Earclips**” button to connect device and observe device UI turn on, including the **powerLight**
  - Observe the **Battery indicator** in the UI, which indicates to the user the current battery status

#### **Power Off Scenario (Use Case 2: Power Off):**

- Start program
- Context: User wants to turn the device off
- Testing:
  - First power on device (refer to “Power On Scenario” test)
  - Press, hold, and release the **powerButton** while the device is on
  - Observe all UI elements turn off
- Additional test case: Device powers off after 2 minutes (simulated time) of inactivity
  - Power on device with the **powerButton**
  - Wait for 15 seconds (2 minutes simulated) and observe the device UI shut off, and a message logged in the device control console.

#### **Low Battery Scenario (Use Case 3: Low Battery):**

- Start program
- Context: User depletes the battery to critically low
- Testing:
  - Note: for this test we have a button in the UI that automatically demonstrates this Scenario
  - First power on and connect the device (refer to “Power On Scenario” test)
  - Press the “**Deplete Battery**” button in the Testing section of the device GUI
  - This button runs a therapy session that drains the battery

- Observe that the battery slider bar depletes as the therapy session runs, and the UI **Battery indicator** also updates
- Observe that once the battery level has reach below 33% the therapy session ends, and the UI Battery indicator blinks to notify the user of critically low battery levels
- Note\* that the rate at which the battery depletes is based on the Connection strength, intensity level, and duration of therapy

#### **Select a Selection Scenario (Use Case 4: Selecting a Session):**

- Start program
- Context: User wants to select a group and session for their therapy
- Testing:
  - Note: for this test we have a button in the UI that automatically demonstrates this Scenario
  - First power on and connect the device (refer to “Power On Scenario” test)
  - Press the “**Perform Therapy**” button in the Testing section of the device GUI
  - The button will randomly pick a group and a session (using the power button and arrow buttons for navigation) and initiate the therapy
  - Observe the Group and Session UI elements change as the they are highlighted
  - Observe the Session icon blink for a couple seconds, and a 5 second countdown initiate before the therapy session begins

#### **Connection Test Scenario (Use Case 5: Connection test):**

- Start program
- Context: Device needs to secure connection before returning to therapy session after disconnection
- Testing:
  - Note: for this test there is a button that does some automation, but some user input is also required on prompt as well
  - First power on and connect the device (refer to “Power On Scenario” test)
  - Press the “**Lost Connection**” button in the Testing section of the device GUI
  - This button will start a session and prompt the tester (you) to interrupt and reconnect the session
  - Once the session begins click the “**Disconnect Earclips**” button
  - Observe that the session has been interrupted by a disconnection. The graph will strobe to indicate disconnection to user, and the device console log prompts the user to reconnect

- Observe the CES logo blinking
- Once the prompt has been logged, click the “**Connect Earclips**” button and observe the the session reconnect

### **Change Intensity Scenario (Use Case 6: Intensity)**

- Start program
- Context: User wants to adjust the intensity during a therapy session
- Testing:
  - Note: for this test there is a button that does some automation, but some user input is also required on prompt as well
  - First power on and connect the device (refer to “Power On Scenario” test)
  - Click the “**Add A User**” button to create a User for test to be recorded for
  - Click the “**Change Intensity**” button
  - This button will start a therapy session and prompt the tester (you) to adjust the intensity
  - The therapy session is recorded and saved under the user that was created
  - Observe that the corresponding graph segment will blink when the intensity is adjusted
  - Observe in the device console log that the recorded intensity is the highest intensity the therapy session reached
  - If the intensity reaches the maximum (100) or the lowest (1) the corresponding graph segment will blink to indicate a max/min has been reached

### **Record a Session Scenario (Use Case 7: Record):**

- Start program
- Context: User wants to record a treatment
- Testing:
  - Note: for this test we have a button in the UI that automatically demonstrates this Scenario
  - First power on and connect the device (refer to “Power On Scenario” test)
  - If no users exist, click the “**Add A User**” button to create a User for test to be recorded for
  - Press the “**Record Therapy**” button in the Testing section of the device GUI
  - The button will randomly pick a group and a session (using the power button and arrow buttons for navigation) and initiate the therapy
  - Observe a message logged to the console indicating that this session will be recorded under the specified user

- Observe the Group and Session UI elements change as they are highlighted
- Observe the Session icon blink for a couple seconds, and a 5 second countdown initiate before the therapy session begins
- Observe a message logged to the console that the session has been successfully recorded under the specified user
- Additional test case: User may continue the session or end immediately upon saving preferences
  - Note: for this test we have a button in the UI that automatically demonstrates this Scenario
  - First power on and connect the device (refer to “Power On Scenario” test)
  - If no users exist, click the “**Add A User**” button to create a User for test to be recorded for
  - Press the “**Only Record**” button in the Testing section of the device GUI
  - The button will randomly pick a group and a session (using the power button and arrow buttons for navigation) and initiate the therapy, pressing the “**Stop**” button after a short delay
  - Observe a message logged to the console indicating that this session will be recorded under the specified user
  - Observe a message logged to the console indicating that the current session has been canceled
  - Observe a message logged to the console that the session has been successfully recorded under the specified user
- Additional test case: User continues the session and changes intensity after recording their preferences - the highest used intensity before the session ends is the one that is saved
  - Refer to “**Change Intensity Scenario**”

### **Replay a Session Scenario (Use Case 8: Replay):**

- Start program
- Context:
- Testing:
  - Note: for this test we have a button in the UI that automatically demonstrates this Scenario
  - First power on and connect the device (refer to “Power On Scenario” test)
  - If no users exist, click the “**Add A User**” button to create a User for test to be recorded for
  - Click the “**Record Therapy**” button to perform and record a sample therapy session
  - Press the “**Test Replay**” button in the Testing section of the device GUI

- The button will print the session history of the specified user, selecting a random history entry, and replay the recording
- Observe the user history printed in the console, followed by a message indicating that the machine state is being set for replay
- Observe the group and session buttons cycle to the correct options, if they were different beforehand
- Observe a message logged to the console indicating that the therapy session is about to begin, followed by the standard output of a therapy session being performed
- Additional Test Case: User has no previously recorded treatment - Display “No History Found”
  - Note: for this test we have buttons in the UI that automatically demonstrates this Scenario
  - Click the “**Add a User**” button to create a user that has no treatment history
  - Ensure that the new user’s name is specified in the ComboBox located to the left of the button labeled “**Print History**” in the “**User Add and Replay History**” GroupBox
  - Click the “**Test Replay**” button to display this user’s treatment history
  - Observe the message logged to the console indicating that the specified user’s treatment history is about to be printed
  - Observe the message logged to the console indicating that the specified user has no treatment history