FINAL PROJECT

Team Members

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TEAM 37

Approved Changes by Prof. Radonjic

The following below are a list of approved changes that were accepted by Professor. Radonjic.

1. The manual said that the power button and the intensity buttons were used to select durations and intensity. However, after discussions with the professor, we were approved to add individual left and right buttons to select durations and sessions.
2. It wasn't clear how to implement the support of different users in the device. Thus, we consulted with the prof, and we were approved to have 4 different users that could be selected in a user's dropdown before starting a session. Once a session ends the treatment record would be saved in that user's treatment history.
3. It also wasn't clear how to implement the record feature. Thus, after consulting with the prof and getting approval, we decided to automatically record a therapy and add to the user's treatment history once the session ends.
4. Also, it wasn't clear how to implement the replay feature. Thus, after consulting with the prof and getting approval, we decided to have a separate treatment history interface that would have its own buttons and offer the user to visually see and replay a therapy that they liked the most by using the buttons provided.
5. Also, in the Oasis Pro video provided by the professor, it describes how a user needs to click the power button two times in order to fully turn on and enable all buttons in the device. Thus, we implemented the following with the Prof's approval.
    1. First Power Button Click – Partially turn on device however buttons will be disabled.
    2. Second Power Button Click – Fully turn on device with all buttons enabled.
    3. Third Power Button Click – Turn off device.

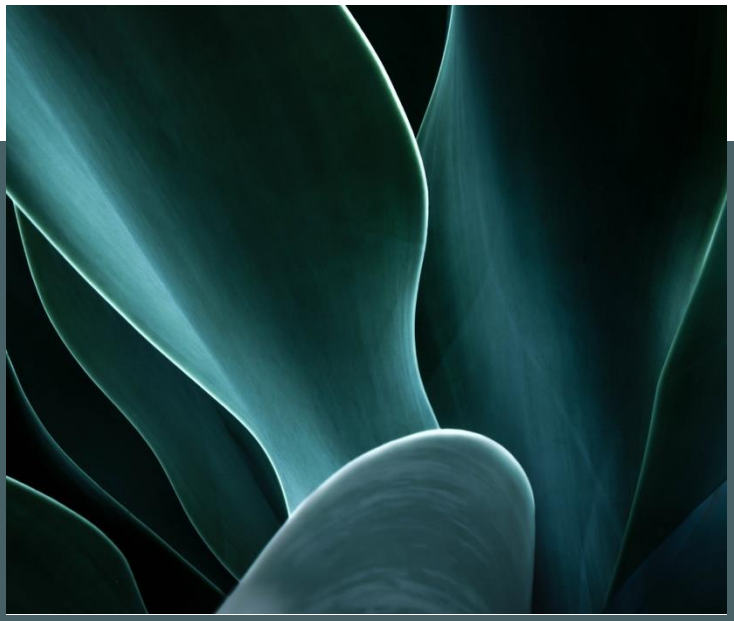
UML Explanation

In terms of the UML Class diagram, we made sure to design the class diagram as equal and relative to the requirements and use case model. Our UML diagram is consistent with the implementation at the class, relationship, and interface levels. All classes from the header files and public interfaces are shown. All the elements from the requirements are covered, including buttons, dropdowns, timers and database.

The UML diagram displays a number of classes. The Administrator and Guest classes are classes that inherit from the Users class. They serve as types of users and are what recorded therapy sessions are associated to in the database. TherapyRecord is a class that represents the data of a recorded session. Each instance of it is recorded in the database and associated with a particular user. The Database class serves as the representation of the SQL database to the program as well as its interface to it. All data saved or loaded goes through this class. The MainWindow class is where the main function of the application exists. The UI and the application logic are located in MainWindow. It effectively serves as the control/master/main class.

INSTRUCTIONS

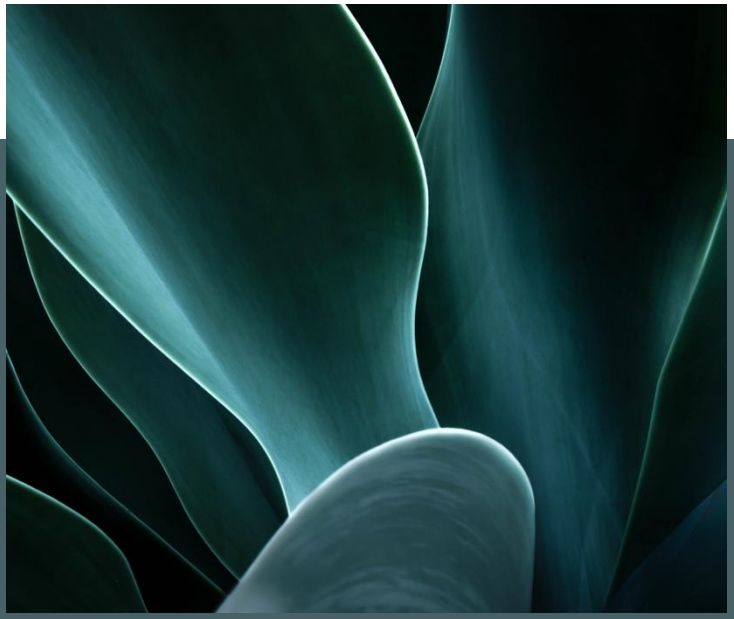
How to turn the Oasis Pro On?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button. The Oasis pro will partially turn on. In order to fully turn on and enable all buttons, you need to click the power button two times.



INSTRUCTIONS

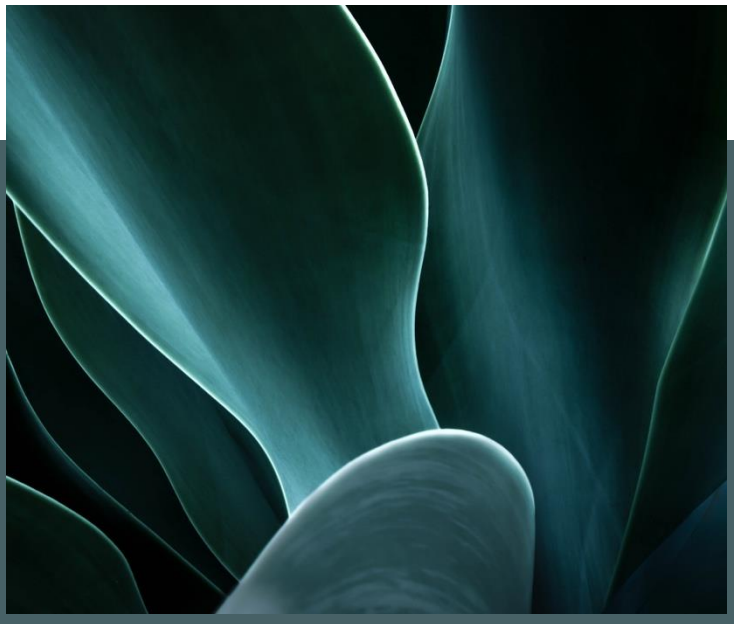
How to turn the Oasis Pro Off?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button three times in order to turn off the Oasis Pro.

1. First Power Button Click – Will partially turn on device.
2. Second Power Button Click – Will fully turn on device (buttons enabled)
3. Third Power Button Click – Turn off device.



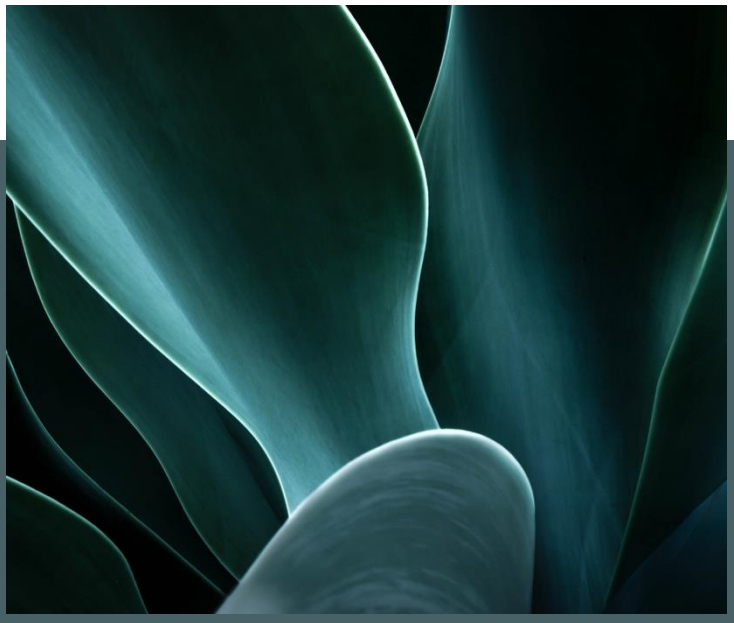
INSTRUCTIONS

How to display battery level?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click the Power Button and the battery level will be automatically displayed for 3 seconds in the bar graph. When you start a session, the battery will be displayed periodically every 10 seconds in the bar graph.



INSTRUCTIONS

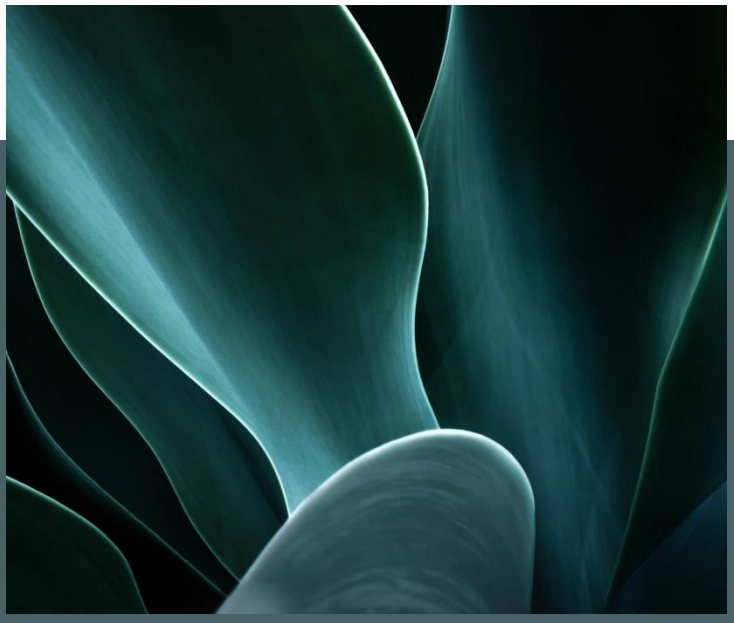
How to select a Session?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Make sure to select a user in the user dropdown and connect in the apply to skin dropdown. Select a duration by clicking the left or right arrow buttons. Select a session by also clicking the left or right arrow buttons. Press the select checkmark button to start a session. The session number in the bar graph will flash and the session will begin after a 5 second delay.



INSTRUCTIONS

How to start a connection test?

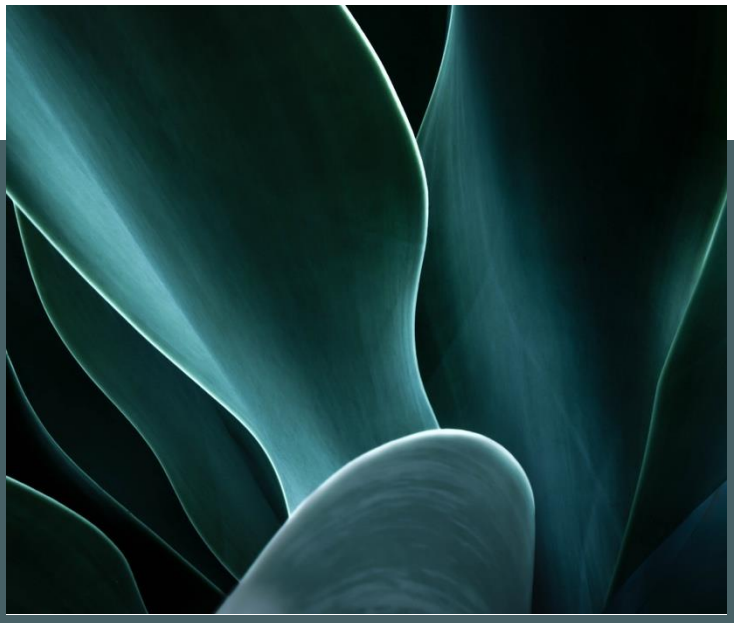
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Make sure to select a user in the user dropdown and connect in the apply to skin dropdown. Select a duration by clicking the left or right arrow buttons. Select a session by also clicking the left or right arrow buttons. Press the select checkmark button to start a session. The session number in the bar graph will flash and the session will begin after a 5 second delay. The device will enter connection test mode. The CES Mode light will blink, and the bar graph will display the status of the connection. Once the connection has been confirmed the display will go blank. Once the connection test ends, the intensity may be adjusted.



INSTRUCTIONS

How to adjust intensity?

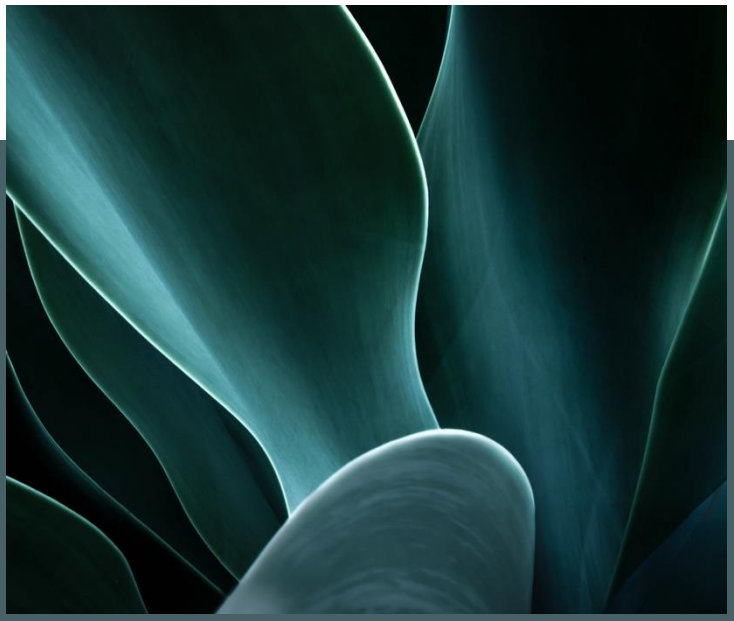
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Make sure to select a user in the user dropdown and connect in the apply to skin dropdown. Select a duration by clicking the left or right arrow buttons. Select a session by also clicking the left or right arrow buttons. Press the select checkmark button to start a session. The session number in the bar graph will flash and the session will begin after a 5 second delay. The device will enter connection test mode. The CES Mode light will blink, and the bar graph will display the status of the connection. Once the connection has been confirmed the display will go blank. Once the connection test ends, the intensity may be adjusted. Press the INT ▲ button to increase the intensity of the stimulus. The user presses the INT ▼ button to decrease the intensity of the stimulus.



INSTRUCTIONS

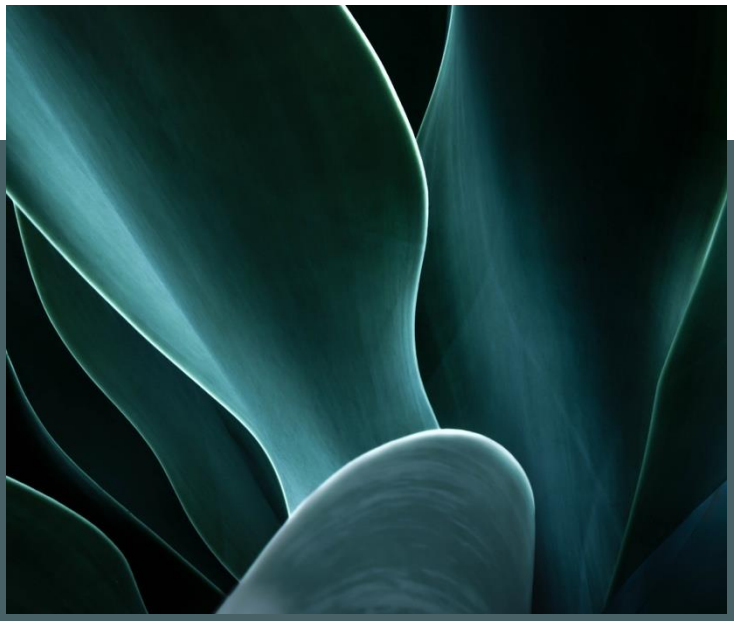
How to replace battery if battery is at 0?

When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the New Battery button. The battery level will change to full charge. You will now be able to turn on the device and all buttons will be enabled once you click the power button two times.



INSTRUCTIONS

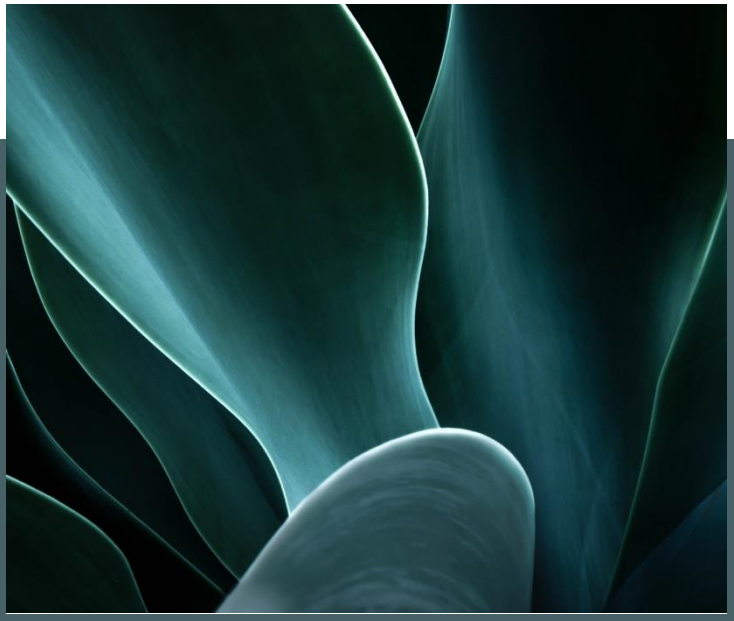
How to connect electrodes to ears?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Select connect in the apply to skin dropdown. The electrode will sense the user's ears and begin to output an electrical current. The electrode will then inform the Oasis Pro to display the status of the connection in the bar graph whenever the connection test starts.



INSTRUCTIONS

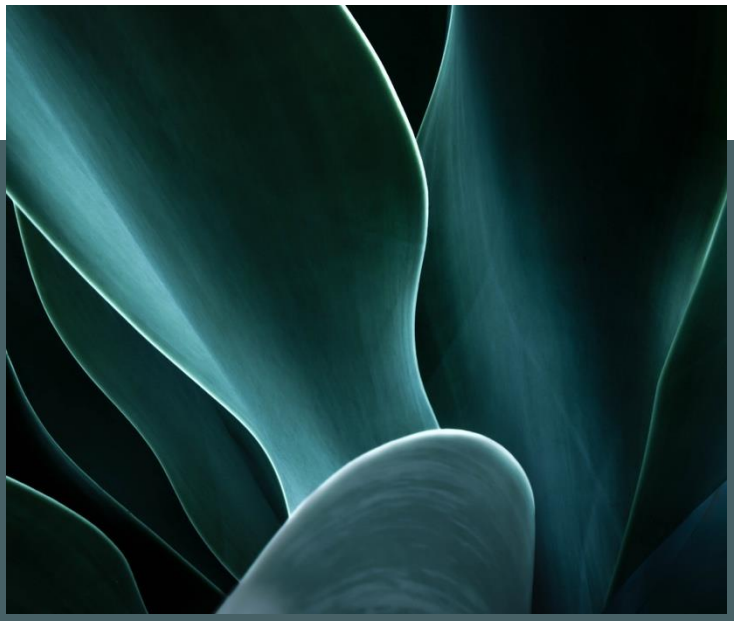
How to record a therapy?

When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Make sure to select a user in the user dropdown and connect in the apply to skin dropdown. Select a duration by clicking the left or right arrow buttons. Select a session by also clicking the left or right arrow buttons. Press the select checkmark button to start a session. The session number in the bar graph will flash and the session will begin after a 5 second delay. The device will enter connection test mode. The CES Mode light will blink, and the bar graph will display the status of the connection. Once the connection has been confirmed the display will go blank. Once the connection test ends, the intensity may be adjusted. Press the INT ▲ button to increase the intensity of the stimulus. The user presses the INT ▼ button to decrease the intensity of the stimulus. Once the session ends the treatment record for that user will be automatically added as a new therapy history record to the database.



INSTRUCTIONS

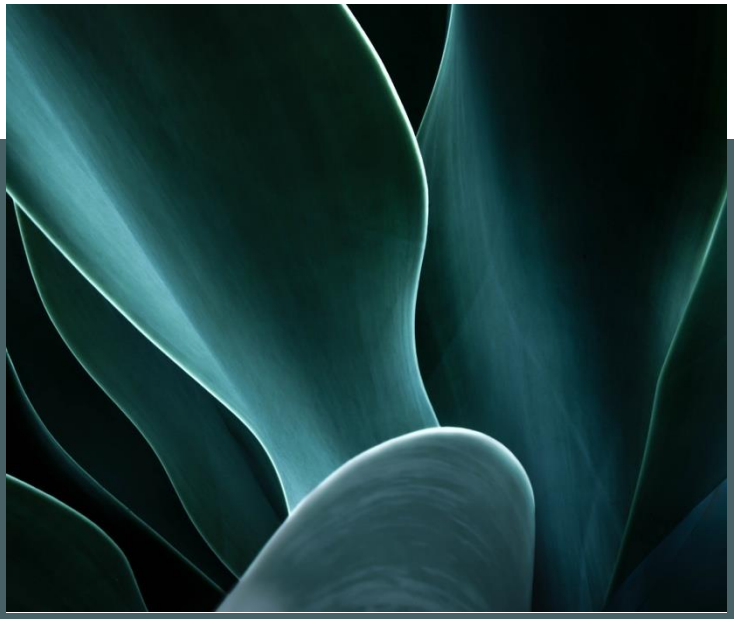
How to view a therapy?
When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Click the refresh button in the treatment history list box. The Oasis Pro will then display all currently saved therapies of that specific user.



INSTRUCTIONS

How to replay a therapy?

When you run the final project in QT, you will see the mainwindow first alongside various push buttons and displays. Click on the power button two times in order to fully turn on and enable buttons. Click the refresh button in the treatment history list box. The Oasis Pro will then display all currently saved therapies of that specific user. Click the up and down buttons in the treatment history list box to highlight the therapy history record. Click the select button to select a therapy history record. Then select the checkmark button in the Oasis Pro to replay the session. The timer duration will start and the intensity will be enabled from the previous session.



INSTRUCTIONS

How to end a session?
Once the session ends, the device will automatically activate Soft Off, and the graph will scroll from 8 to 1 to confirm that Soft Off is in progress. After soft off the device will power off.

You can also prematurely stop a session while its still running by pressing the power button during a session. The device will do the same thing as above, activate Soft Off and power off.