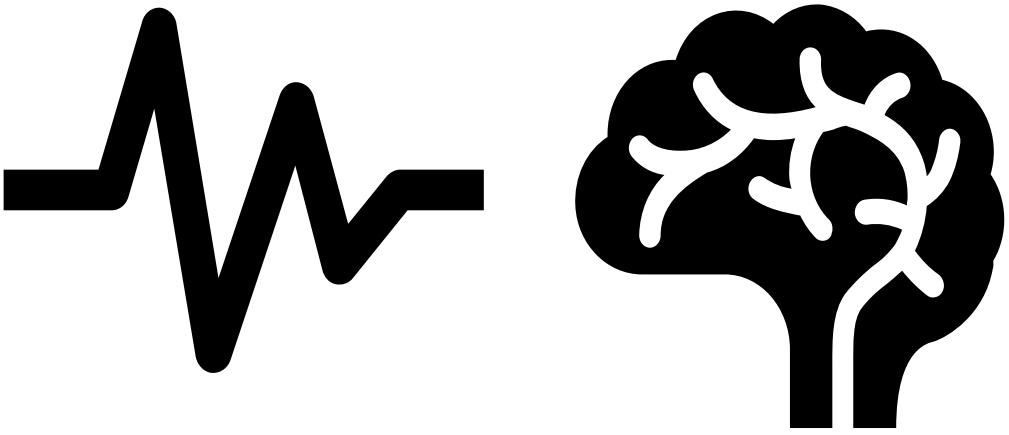
SLEROSISCARE

USER MANUAL



Basilio Aguirre, Enrique González, Sancha Kindler Von Knobloch, Beatriz León, Véronique Pérez-Sala

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1. Welcome to SclerosisCare

Welcome to SclerosisCare, your essential companion on the journey to effective management of multiple sclerosis (MS). This manual will guide you through the full experience with our app, designed to revolutionize the way you monitor and manage your neurological condition.

SclerosisCare is presented as an innovative solution, allowing you to remotely acquire crucial electromyography (EMG) and electrocardiogram (ECG) data. This app seeks not only to simplify the monitoring process, but also to provide you and your doctor with valuable and personalized information to make informed decisions about your treatment.

Explore this manual to discover the features, functionalities, and detailed steps that will make your experience with SclerosisCare as effective as possible. We're committed to providing you with the tools you need to manage your health more accurately and comfortably. Let's start this journey to advanced management of multiple sclerosis with SclerosisCare!

2. Patients Guide

We'll walk you through the essential steps to get the most out of SclerosisCare. From downloading and running the app to registering, logging in, and performing ECG and EMG tests, each section is designed to provide a hassle-free experience, allowing you to monitor your health effectively and collaboratively with your medical team.

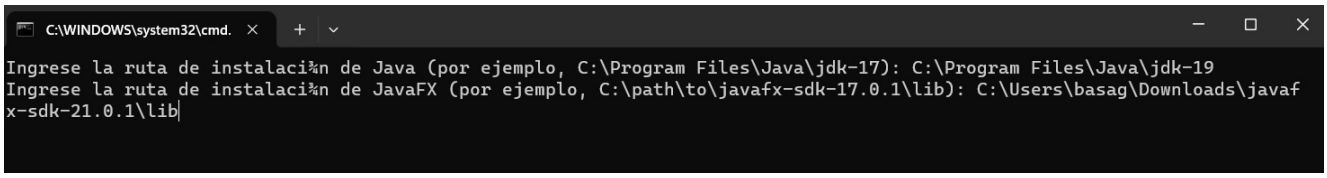
2.1 Run Application

To initialize your application, you will need to have a Java and Javafx development kit (SDK) installed. To download it, follow the links below, downloading the version compatible with your operating system. It is necessary to download the version after 17 in both cases:

- JAVA SDK: https://www.oracle.com/es/java/technologies/downloads/

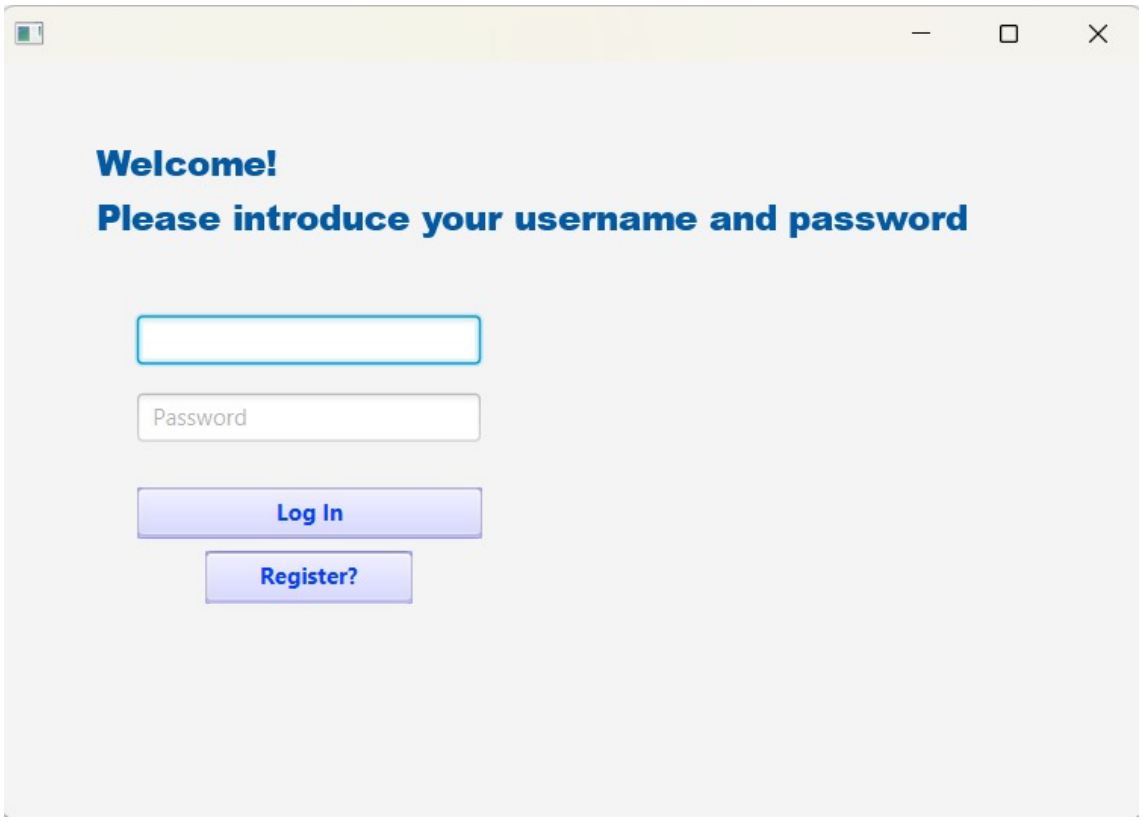
- JAVAFX SDK: https://gluonhq.com/products/javafx/

Once downloaded, you will simply have to double-click on the .bat file referring to the application. At this point, a terminal will open asking you for the address of the Java SDK and Javafx on your computer. Enter it and press enter.

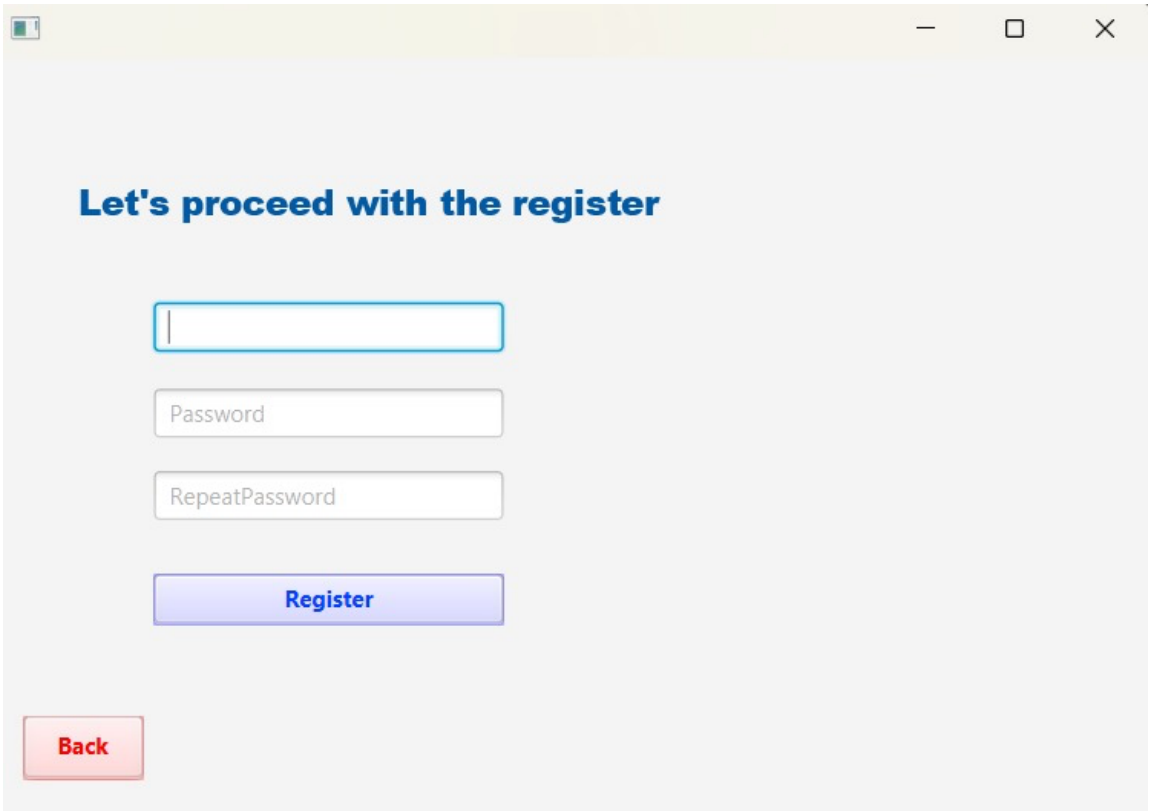


2.2 Login and Register.

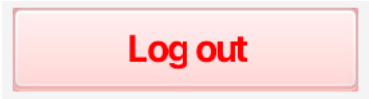
If you already have a user created, to access you simply need to introduce the username and password and click login.



If you do not have a user created yet, click register. A new screen will open where you must enter the personal data in the indicated fields and click on send once finished.



You will be able to log out and terminate the connection to the server at any time by selecting "Log out".



2.3 Measurement of ECG and EMG.

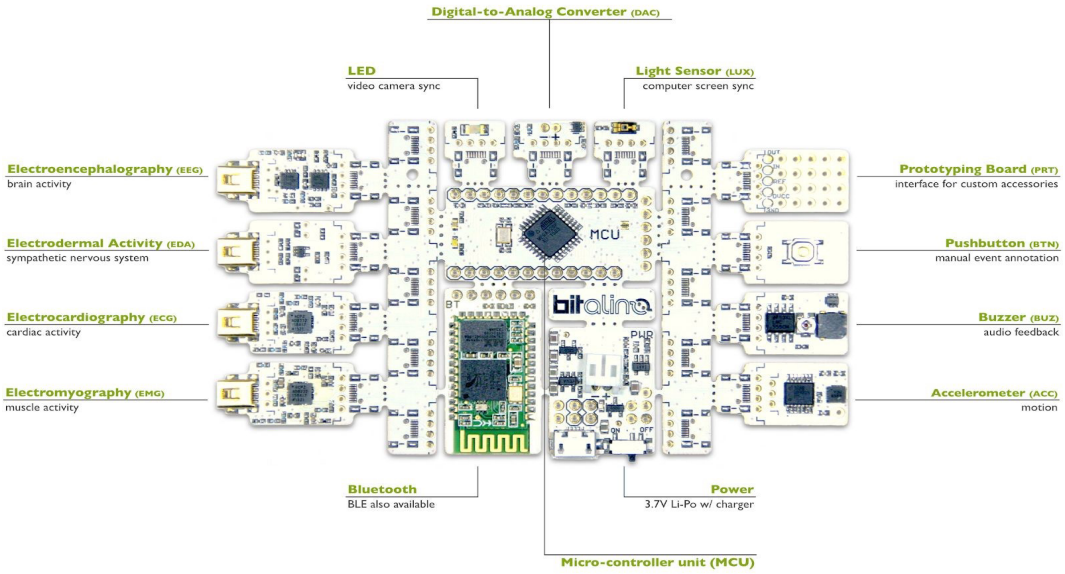
2.3.1 BITalino device connection

Once you have logged in, the main menu appears, here you can start recording your constants and send them to the doctor.

To carry out this action, we must first have a Bitalino device connected and well synchronized to our computer. In the next step we show you how to do that in Windows and Mac.

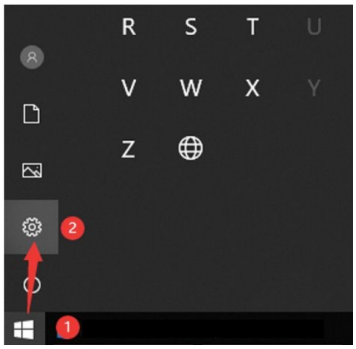
WINDOWS:

Turn on the Bitalino by moving to the left the power button in order to turn it on.

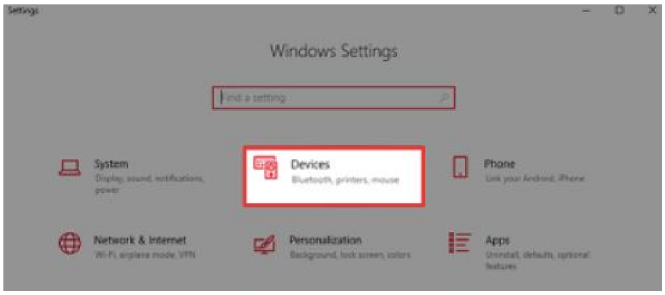


You must connect it via Bluetooth. Follow the next steps.

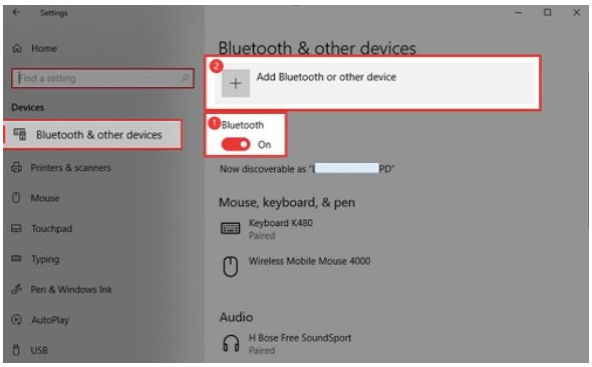
- Click on the Windows icon and select Settings.



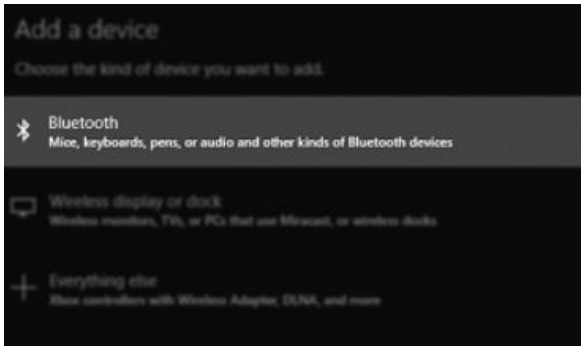
- Select Devices.



- In the opened window, select Bluetooth & other devices, and click on add Bluetooth or other device.



- Select bluetooth

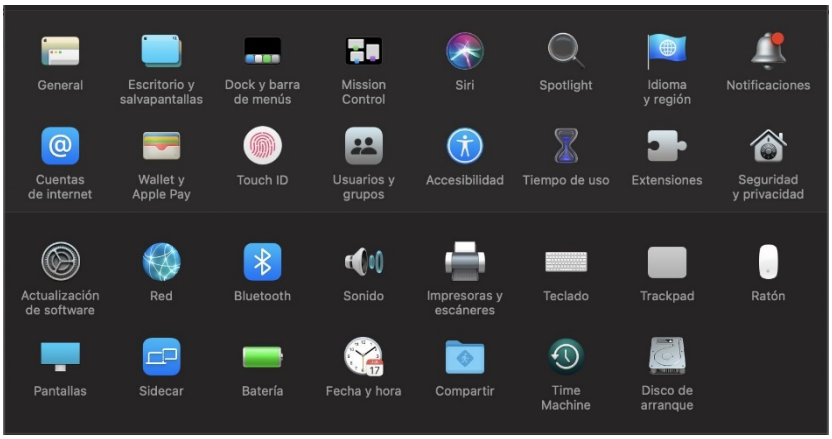


- Wait while the PC scans the Bluetooth devices nearby and find the name of the Bitalino device**.**
- Click on the name of the device. Then click connect.
- And that’s all after that your Bitalino will be connected to your PC and ready to record data.

MAC-OS:

The first two steps, that are to turn on the Bitalino are done the same way for both cases. Later follow these steps

- Click on the Apple symbol at the top left corner of your display and select System Preferences. Then, select Bluetooth.



- In the Bluetooth settings: Select the BITalino in the list of Devices. If it's your first time connecting the device, choose Connect and enter the pin of the device; if you've connected this device before, double-click the device name and click Connect.

2.3.2 Electrodes positioning

To record the signals we also need to connect the electrodes in a proper way.

EMG

It depends on which muscle is needed to obtain the signal, they will be placed differently. You always must follow the instructions given by the Doctor to connect the electrodes. But we will show you the generical way that it is connected usually, using as an example the Biceps.

1. Place the positive and negative electrode directly in the biceps that we want to record the signal.

2. Place the ground electrode on the elbow, or in a remote area that does not present variations, with respect to the area that we want to measure.

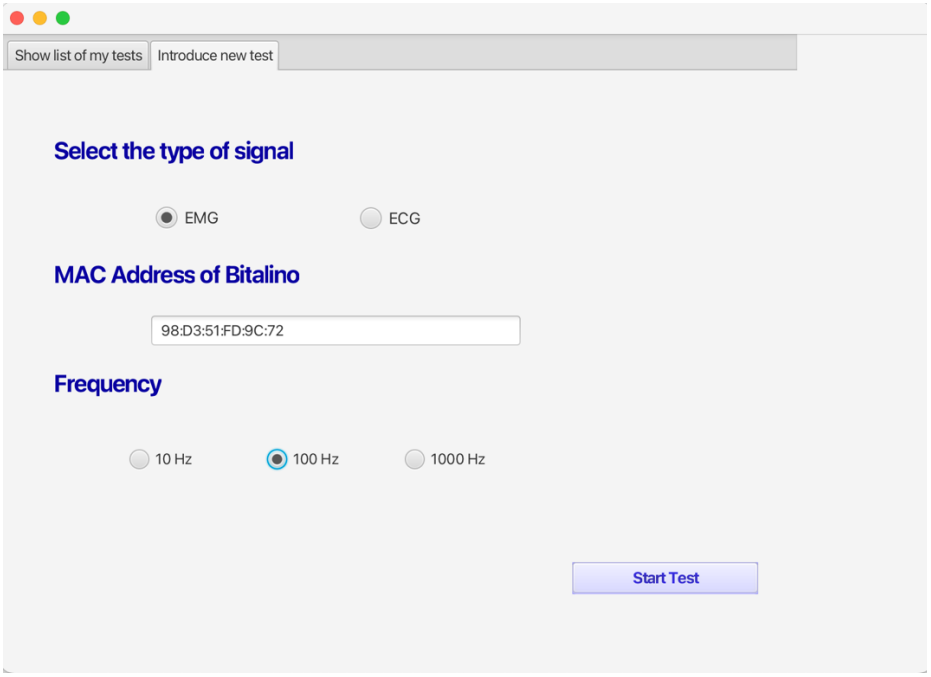
ECG

In case of ECG sampling, we recommend placing the electrodes in the chest area.

1. You will need to place the electrodes arranged triangular so that the reference electrode is placed on top of the other two electrodes. (I is the reference black electrode, J is the red and K is the white one)

2.3.3 Signal acquisition

After completing the previous steps, we are ready for signal acquisition. To do this, you must select "Enter new test" in the upper right tab. Once there, you can specify the type of signal to be recorded and the frequency. The choice of these parameters should be discussed with your doctor to suit your needs as a patient. You'll also need to specify the MAC address of the Bitalino device, which is located on the back of the device.

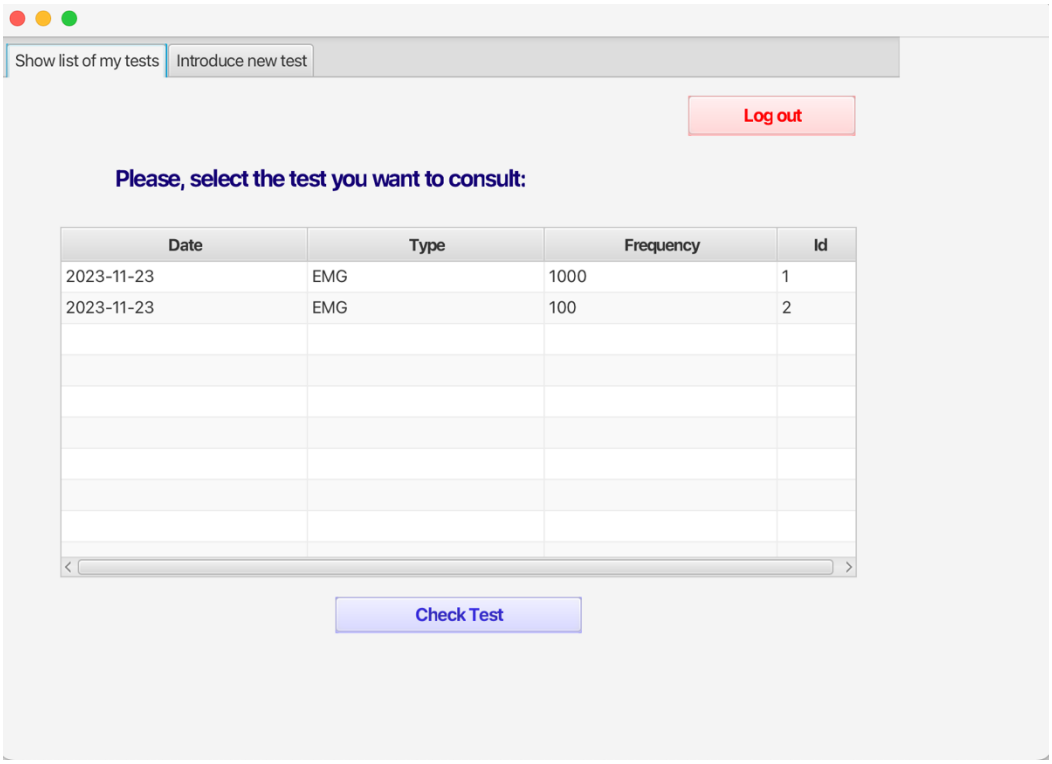


Once you have completed all the fields, you can select "Start test" to start acquiring the signal. The process usually takes no more than a minute and you will be notified when all the data has been collected.

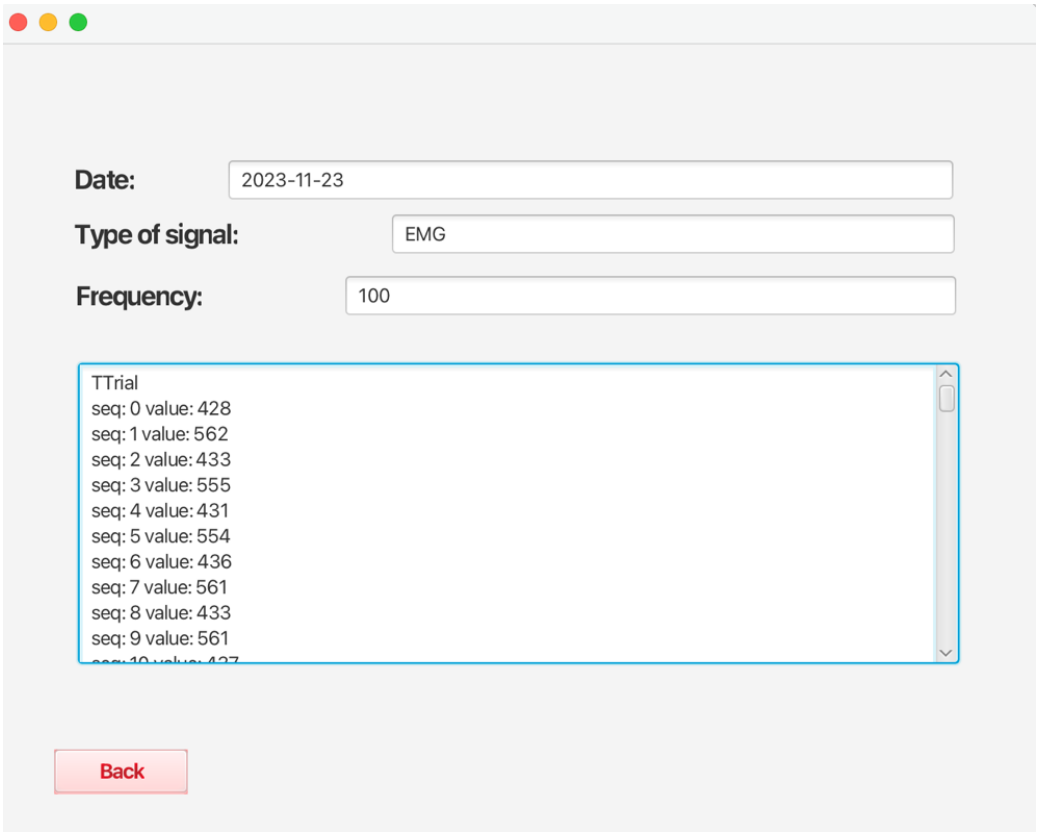
2.3.4 View my tests

As a patient, you will also be able to consult the information of the tests you have carried out to date in the "Show list of my tests" tab.

You will be shown the date of the test, the type of signal collected, the frequency, and the ID.



If you want to consult the specific data collected by the Bitalino, you will only have to check a test from the list and select "Check Test". There you will be shown the values collected for each sequence, in addition to the information previously displayed.



3. Doctors Guide

As doctors we will want to access the application to see the tests that our associated patients have performed. The actions that we can perform inside the app are: Register, log in and Show patients test.

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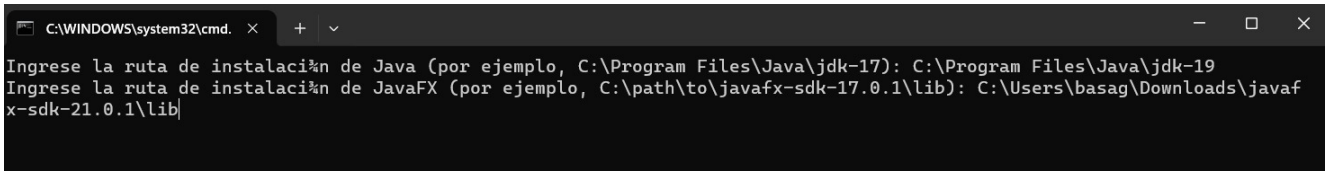

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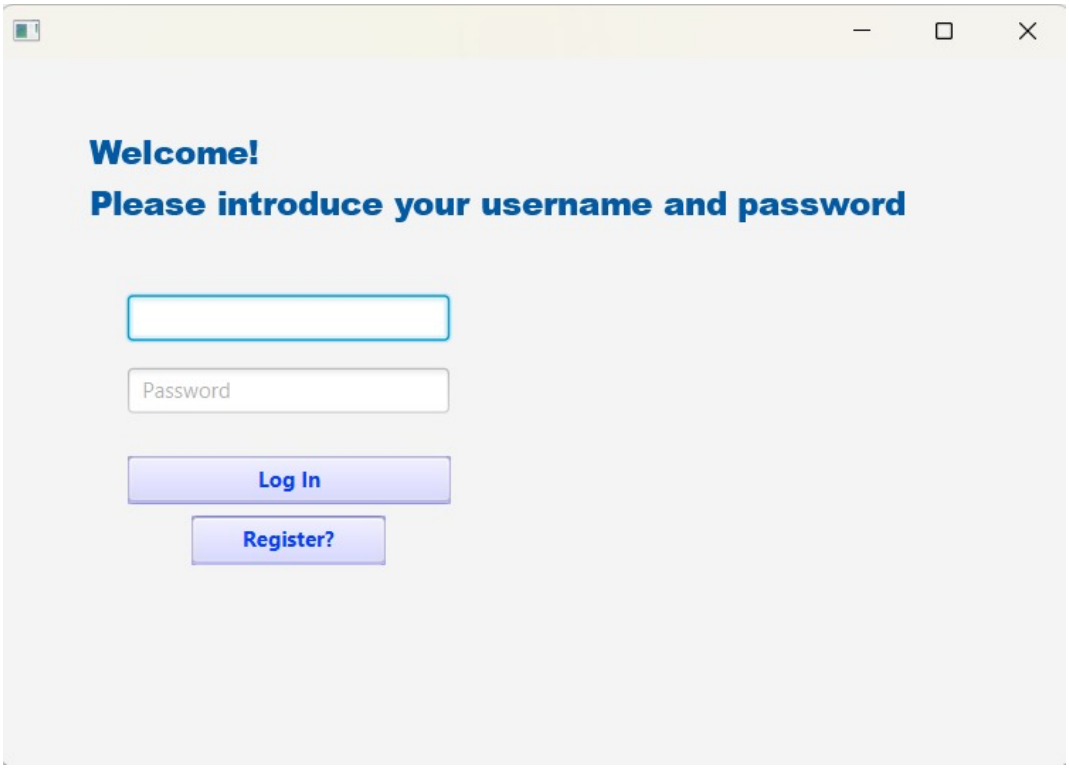

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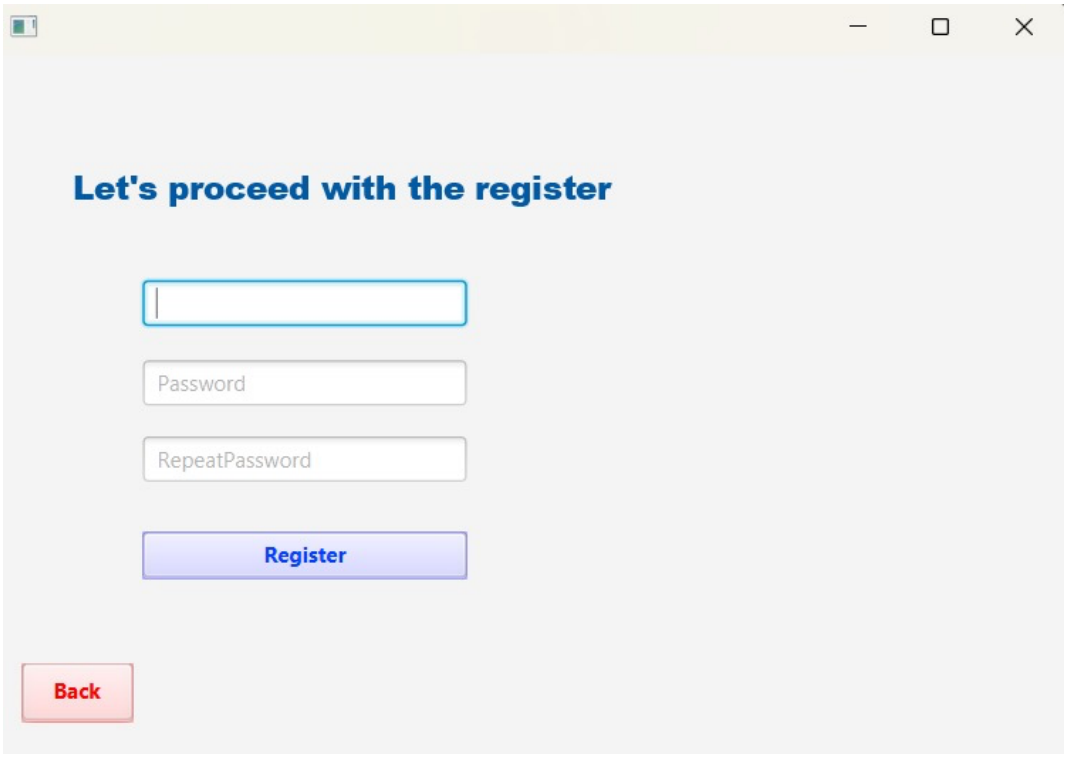

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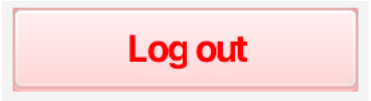
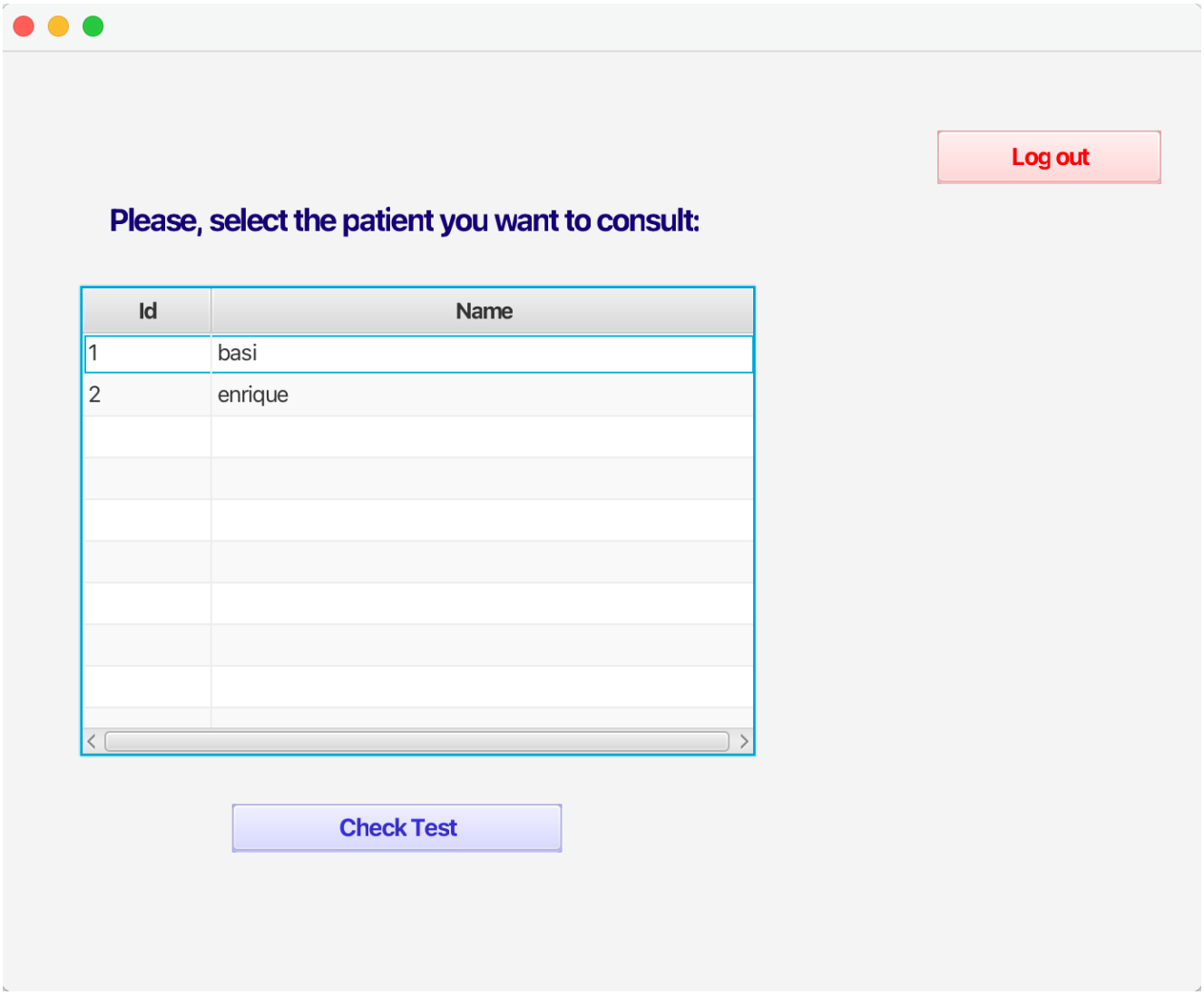
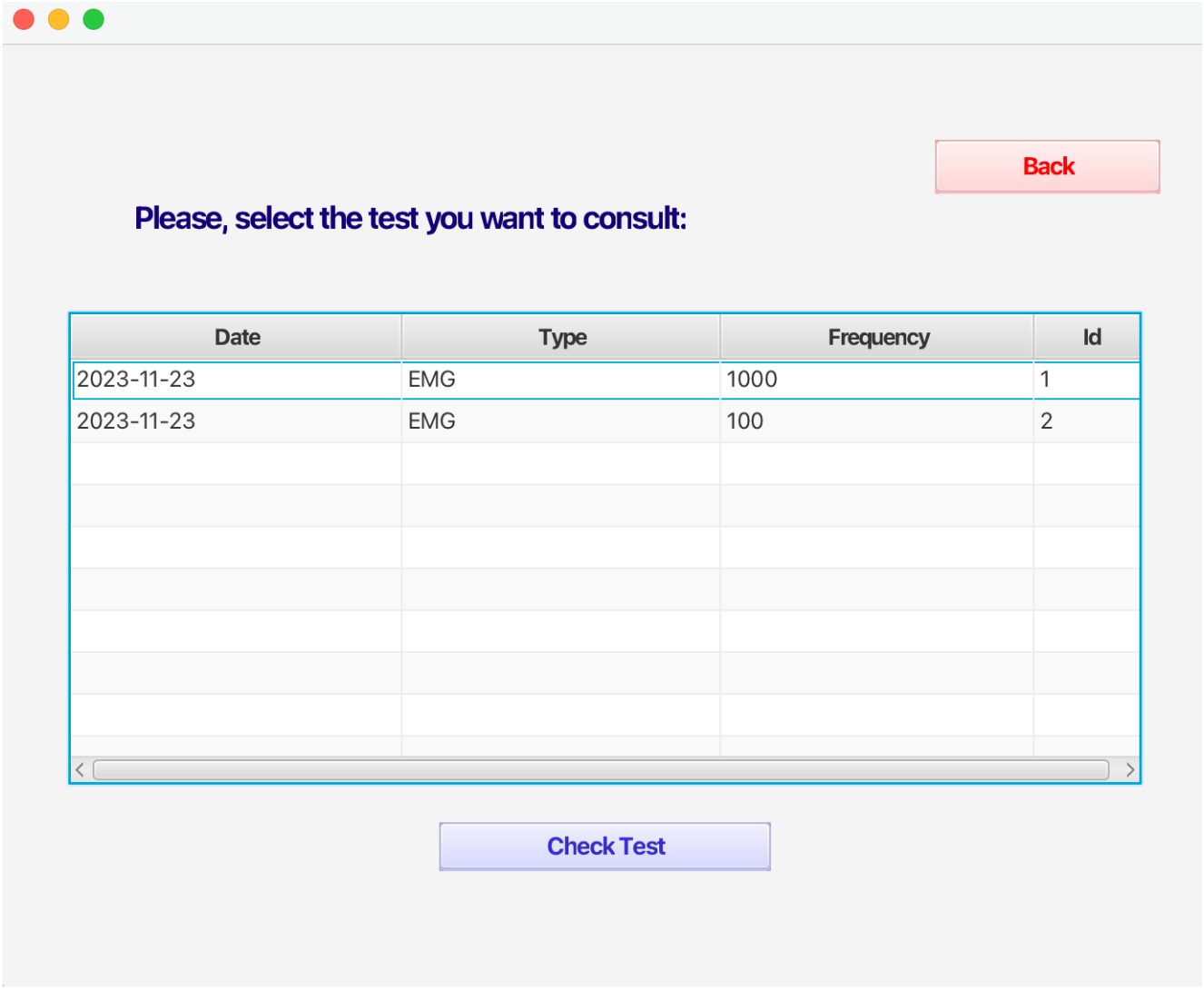


3.3 See Patients Data.

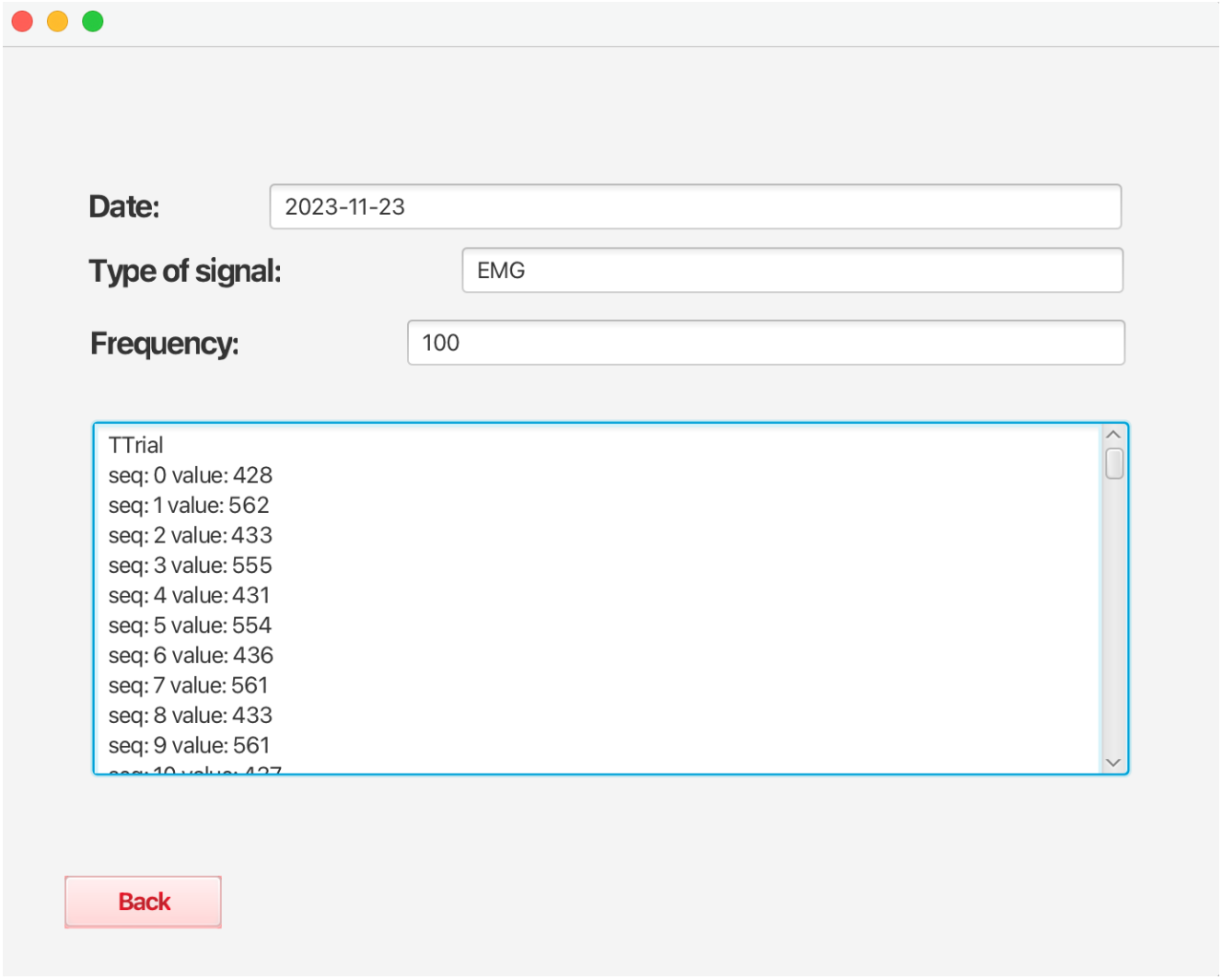
We can access this section once we have entered as a doctor in our application. From here we can see the recordings that our patients have made and monitor them.



To access the tests of each of your patients you will simply have to mark the patient and select "Check Test". You will then be shown all the tests performed by the patient. You will be shown the date of the test, the type of signal collected, the frequency, and the ID.



To evaluate the specific data collected by the Bitalino, you will need to check a test from the list and select "Check Test". There you will be shown the values collected for each sequence, in addition to the information previously displayed.


Date:
2023-11-23
Type of signal:
EMG
Frequency:
100
TTrial
seq: 0 value: 428
seq: 1 value: 562
seq: 2 value: 433
seq: 3 value: 555
seq: 4 value: 431
seq: 5 value: 554
seq: 6 value: 436
seq: 7 value: 561
seq: 8 value: 433
seq: 9 value: 561
Back