Introduction

The aim of this tutorial is to retrieve data sent by a BLE Bluetooth device to a mobile application developed on App inventor.

BLE cannot communicate directly with conventional Bluetooth modules. For our example, we've used a device that integrates a BLE module for Bluetooth, whose characteristics we don't know except that it uses the GATT communication protocol.

To find out more about bluetooth and the GATT protocol, click here:
https://learn.adafruit.com/introduction-to-bluetooth-low-energy/gatt

Install nRFConnect App

https://play.google.com/store/apps/details?id=no.nordicsemi.android.mcp&hl=en_U

Create a ancount on MIT App inventor

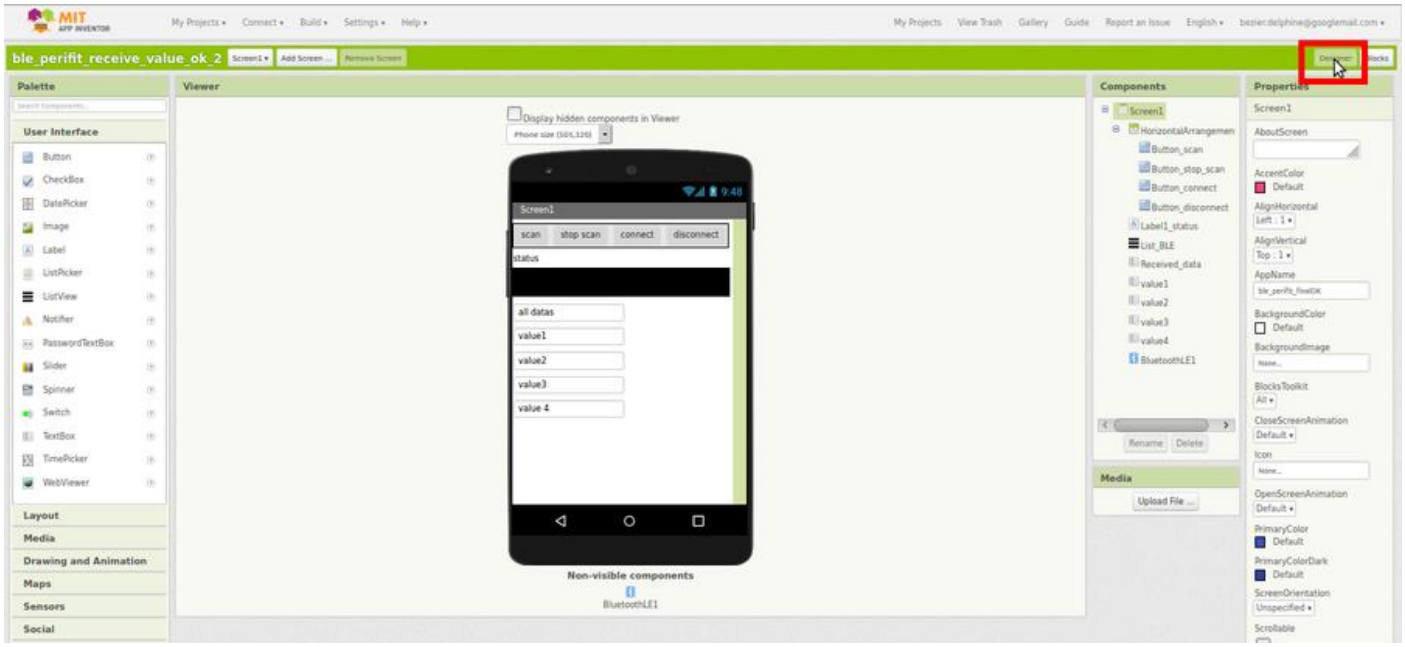
https://ai2.appinventor.mit.edu

Download Bluetooth LE extension

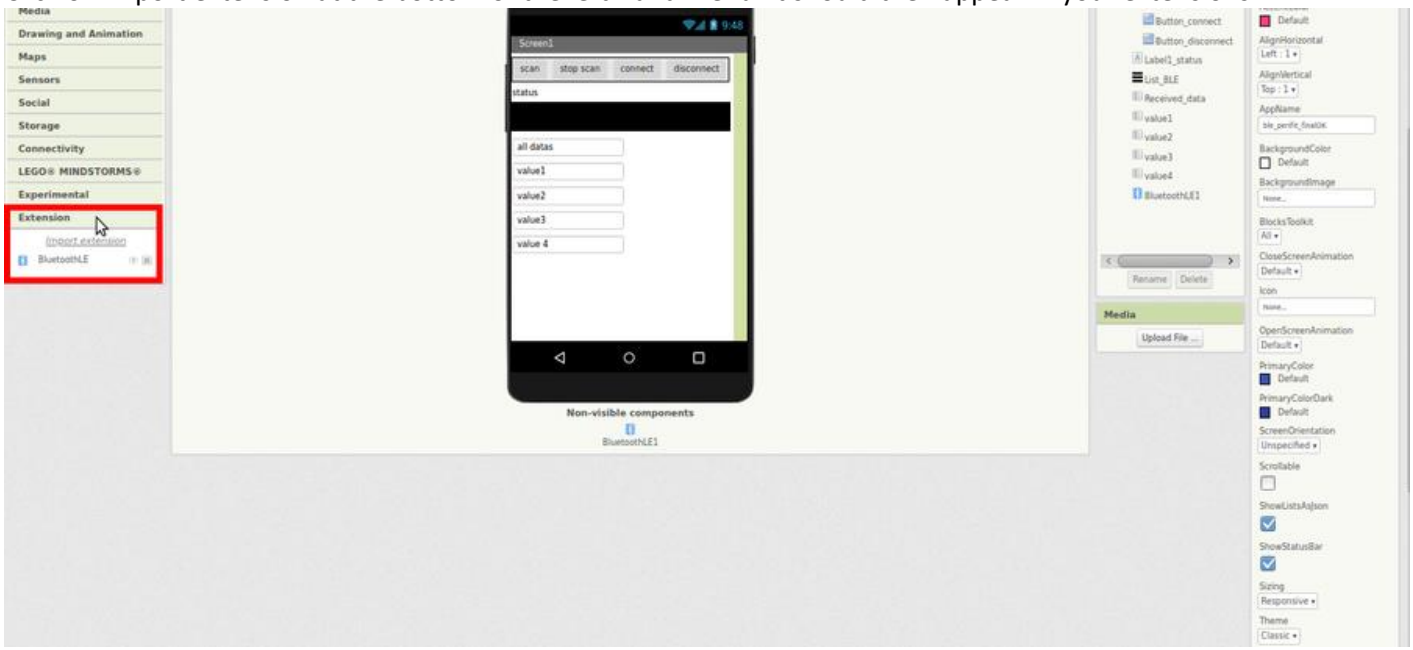
iot.appinventor.mit.edu/assets/resources/edu.mit.appinventor.ble.aix

Import extension into App inventor

Select the “Designer” view at top right



Click on Import extension at the bottom of the left-hand menu. It should then appear in your extensions



Programming the application

Follow this tutorial for the basics of the application, i.e. connecting your app to your BLE device

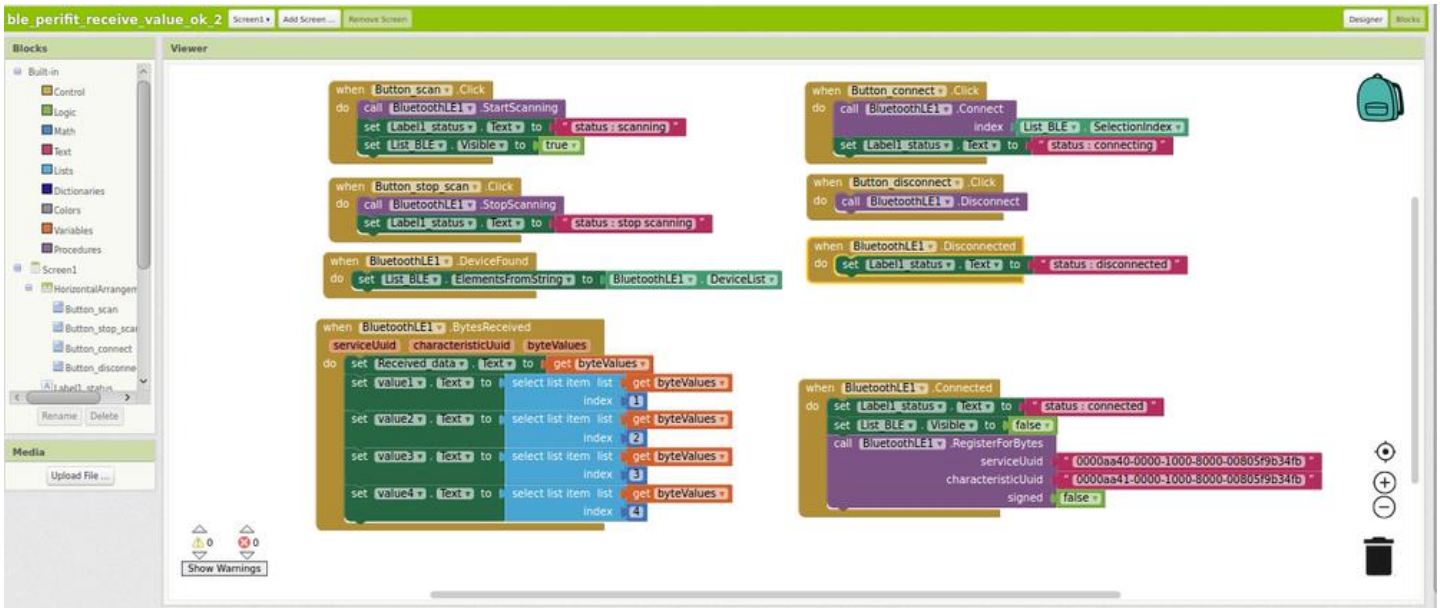
http://iot.appinventor.mit.edu/assets/tutorials/MIT_App_Inventor_Basic_Connection.pdf

Then add the missing elements to retrieve the values sent by the BLE device

In the “Blocks” view, drag four textboxes into your application, renaming them: received_data, value1, value2, value3, value4

Click on Bluetooth LE1 in the left-hand menu to access BLE functions

Adapt the UUID numbers of the corresponding service and feature to your BLE device



Other Examples

https://www.youtube.com/watch?v=UOnW6bUhXQc

https://www.youtube.com/watch?v=YAkjOktFXOo