Unity BITalino SDK

Introduction

This document will help you to understand how work the BITalino SDK and how use it in Unity 3D. It was given with a package of three scenes with different elements inside.

Installation of BITalino

First you need to connect your BITalino on your computer, for this, I invite you to follow this instruction given by BITalino:

http://www.biosignalsplux.com/downloads/bitalino_manual/manual.html

Scenes

Demo

This scene contain the minimum to work with BITalino and display the information.

Graphs

This scene display the data received from the BITalino device on graphics.

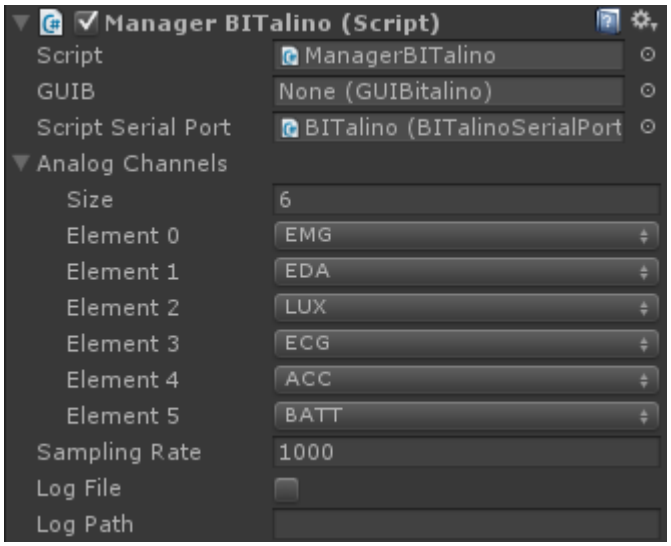
SuperCopter

This scene is a little game who use the light-sensor from the BITalino for move up and down a helicopter to avoid missile. At the start of the game, wait to see “Ready ?” before put your hand above the sensor.

Configuration

The connection with the BITalino is done by the SDK and is managed by three others scripts. This scripts are inside the BITalino object in each scenes.

ManagerBITalino



The ManagerBITalino will contain the information about the BITalino and the functions for connect with the device.

GUIB allow you to add a GUI, an example was given in the Script\BITalino Unity folder.

ScriptSerialPort is a BITalinoSerialPort script who contain the information about the serial connection.

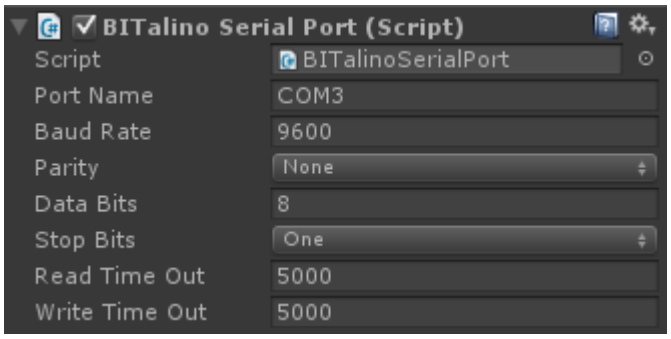
AnalogChannels is the list of the data read on the BITalino.

SamplingRate is the sampling rate of the BITalino (1, 10, 100, 1000Hz, see the manual link in the installation part).

Log File when set to true, save the log information in a file, else write them in the console.

Log Path is the folder path of the log file (By default, your documents).

BITalinoSerialPort



This script contain the information about the serial connection.

Port Name is the name of the com port where was connect the BITalino, you can find it in the proprieties of the BITalino in the “Devices and printer panel”.

Baud Rate set the speed of the connection (let 9600 by default).

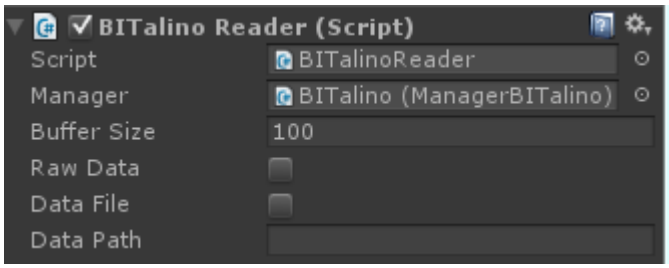
Parity enable the parity check.

Data Bits is the standard length of data bits per byte.

Stop Bits is the number of stopbits.

Read and Write Time Out are the time in milliseconds before the time out.

BITalinoReader



This script starts the connection with the BITalino and reads continuously the data from the BITalino device. The read data are stored in an intern buffer that can be used by other object.

Manager reference to the ManagerBITalino script

Buffer Size is the length of the buffer where will be store the read data.

Raw Data disables the conversion of the data and stores the raw data in the buffer (the conversion was made with the equations post here)

Data File when set to true, saves the data in a CSV file.

Data Path is the folder path of the data file (By default, your documents).