**Disclaimer**

Nightscout should not be used to make medical decisions. There is no support or any warranty of any kind. The quality and performance of the project is with you. This is a project that was created and is supported completely by volunteers. This means that you accept that using this application is at your own risk. Nigthscout developers accept no liability for the consequences of any actions taken on the basis of the information provided. If you are not sure of how to use this application **you must not use it**.

First of all

This uploader is based in "Brownie" release of Dexcom Uploader so this uploader has not the features of "Cookie Monster" release.

Latest Feature

In preferences menu you can change the units from mg/dl (default) to mmol/l.
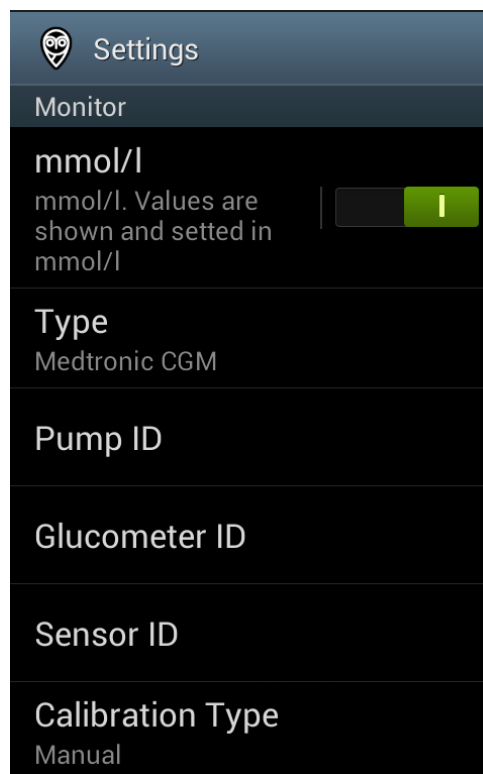
This will change the uploader view, and if you use Manual or Instant. Calibration, data should be setted in the selected units.

Internally mg/dl units are always used, and this uploader only uploads records in mg/dl units.

Install

- **Follow the instructions from the INSTALL.PDF file located in**
  https://github.com/jberian/mmcommader (This is Mandatory)
- Download the apk (https://github.com/arbox0/MedtronicUploader/releases) or
  download the source code and compile your own apk.
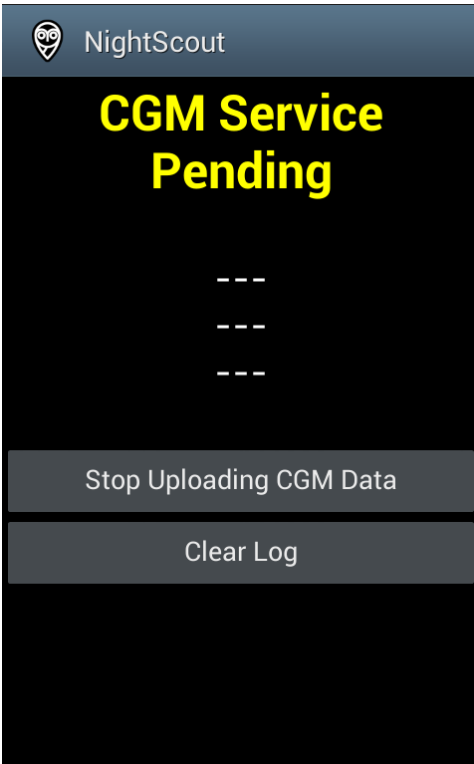- Use your file browser on your phone to install the apk.

Quick Start

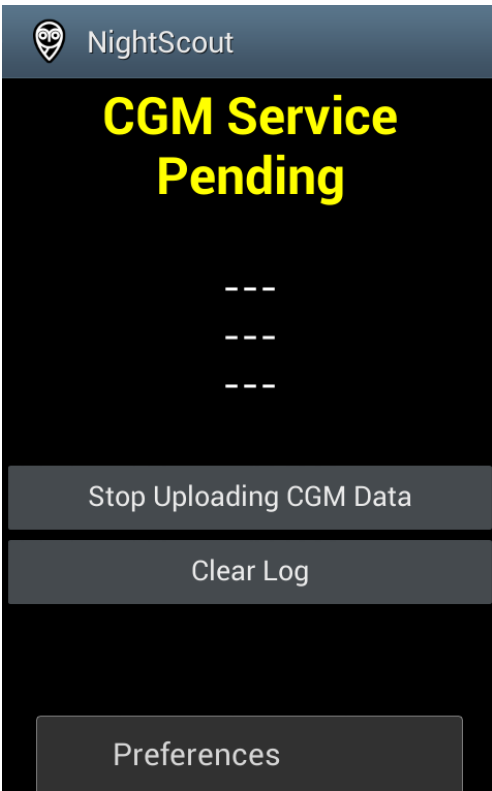The first time that you execute Nightscout you will see this screen:
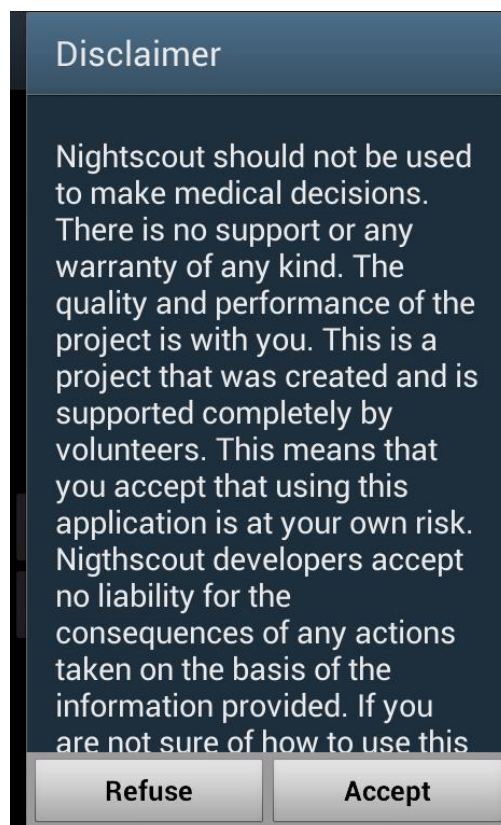
Please read carefully and if you agree, press Accept button, otherwise press Refuse button
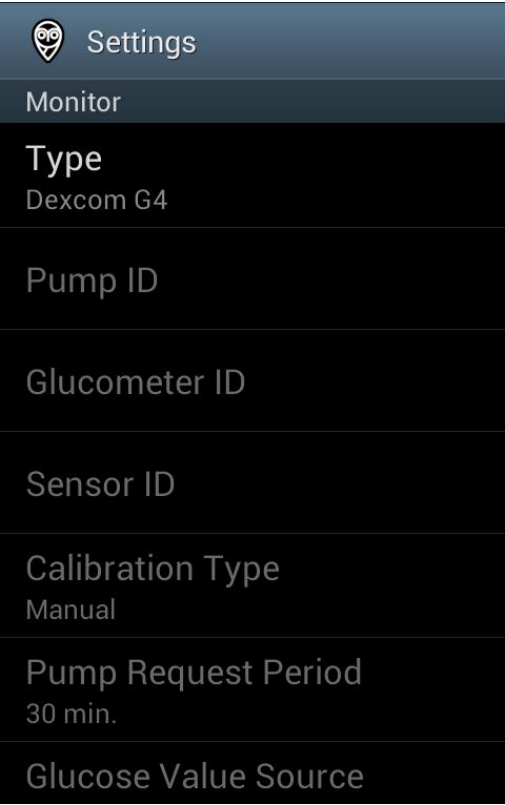(this last option will kill the application).

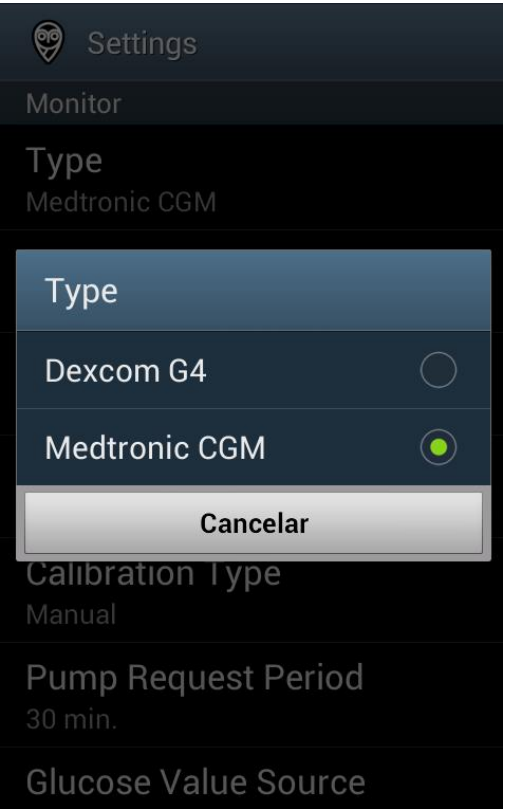If you have accepted then you will see this screen or similar:
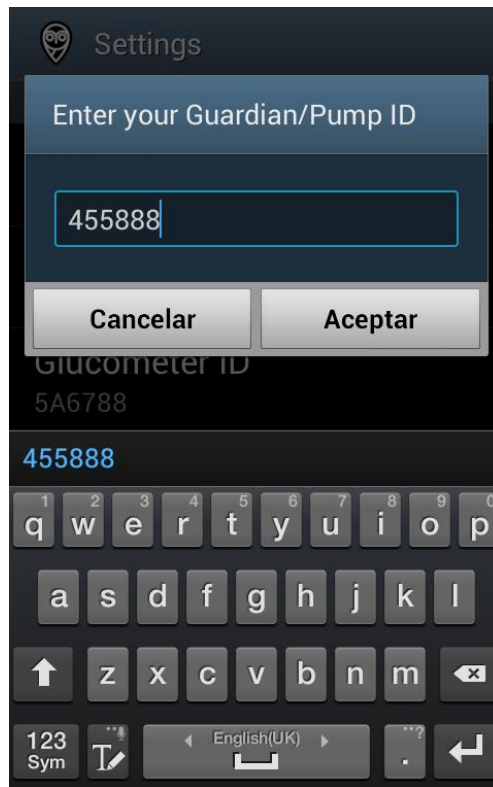

You must open menu and tap on "Preferences":

Now you should see this screen:

Tap on "*Type*" → Select Medtronic Pump Option:

Tap on *Pump ID* →Set your Pump serial number → Tap on Accept .
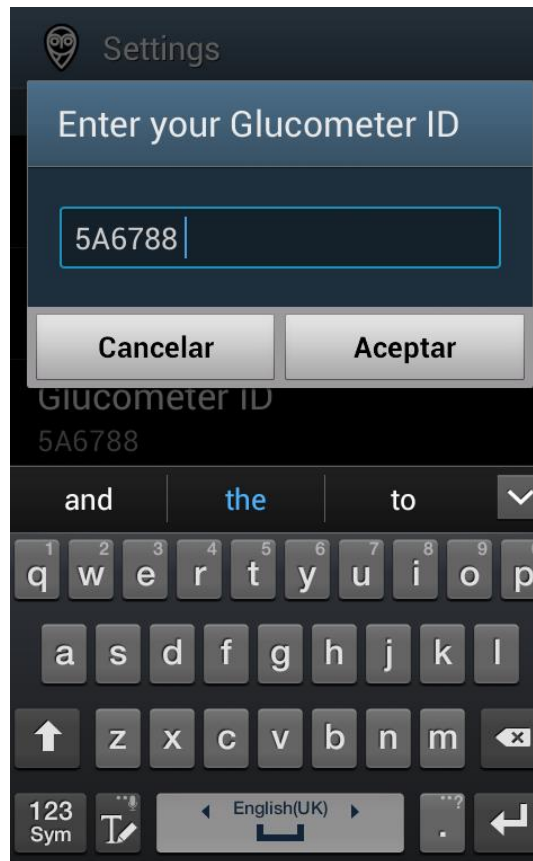

Pump ID must have 6 hexadecimal digits and it is written on the back side of your pump.

The red rectangle on the previous picture should be the 6 hex digits we are looking for…

Tap on *Glucometer ID* →Set your Glucometer serial number → Tap on Accept .
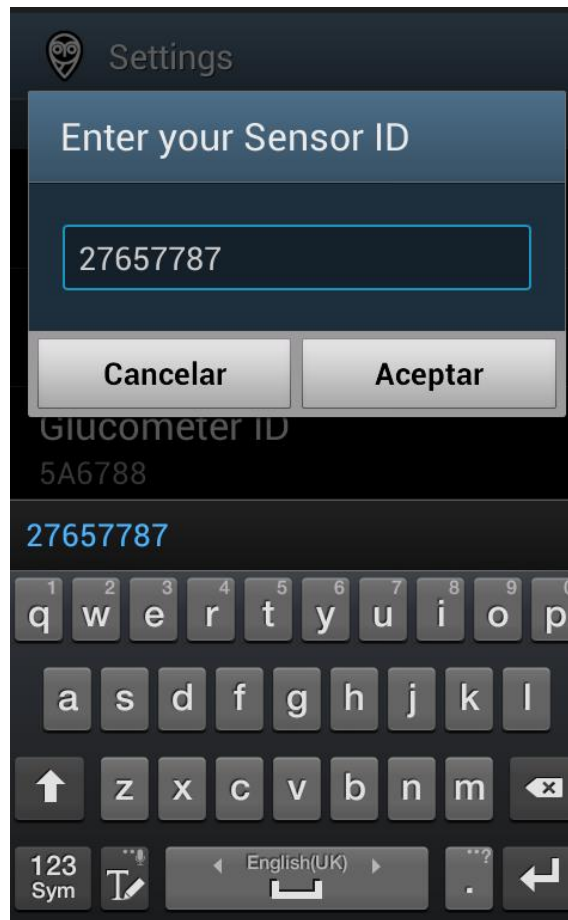

Glucometer ID must have 6 hexadecimal digits and it is written on the back side of your Glucometer.

The red rectangle on the previous picture should be the 6 hex digits we are looking for…

Tap on *Sensor ID* →Set your Sensor serial number → Tap on Accept .

Sensor ID must be a **decimal** Number and it is written on your Sensor just as the next picture shows:


The red rectangle on the previous picture should be number we are looking for…

Tap on *Calibration Type* -> Select your best option:

- Manual (default): see "**Manual Calibration**"
- Medtronic Pump: **Not available with the firmware published**. See "**Medtronic Pump Calibration**"

- Glucometer: You must have a glucometer which sends the values using RF after a measure, and you must have inserted the glucometer ID in "Glucometer ID" preference. See "**Glucometer Calibration**".
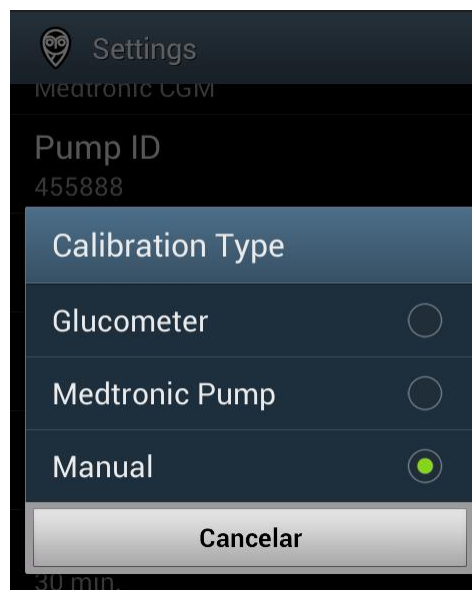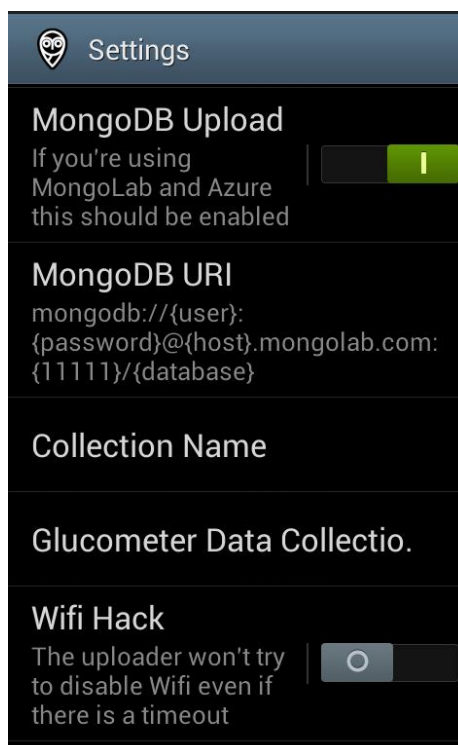

OK!! At this stage you have configured correctly your devices, now we are going to configure "sharing preferences". You should be seeing this screen:
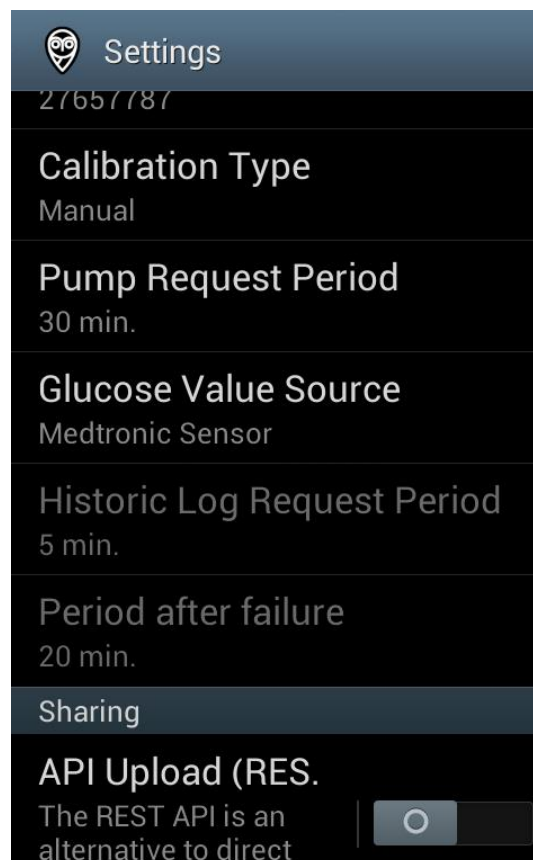
We are NOT going to use REST API, let's try MONGO instead!:
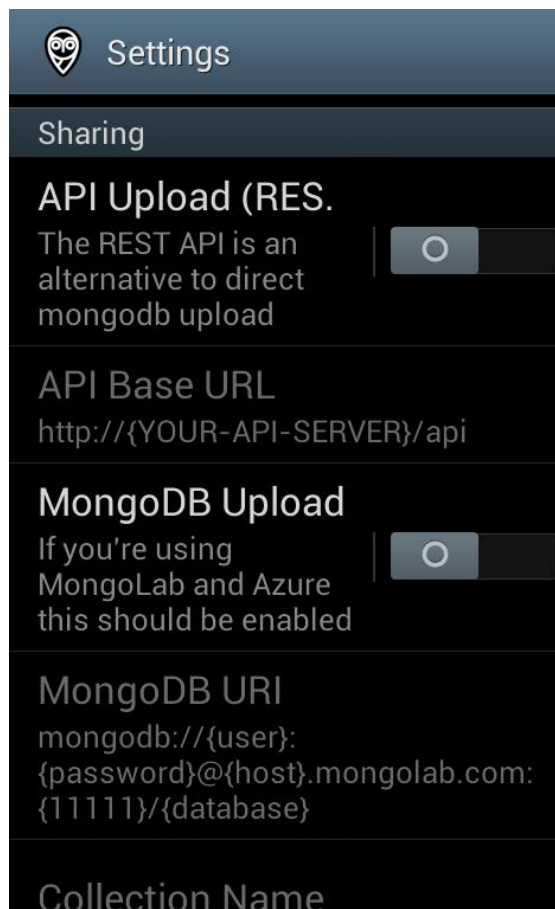
Tap on *MongoDB Upload* → this action enables MongoDB URI (Mandatory), Collection Name (Mandatory), and Glucometer Data Collection (optional).

Tap on *MongoDB URI* →Set the address to your Mongo database. If you don't know what is this, you should check this page http://www.nightscout.info/wiki/welcome/configuring-the-data-backend at the very end of the procedure explained in that webpage you'll get the string that you must set in this preference.

Collection Name. Set the sgv entries collection name in the mongo data base. If you don't know what is this, you should check this page http://www.nightscout.info/wiki/welcome/configuring-the-data-backend during the procedure explained in that webpage you'll create the collection which name you must set in this preference.

Glucometer Data Collection.(NOT RECOMMENDED) This is an optional field, and right now you can do almost nothing with it. It uploads the glucometer records detected by the uploader. If you want to use this feature, you must create a new collection in your mongodb, set the name of this collection in this preference, and you must have selected glucometer on "calibration type" preference.
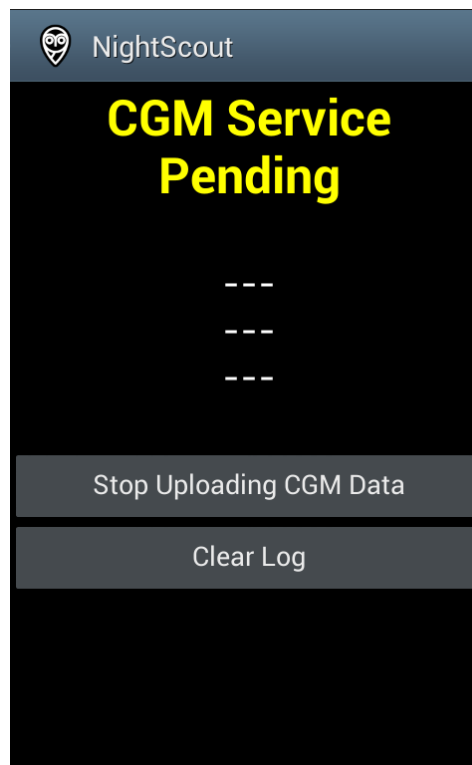
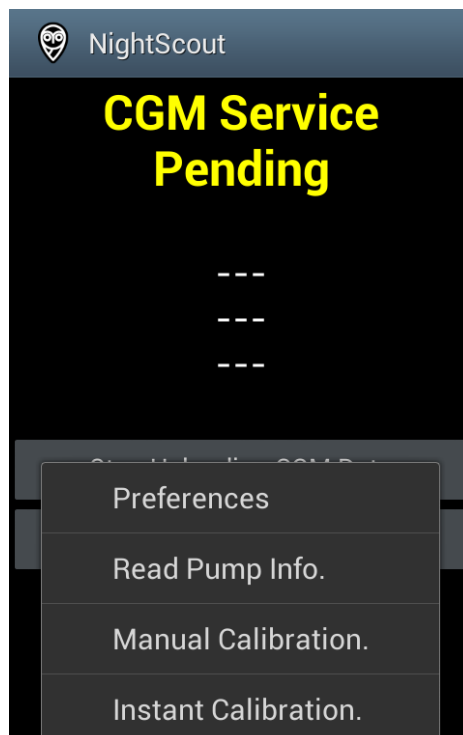Well…we are almost at the end of the "Quick" Configuration, finally you must accept the disclaimer!!:
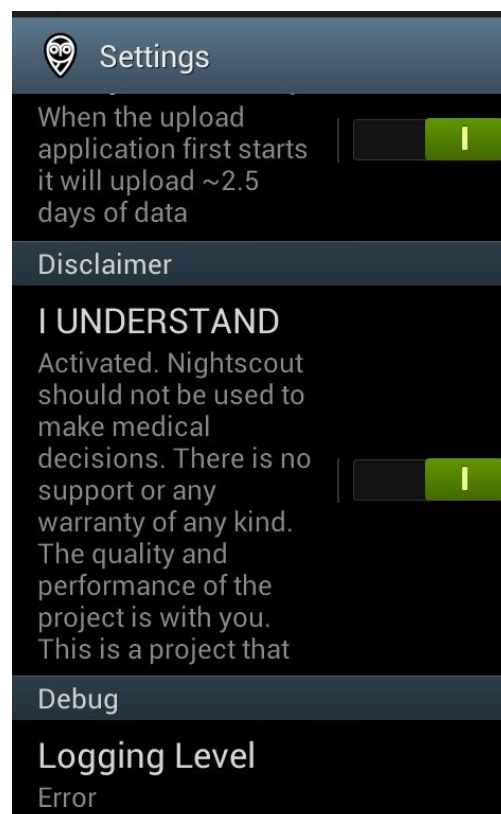
Disclaimer (I Understand).

1. **On**. You must accept to activate the uploader services.
2. **Off**. The uploader is turned off.

Well done!! Now, return to the uploader main page you should see:

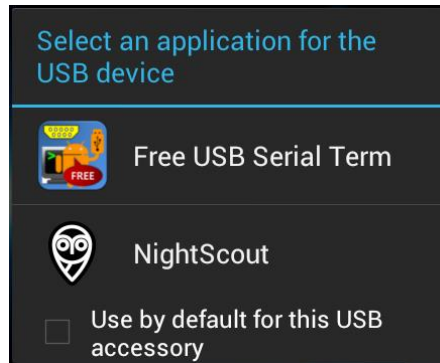If you show the menu, should see something like this:

Read Pump Info. This is not available with the firmware version release. It is used to request the pump for the sensor ID, the glucometer ID, and some additional info like the insulin left or the calibration factor.
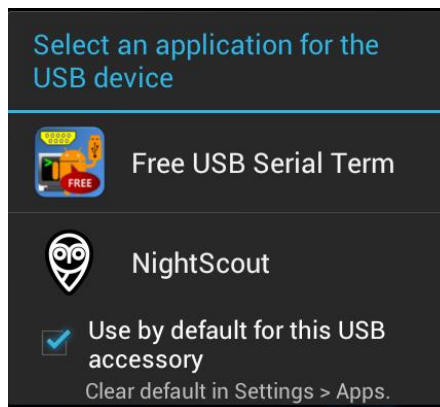
Manual Calibration. See "**Manual Calibration**".
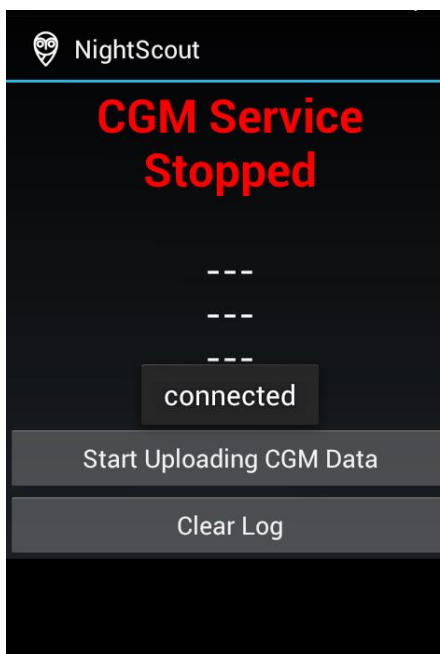
Instant Calibration. See "**Instant Calibration**".

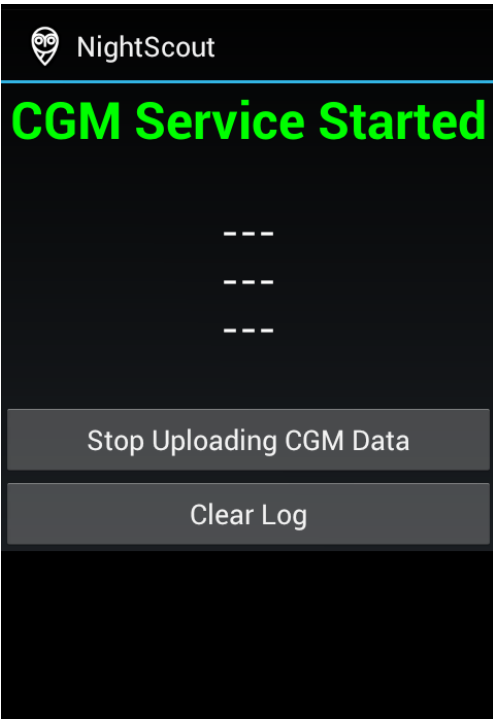Attach the MMCommander to the USB, you should see something like this:
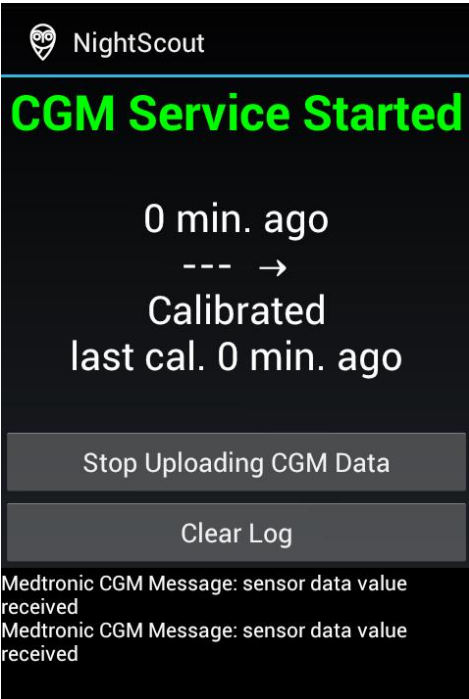

Tap On "Use by default for this USB accessory":

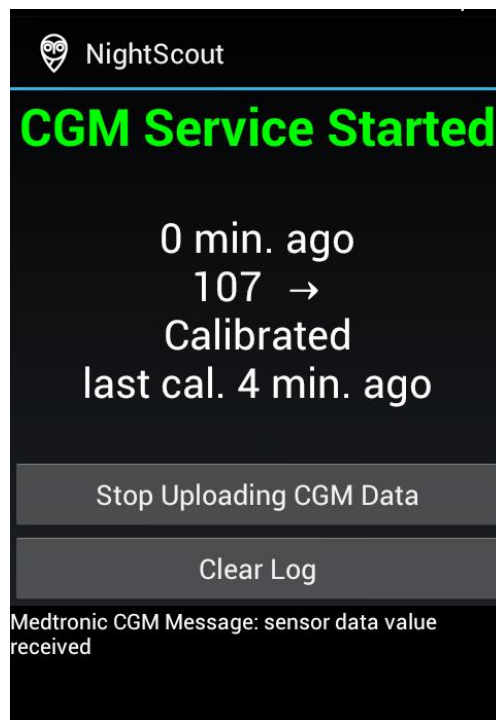Tap On "NightScout"→ You should see something like this:

After a while it should be like this:

Calibrate using the method selected:

Wait the next sensor value, until you see something like this:

It is done!!! Check your Mongo DB and your Azure Web page…. It should work now!!!
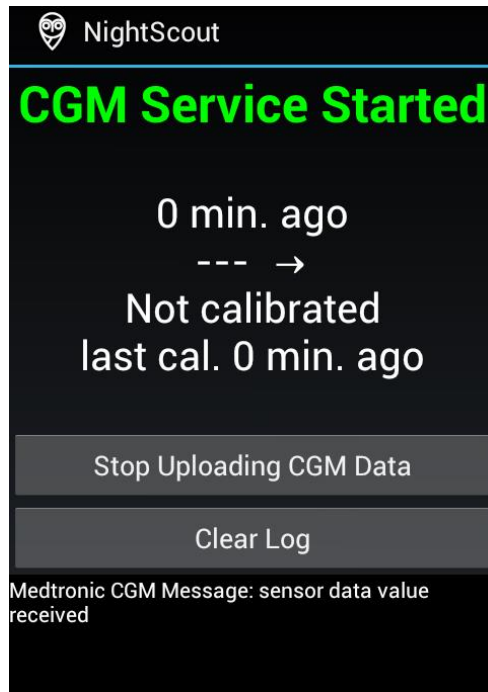
Manual Calibration

The uploader expects a finger reading to match it to the sensor's reading 15 minutes after.
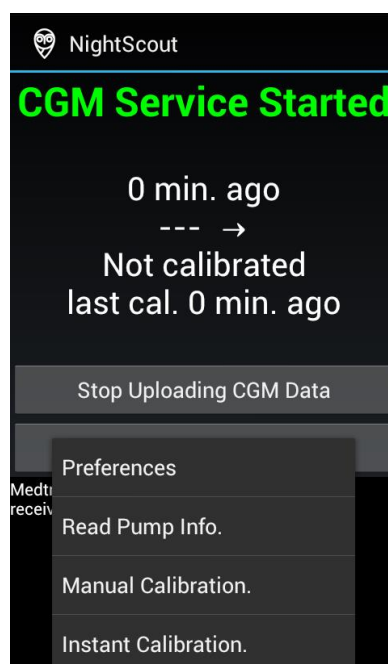
The process should be the following.

1- You have selected "Manual" on "calibration type" preference.
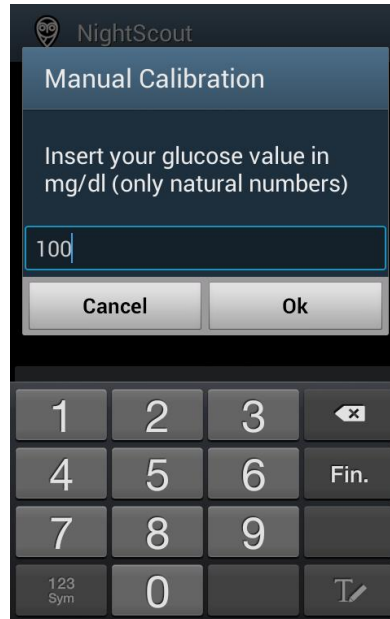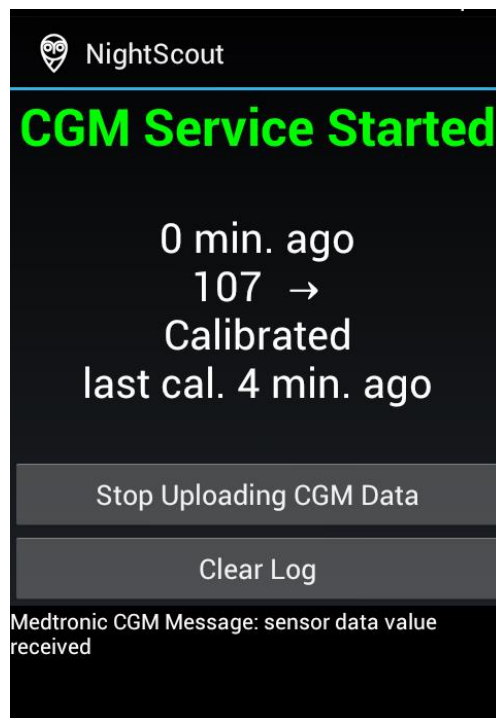2- You have this screen in your uploader:
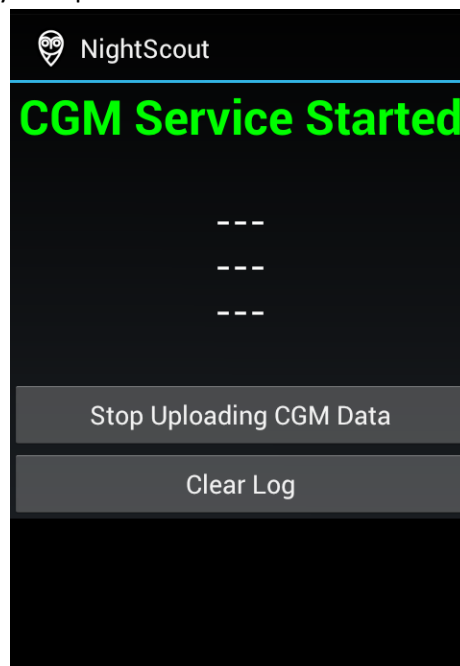
Or this one:

3- Show the menu

4- Tap On Manual Calibration → Set the value of your finger reading.

5- After 15 Minutes you should see:

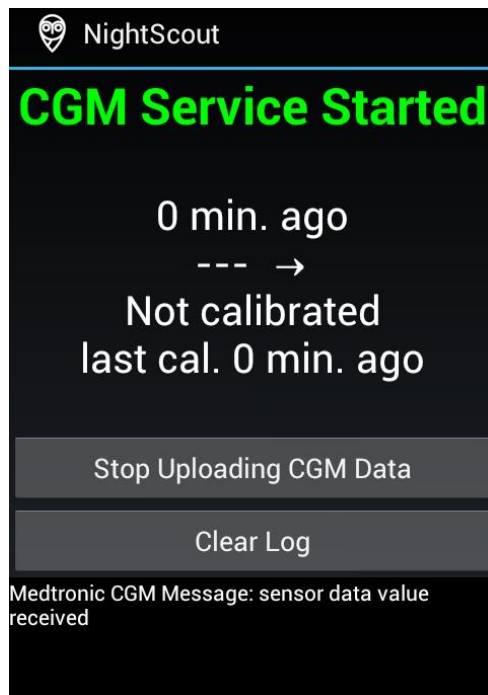**Instant Calibration**

The uploader expects the sensor reading displayed at that moment on the pump's display to match the last received sensor reading to that glucose value. **(It must have recorded at least one sensor data value)**
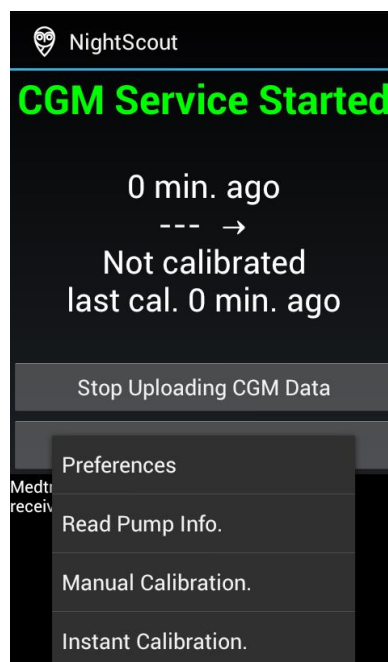
The process should be the following.

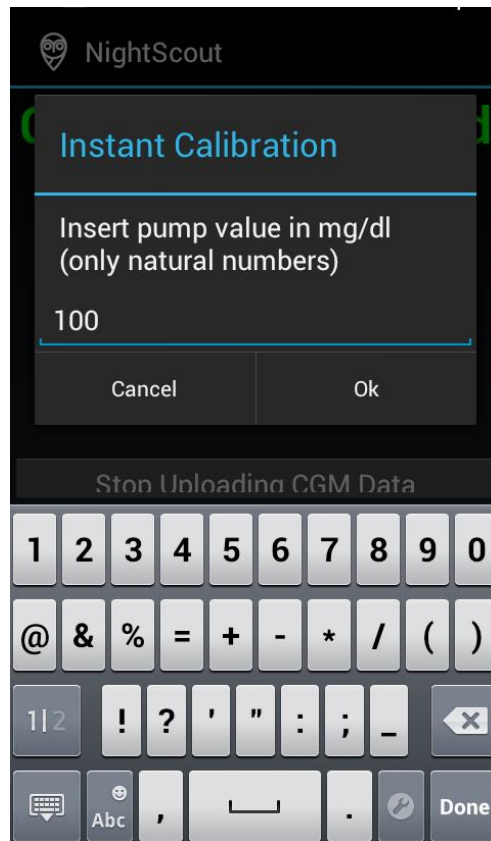1- You have selected "Manual" on "calibration type" preference.
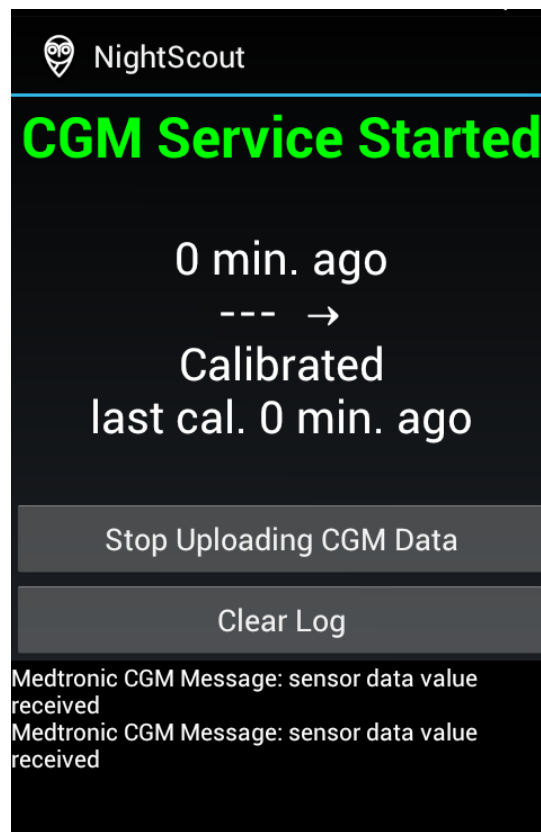
2- You have this screen in your uploader:

3- Show the menu

4- Tap On Instant Calibration → Set the value of your finger reading.

5- Now you should see something like this:

6- After a while, when the first "post calibration" sensor value data is received:

Medtronic Pump Calibration

The uploader retrieves the calibration factor from the pump. **To use this option you must have compiled your own firmware version from (https://github.com/jberian/mmcommader)**

The process should be the following.

1- You have selected "Medtronic Pump" on "calibration type" preference.
2- You have this screen in your uploader:
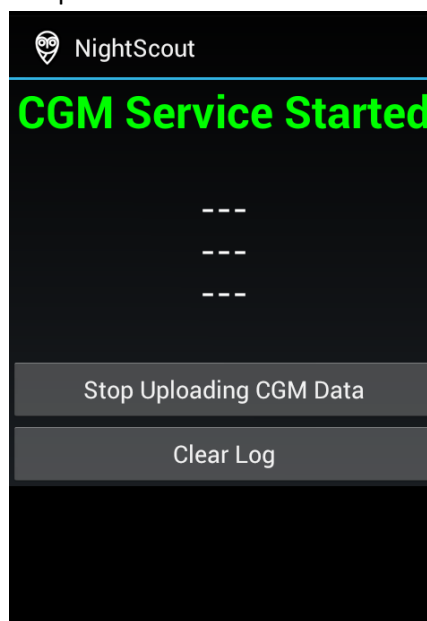
Or this one:
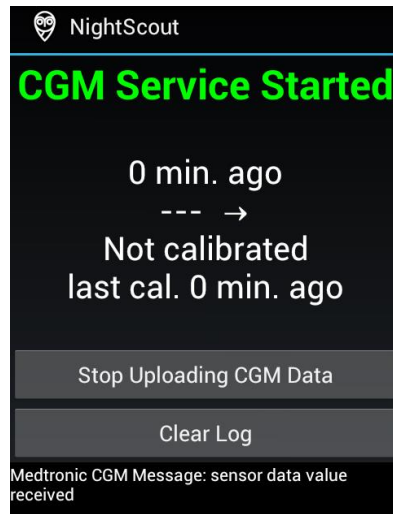
3- You must do a finger reading and wait more or less 15 minutes (the pump is calculating its new calibration factor along this time).

4- Show the menu:
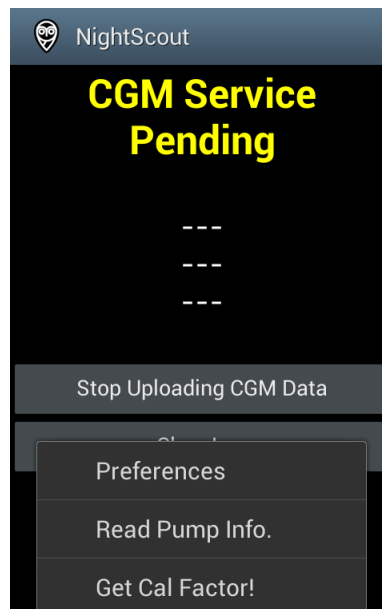
5- Tap On Get Cal Factor!... and after a while:

Glucometer Calibration

The uploader expects a finger reading to match it to the sensor's reading 15 minutes after.

The process should be the following.

1- You have selected "Glucometer" on "calibration type" preference.
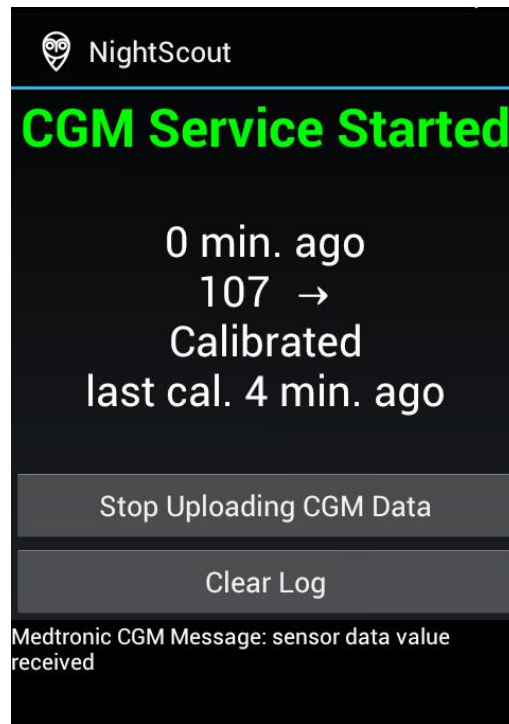2- You have this screen in your uploader:
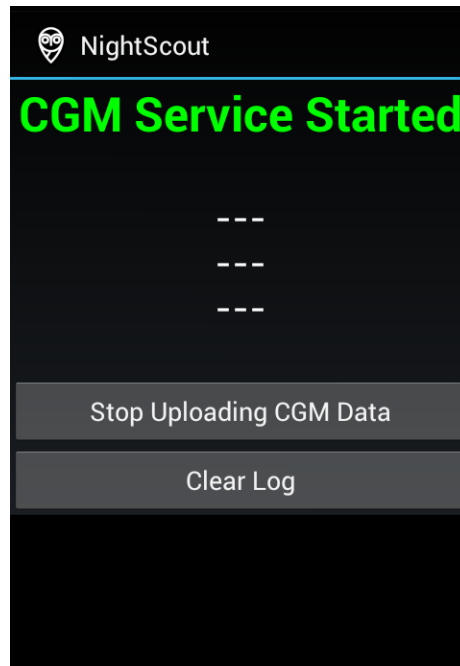
Or this one:
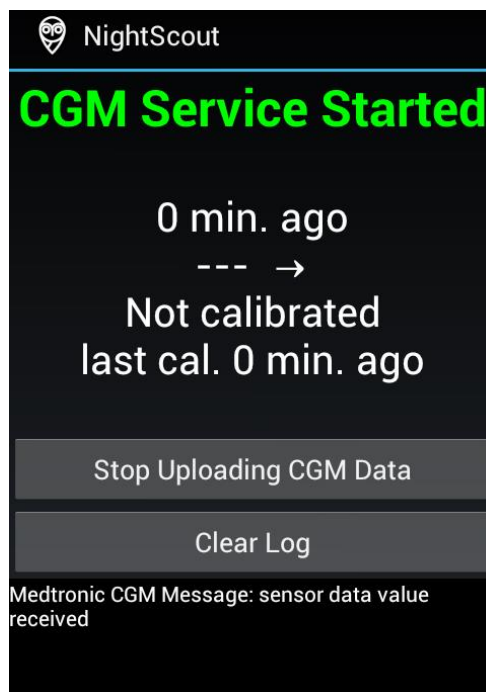
3- You must do a finger reading and wait more or less 15 minutes (the uploader is waiting to receive over 3 sensor values to calculate the new calibration factor along this time)

4- Finally you get this!!
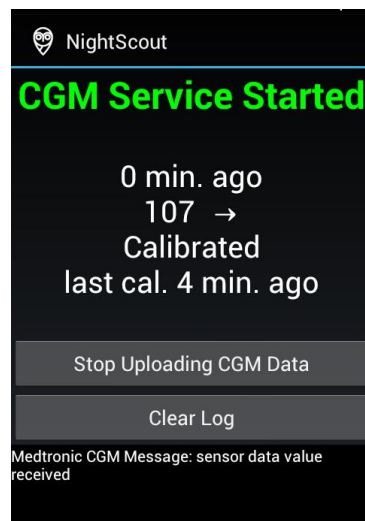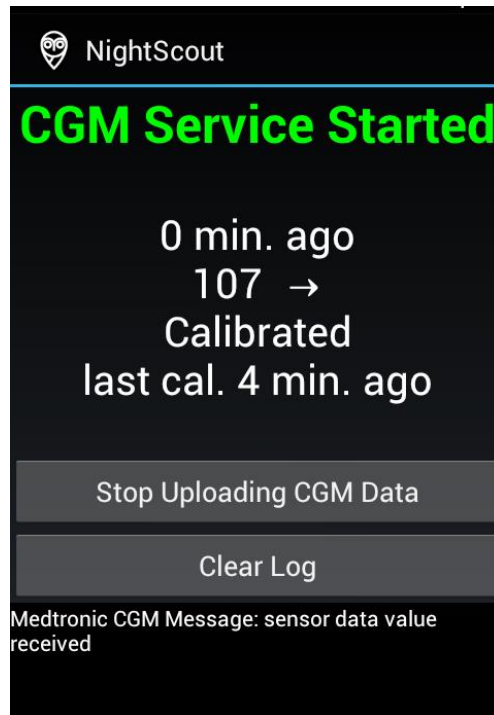

Advanced Features

To use these options you must have compiled your own firmware version from (https://github.com/jberian/mmcommader). Now you can communicate directly with the pump, then you can use this features.

On Preferences menu:

Pump Request Period. This preference allows the user configure the time which the uploader will wait between one request and the following.

Glucose Value Source. This preference allows the user configure the source of the Glucose values:

- Medtronic Sensor (default). It is a "stealth mode" the uploader only listens to the sensor to get the glucose values.
- Medtronic Pump. It request directly the pump for the last historic log page to get the last value. It ignores the sensor. (**NOT RECOMMENDED**). This mode can cause battery drain to the pump and conflicts between the pump and the sensor.
- Both (Sensor + Pump). It works like Medtronic Sensor option "by default" but if there is a lack of values along a time defined by the user on "Period After Failure" preference, then the uploader tries to get the data from the pump. It is better than the "Medtronic Pump" option, but only "Medtronic Sensor" option is recommended.

Historic Log Request Period. This option is only enabled if "Medtronic Pump" option is selected in Glucose Value Source. This option allows the user to configure the time between one historic page request and the following.

Period After Failure. This option is only enabled if "Both" option is selected in Glucose Value Source. This option allows the user to configure the time without receiving any sensor value to trigger the read of the pump historic log.

Developer and Debug feature

Logging Level. This application creates a log file called "MedtronicFile.log", which is used by developers. You can configure the detail of the logs.

- Error. (by default)
- Debug. Debug logging messages.
- Info. Info logging messages.