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SMARTwobble

User Manual

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Hardware Requirements

The SMARTwobble board comes with all the hardware that you will need to use the product.

In the box

- The wobbleboard itself,
- A 9v mains charger. Only the provided charger should be used to recharge the SMARTwobble,
- A Bluetooth dongle. This is a standard Bluetooth radio that allows a PC to communicate with the SMARTwobble board. Other Bluetooth dongles may be used, or the built in Bluetooth capability of some laptops.

PC Requirements

Minimum (recommended in brackets)

- Windows 7 SP1 / Vista SP2 / XP SP3 (Windows 7 SP1),
- 1GHz Processor (1 GHz),
- 1 GB available system memory (1 GB),
- 16 GB hard disc space (16 GB),
- 128MB video card (256MB),
- Bluetooth capability using Microsoft Bluetooth software. A Bluetooth dongle is provided,
- USB port, required for the provided Bluetooth dongle,
- Internet connection, for initial software download only.

Setup

Hardware

Charge the SMARTwobble board using the provided mains charger. It can take up to 3 hours to charge, a full charge will run the board for approximately 8 hours.

Software

Download and install the SMARTwobble software from the website
<http://www.THETAmetrix.co.uk/site/downloads/software-and-manuals>

Setting up the Bluetooth Dongle

Windows XP Service Pack 3 and all versions of Windows Vista / 7 are Bluetooth capable.

If you already have a Bluetooth dongle installed on your computer (built-in or USB), you should be able to skip this section.

If this is the first time you have used a Bluetooth dongle with your computer, and the computer has no built-in Bluetooth dongle, we recommend that the standard Bluetooth dongle, shipped with the SMARTwobble board, is used. Plug the Bluetooth dongle into a USB port and after a few minutes, a notification should appear in the bottom right of your screen, indicating that the Bluetooth dongle is installed and working.

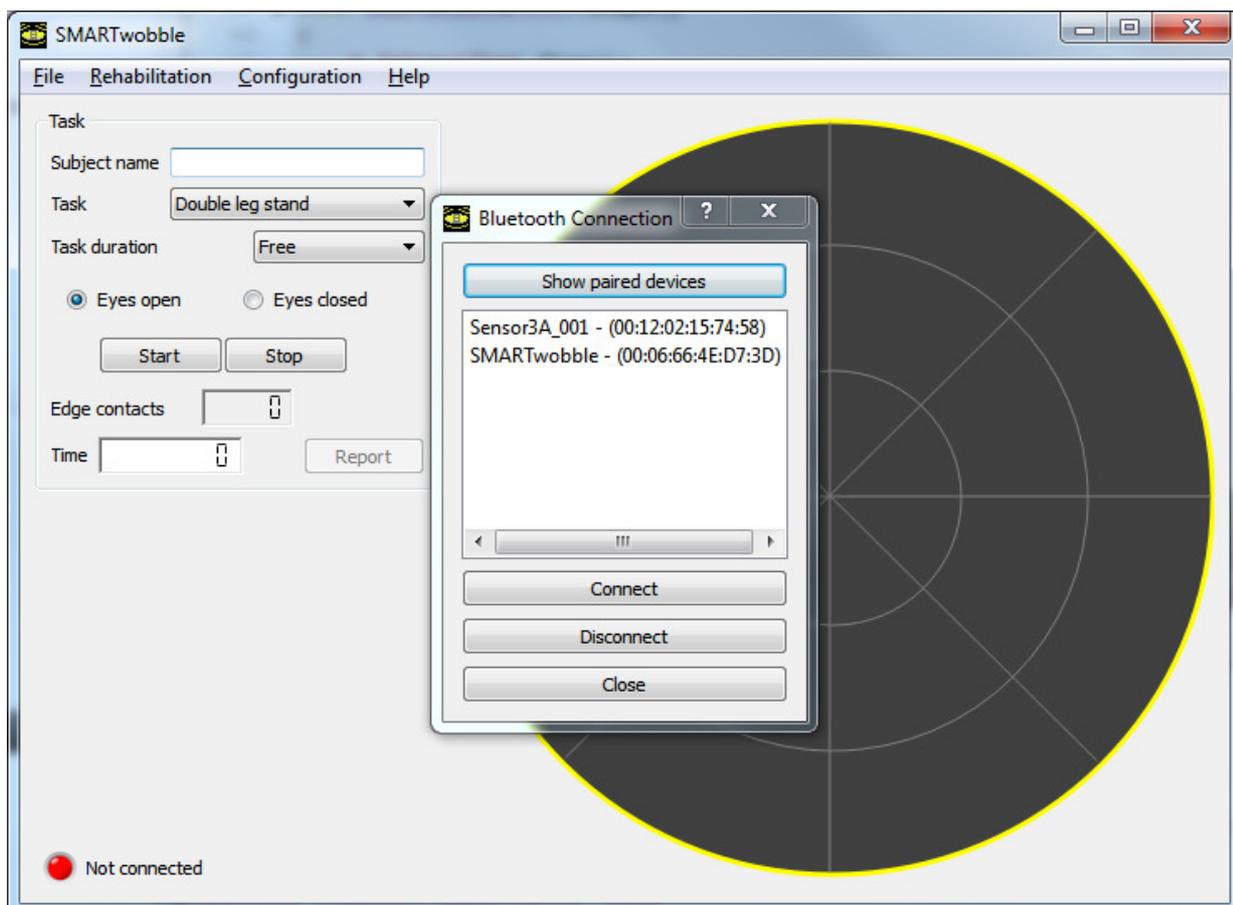
In case of problems, it may be necessary to consult Microsoft support.

Pairing the SMARTwobble board

- As with all Bluetooth devices, the SMARTwobble board must be **'paired'** before use.
- Make sure that the SMARTwobble board is switched on before initiating pairing.
- Access Control Panel, and select **'Bluetooth Devices'**, or right-click on the Bluetooth icon in the System Tray.
- Select **'Add'**, and follow the instructions to **'Add the Bluetooth Device'**.
- The SMARTwobble board will show as a device called **'SMARTwobble'**.
- The pairing code, (sometimes called a PIN or passcode) is **'1234'**. With Windows XP, you are offered a choice in pairing modes. Select the option to **'Use the passkey found in the documentation'**.
- Once the SMARTwobble is paired and shows up in the Control Panel Bluetooth Devices section, it is ready for use.

SMARTwobble Software

Once launched the main screen will be seen, along with the Bluetooth connection dialog:



Check that the SMARTwobble board is switched on.

Select the SMARTwobble device – if you have more than one SMARTwobble board, you can identify the wobbleboard using the mac address which appears in the list and is printed on a label on the bottom of the wobbleboard. Press **'Connect'** to connect to the board. If the wobbleboard is not switched on, it will fail to connect and a warning dialog will appear.

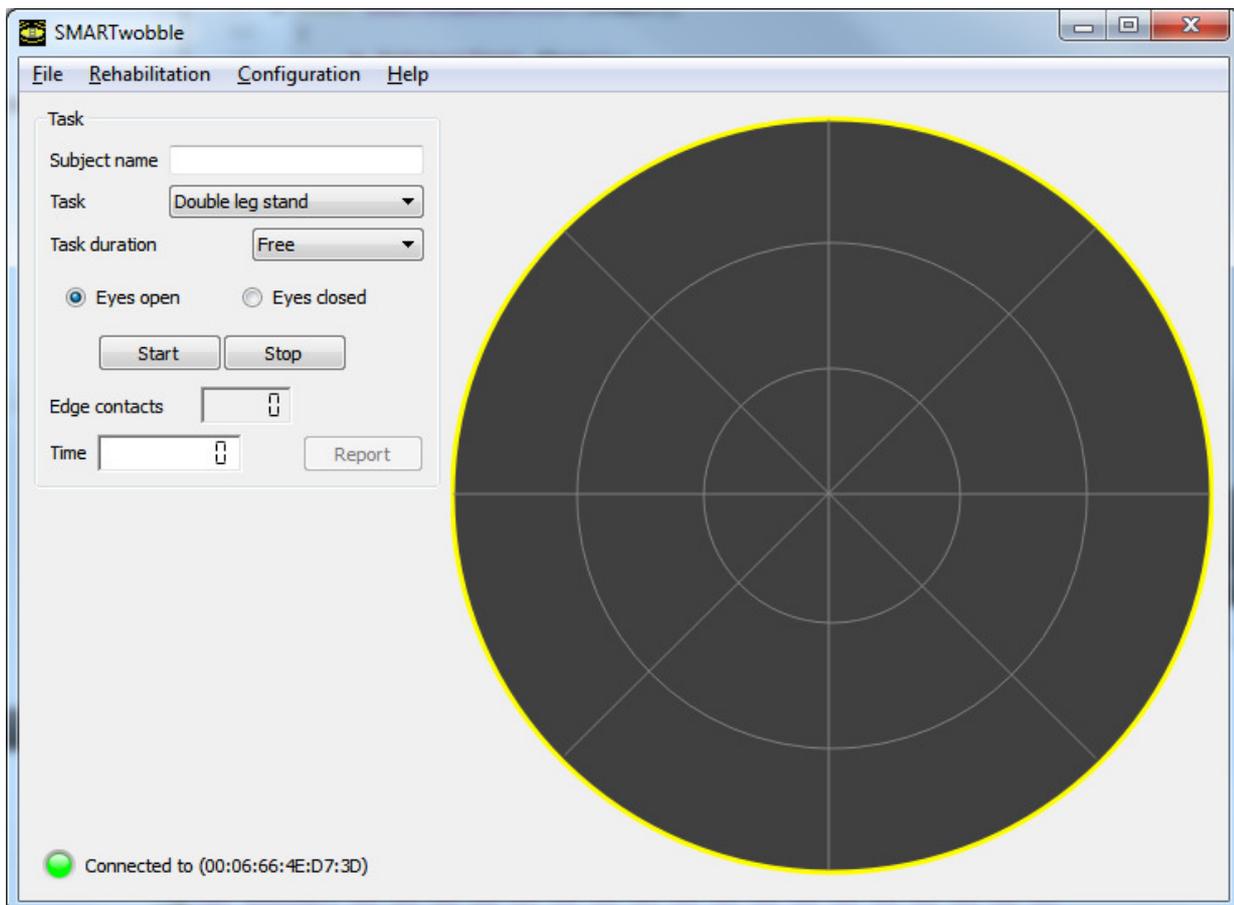
After a brief pause the dialog should disappear and the board and software are now ready to use. The status indicator (at the bottom of the screen) will show that the software is talking to the wobbleboard.

Once the SMARTwobble software has connected to the wobbleboard, the task options on the main screen become active. The user can choose between the following modes:

- Subject Test mode,
- Maze Mode.

By default the software starts in Subject Test view.

Subject Test Mode



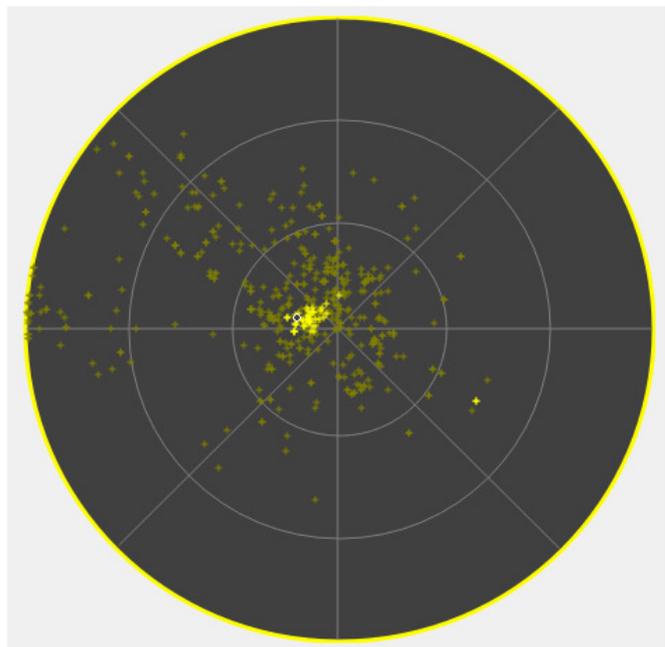
The task section on the left allows setting up a task for the subject to perform.

The target display on the right shows the trace of the wobbleboard inclination over the last 16 seconds. The location of the crosses indicates the tilt of the wobbleboard; tilting the wobbleboard forwards results in a cluster of points towards the top of the circle, while tilting to the left produces points on the left side of the circle.

Task Selection

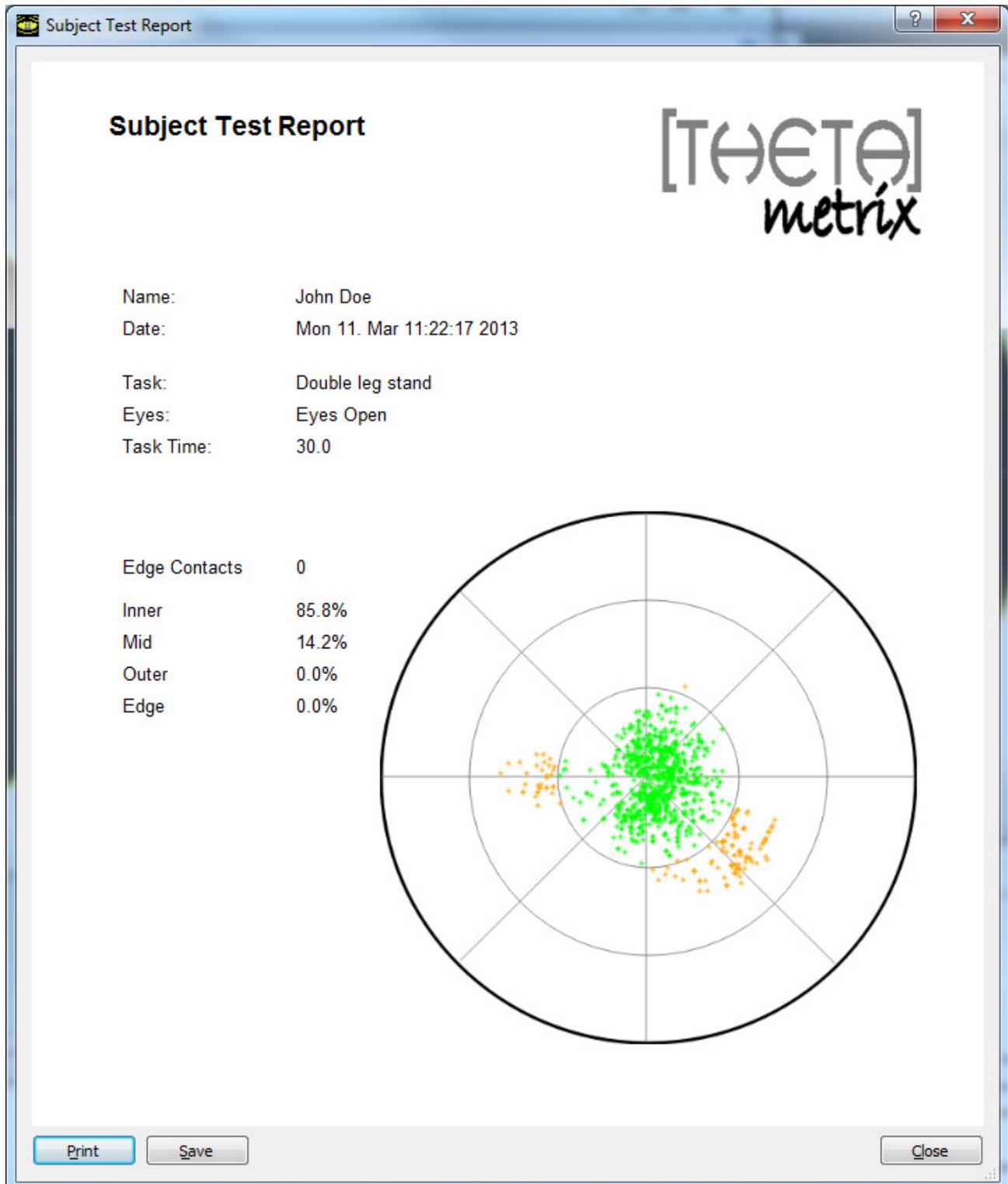
Subject name	This edit box allows for entering the subject's name.
Task dropdown	Select the task to be performed from the list of tasks: double leg stand, single leg stand, double leg squat, single leg squat.
Task Duration	This can be selected from 15 seconds, 30 seconds, 1 minute, or set to "free" which is of unlimited time.
Eyes open / eyes closed	Select whether the task is to be done blind or not.
Start button	This button starts the task timing and start gathering data from the wobbleboard.
Stop button	This will stop a task in progress. Once a task has been stopped – either when the task duration was reached or when the stop button was pressed – the performance report is generated and can be viewed using the report button.
Edge contacts	This display shows how many times the wobbleboard edge has touched the floor during the test.
Time	This display shows the elapsed time of the running test. The time will stop at the selected task duration (unless the duration is set to "free"). No data will be collected from the wobbleboard once the time has stopped.
Report button	Once a test is completed or stopped the Report button will be enabled and will show a report of the test results

The right side of the display shows the data target. This shows the current tilt of the wobbleboard as well as a trace of the data from last few seconds (the older data fades away).



Subject Test Report

Once a test is completed the Report button becomes enabled. Clicking on this generates the report of the test:



Print button	Sends the report to a printer using the standard Windows print dialog
Save button	Saves the report in a user-named PDF file. This allows the clinician to compare and monitor a subject's performance over repeated tests during treatment.

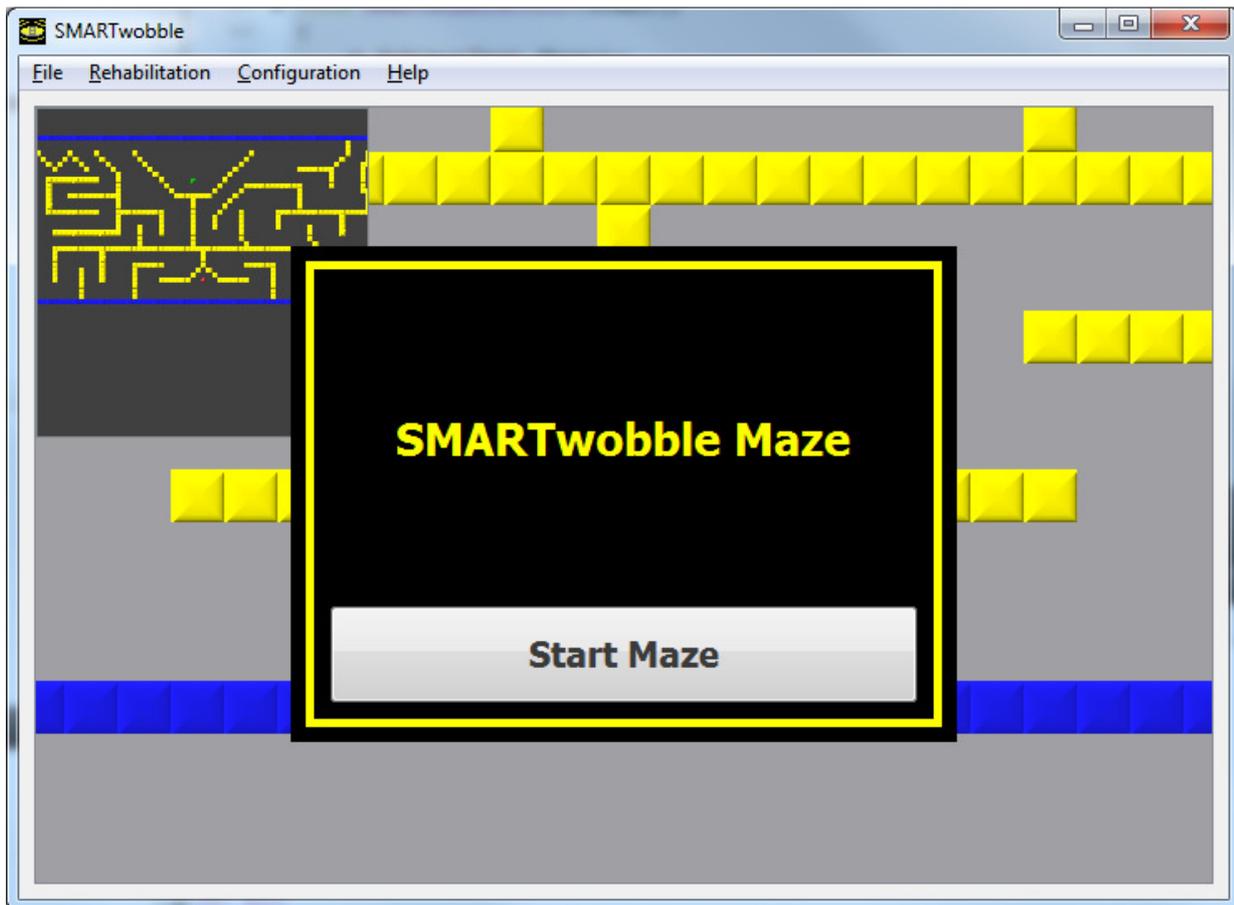
Maze

The SMARTwobble software includes a Maze option. The subject must use the SMARTwobble board to control the movement of the ball, navigating the maze from the Start point to the end flag.

Select Rehabilitation from the top menu, and select the desired maze size.

Once a maze is selected, a timer counts down (3-2-1) before releasing the ball.

The time taken to finish the maze is displayed once the maze has been completed.



Keep an eye on our website for more SMARTwobble board applications!

Trouble Shooting FAQs

1. Problems with setting up Bluetooth?
 - a. Have you followed the instructions to pair the SMARTwobble board with your computer?
 - b. Can you 'find' other Bluetooth devices? Examples include mobile phones, headsets.
 - c. Have you fully recharged the wobbleboard (for 3hrs) and switched it on?
2. When you rock the wobbleboard from one extreme (edge contact) to another, you notice a lack of symmetry in the edge contacts. For instance, when you rock it to the right the points lie at off the edge of the circle, but when you rock to the left, the points lie slightly within the circle and the number of 'edge contacts' increases rapidly.
 - a. The sensor within the dome is an accelerometer which registers the direction of the earth's gravitational pull. The wobbleboard is calibrated on a flat horizontal surface, however if you operate it on a surface which has a small slope, you may notice an offset in the centre of the circle. Try moving the board to a different location and see if the problem goes away.
3. Do you need to re-pair the board with the computer every time you switch the board on?
 - a. No, you shouldn't need to, but if you have problems, the first thing to try is re-pairing.
4. You want to log the raw data points and record them for later analysis.
 - a. Check the Log Data option. The data is stored in csv (comma-separated-values) format which can be read into Microsoft Excel.