iStep User Guide

Overview:

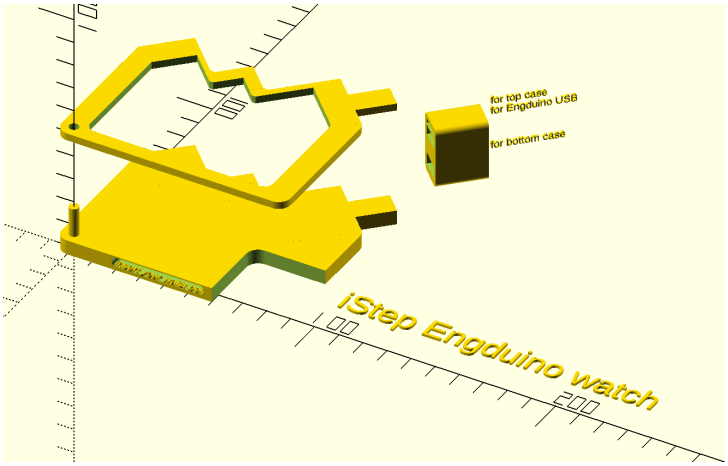
iStep is a wearable device including an Engduino and its watch-like 3D print case. It can provide real-time sports data when you are running or walking on a treadmill, such as speed, distance, number of steps as well as calorie burn. Also, with a SD card, it can work as a recording device when you go out for hiking.

Preparation:

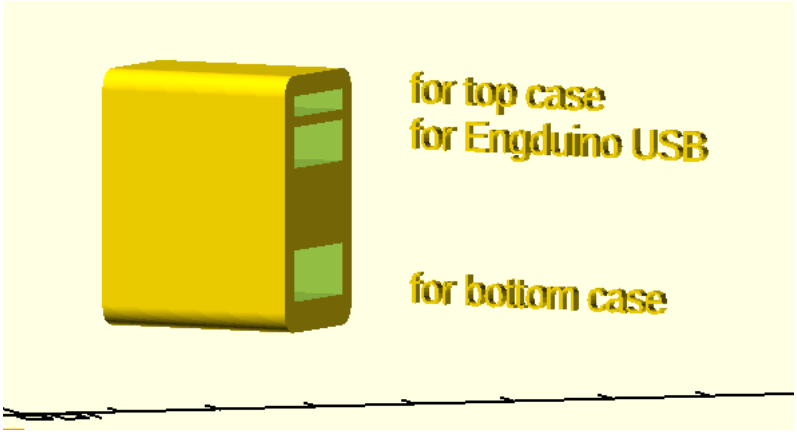
An Engduino, A laptop/PC with Engduino IDE and processing IDE, a USB extension cable, iStep 3D print case and a used wrist belt. (It can be tested without 3D print case and wrist belt)

Get started:

1. Set up iStep Engduino case.

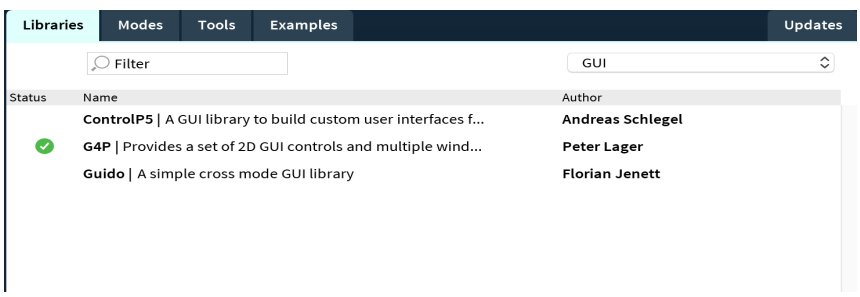


There are 3 parts in this case, top, bottom and the linker. At first, let the column on the bottom case insert through the hole on Engduino and top case. Then, Insert the raised part of the cases and the USB port of Engduino into the linker.



At last, equipped the combination with a wrist belt. The iStep Engduino watch is ready to work.

2. Prepare running environment.
   Upload the ".ion" files to Engduino. (The 3 files in "iStep_Engduino" should be uploaded together)



Import G4P library to processing IDE. (Sketch->Import library->Add library: search for G4P in GUI library)

Try it now:

1. Wear iStep on your wrist. Turn on Engduino.
2. Use USB cable to connect laptop and Engduino.
3. Run GUI.pde (**Make sure you have G4P library imported**)

4. Press “Monitor”. Then press the button on Engduino. After the blue LED animation, start to walk or run on treadmill.

Without treadmill and 3D print case, the effect can be tested by shaking Engduino with your arm as if you are walking or running.

5. Data of environment temperature, running or walking, instantaneous and average speed, distance and steps as well as the calorie burn will be updated with your exercising.
6. Press the button on Engduino again to stop counting. Press close button to close the monitor window.
7. If there is a SD card on Engduino, the details of your exercising will be saved into the card after you pressed the Engduino button to stop.

   This function can be used for hiking. Without USB cable to a laptop, turn on Engduino and press button to start. Green LEDs will show the distance

you’ve covered. (1 green light = 100m) Press again to stop and you will have the details in “data.txt”.