




Build an Easy ISS Notifier

You can easily create a hardware notifier that lifts UP a paper astronaut to alert you each time the International Space Station passes over your location. Way more fun than a text!

 Difficulté Facile

 Durée 1-3 heure(s)

 Catégories Électronique, Machines & Outils, Robotique

 Coût 60 USD (\$)

Sommaire

Introduction

Étape 1 - Set up Adafruit IO feed

Étape 2 - Set up IFTTT action

Étape 3 - Program the Tokymaker

Étape 4 - Build your ISS Notifier

Étape 5 - Spacewalk!

Notes et références

Commentaires

Introduction

Tokymaker is a microcomputer from TokyLabs that lets you create inventions in 5 minutes by mixing electronics, programming, and IoT – with no prior engineering knowledge. Electronic modules connect without soldering, and everything is open source. It's programmed from a website, which sends code over Wi-Fi – no cables, software, or plugins. Using the graphical language Google Blockly, even non-programmers can easily create code.

Matériaux

1 Tokymaker microcomputer: \$50 from tokylabs.com/tokymaker

1 Hobby servomotor

3 Batteries AA

Wooden craft sticks or chopsticks

Paper printouts of space station and astronaut images

 www.tokylabs.com

Outils

Tape

Hot glue gun

Box cutter or hobby knife

Computer with internet access

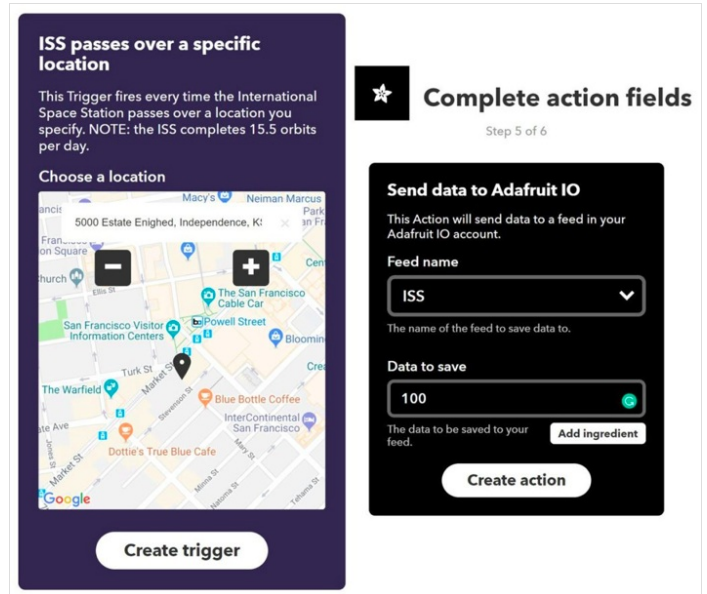
Étape 1 - Set up Adafruit IO feed

Create a cloud account at io.adafruit.com. Then click on Feeds→Actions→Create a New Feed. Name it "ISS." Click the View AIO Key button, then copy your unique **keys** somewhere safe – you'll need it later to link your Tokymaker to your Adafruit IO feed.

Étape 2 - Set up IFTTT action

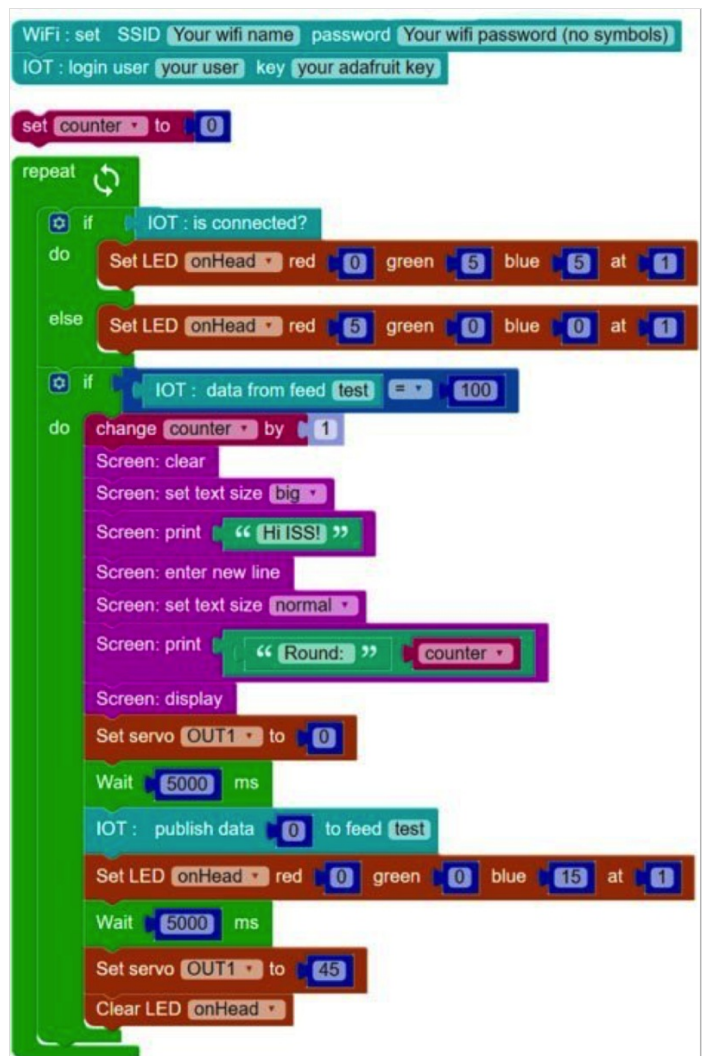
Create an account at ifttt.com. This site links Internet services in a very simple way. In our case: *If* the ISS passes over a specific address, *then* send the number 100 to your Adafruit ISS feed. First you'll choose the *trigger*. Select New Applet, then click on "+ this" and type "Space" in the search bar. Click the Space icon, then choose "ISS passes over a specific location," then type your address and click on "Create trigger".

Next, create the *action*: sending the number 100 to the Adafruit IO feed. Click on "+ that" and choose Adafruit. Click the Connect button and complete the fields in the popup window. Then, click on "Create action." The cloud setup is done!



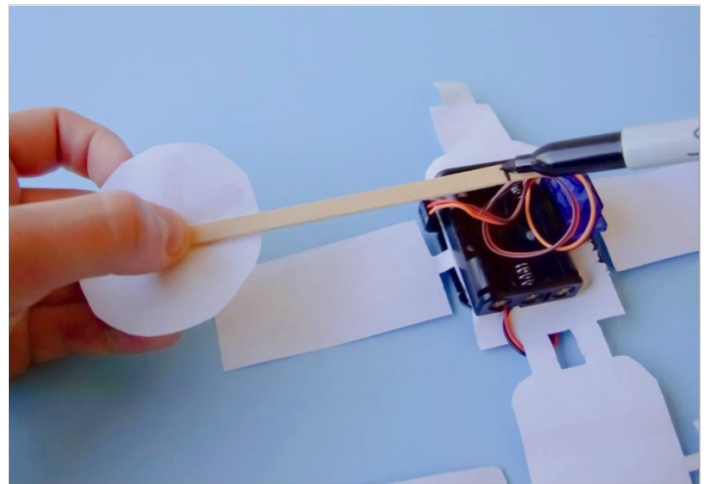
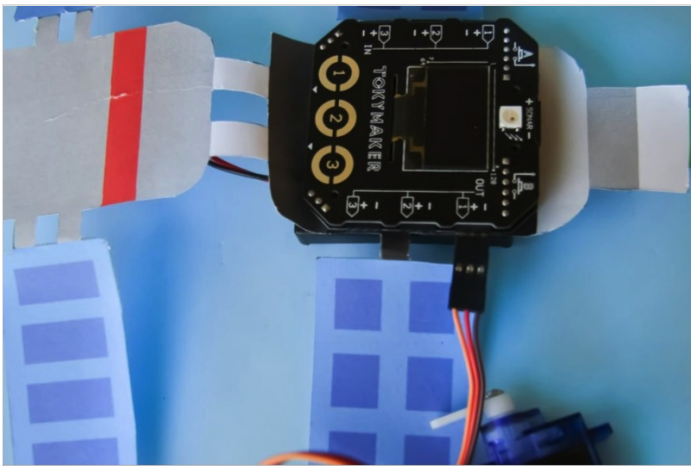
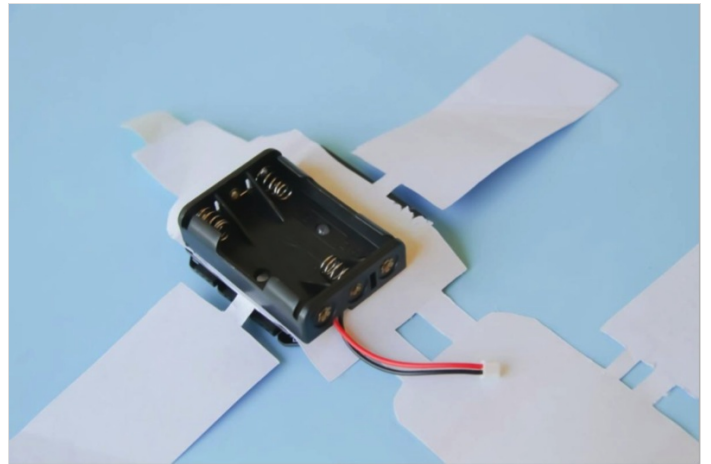
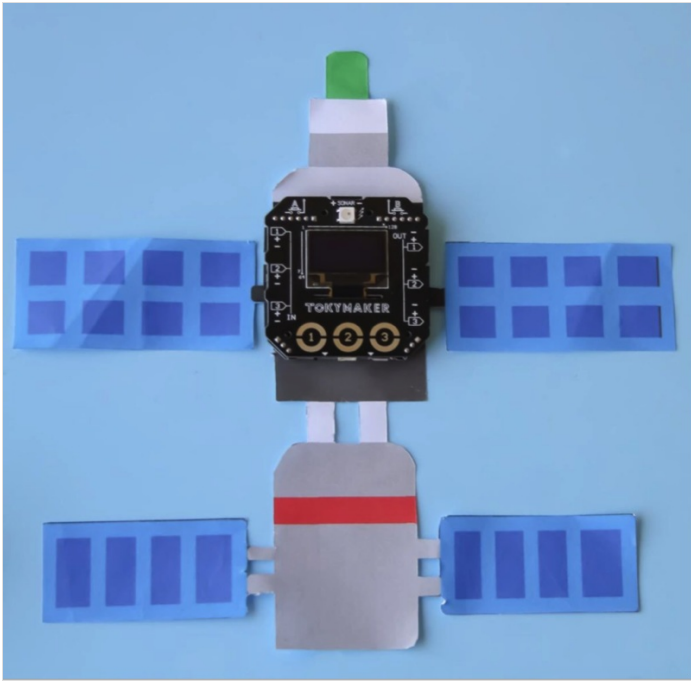
Étape 3 - Program the Tokymaker

Now for the physical part: Every time the number 100 is in the Adafruit IO feed, your Tokymaker will run a program to turn on a light, move a motor, whatever you want. Go to tokylabs.com/ISS and download the basic ISS Notifier code to your Tokymaker. (Or make it yourself at create.tokylabs.com/!)



Étape 4 - Build your ISS Notifier

Find or make your own image of the space station, cut it out, and tape the Tokymaker onto the front. Glue the battery pack on the back. Plug the servomotor into Output 1, wrap its cable around, and glue the servo on the back so it's standing up. Find our create your own astronaut image and tape the printed astronaut to one end of the stick. Cut the stick to size, then glue the other end to the servo arm so the astronaut faces the front.



Étape 5 - Spacewalk!

Now whenever the ISS passes over your location, your Tokymaker will move the servo to raise the astronaut, light up an LED, and show a message on the OLED screen with the number of orbits that day!

Notes et références

TokyLabs

Based in Shanghai and Barcelona, TokyLabs envisions technology not as a final objective but as a tool to achieve creative goals.