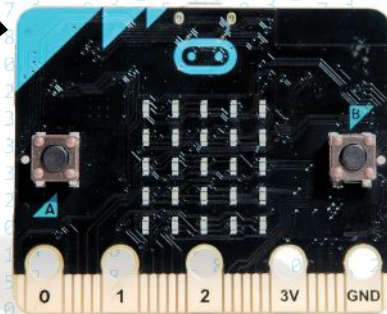


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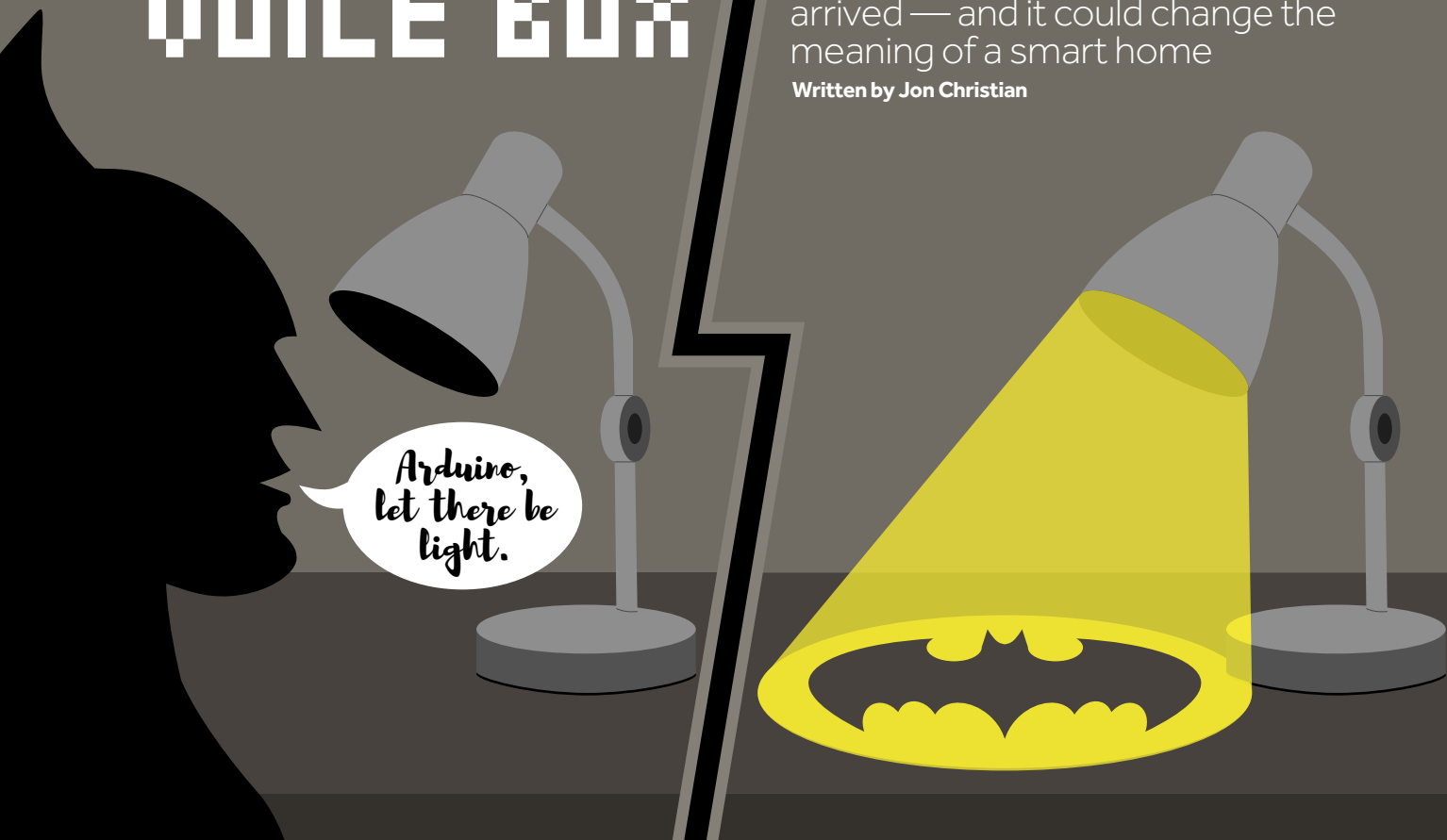
Cosplay Superstars

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# VOICE BOX

Speech recognition for Arduino has arrived — and it could change the meaning of a smart home

Written by Jon Christian



Christopher Coté is speaking sternly to a Pixar-style desk lamp.

"Arduino," he says, in the tone of voice you might use to catch Siri's attention, and it chirps to show that it recognized the call sign. "Let there be light." In response, the lamp blinks on, illuminating Coté's face with a warm glow.

## UNDER CONTROL

Coté, a researcher at CRT Labs, built the lamp to experiment with MOVI, an Arduino shield designed specifically to provide onboard speech recognition and synthesis. It's notable less for any single breakthrough than for wrangling a handful of existing open source speech tools into a board that makes it dirt-simple to add voice control to an Arduino project. And unlike an off-the-shelf smart speaker like Google Home or Amazon Echo, MOVI does it all locally — nothing gets sent to the cloud, alleviating concerns about privacy and security.

"The driving factor for us was the ability

to be completely disconnected," said Bertrand Irissou, one of MOVI's creators. "It's great to have all these devices connected to the cloud, but if the internet goes down, they won't work anymore."

## OPEN HOUSE

Watching MOVI in action, it's easy to imagine a future in which smart homes look less like Google's or Amazon's walled gardens and more like Linux: an ecosystem of crowdsourced, customizable systems that provide the functionality you need without giving up control.

Take Steve Quinn, another early adopter who works by day in the British space industry and spends his free time tinkering with open source smart home technology. When he unboxed his MOVI board, he quickly configured it to send commands through an ESP8266, via the MQTT IoT protocol, and into OpenHAB, an open source home automation system he'd already set up in his house. Before

he knew it, he could access his home's lighting and sensor networks by talking to them. Next, he plans to add code to control his television and security cameras.

"It's an outstanding kit," he said. "If the price comes down, I'll have a few more of them."

## STILL KICKING

MOVI began its life about two years ago as a Kickstarter campaign by Irissou and a collaborator named Gerald Friedland. Demand continued after they delivered the initial units, so they've kept selling boards online for about \$75 each, and they've seen users build everything from a voice-controlled wheelchair to interactive art installations. One of Irissou's favorites is a voice activated Iron Man suit by a cosplayer named Julius Sanchez.

"The guy is not a programmer," Irissou said. "He's a maker with some rudimentary coding skills, and he was able to do things that just flabbergasted us." 🤖

Juliam Brown