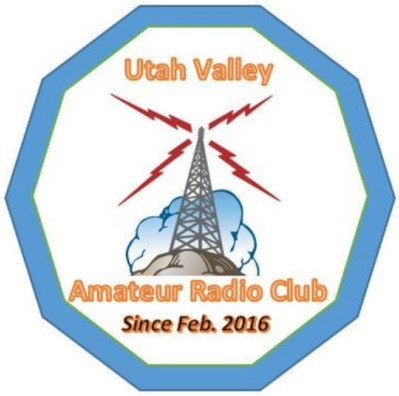
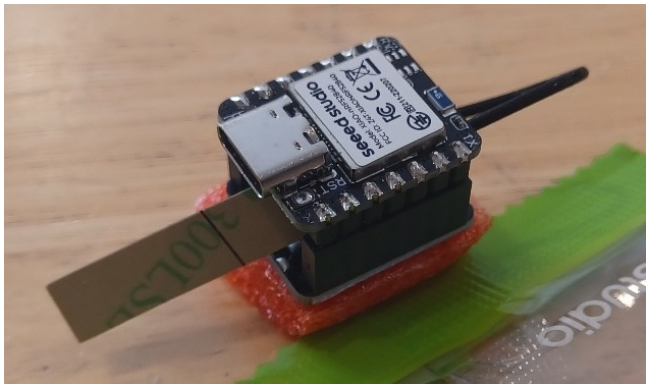


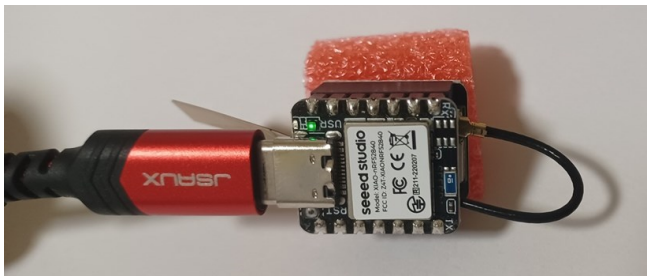
DIY

Worthwhile projects you can build or do on your own



Setting up MeshCore





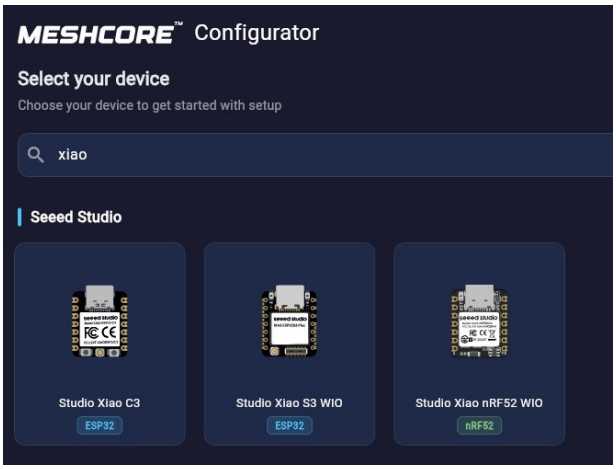
When the internet goes down, one of the hallmarks of us amateurs is the ability to communicate without the aid of commercial infrastructure. Still, being able to communicate on a network by our phones or laptop is extremely valuable when one is available. To solve this problem, inventive minds put together what's known as a ***mesh network***, using LoRa technology. The goal is to connect people digitally without using the internet. In this article, we'll achieve that connection using MeshCore firmware that we'll flash onto a LoRa-compatible microcontroller.

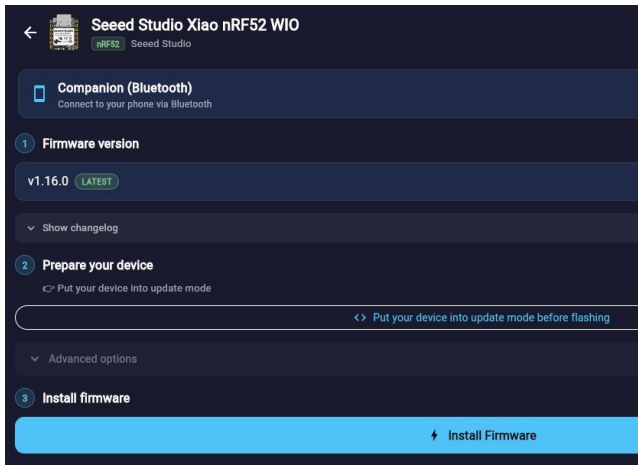
The Meshtastic precursor enjoyed great success among radio amateurs, but MeshCore now provides improved network scalability and reduced airtime congestion, plus a few other features, such as structured routing.

I'm new to MeshCore myself, so I'll be learning about it right along with you. In essence, this is a ***MeshCore For Dummies*** approach to the project, if you will. It's assumed that you're using Windows 10 or 11, and Google Chrome as your browser. I'm also using a Samsung phone, and I assume this will all work similarly using a iPhone.

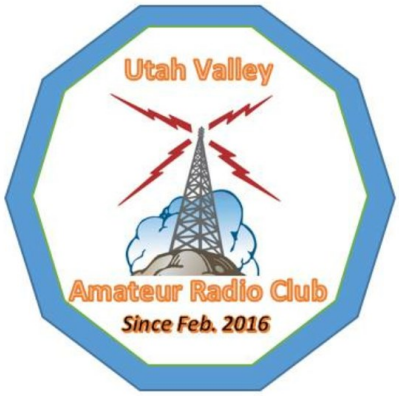
Here's the complete "parts" list:

One Seeed nRF52840 microcontroller mesh kit
One high-speed USB-A to USB-C cable
One high-speed USB-C to USB-C cable







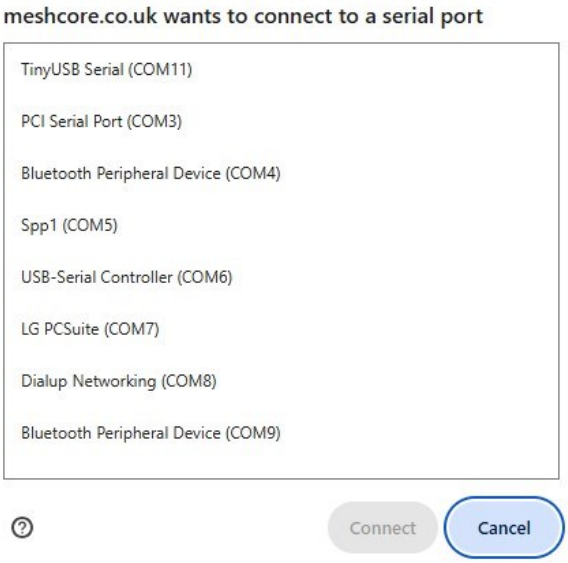


DIY, continued

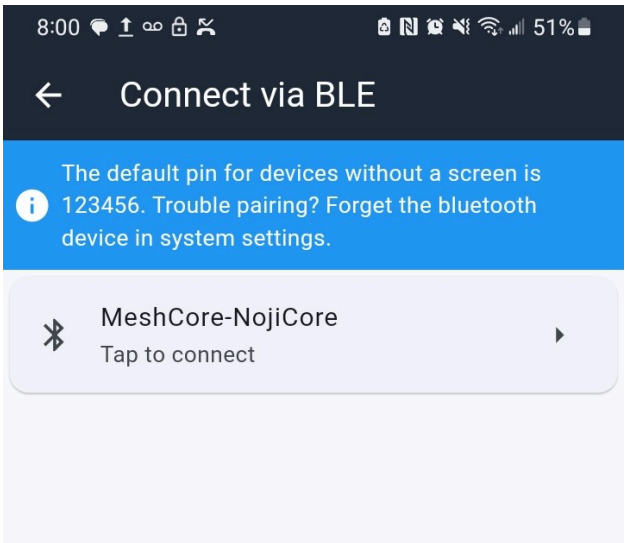
Setting up MeshCore

Plug in the high-speed USB-A to USB-C cable between your computer and the Seeed microcontroller. A popup should appear in Windows, indicating the microcontroller is attempting to connect to your computer. The tiny LED next to the USB socket should blink green, indicating that it's communicating with your computer.

Open your browser and visit meshcore.co.uk and click the ***Set Up Your Device*** button, then on the new page click the ***Set Up Your Device*** box. In the Search bar start typing ***XIAO*** and several device models should appear. Click the one labeled ***nRF52***. Click ***Companion (Bluetooth)***. Be sure to select the **LATEST** firmware version, then click ***Put your device into update mode before flashing***, then when you're prompted for a port selection, select ***TinyUSB***, then ***Connect***. Once the prompt turns to ***Ready for update***, click ***Install Firmware***. If you're prompted for a port selection again, repeat the selection and click ***Connect***. The firmware updating progress bar should fill from left to right, and after it's completed, the blinking green LED should blink blue. Click ***Continue*** to display the next screen, then click ***Configure your device***.



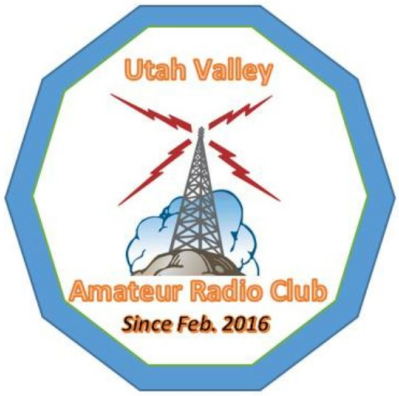
Unplug the USB-A to USB-C cable between the microcontroller and your computer. Plug in the USB-C to USB-C cable between the microcontroller and your phone. In your phone, swipe the screen from the top, press and hold the Bluetooth icon, then select the "meshcore" connection and go through the steps to pair your phone with the microcontroller.



On your phone, search for the MeshCore app and install it. For example, I opened the Chrome browser on my phone and searched for "meshcore app" and the app was the first selection to appear. Open the MeshCore app and enter the passcode **123456** to allow use of the app. Proceed through the motions of answering the prompts to set up your mesh node, including your node name and the USA (not Southern California) Preset at 910.525 MHz. (I named my node ***NojiCore***, as you can see.) At this point, your phone is only providing power for the microcontroller, and the mesh data is being transferred by Bluetooth.

Tap the settings gear button and enter your desired latitude and longitude values to set

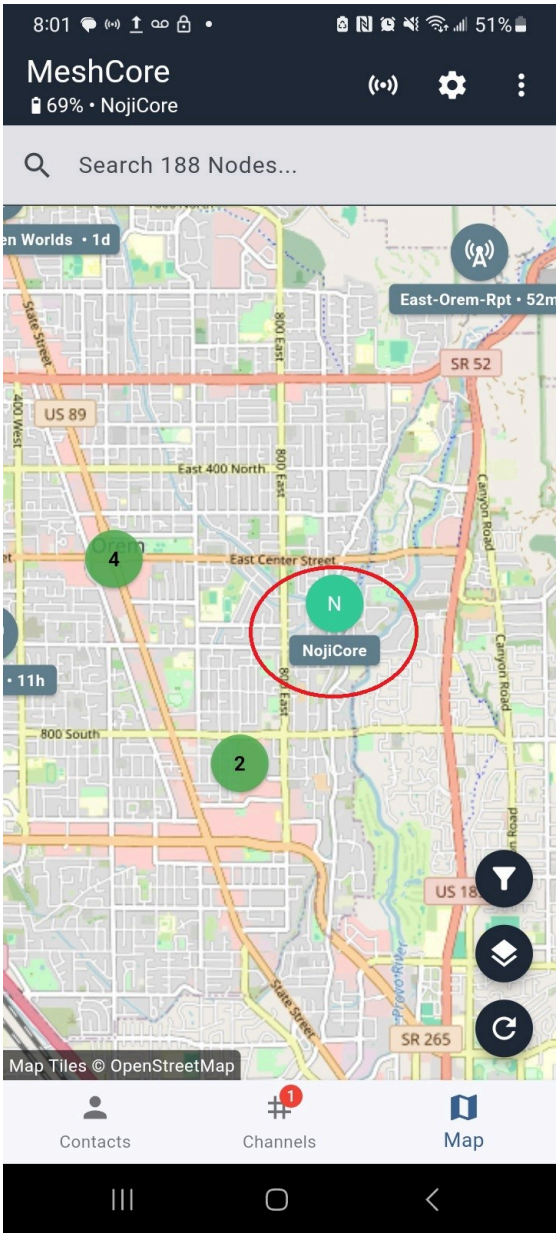


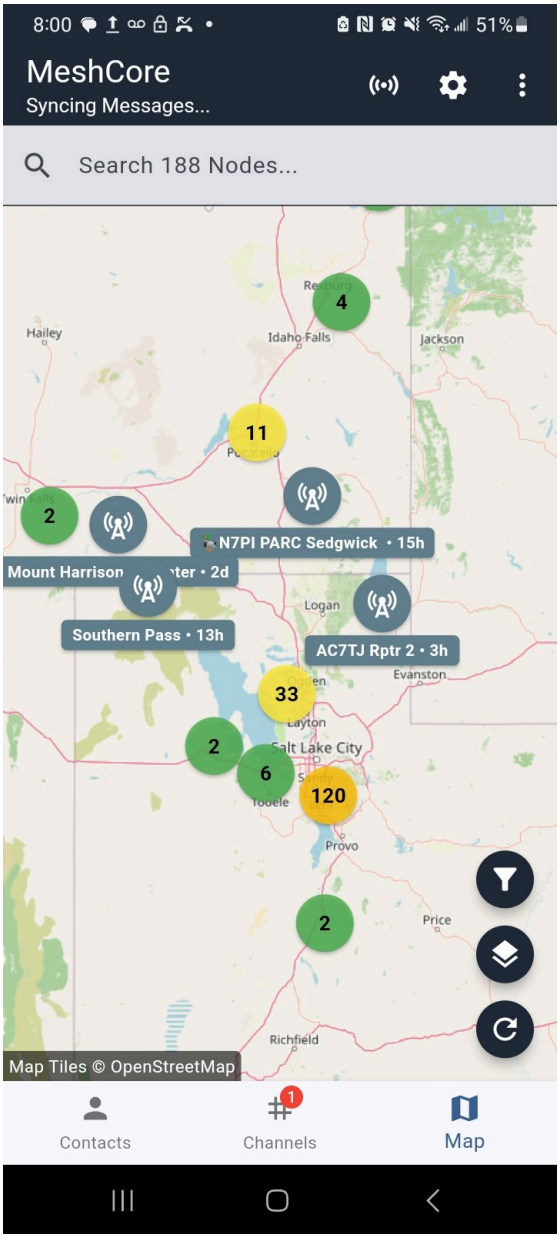


DIY, continued

Setting up MeshCore

your position (required to show up on the map) and tap ***Share Position in Advert***. When I tap the map button (lower right), my app comes up showing Utah nodes. Using my fingers to spread the map apart, I can finally see my own node (circled).





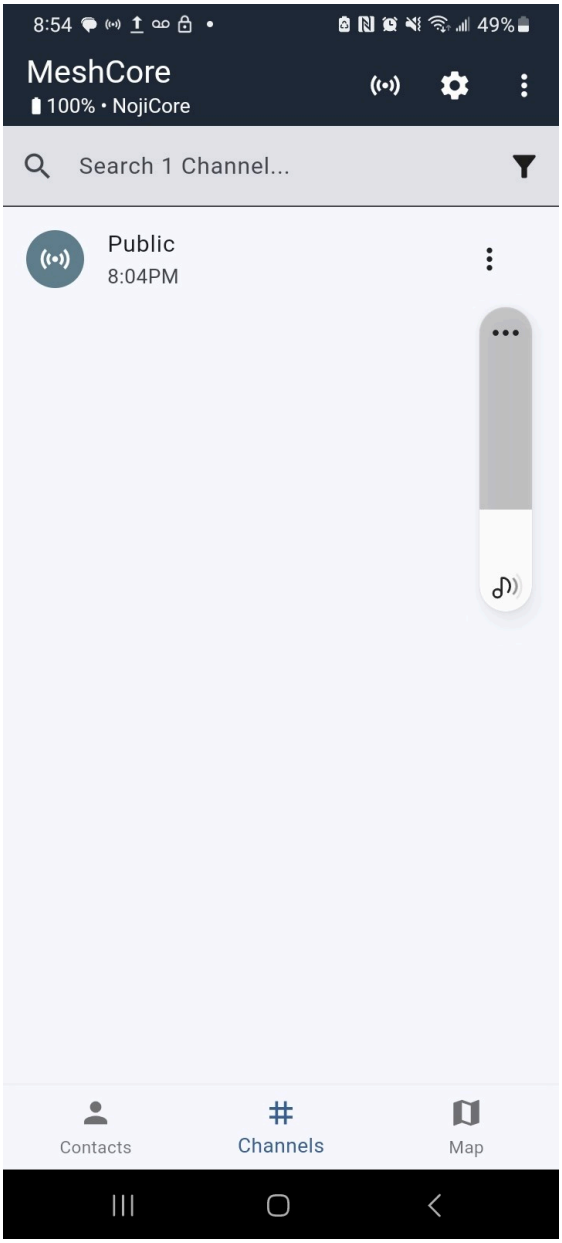
At the bottom of your phone screen, tap ***Channels*** to see the Public channel. Tap ***Public*** and you'll be able to see the messages being passed between users. Go ahead and tap ***Send a message***... at the

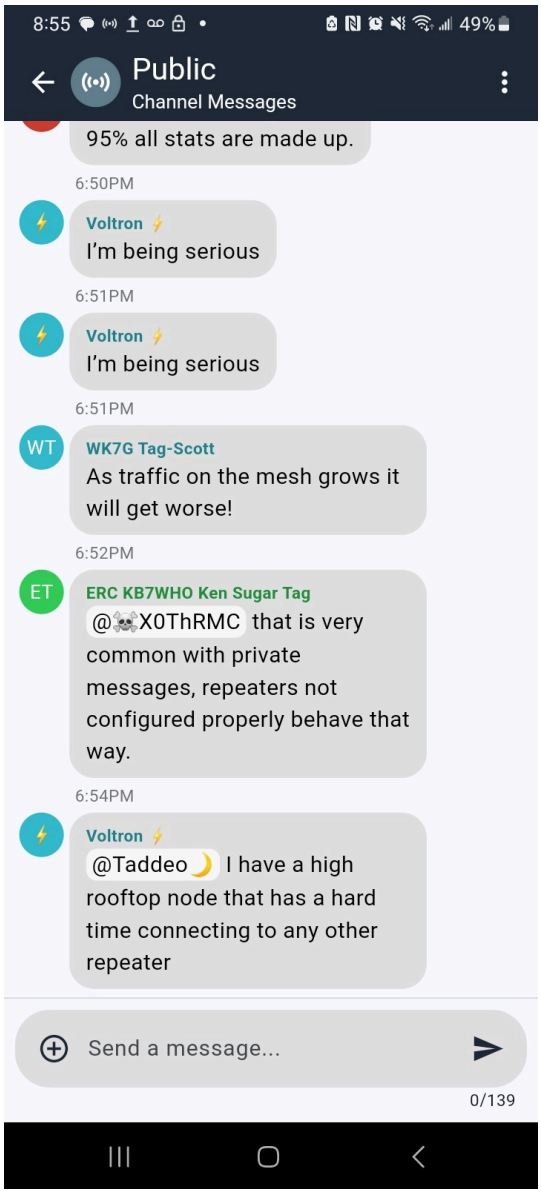
DIY, continued

Setting up MeshCore

bottom, and when somebody replies, you're now meshing.

One helpful video I recommend is How to Setup MeshCore, which will get you through at least the firmware installation.





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