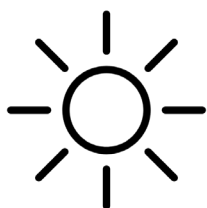
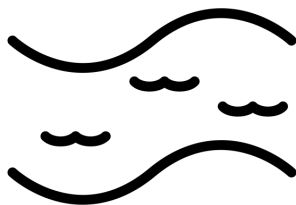


# SwampNet



Spring  
2024



**Alternative and Sovereign  
Communication Networks for  
Bulbancha and beyond**

**SwampNet** is a collaborative project to bring alternative and sovereign communications systems to Bvlbancha and across the Gulf South. This zine includes some updates and news for Spring 2024!

Our motivation behind this work is to:

- Support mutual aid distribution and other community based projects in times of emergency, change, and uncertainty
- Consider relations between data, place, and memory
- Rethink relations to communication and digital technologies beyond capitalistic and extractive narratives / conditions



*Photos from our range testing*

## **Mutual Aid Mesh Network**

Starting in late May of 2023, we started working on a mesh network project as an alternative communications pathway if the Internet goes down during hurricane season. The idea was to have a version of this project working by mid to late August in time for peak hurricane season. Given time and budget constraints, we decided to use Meshtastic that runs on LILYGO LoRa ESP32 microcontrollers. Meshtastic is an open-source network software that can work off-grid and is decentralized. The microcontroller (small computer) can be programmed with Meshtastic. Through regular updates at the Mutual Aid Roundup meetings, it was decided that we could connect different mutual aid hubs together as a way to share information on supplies, food, ice, etc. in the event of an emergency.

Over the course of the summer, we conducted a series of range tests. Range testing is a way to understand the signal strength of the network from a specific point. We would set up an antenna at a location/hub, and then we would see from how far away we would be still be able to send and receive a message. Testing locations were determined beforehand at sites that were located

at .5 mile increments away from the central hub. These range tests served as opportunities for people to learn how the technology / network works, building relationships with interested hubs, and understanding how our network should be laid out geographically. Overall we did five range tests over the summer (thank you everyone who helped with testing!). From these range tests, we were able to determine which locations we could set up nodes in order to send messages from Imagination Farm in the 8th ward, to Catapult in the Marigny, to the GNOCC space in the Lower 9th - a network spanning a 3 mile distance.

We also built cases for the microcontroller that could house all the components (microcontroller, antennae, battery), in addition to a solar panel, charge controller, and battery that would allow the microcontroller to run on solar if needed. We built 6 cases total and they are currently in a container housed at the Bvlbancha Liberation Radio office at Catapult.

Instructions for hacking the solar light:

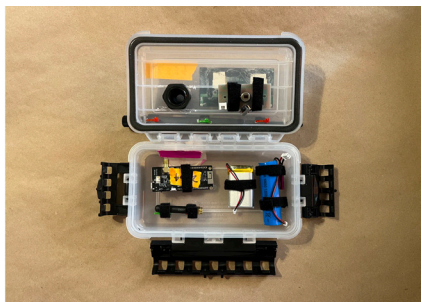
**<https://shorturl.at/hCDH6>**

Instructions for assembling the case:

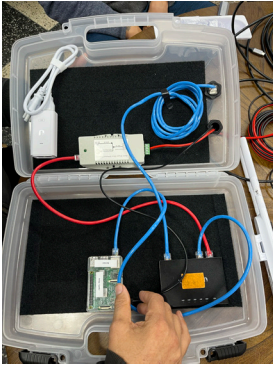
**<https://shorturl.at/xKQ78>**

Instructions for setting up the kit:

**<https://shorturl.at/biGM3>**



*Interior and exterior of the mesh network kit*



*Assembling our kit and testing the range in NYC*

## **Portable Networking Kits**

In November 2023, we attended a weeklong training with Community Tech NY (CTNY) to build a Portable Networking Kit (PNK). CTNY is a community-based tech organization that runs out of the El Puente Community center in Brooklyn. The PNK is designed by CTNY to work as a way to extend an existing Internet connection and to also work offline to provide a local wireless network. The PNK is also used as a teaching tool to talk about how the Internet works. Each kit is built using off-the-shelf components and open-source hardware. As an offline server, the PNK has a chat service, file sharing capabilities, and a document editor. During our time with CTNY we learned a lot of skills such as crimping Ethernet cables, configuring a router, and ways of thinking about operating and governing our own networks.

Back in the Gulf South, we have been bringing our PNK to different events, like the Anthroposonic: Remote sensing experience for the Nanih Bvlbancha Spring Equinox Celebration (listen to the Bvlbancha Liberation Radio broadcast here: <https://shorturl.at/fu345>). We are interested in building more PNKs in the near future to use as

an emergency communication system, along with our mesh network and also as a way of storing, archiving, and sharing information locally. As an emergency system, we plan to install PNKS on solar trailers that were built with the Footprint Project to create a mobile network in the event of an emergency. As a community tool, the PNKS can be distributed across the city to store digital libraries and syllabi as part of the Gulf South Open School. We are excited about integrating hybrid forms of communication that integrate both analog and digital methods!

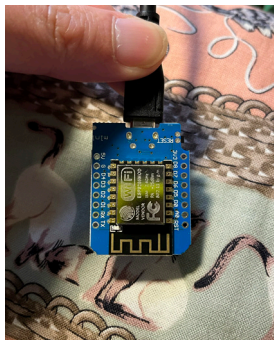
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### **Mini Portal Websites**

Using a ESP8266 microcontroller, we can program these small computers to host a local popup window with its own network that can contain different types of information. We followed this guide from Iffy Books, a bookstore based in Philadelphia, PA: <https://iffybooks.net/pocket-wifi-portal/>

Ways we are thinking about using this includes:

- A digital community board with local events
- An essay or syllabi or other piece of writing that can only be accessed at a particular spot
- A digital bulletin board for an emergency relief mutual aid distribution hub that lists available resources and other requests



## **Future Directions:**

### ***Growing the Network***

- Building redundancy and wireless networking capacity: Between our mutual aid network, PNKs, and local portals, we are interested in experimenting with and building layered communication channels that can function in different capacities across different geographies.
- Connecting the network with other existing networks and projects: We are interested in projects such as outfitting solar trailers with wireless networking kits, in addition to learning and sharing our work with different groups and organizations in the region.
- Developing a protocol for how to handle communication services after storms: Since hub locations may change or shift from year to year, it is necessary to annually revisit where nodes are, in addition to best practices in the event of an emergency. This protocol would also entail training or refreshers for those who would be stewarding a node during hurricane season.

### ***Growing the Community***

- Educational opportunities for all ages: In addition to providing crucial information services for communities after a storm, the various communication technologies that we are working with as part of SwampNet can be a way for people of all ages to learn about digital technology, Internet infrastructure, online privacy/security concerns, etc., in addition to skills such as basic programming, networking, and working with hardware. These

opportunities could include tabling at related events, hosting events on specific tech-related topics, presenting in classrooms, and longer-term training. For these events, we are also seeking out funding for events and compensation for people who run events or are part of trainings.

- **Regular Network Meetings:** These would be open meetings for people to share updates on projects, in addition to skill-sharing. These meetings would be held every few months, with one at the beginning of hurricane season, and one at the end of hurricane season as a wrap up. Bvlbancha Liberation Radio, Mondo Bizarro & the Gulf South Open School hosted the first community DiscoTech April 2024, with a series of future workshops and meetings being scheduled throughout the season.

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**Want to learn more?**

**Want to get involved?**

**Contact us! [SwampNet.bvlbancha@gmail.com](mailto:SwampNet.bvlbancha@gmail.com)**

