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BluQ : Use Cases & Value

- Operates entirely offline! No Wifi or internet required.
- Low power, scalable Bluetooth mesh communication.
- Ideal for blackout, disaster, or off-grid scenarios.
- Expands range exponentially as more nodes join.

Real-World Use Case

- Shipboard communication network.
- Keeps crew connected without cellular or satellite links.
- Supports emergency alerts and coordination.
- Fully operational with only Bluetooth devices and power banks.

How BluQ Stands Out

- Satellite: Global but expensive, power-hungry, requires open skies.
- LoRa: Long range but low bandwidth, mostly used for IOT sensor data.
- BluQ: Balanced: text, image, and voice support with Bluetooth mesh.

How We Built It

- Built with Raspberry Pis and Bluetooth mesh networking.
- Angular web app as a GUI to communicate with users on the mesh.
- Flask backend manages Bluetooth data transfer across the mesh.
- Supports text for now, future work to be done.

Challenges We Faced

- Free-Wili devices couldn't run compiled WASM for mesh control.
- Switched to Raspberry Pis for full control and flexibility.
- Network setup for SSH and internet access was complex but essential.