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LoRa-Based Emergency Communication Device Without Network or External Power

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Abstract: *This tool intended to provide communication in instances of disaster when the conven- tional wireless systems fail to function due to the absence of power supply as well as internet connectivity. Long Range (LoRa) modules are employed for transmitting mes- sages from one device near another without necessarily depending on other electricity or connectivity to the internet. It comes equipped with a GPS module as well for monitoring location.*

The gadget has an SOS button, which when pressed sends the user's location to all the surrounding devices through LoRa communication. The feature helps the distressed users raise alarms fast in case there are any mishaps in their location, such as in natural disas- ters when all means of communication go down.

The machine is driven by a solar panel as well as a dynamo motor, and this means it will be operational during disaster situations without the need for an external power source..

Keywords: LoRa, Emergency Communication, Disaster Rescue, Wireless Communica- tion, GPS, Solar Powered Devices

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