

DETECTING AND ADDRESSING THE INTERRUPTION IN ELECTRICAL POLES AND TRANSFORMER CONTROL

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Abstract: Internet of things is used for sending the data without any human interference. Electricity is now reaching to every distant part of the world. This power is being carried by the transmission lines. These lines travel very long distances so while carrying power, fault occurring is natural. The fault location detection has been a main objective of power system engineers, in transmission and distribution systems. Identification of fault source is tedious task; fast fault detection can help to protect the equipment and the people before any significant damage of the equipment and to prevent the people from electric shock. An electric shock is the effect of passing an electric current through the body. The effect of electrical shock depends upon strength of the current, duration of the current, the area of the body through which the current passes, and whether the person is grounded or insulated from the ground. Death caused by an electric shock is referred to as electrocution. An IOT based control system will introduce the control technique for the electric shock. The exact fault location can help service man to remove persistent of the faults and locate the areas where the faults occur regularly, thus reducing the occurrence of fault and minimize the time of power outages. The detection of fault in transmission line using an ESP32 microcontroller which is quick, reliable and cost effective.

Key Words— Ship Data, Network, Opnet, QOS

I. INTRODUCTION

The present and future human generations scenario will reveal us a point that electricity will be one of our basic needs which will make our life to flourish. Since there is no way to provide electricity through non wireless over long distances, we have to depend on the transmission lines as medium for power transmission. Based on the desired specifications required by the consumer the transmission line's physical compositional structure and also their capacity to hold voltages varies respectively. All the electricity boards and corporations around the world have no choice except to support the see transmission lines on poles and hence may fall under the mishap of wires detaching due to many aspects either manmade or natural instructional accidents which are inevitable in every field of work. In any field of work setting or installing a machinery or asset constitutes only half work done, the remaining half comprises the maintenance of it so as it applies here in this field of transmitting electricity. In the light to main tenance purpose, it requires a huge amount of human assets as which is very reluctant and tiresome to go on check out where the wires got detached and left tangling. Hence to make the main tenance work simplified our proposed system works for a way beyond Excellency in both its working and as well as its financial requirement too. Our proposed system simply establishes basic communicational setup in between poles and transformer by alerting it to delay the power if any detachments happen any where in the network under the transformer operational

region. Also, this halting of power is simultaneously shared with the relevant substation officials and that situation will be taken care of.

II. LITERATURE SURVEY

The IOT the effective and immediate solution was provided. Electricity generation, electricity transmission, electricity distribution these three terms are associated with the power grid. It presents a communication infrastructure to provide low cost, reliable data delivery for our existing society, electricity is very imperative and to accurately uphold and expand this power distribution system, it is needed to understand and monitor the system behavior. There are various types of faults that occur in transmission systems they are single line to ground fault, line to ground fault, line to line fault, balance three phase fault these four faults allow to understand transmission line system. Existing fault detections systems specifically for utility poles will be reviewed.

In internet of things is used for sending the data without any human interference. Electricity is now reaching to every distant part of the world. This power is being carried by the transmission lines. These lines travel very long distances so while carrying power, fault occurring is natural. When there is a breakage or the fault occurs in the transmission then the voltage sensor on the pole detects the voltage coming from the transformer and the ESP32S converts the analog voltage received from voltage sensor to digital and then displayed on serial monitor. When the digital input is sent from the ESP32S then the RF module changes its state to zero. Then RF module detects that there was a

fault on the line sand makes the transformer off. By using the IOT the effective and immediate solution was provided.

III. PROPOSED METHOD

In the view of the increasing dependence on the electric power and also to decrease the mishaps related to it, we proposed a system which uses unmanned devices and workto make our lives safer by detecting the transmission wires detachment and makes surethat the power be delayed until they are taken care of by automatically communicating with the related official.

Our proposed system makes use of voltage detector, relays, transmitter and receive rpair, and GSM which are quite reliable and flexible to this work. If any detachment happens due to any reason, voltage detectormans this work single handily by comparing the ordinary voltage difference than to the arisen potential difference, parallel the transmitter attached to the poles in the network send a message to the receiver, fixed atthetrans former out putend, say ingit toalert microcontroller and make sure the poweris made halted by relay through intermediate communication. The GSM will message theofficial about the power drop occurred and also in which area that happened. This whole process ssaves us time, risk and also makes human stoimprovis with automation happened. This whole process saves us time, risk and also makes humans to improvise with automation.

IV. DESIGN METHODOLOGY

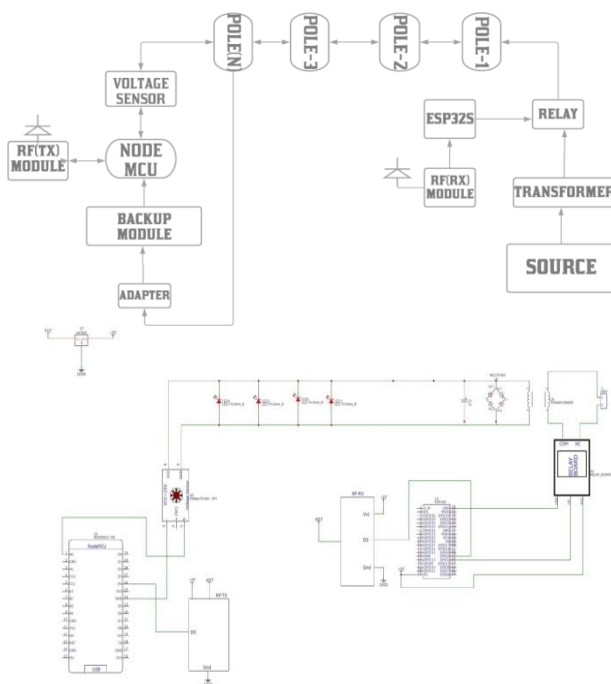


Fig.1. Circuit Diagram

The above design describes the entire

circuitdiagramofthisproject“Detecting And Addressing The Interruption In Electrical Poles And Transformer Control”

V. RESULTS

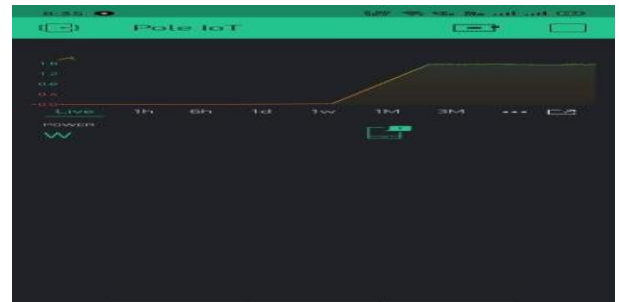


Fig.2. Power Graph

When there is no breakage in the transmission line a continuous supply is passed through the transmission line and line is shown the app.

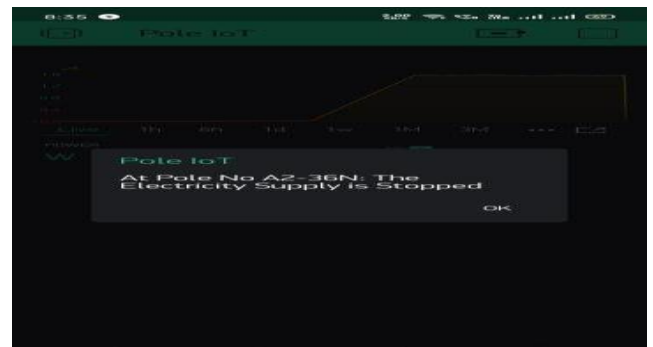
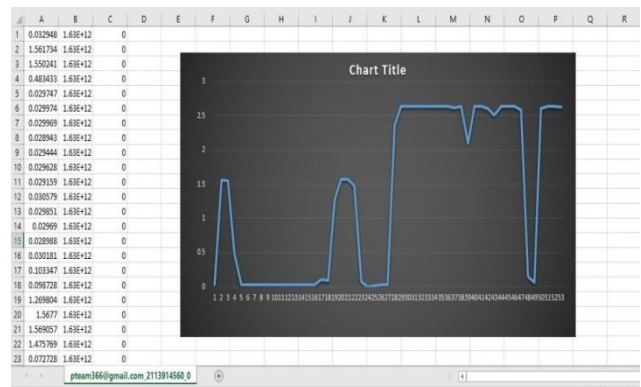


Fig.3. Message notification when there is a breakdown in the wire.

wegetthenotificationswhenthereisabreakageofwireand we also get the notification at which pole it is disconnected.

When there is a breakage int the transmission line the wire is broken it gets notified in the app and also it shows the decreased waveform.



It shows the values and graph of the power when there is a breakage of wire and also when it reginngs it normal state.

VI. CONCLUSION

The electricity is a boon and bane to the society. It changes a world a lot being as an input to many devices in our daily life. In another words there is no

cycle rotating without electricity. Coming to the other aspect it is somewhat harmful to the human kind when it passes through human body. That harm might occur when there is a breakage.

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