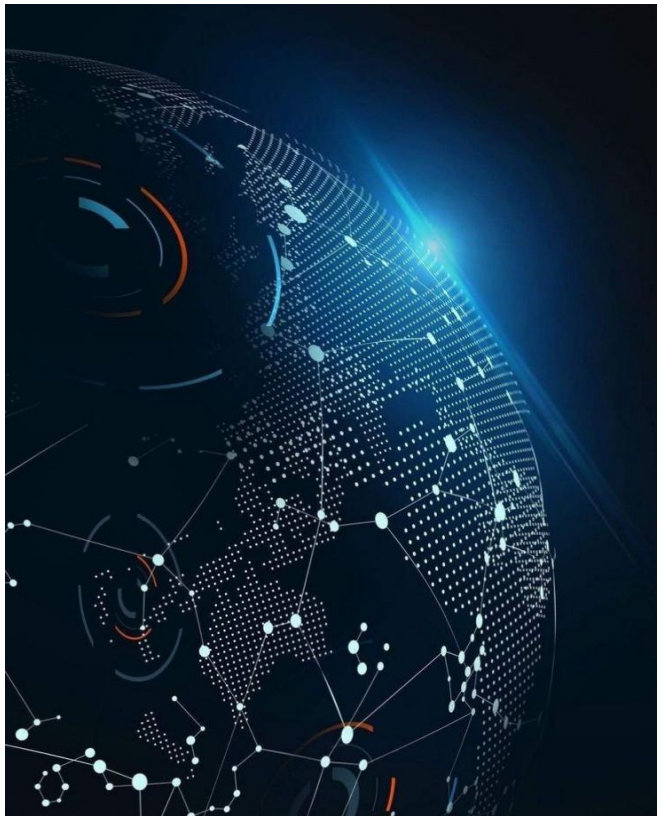
KSRM COLLEGE OF ENGINEERING



Electronics and communication

IOT BASED FAULT DETECTION OF UNDERGROUND CABLES THROUGH NODE MCU MODULE

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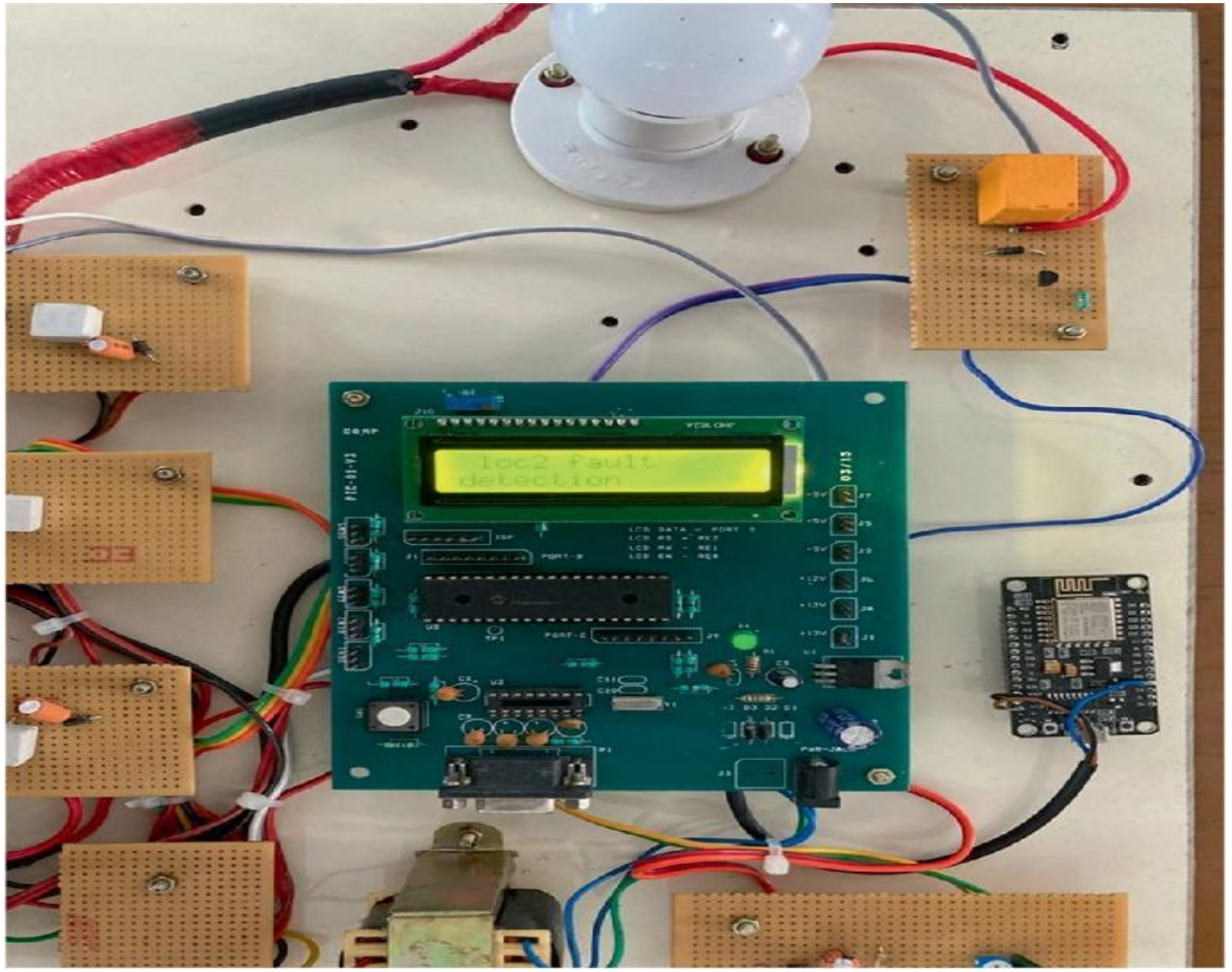
The Problem

- ***In the downtowns, underground cables are used rather than of overhead transmission lines.***
- *It is hard to go through the specific spot of the shortcomings.*
- *As India become prominent as a progression country, civilized field is too boosting every day.*
- *The underground lines are beat under the same circumstances its uses is additionally growing a result of its clear advantages such as lower line losses, lower maintenance cost and they are less powerless to the effects of serious climate.*

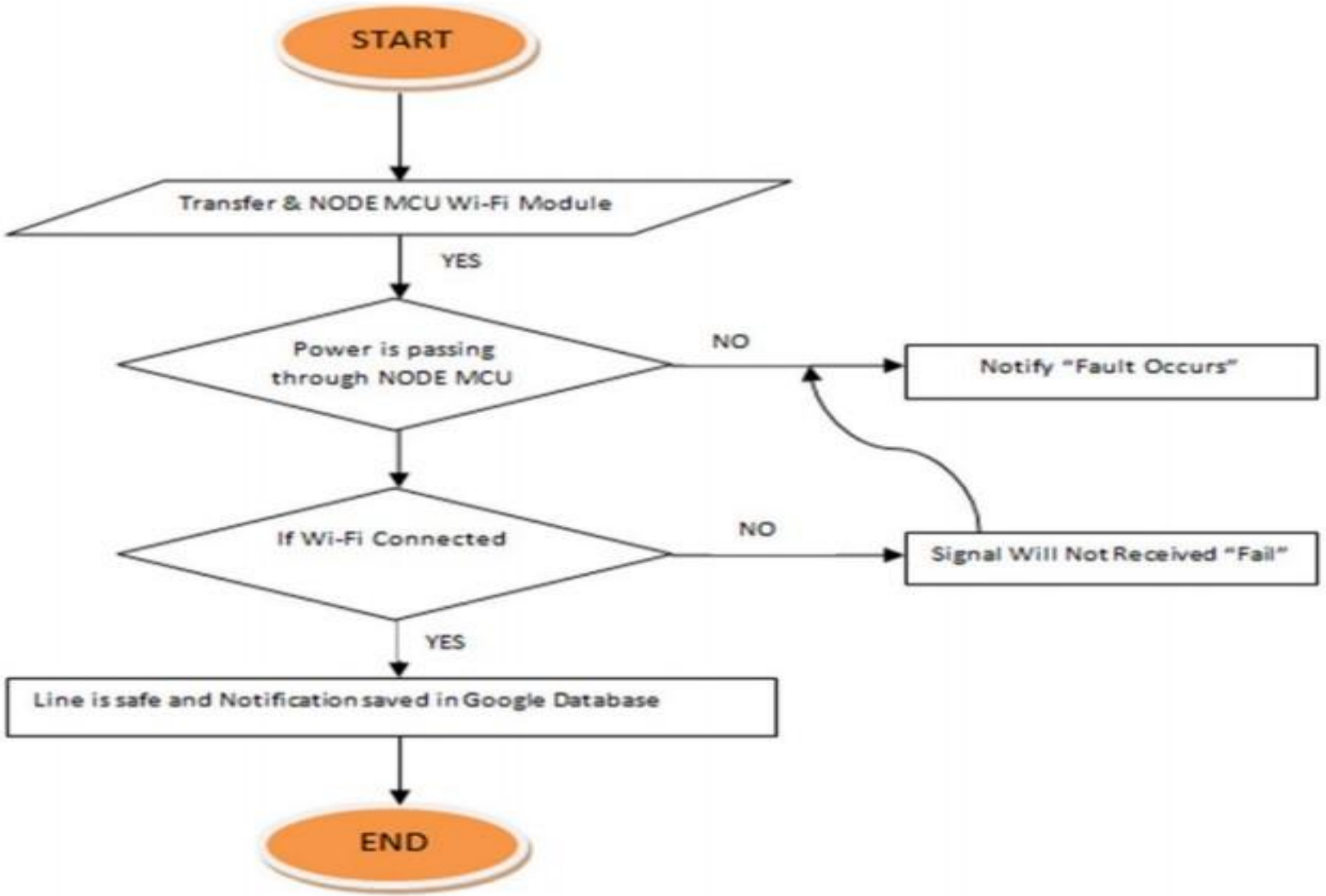
Problem solution

- With the help of Node MCU Module Wifi link, we can easily identify the fault happening of the line with very fast process.
- The fault location is detected byMURRAY LOOP Method and the spot of the fault is detected with the help of Node MCU Module.
- By applying the Node MCU method on the outcomes in Bphase for LG fault are calculated and the same approach is applied on the Y B Phase for LL fault and get efficient and more precise results for fault detection in underground lines.

Implementation of underground cable fault detection



Flow chart/project work flow



Related work

- *There are lots of methodologies to identify shortcomings in power lines.*
- *In the current era faults are major problems in the power transmission lines. For better power quality and continuity of power it is necessary to reduce the faults from power lines as soon as possible.*
- *So many methods are proposed related to fault identification and reduction in power system. Some of them are explained here for example Murray loop method, Ohm's law method and many more*

HARDWARE TOOLS

- **Hardware requirements**

1. **Arduino Uno**
2. **Esp8266**
3. **Relay driver Switch**
4. **LCD display**

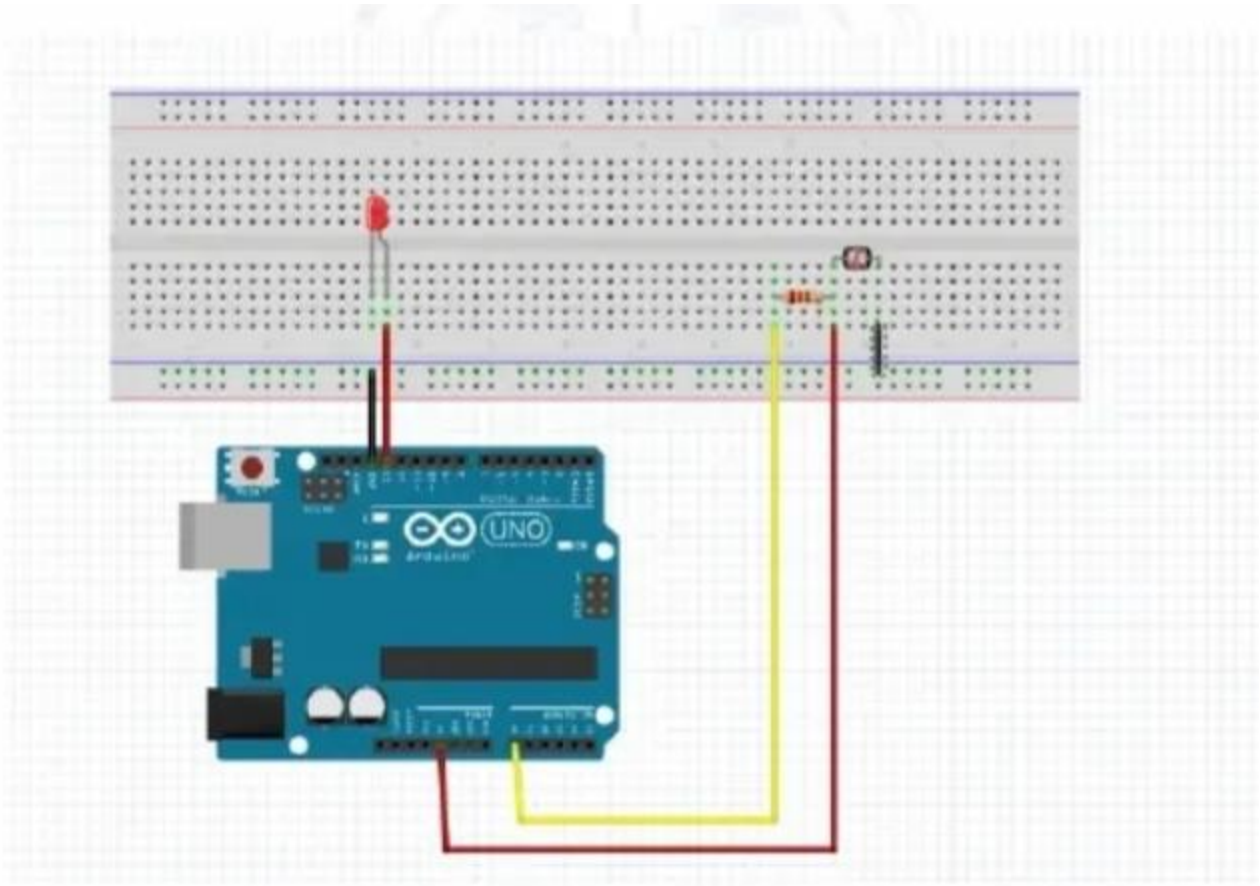
- **Software requirement**

5. **Arduino IDE**
6. **Embedded C**

ARDUINO SOFTWARE

- The Arduino Software (IDE) allows you to write programs and upload them to your board.

Sensor



CONCLUSION AND FUTURE WORK

➤ *In the proposed effort the difficulty of detecting the fault in underground lines is done on the basis of Node MCU Wifi Module.*

➤ *We projected an IOT based model for healthier recognition of fault in the cables.*

➤ *We proposed a method to detect the fault place from the underground cables through Node MCU Wifi module. In the future we can use this technique for detection of faults in power lines/cables as well as for transformers by connecting various sensors.*


THANK
you