INTELLIGENT HUMAN PROTECTION SYSTEM FROM FAULTY TRANSMSSION LINES

M. JAYASHREE[1], R.PRAMODH[2], B.SANJAY[3], S.VISHWANATH[4]

[1]Assistant Professor, [2,3,4]UG Scholar

[1-4]Panimalar Institute of Technology

---***---

Abstract : *The issue area discovery has been an objective of intensity framework engineers, since the production of dissemination and transmission frameworks. Fast deficiency location can help ensure the hardware by permitting the separation of blamed lines before any critical harm of the gear. The exact flaw area can enable utility work force to expel relentless of the shortcomings and find the zones where the deficiencies normally happen, in this manner decreasing the event of blame and limit the hour of intensity blackouts. Accordingly, while the issue area identification plans have been created previously, an assortment of calculations keep on being created to play out this undertaking all the more precisely and all the more adequately. The discovery and area of issues on power transmission lines is basic to the security and support of a force framework. Most strategies for flaw recognition and area identify with the estimations of electrical amounts gave by flow and voltage transformers. These transformers can be costly and require physical contact with the checked high voltage gear.*

1. INTRODUCTION

As of now, the electric force design of our nation is feeble against all types of regular cataclysms, which can influence the general working and molding of the network. Additionally, there is a pressing reason to prepare the well established transmission line foundation with an elite information correspondence arrange, that underpins future operational prerequisites like constant checking and control fundamental for brilliant network reconciliation. Numerous electric force transmission line enterprises have depended on circuit markers to recognize broken areas of their transmission lines. Anyway there are still difficulties in recognizing the specific area of these deficiencies. Despite the fact that deficiency pointer innovation has given a dependable way to find changeless shortcomings, the specialized group and watch groups despite everything needs to genuinely watch also, examine the terminals for a considerable

length of time to recognize broken areas of their transmission lines. Remote sensor based checking of transmission lines gives an answer for a few of these worries like constant auxiliary mindfulness, quicker flaw restriction, precise issue analysis by recognizable proof and separation of electrical deficiencies from the mechanical issues, cost decrease because of condition based support as opposed to occasional upkeep, and so forth.. These applications indicate tough prerequisites, for example, quick conveyance of tremendous measure of exceptionally solid information. The accomplishment of these applications relies upon the plan of financially savvy and dependable system design with a quick reaction time.

The main work is the issue of finding ideal areas of cell handsets is introduced. Yet, considering the topological obstacles forced by the transmission lines, the low band-width, low information rate remote hubs would neglect to transmit enormous measure of information in a multi jump way.

The objective is to push different sensors in each area of the transmission line to detect the properties and transmit the information through a remote system to the control place. Little scope genuine uses of sensors incorporate strain observing utilizing load cells, and force conductor surface temperature checking, sago meter, and so forth. This writing manages the utilization of fake neural systems (ANNs) to blame identification and area in additional high voltage (EHV) transmission lines for fast assurance utilizing terminal line information. The proposed neural deficiency indicator and locator were prepared utilizing different arrangements of information accessible from a chose power organize model and recreating situations.

2. BLOCK DIAGRAM

In Fig. 1 shows the square chart of remote systems administration framework. The transmission line foundation, remote shows up at a financially savvy answer for transmission line checking. Different research and propose to improve the transmission line observing by controlling the remote sensor systems for constant checking and control GSM is a cell arrange, which implies that cell phones interface with it when in the region. The GSM systems work in four diverse recurrence ranges. Most GSM systems work in the 900 MHz or 1800 MHz groups..
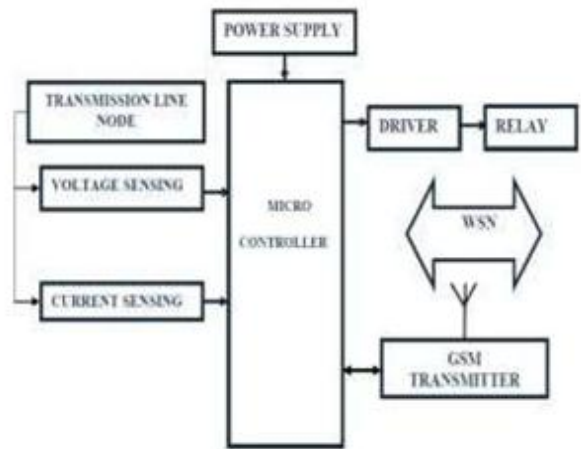

Fig.1: Block diagram

Initially, two codes, named after the sorts of information channel they were allotted, were utilized, called Half Rate (5.6 kbps) and Full Rate (13 kbps). These utilized a framework dependent on straight prescient coding (LPC). Notwithstanding being proficient with bitrates, these codes likewise made it simpler to distinguish progressively significant pieces of the sound, permitting the air interface layer to organize and better secure these pieces of the sign establishment and membership costs. In Fig. 2 shows the circuit graph of remote systems administration framework.
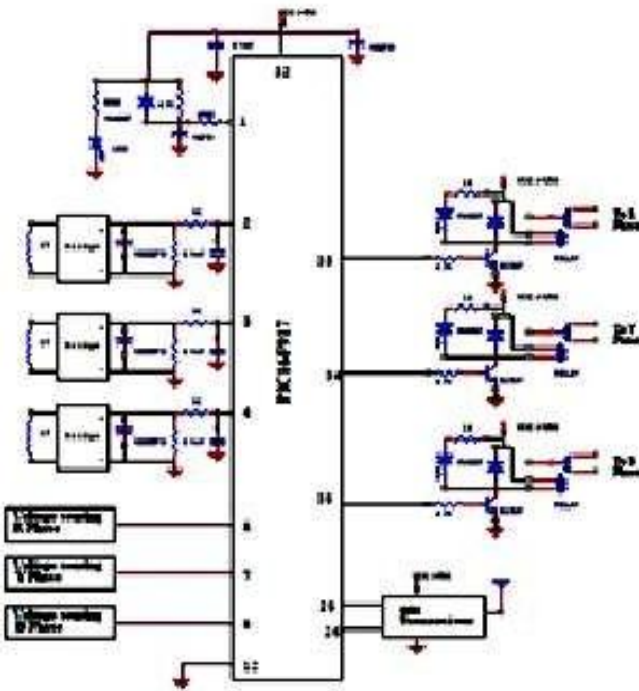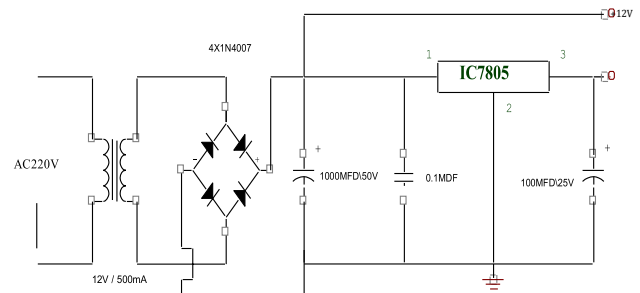

Fig.2: Circuit diagram

Fig.3: Power supply circuit

In this circuits need two force supplies. The 78XX IC's are taken a shot at managed DC power 5V with GND. Hand-off driver took a shot at DC 12V with GND. This unit comprises of transformer, rectifier, channel and controller. The AC voltage ordinarily 230v RMS is associated with a transformer which steps that AC voltage down to the degree of the ideal AC voltage. The Diode rectifier at that point gives a scaffold corrected voltage that is at first sifted by a basic capacitor channel to deliver a DC voltage. This subsequent DC voltage normally has some wave or AC voltage varieties. A controller circuit can utilize this DC contribution to give DC voltage that has considerably less wave voltage as well as continues as before DC esteem even the DC voltage differs to some degree, or the heap associated with the yield DC voltages changes.

3. INTERNET OF THINGS

Fig.4: Internet of things

In Fig.4 shows the IoT. The UI is through pages that are made on the customer side, utilizing HTML. JavaScript is utilized for legitimacy checks of the data entered by the clients. The customer's program parses the URL into various separate parts, including address, way name and convention. A Domain Name Server (DNS) deciphers the area name the client has gone into its IP address, a numeric mix that speaks to the webpage's actual location on the Internet (a space name is simply a "front" to make website delivers simpler to recollect). The program currently figures out which convention (the language customer machines use to speak with servers) ought to be utilized. Instances of conventions incorporate FTP (File Transfer Protocol), and HTTP (Hyper Text Transfer Protocol). The program sends a GET solicitation to the Web server to recover the location it has been given
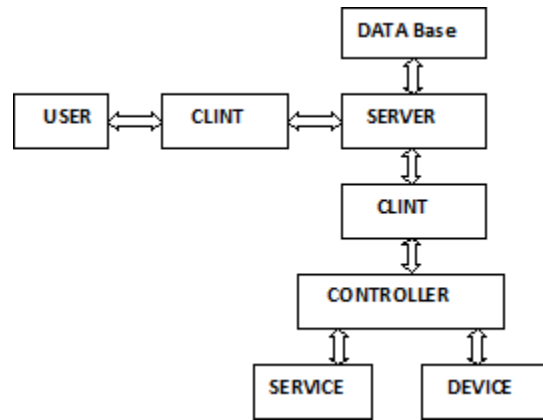

Fig.5: Client server architecture

The Internet is essentially a customer server framework. In the recovery of data that can be gotten to utilizing the web, there are two significant segments: customer, which demands the data and server, which stores it. Each side requires a bit of programming to arrange the trading of information. During site page recovery, at the customer side, a program like Netscape or web traveler is utilized. The server side programming plays out the errand of arranging information moves among customers and servers by means of hypertext move convention (HTTP), the correspondences convention of the Web. The distinctive server programming are accessible for different working frameworks, for example, Microsoft Internet data Server (IIS) for Windows NT and the Apache web server for Unix stage.

The menu page shows different catches where he/she can choose from a rundown of accessible menus gave by the framework. On the menu page, the client can choose DEVICE, SHUTDOWN and EXIT. On choosing gadget, the client can pick among gadgets to control. SHUTDOWN menu is given to crisis off in regards to the methodology to be followed. Leave menu is given to log out of the framework. By detecting the voltage and current in this circuit, the short out is having the yield in the scope of high voltage and low present and the open circuit having the yield in the scope of low voltage and high current range.

4. EMBEDDED SYSTEMS

An installed framework is a mix of PC equipment, programming, intended to play out a particular capacity. An implanted framework is intended to do a particular undertaking inside a timeframe, more than once, without human obstruction. These frameworks needn't bother with a total working framework, yet just the essential functionalities of a working framework in a constant situation, that is, an ongoing working framework (RTOS). As often as possible, inserted framework doesn't have a UI. PIC (Peripheral Interface Controller) is the IC which wasD87 created to control the fringe gadget, scattering the capacity of the primary CPU. When contrasting with the person, the cerebrum is the primary CPU and the PIC shares the piece of which is equal to the programmed. Be that as it may, the all through, the memory limit isn't huge. It relies upon the sort of PIC yet the greatest activity clock recurrence is around 29 MHZ and the memory ability to compose the program is about 1k to 4k words. It is conceivable to make the smaller circuit when utilizing PIC.

5. CONCLUSION

In this paper, present an ideal plan for a cost upgraded remote system equipped for transmission of time touchy sensor information through the transmission line arrange within the sight of postponement and data transmission limitations. Our investigation shows that a transmission line checking structure utilizing WSN is for sure achievable utilizing accessible innovations. The proposed strategy with detailing is conventional and encompasses variety in a few factors. Further, in instances of expanding stream transfer speed, the restricted remote connection transmission capacity prompts an attainable however costly plan because of expanded reliance on cell system to fulfill limitations.

REFERENCES

[1] H.Li, G.W.Rosenwald, J.Jung, and C. Liu, "Strategic power infra-structure defense," Proc. IEEE, vol. 93, no. 5, pp. 918–933, May 2005.

[2] G. Vidhya Krishnan, R.Nagarajan, T. Durka, M.Kalaiselvi, M.Pushpa and S. Shanmuga priya, "Vehicle Communication System Using Li-Fi Technology," International Journal of Engineering And Computer Science (IJECS), Volume 6, Issue 3, pp. 20651-20657, March 2017.

[3] J.Chandramohan, R.Nagarajan, K.Satheeshkumar, N.Ajithkumar, P.A.Gopinath and S.Ranjithkumar, "Intelligent Smart Home Automation and Security System Using Arduino and Wi-fi," International Journal of Engineering And Computer Science (IJECS), Volume 6, Issue 3, pp. 20694- 20698, March 2017.

[4] V. C. Gungor and F. C. Lambert, "A survey on communication net-works for electric system automation," Comput. Netw. vol. 50, no.7, pp.877–897, May 2006.

[5] P. Ramachandran, V. Vittal, and G. T. Heydt, "Mechanical state estimation for overhead transmission lines with level spans," IEEE Trans. Power Syst., vol. 23, no. 3, pp. 908–915, Aug. 2008.

[6] R.Nagarajan and S.Sathishkumar, K.Balasubramani, C.Boobalan, S.Naveen and N.Sridhar. "Chopper Fed Speed Control of DC Motor Using PI Controller," IOSR- Journal of Electrical and Electronics Engineering (IOSR-JEEE), Volume 11, Issue 3, Ver. I, pp. 65-69, May – Jun. 2016.

[7] P. Zhang, F. Li, and N. Bhatt, "Next-generation monitoring, analysis, and control for the future smart control center," IEEE Trans. Smart Grid, vol. 1, no. 2, pp. 186–192, Sep. 2010.

[8] J. Ausen, B. F. Fitzgerald, E. A. Gust, D. C. Lawry, J. P. Lazar, and R. L. Oye, "Dynamic thermal rating

[9] V.C.Gungor, L.Bin, and G. P. Hancke, "Opportunities and challenges of wireless sensor networks in smart grid," IEEE Trans. Ind. Electron., vol. 57, no. 10, pp. 3557–3564, Oct. 2010.

[10] R.Nagarajan and M,Saravanan. "Performance Analysis of a Novel Reduced Switch Cascaded Multilevel Inverter," Journal of Power Electronics, Vol.14, No.1, pp. 48-60. Jan.2014.

[11] S. Chandrasekar and Gian Carlo Montanari, "Analysis of Partial Discharge Characteristics of Natural Esters as Dielectric Fluid for Electric Power Apparatus Applications," IEEE Transactions on Dielectrics and Electrical Insulation Vol. 21, No. 3, pp.1251-1259 June 2014.

[12] S. Ullo, A. Vaccaro, and G. Velotto, "The role of pervasive and coop-erative sensor networks in smart grids communication," in Proc. 15th IEEE Mediterranean Electro tech. Conf. (MELECON), Apr. 26–28, 2010, pp. 443–447.

[13] S. Malhara and V. Vittal, "Mechanical state estimation of overhead transmission lines using tilt sensors," IEEE Trans. Power Syst., vol. 25, no. 3, pp. 1282–1290, Aug. 2010.

[14] A. Bose, "Smart transmission grid applications and their supporting infrastructure," IEEE Trans. Smart Grid, vol. 1, no. 1, pp. 11–19, Jun. 2010.

[15] R.Nagarajan and M,Saravanan "Staircase Multicarrier SPWM Technique for Nine Level Cascaded Inverter," Proceedings of the International Conference on Power, Energy and Control, IEEE Press, pp-668-675. 2013.

[16] K. Moslehi and R. Kumar, "A reliability perspective of the smart grid," IEEE Trans. Smart Grid, vol. 1, no. 1, pp. 57–64, Jun. 2010.

[17] R.Nagarajan, S.Sathishkumar, S.Deepika,G.Keerthan a,J.K.Kiruthika and R.Nandhini, "Implementation of Chopper Fed Speed Control of Separately Excited DC Motor Using PI Controller", International Journal of Engineering And Computer Science (IJECS), Volume 6, Issue 3, pp. 20629-20633, March 2017.

[18] R.Nagarajan, R.Yuvaraj, V.Hemalatha, S.Logapriya, A.Mekala and S.Priyanga," Implementation of PV - Based Boost Converter Using PI Controller with PSO Algorithm, "International Journal of Engineering And Computer Science (IJECS), Volume 6, Issue 3, pp. 20477-20484, March 2017.