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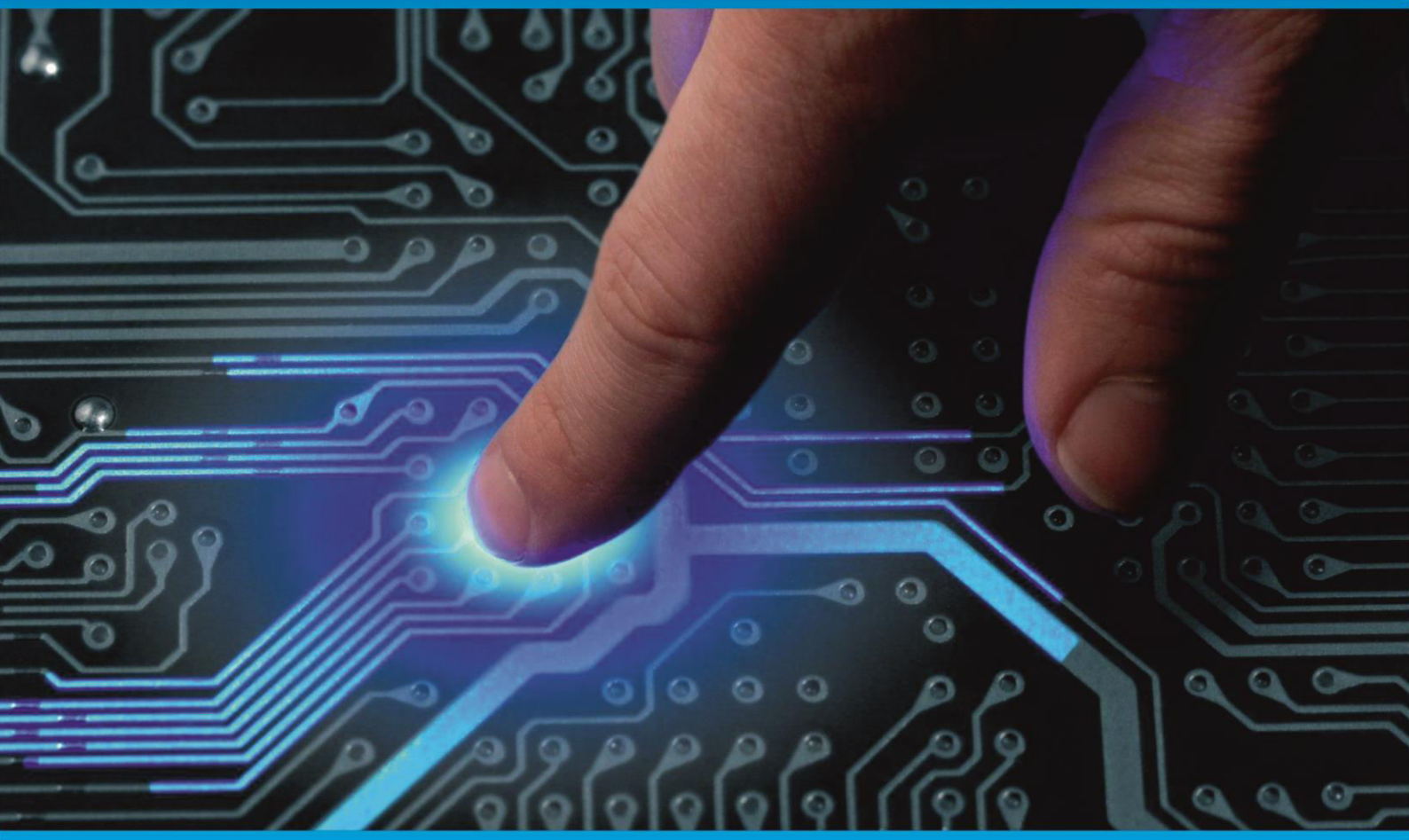

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Borewell and Water Depth Detection Using IOT

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ABSTRACT: In India, everyday people are being prone to accidents through many ways, out of which accidents by open bore-well and man-hole count is being increased day to day. Especially kids are dying due to the open man-hole and bore-well which are going unnoticed. In order to prevent the same from happening the idea proposed in this paper would definitely lend a helping hand. Internet of Things IoT, which introduced many smart things to the society, plays a major role behind this idea of developing smart bore-well and man-hole, which would alarm the concerned team and the neighbouring society with continuous alerts.

This paper implies a new design which has a sensor dept at top of bore-well hole which helps to sense the child if fell inside. If the system senses the child the automatic horizontal closure dept at around how many feet depth closes that indicates water level and prevents the children from falling. The bore-well indicates that how many feet's are going on process. It should be visualized. The bore –well does not have water that also detected and intimated by messages to the Particular Persons. Since kids who are the future of India should be saved from these dangers

I. INTRODUCTION

Borewell scarcity is the major problem faced by the human society. Due to drought and depletion of underground water more borewells are drilled on the surface of the earth. Due to water scarcity more borewells are being sunk. In many areas the borewells are drilled and leaved as it as open without any proper covering. This abandoned borewells have become death pits and started taking many innocent lives especially small children. Now a days falling of children in borewells are increasing due to the carelessness and playful activities of the children. The holes dugged for the borewells are deep around 700 feet. In these cases the rescue of children from such deepest borewells is quite challenging. Many times the rescue system for children from borewells may risk the child life.

II. PROPOSED SYSTEM

This Fig 1 is an overall block diagram of Arduino based borewell alert system which consist of water level depth detection sensors which is connected to controller and sensed values from the sensor used to detect the water level automatically.

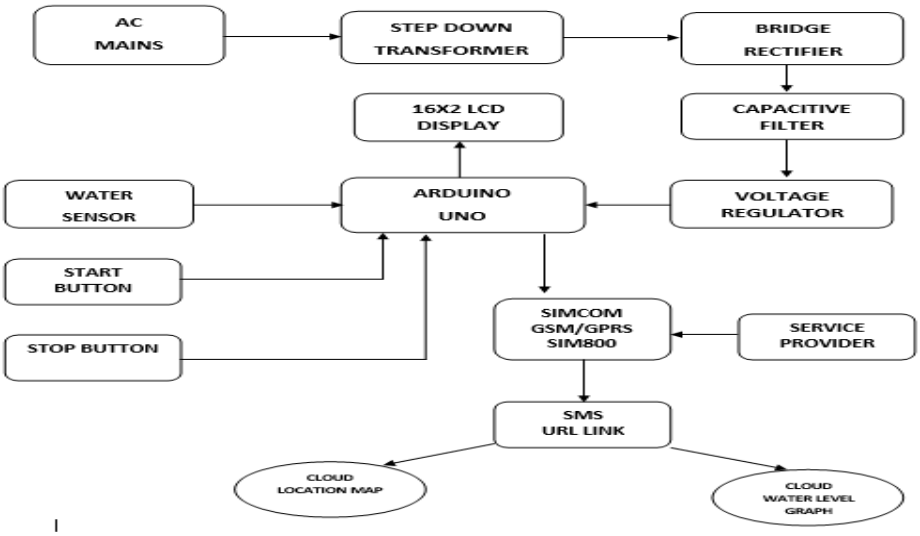

Fig 1

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In existing borewell, there is no precaution taken for infant. Even if borewell is opened. This is the main disadvantage of this system. This system may lead infant into danger. Then also in the current systemthey will be digging hole near the previous bore to rescue the infant but it's very dangerous to the infant inside the borewell. Also if digging neat the previous bore leads to landslide as it's very close to previous bore, the life of the infant will be in danger. So the borewells need to be closed then and there.

The motivation for this project came from the infant Sujith Wilson's death. He struggled a lot inside the borewell. After four days of rescuing he can't be rescued as he was deep inside the borewell. But using this system that can be reduced.

The borewell alert system is very important for the society. It is used to maintain the borewells closed and measure the depth of water. The water level depth detection sensor is interfaced with an 8051microcontroller. The sensor sends the depth of the water to the microcontroller and if water is detected at so and so depth the message will be send to the corporation as borewell is open with exact location and the depth of water. Even if the water is not detected the message will be send to the corporation as borewell is open with exact location and with no water.

III. OBJECTIVE OF THE PROJECT

The main objective of this project is to provide an alert system thereby saving infant lives, money and power of the government. In the traditional way the infant is rescued after falling into the borewell.

ADVANTAGES OF BOREWELL ALERT SYSTEM

Traditional rescue strategies are not suitable for borewell rescue as the infant life will be in danegr, this sector must benefit from modern technological advances. Hence the new borewell alert system has following advantages.

- Reduce death rate
- Reduce empty borewell by detecting water depth
- No manpower required.
- Tracking borewells
- Cost effective method.
- System will not damage by weathers
- Reduce wastage of time

IV. FUTURE WORK

The Smart Child Rescue System from Borewell (SCRS) is installed on Borewell which is under construction or under working. The PIR sensor in SCRS checks regularly for if any child fell inside the Borewell hole. If once the PIR sensor senses the child then it gives signal to the Raspberry Pi which is the heart of the system. Then this Raspberry Pi operates the Horizontal Closure in Smart Child Rescue System and makes it to close.

The Child will land safely in the Horizontal Closure which is in around 10 feet. Once the system is activated it sends the message to the contractor and nearby fire service station along with location. The neighborhoods will get alert by the alarm system placed at the top of the borewell. Thus the accident information is send to the needy which help us to rescue the child easily and safely. With the help of this system the child can be rescued safely in short duration of time. This system will be useful for preventing child from falling into borewell.

V. CONCLUSION

The Borewell alert System from Borewell (SCRS) is designed especially to save the child from borewell at short period of time. This system is designed in order to overcome the drawbacks faced by existing conventional system for rescuing the child from the borewell. This system prevent the child before it falls deep in to the borewell.

All the units are powered by Raspberry Pi Controller which is best, latest, low cost, low power and provides superior performance. Thus by this Smart Borewell alert system System, many child can be saved.

REFERENCES

[1] B. Bharathi, B. Suchitha Samuel "Design and Construction of Rescue Robot and Pipeline Inspection Using Zigbee" International Journal Of Scientific, Engineering and Research (IJSER) Volume 1 Issue 1, September 2013.

[2]Palwinderkaur,Ravinderkaur,Gurpreetsingh "Pipeline Inspection And Bore well Rescue Robot"International Journal of Research in Engineering and Technology(IJRET) Volume issue:03 Issue:04|April 2014.

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[3]Manish Raj, P.Chakraborty and G.C.Nandi "Rescue robotics in bore well Environment" Cornell university library [v1] Mon, 9 Jun 2014

[4] John Jose pottery "robot for bore well rescue" amaljothi college of engineering vol 10, Jun 2009.

[5]Gopinath, S., T. Devika, L. Manivannan, and N. SuthanthiraVanitha. "Rescue Child from Bore well using Embedded System." (2015).

[6]Venmathi, V., E. Poorniya, and S.Sumathi. "Borewell Rescue Robot."International Journal of Computer Applications 113.14 (2015).

[7]Dr. C.N. Sakhale, 2D.M. Mate 3Subhasis Saha, TomarDharmpal, PranjitKar, Arindam Sarkar, Rupam Choudhury, Shahil Kumar , An Approach to Design of Child Saver Machine for Child Trapped in Borehole , International Journal of Research in Mechanical Engineering, October-December, 2013, pp. 26-38.

[8]G.Nithin, G.Gowtham, G. Venkatachalam and S. Narayanan, School of Mechanical Building Sciences, VIT University, India, Design and Simulation of Bore well rescue robot– Advanced, ARPN Journal of Engineering and Applied Sciences, pp. MAY 2014.

[9]Sridhar Palaniswamy " Life Saving Machine" the first International Conference on Interdisciplinary Research and Development, 31 May-1 June 2011, Thailand.

[10]PIR Sensor - Direct web search on google.com Raspberry pi – Direct web search on google.com GSM/GPRS Module – Direct web search on google.com

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