International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 6 June 2022, pp: 1893-1896 www.ijaem.net ISSN: 2395-5252

Development of Robo Child Rescue System from Borewell

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Submitted: 15-06-2022 Revised: 20-06-2022 Accepted: 25-06-2022

ABSTRACT: This project aims to rescue a child who got trapped in an open borewell. Nowadays child often falls in the borehole which is left uncovered and get trapped. It is difficult and also risky to rescue the trapped children to aid in such rescue we proposed a system of designing robots to rescue a child in a borehole. The robot structure consists of a power supply, switch pad, gear motors, Oxygen concentrator, camera, and Microcontroller. The condition of the trapped child is captured with a camera and monitored on a screen. When the child is secure, the lifting rod is contracted to its maximum position. The motor is then reversely operated to unclamp the system. Simultaneously, it is lifted out of the well using a gripper. Here we are using a gripper mechanism. The programming language is written in Embedded C. Less time of operation and increased chance of survival.

I. INTRODUCTION

Nowadays, in India, the major problem faced by people is water scarcity, and to overcome this issue borewells are dug. This case is encountered in rural areas where they start to dig borewells for groundwater, but groundwater is easily too available because of which they go dip down.However certain borewells are abandoned and do not provide with ground water. Sometimes the borewell are dug and would be proving ground water but due to climate change or no rain these borewell ends up drying. So, what happens in this case, the borewell is left uncovered and which becomes a death pit for children and animals in rural area. At times these borewell are covered with mud but due to rain and other calamity, the borewell still remains open and becomes a spot for accidents to occur. The children playing and animals wandering around the borewell unknowingly get trapped in this uncovered borewell. Parents unaware about this situation get delayed to rescue their child on time and safely. The help which will be provided to the child at times will be so late that they end up losing their life. Our Project titled as "Child rescue development system from open borewells" has been undertaken with the aim to save a life. Borewell accidents are common due to uncovered openings of borewell. It is very difficult and risky to rescue the trapped children. A small delay in the rescue can cost the child his or her.The expected number of wells and bore wells in India is now around twenty-seven million, with bore wells accounting for more than 50 percent. Growing water scarcity is being standard as the most important problem in India. Since the water level is decreasing day by day so a greater number of people are affected. Bore wells are constructed to fulfil the needs. These bore wells are left unclosed after finding that ground water is not abundant in the place.Bores yielded water and subsequently got depleted are left uncovered. The bore wells in turn have started to take many innocent lives. Small children without noticing the bore well slip inside and get trapped. There is no proper technique to rescue method for such accidents. In most cases a parallel hole is dug up and then a horizontal path is made to reach to the baby. It mostly fails.

II .EXISTING SYSTEM

Parallel Pit Method

Now a day's robots are designed to help the human operators in the rescue mission. Rescue team normally follows the parallel pit process to save the child. The parallel pit method is shown in fig. First the team will find the depth of the child in the bore well by using a rope. Then earth moving vehicles are used to dig the parallel pit next to the bore hole. This particular step may take time. During this process the child may suffer due to lack of oxygen and the lack of visualization may turn the situation worst to the rescue team.

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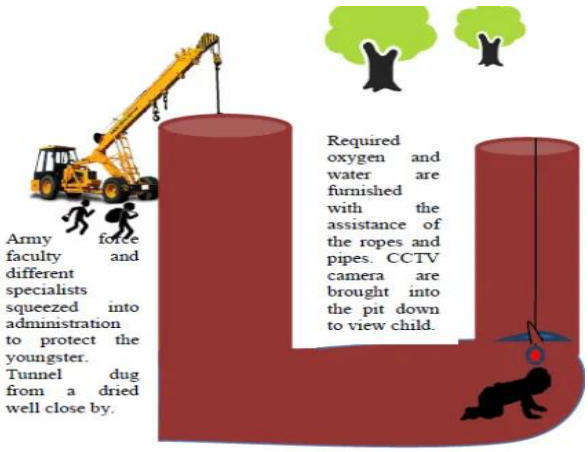
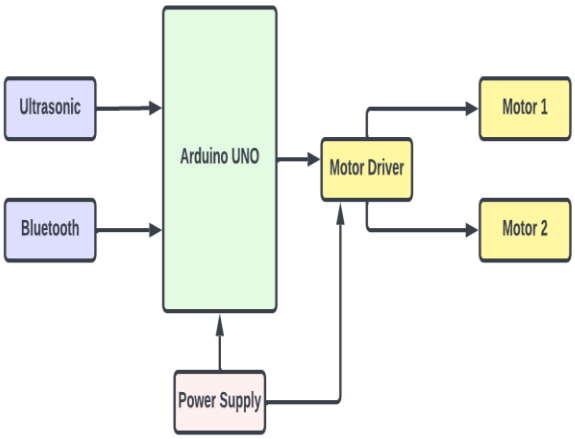


III . MODELING AND ANALYSIS

BLOCK DIAGRAM OF PHASE I



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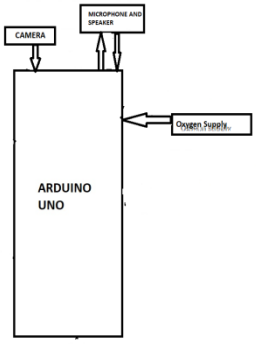

BLOCK DIAGRAM OF PHASE II

IV .RESULTS AND DISCUSSION

OUTPUT PHOTO OF THE PROJECT

The proposed system is tested with a test object and is observed the performance of the system is quite satisfactory in rescuingoperation also completed in very less timecompared to tra ditional methods.Here we are using button technology we are having up, down, stop, automatic,

V .CONCLUSION

Human life is precious. Our borewell child rescue system is a significant attempt to save the life of the victim of borewell accidents. Besides this, this unique capability of climbingthrough vertical and inclined pipes makes wide scope of application for this machine in manufacturing industries and other relevant fields. Further we would like to conclude that with the help of our project, we would be able to rescue the child safety within short period of time.

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