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SMART BOREWELL CHILD RESCUE SYSTEM THROUGH WIRELESS MONITORING USING ARTIFICIAL INTELLIGENCE

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ABSTRACT: ***In this current era of smart operation of electronic devices has indeed created a phenomenal improvement in our lives. Technology also helps us to improve manifold. The current smart UPS system has many places for improvement. In this time and age, there is a shortage of natural resources and hence a shortage in the power supplied through these powergrids. In this paper, we explain about a Smart inverter system that extends or increases the basic life of a battery which is extremely useful during long and unprecedented power outages.The domestic life of the user goes unperturbed and helps him interact with Inverter in a smartand easy way.***

KEYWORDS: ***Smart Grid, Smart Inverter, Uninterrupted Power Supply (UPS), Battery, Switches, PowerSystem Reliability, Renewable Energy System, UPS Management.***

I. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, faxmachine, mobile phone etc. are examples of embedded systems. Each of these applianceswill have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called “firm ware”. Thedesktop/laptop computer is a general-purpose computer. You can use it for a variety of applications such as playing.

II. OBJECTIVE

To develop voice control to pick and place objects for humans. To validate the design on reconfigurable hardware (Raspberry Pi). Integrating with an object to using web cam. To develop a voice control robot.

III. LITERATURE SURVEY

Sakhale et al (2015) designed a machine to rescue a child from the bore well. The robotic machine operates at 12V battery and controlled by a remote system. This system is supported by a gripped tyre and rope pulley drive and essential components. The infrared waterproof CCD camera and high-resolution monitor are used for visualizing the situation inside the bore well. This machine goes down into the bore well and holds the trapped body systematically. [1].

Palwinderkaur et al (2014) described the rescuing a trapped child from the bore well without human intervention.In this rescuing process, the robot consists of gear motor,camera, and a sensor. USB camera is connected to the monitor of PC. The temperature sensor is used to sense the temperature in the bore well. The robotic system is designed with wheeled leg mechanism. This mechanism helps the robot go inside the bore well and the legs are circumferentially and symmetrically spaced out apart. [2].

Bharathi et al (2013) described designing a robot for rescuing a trapped body from bore well. The rescuing robot is fully operated through PC by using the Zigbee technology. This Zigbee module provides a control of sensor and control system. It is a bi directional wireless technology of short distance. Microcontroller is a device used to control the whole device. This robot is operated by servo motor. In this robot camera, LED lights are provided to visualize the situation.[3]

John Jose Pattery et al (2017) described the facility of reusing a trapped child. This system consists motors, gear mechanism, lifting rod, and air pump. First, motor is placed with gear mechanism and arranged at 120 degrees from each other. The second motor is placed below the plate, and it turns the bottom shaft by 360 degrees. The third motor is used to adjust the lifting rod. The fourth motor helps to lift the rod screw its way through the gap towards the bottom of the child. the end of the lifting rod is fixed with air bladder. It is operated through air pump.[4]

Manish Raj et al (2017) described the rescuing robot using pneumatic system. This method consists of pneumatic and telecommunication systems. In this robotic system, the pneumatic arm is placed in the bottom of the system. The telecommunication system would also be attached to the robot for communicating with the child.[5]

IV. IMPLEMENTATION

We use an Arduino Uno R3 Atmega328p.It has a 14 input and an output pin in which 6 Analog pins and 6 PWM pins. It is similar to that of an Arduino nano and Leonardo and operates at a high voltage about 5 volts. The L293 and L293D are quadruple high-current half-H drivers. The L293 is designed to provide bidirectional drive currents of up to 1 A at voltages from 4.5 V to 36V. When the enable input is low, those drivers are disabled and their outputs are off and in the high-impedance state. With the proper data inputs, each pairof` drivers forms a full-H (or bridge) reversible drive suitable for solenoid or motor applications. On the L293, external high-speed output clamp diodes should be used for inductive transient suppression. Ultra sonic sensors are in available for the past many decades and these devices continue to hold huge space in the sensing market because of their specifications, affordability, and flexibility. As the automation industry has been progressing, the employment of ultrasonic sensors in multiple domains such as drones, EV vehicles emerging. A device for capturing a photographic image or recording a video, using film or digital memory.

In a DC motor, the input electrical energy is the direct current which is transformed into the mechanical rotation. In this session, let us know what is a DC motor, types of DC motor and their applications. A magnetic field arises in the air gap when the field coil of the DC motor is energised. The created magnetic field is in the direction of the radii of the armature. The magnetic field enters the armature from the North pole side of the field coil and “exits” the armature from the field coil’s South pole side.

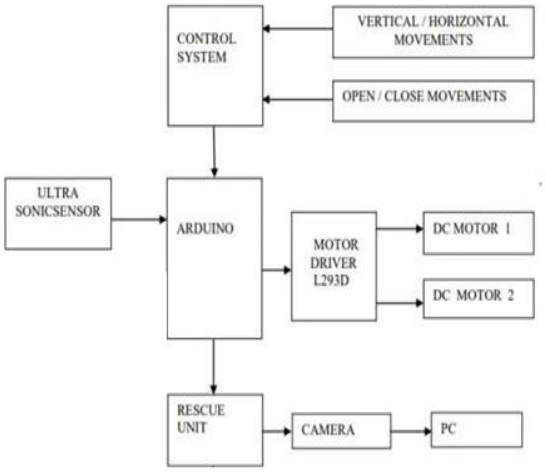

Figure 1: Block Diagram

V. Result

Fig 2: Front View of Proposed Prototype

CONCLUSION

Human life is precious. Our smart bore well child recue system is a significant attempt to save the life of the victim of bore well accidents. Besides this, the unique capability of climbing through vertical and inclined pipes makes wide scope of applicationfor this machine in manufacturing industries and other relevant fields. In the current designof bore well child saver machine is has been made to suit every possible situation may occur in rescuing operation. We like to conclude with the help our project, we able to rescuewithout any damage. applications by adding additional components to this project. The structure is made strong enough to sustain all possible loads, though it can be flexible at the same time to adjust wider range of bore diameter andany change in the diameter of bore. we can send these robots to dangerous zones by connecting smoke sensor to the robot we can get the information related concentration ofsmoke or gases in respective fields and sensor will detect the poisonous gas and it gives information to the Microcontroller and microcontroller gives the information to the transceiver from that we can get the data on the PC side.

FUTURE SCOPE

In future we can use this project in several applications by adding additional components to this project. The structure is made strong enough to sustain all possible loads, though it can be flexible at the same time to adjust wider range of bore diameter andany change in the diameter of bore. we can send these robots to dangerous zones by connecting smoke sensor to the robot we can get the information related concentration ofsmoke or gases in respective fields and sensor will detect the poisonous gas and it gives information to the Microcontroller and microcontroller gives the information to the transceiver from that we can get the data on the PC side.

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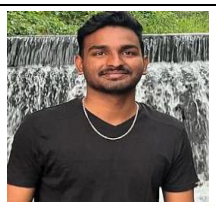	**L. Pavan Kumar,** Pursuing B. Tech in Electronics and Communication Engineering at N S Raju Institute of Technology Visakhapatnam.
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