



## SMART AND SAFE CHILD RESCUE SYSTEM FROM AN BOREWELL

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**Abstract**— for the past few years water scarcity is the major problem in our society. The level of the water has become down, so many bore well has been dug and it is left uncovered properly which has become the death pits of many children and has taken the lives of many children. The time taken to rescue a child from an bore well takes about more than 72 hours .Due to an lack of an proper oxygen and humidity, the lives of an many child couldn't be saved. Recent survey says that about 10 of them 3 were rescued after a long process. This has become challenging nowadays. The main aim of this technique is to rescue to an child safe within an short period. so we use an ultra slim rescue stick for an rescue made up of steel diameter is about 20mm .on which the sensors are placed above the stick at the top. The ultra slim rescue stick is inserted into the hole and goes down below the child and it is changes into an L shape , the child is rescued safety without an major injury. The ultra slim rescue stick can be extended based upon the distance. The time taken up for the rescue process is less than the conventional ones. No need of digging another parallel hole

**Index terms:** *Temperature sensor, gas sensor, co2 sucker, ultra slim rescue stick*

### I.INTRODUCTION

Many developments has been introduced in an science and technology, which brings an lot of improvement in science and it leads to an development of an country, on the other side the major problem faced by an all is an water scarcity. The level of water become down, so many holes has been dugged and left uncovered properly. Recently in a Punjab the accident has occurred due to the carelessness and improper coverage of a hole, 3 years old child has been fell into a bore well, and after a long time child has been rescued. The time taken for an rescue process may takes about more than 3 days .The main cause for an death is that an rescue process it takes more time ,and an oxygen that is present inside an hole is insufficient, and presence of many toxic gases inside an bore well leads to an death pits of many children.

Recently, in Tamilnadu an 2 years old child surjith has been fell into a bore well which is left uncovered properly, he has been fallen due to the play full activities and the carelessness of the parents. They try to rescue a child from a hole by manual process but they couldn't adopt the technology. No more equipment were available still now for rescue process .so they use of an big machines for an rescue process .The time taken to bring these equipments takes

More than one day. They tries to rescue a child manually, the level of a child has gone down. So they use of a new Technology, by paralleling digging a horizontal hole and by rescuing the child. While drilling a parallel hole and vibrations causes ground quakes and disturbs the child. The hole is fully covered with sand which leads to a death of a child inside a hole

In order to overcome this problem, we are adopting a new Technology "SMART AND SAFE CHILD RESCUE SYSTEM FROM AN BOREWELL". The main aim is to achieve a 100% successful implementation and rescue process .The child is rescued safety without an major injury. The time is taken up for a rescue process is lesser than conventional ones.

### II.DESIGN

Fig 1.Represents the block diagram of a process .The main heart of a process is an ESP-8266 in which an wifi module is already programmed. The inputs were applied by a sensor, Camera, co2

Sucker and a power management which is controlled by a remote controller. The output is displayed on a screen. In this we are using an new technology to rescue an child from an borewell.we use an

ultra slim rescue stick to rescue an child from an bore well, the stick is made up of an steel on which the sensors are fixed at the top of an stick, we use an relay to control an

### IV.COMPONENTS

Oxygen unit, exhaust fan and light.

### III. IMPLEMENTATION

The main achievement of our technique is to rescue a child shorter and safer. so we are using an new technology. In this process we are inserting an slim stick into an bore well hole, the stick goes down the hole by an gap between an child and an hole ,there will be an at least point gap between them .by using that gap we are inserting an stick and the stick goes down below the child and by using an remote controller .The size of an stick is about 2mm and the ultra slim rescue stick size is very much lesser than 2mm at the end which is folded, is released and it is changed into an L shape. The child is rescued within an minimum hours without an major injury .The life of an child is saved by using this technique

### HARDWARE IMPLEMENTATION:

#### 1. ULTRA SLIM RESCUE STICK

The main part of a process is an ultra rescue stick which plays an major role for an rescue process The sensors are placed on the stick. The size of a stick can be extended based upon the distance, and it is operated by using a remote controller.



Fig.2. Ultra slim rescue stick

### BLOCK DIAGRAM:

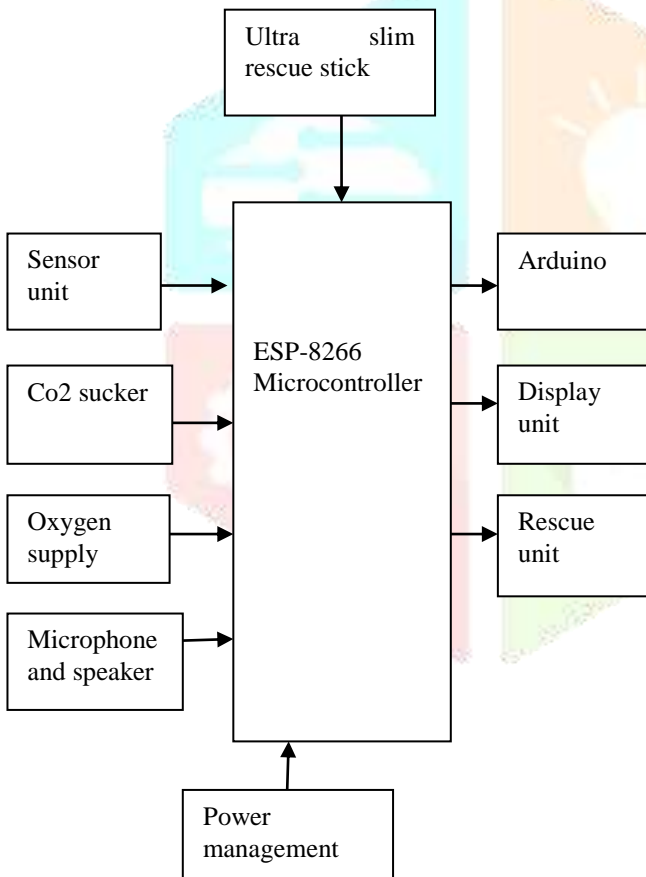


Fig.1. Block diagram of a rescue process

To rescue of a child from a bore well we are using this new technology. In this technique we use an ultra slim rescue stick made up of a stainless steel. The rescue stick is designed about that is folded at the end and it is inserted into the hole and goes down below the child and it is changed into an L shape .The child is rescued safely within an short period and all the sensors are placed above the rescue stick which is operated by an remote controller.

#### 2. GAS SENSOR

The gas sensor is used to sense where there is any toxic gas that are present inside the hole, and which can cause unconscious to the child. Specification: It is used to determine whether a toxic gases Ethanol is present [MQ<sub>3</sub>].

#### 3. CO2 SUCKER:

The rate of a co<sub>2</sub> which is higher than an oxygen rate, the oxygen comes above the surface .The rate of a co<sub>2</sub> is very high inside a hole. So we use a co<sub>2</sub> sucker which sucks all the co<sub>2</sub> present in the hole, which is exhaled by a child.

#### 4. OXYGEN SUPPLY UNIT:

The oxygen supply is provided inside a hole for a proper inspiration of a child. Based on the requirement the oxygen supply unit is provided. Due to a lack of oxygen inside a hole, we are adopting an oxygen supply unit.

## 5. TEMPERATURE SENSOR:

The Temperature sensor is used to sense an temperature or an body heat .They can be used to detect an solid, liquid or gases over an wide range of an temperature. It is used to sense a body heat of a child. We use a DS18B20 temperature sensor it is a water proof sensor  
Specification: used in a water boiling and chillers systems.



Fig.3.Temperature sensor

## 6. MICROPHONE AND SPEAKER:

The microphone is fixed at both the monitoring and rescuing of a child. The one is used to give instructions to a child, and other is used to get information from a child. Speaker is used at a both monitoring unit and a rescue unit for a clear instructions.

## 7. CAMERA MODULE:

The camera is used to take picks of a child and it is used to determine conditions of a child .present situation of a child can be estimated by using an camera.

## 8. MICROCONTROLLER-ESP 8266:

It is a 32 bit micro processor in which a wifi is already programmed in it. It is a low cost and it is operated at a high voltage of about 3.3v.In an ESP-8266 we are dumping a program and the operational instructions were performed by a remote controller. They are used up for a TCP/IP protocols.

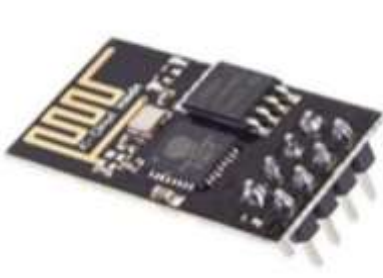


Fig.4.Microcontroller

## 8. ARDUINO:

We use an arduino Uno R3 Atmega328p.It has a 14 input and an output pins 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.



Fig.5. Arduino

## EXISTING SYSTEM:



Fig.6. Existing system

## DRAWBACKS OF AN EXISTING SYSTEM:

Time taken for an rescue process is more than 72 hours and an big space is needed to dug an another parallel hole .It is an risky and an difficult process. Big machines and an very high expensive equipments are needed to rescue an child from an bore well. High manpower is also required in a rescue process.

## PROPOSING SYSTEM:

High manpower and very big equipments are not required and time taken up for a rescue process is less than a conventional ones. No need of digging a parallel holes and big space is not needed. The child is rescue within a short period.



Fig.7. Proposed system

## V.CONCLUSION AND DISCUSSION:

By adopting an ultra slim rescue stick technology, child is rescued safely without an major injury, the sensors are used to sense the present situation of an child and the conditions of an child can be seen through an camera and instructions are given through an microphone which is present at both the rescue and an monitoring unit.

By using a remote controller the ultra slim stick is operated and a child is rescued.



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