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# Smart Human Accident Warning and Safety (SHAWS)

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**ABSTRACT:** Today the world is moving with great inventions having large scope to human for better life style. For better life style the efforts are to high with Hard-work. New inventions with new technology gives us a new path. For this a trial project on human safety we had launch **SHAWS** a new step **SMART HUMAN ACCIDENT WARNING AND SAFETY** for life saving from accidentally Accident. Basically, SHAWS will make sure that the human working with machine has no risk with their life If sometime it's happen accidentally SHAWS will warn and make safety for that time by preventing the risk. We believe that this work will open up new avenues in the development of new applications with human safety.

**KEYWORDS :** SHAW, ALERTS, CONTROLLER, SENSORS, CIRCUIT BREAKER, PRECAUTION.

## I. INTRODUCTION

Heavy machinery and latest technology have gained huge dominance in manufacturing processes. Sometimes Operation of such machines puts human life in danger. SHAWS (SMART HUMAN ACCIDENT WARNING SAFETY) is a project which is the solution to this problem. SHAWS will make sure the safety of human life while operating such heavy and dangerous machines. The existing system should requires the safety and maintaining the human comfortable to their work. SHAWS system conatins the Sensor, Controller, Circuit Breaker. The main heart of this system is Sensor which will perform the operation with Controller, In the Controller the set program will make sure the operation get success.

## II. THEORY AND ANALYSIS

In this project it is analysed that the "SHAWS" giving better performance. It basically works on SENSOR, CONTROLLER, CIRCUIT BREAKER. In short Sensor detect the presence of humans from the radiation of their body heat. Sensor runs on 3v-12v it will sense the presence of `human body, when it detects the presence it give the commands to the Controller to perform the set function. Controller runs on 5v-12v, when it get commands from senor the "in set program" in Controller run and it gives commands to Circuit breaker to stop the working machine. When the Circuit breaker receive the command it will stop the machine in a quick time. (This is applicable for small appliances and large and big machine's appliances).

### III. BLOCK DIAGRAM REPRESENTATION

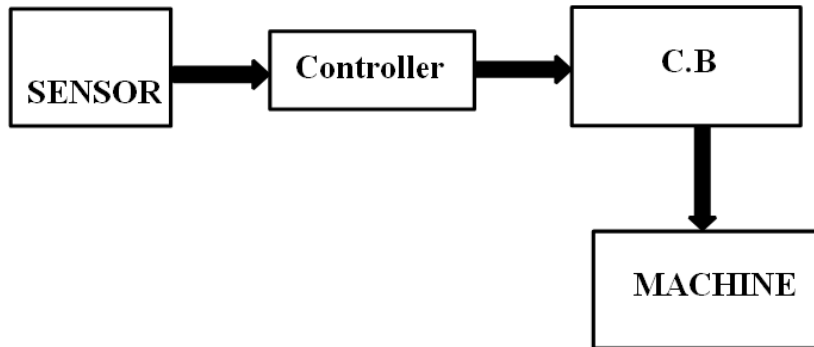


Fig. 1 block diagram

### IV. DESIGN DETAILS

The “SHAWS” is compatibly and easy to implement in the existing and new machines. The design of SHAWS consists the Sensor, Controller, Circuit breaker.

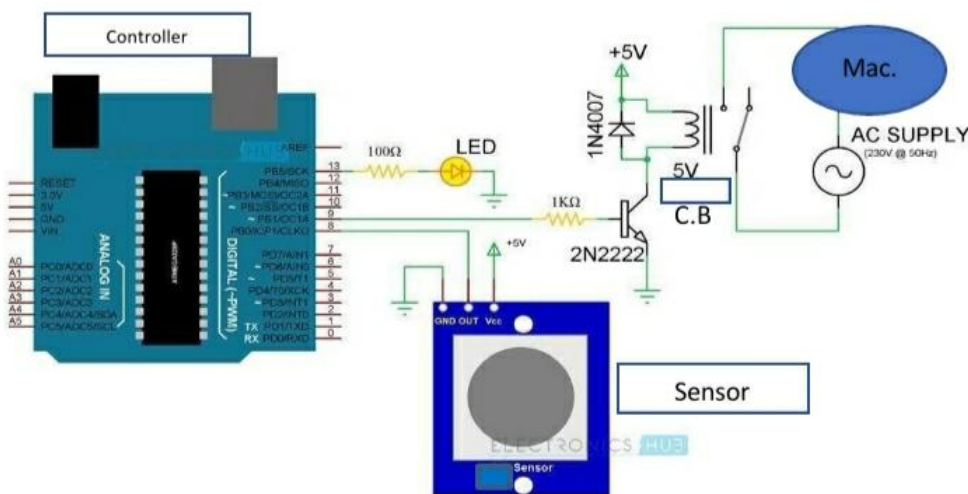


Fig.2 Circuit Diagram

### V. HARDWARE

#### A. Sensor:

Infrared radiation enters through the front of the sensor, known as the 'sensor face'. At the core of a sensor is a solid state sensor or set of sensors, made from pyro electric materials (materials which generate energy when exposed to heat). Typically, the sensors are approximately 1/4 inch square (40 mm<sup>2</sup>), and take the form of a thin film. Materials commonly used in sensors include gallium nitride (GaN), caesium nitrate (CsNO<sub>3</sub>), polyvinyl fluorides, derivatives of phenylpyridine, and cobaltphthalocyanine



Fig.3 Sensor

### B. Controller:

The Controller is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

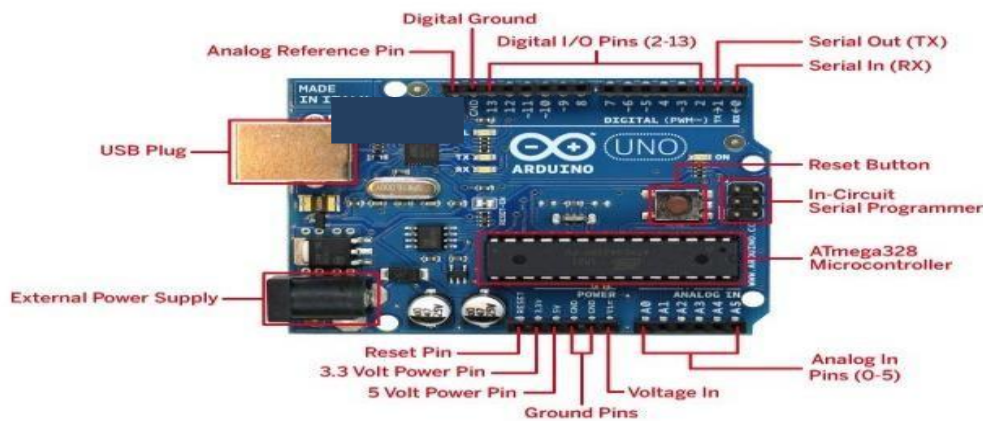


Fig.4 Controller.

### C. Circuit Breaker (C.B):

A C.B is an electrically operated switch. It consists of a set of input terminals for a single or multiple control signals, and a set of operating contact terminals. The switch may have any number of contacts in multiplecontact forms, such as make contacts, break contacts. C.B are used where it is necessary to control a circuit by an independent low-power signal, or where several circuits must be controlled by one signal. C.B are **switches** that open and close circuits electromechanically or electronically.



Fig.5 Circuit breaker



## VI. OBJECTIVES

The main objective of this project is the prevention of accidents by machines. Make sure that human be fearless to their work. Being easily to use

## VII. SCOPE

The scope of this project is very vast in the existing world while the technology is raising up day to day life for make human life comfortable, but while the technology get developed the risk also increasing parallel. So for make the technology risk less the prevention also has to be taken like For road safety is smart helmet As like SHAWS (SMART HUMAN ACCIDENT WARNING & SAFETY).

## VIII. LIMITATION EXISTING SYSTEM

SHAWS it gives accuracy about 70% safety, It ranges about 25cm to 30cm rectangle shape, It requires the stable supply power, No Need to be observe 24 hrs. ,Maintenance.

## IX. RESULTS AND DISCUSSION

Trail on sugarcane machine.



Fig.6 Sugarcane juice machine.

Trail is successful on sugarcane machine.

## X. CONCLUSION

In conclusion we can say that our system is convenient and efficient for the use and useful for the certain dangerous situation on working with machine. We also observe that the SHAWS system is taking good control over the machine incident.

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