ULTRASONIC SHOES FOR BLIND PERSON

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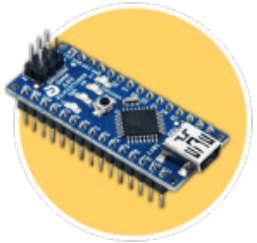
ACCURATE APPLICATION

MORE PRACTICAL

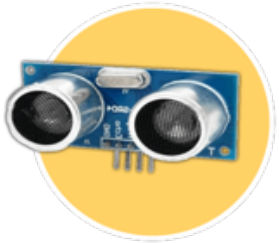
NO HINDRANCE

NO MORE EXTRA COST

COMPONENTS USED IN THIS PROJECT



AURDUINO NANO IS USED TO CONTROL ALL THE COMPONENTS IN THE PROJECT.



ULTRA SONIC SENSOR IS USED TODETERMINE THE DISTANCE BETWEEN SHOES AND THE OBSTACLE.

RECHARGEABLE LITHIUM-ION BATTERY IS USED TO POWER ALL THE COMPONENTS.

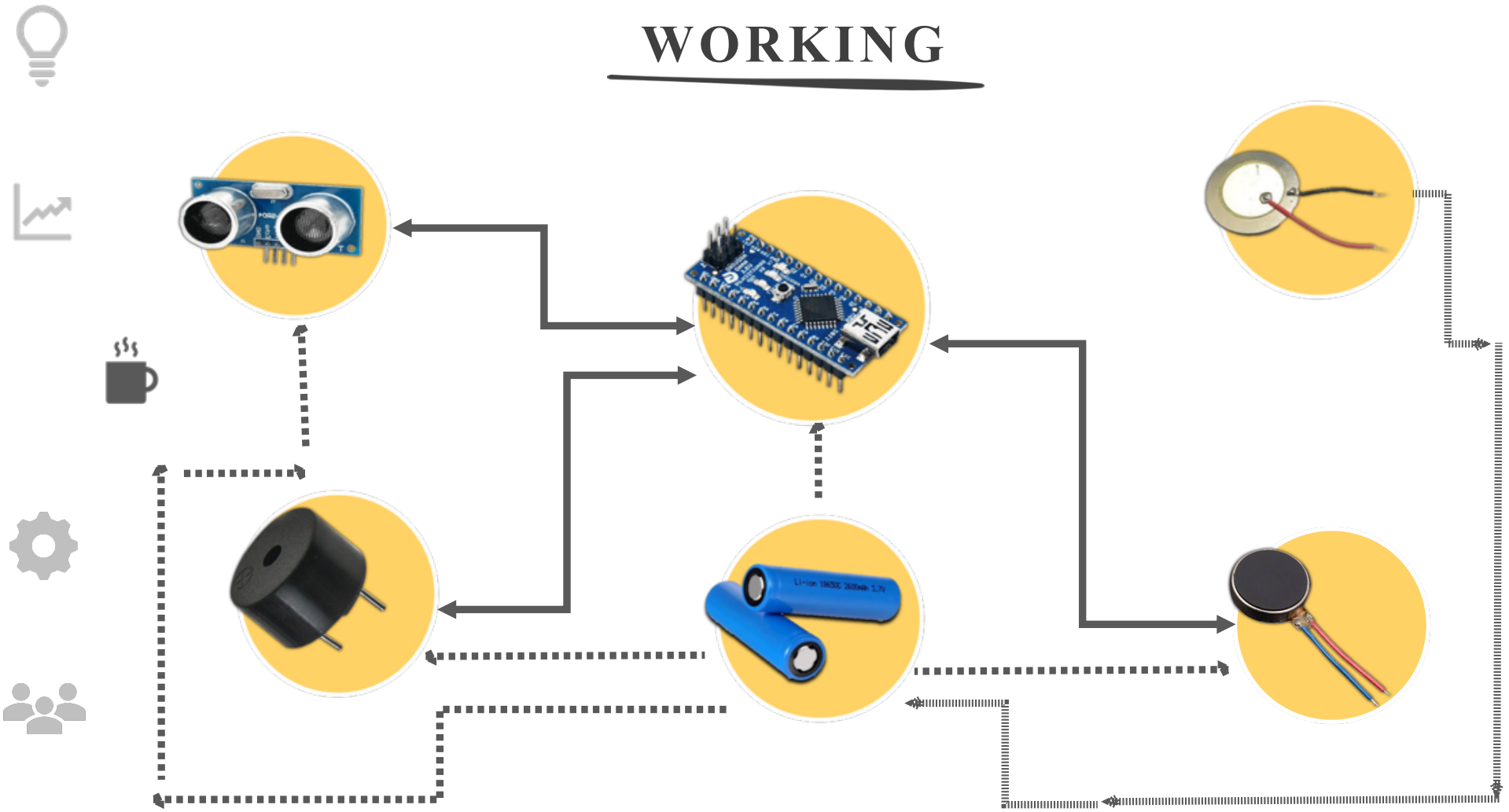
COMPONENTS USED IN THIS PROJECT

A NORMAL 5v BUZZER IS USED TO ALERT THE USER ABOUT NEARBY OBSTACLE.

AN ADVANCE VIBRATION MOTOR IS USED TO PROVIDE RICH HAPTIC FEEDBACK TO USER ABOUT NEARBY OBSTACLE.

MANY PEIZO-ELECTRIC SENSORS ARE USED TO CHARGE LITHIUM-ION BATTERY AND LED LIGHTS.

WORKING



CODING PART

```
int trigPin = 9;     // TRIG pin
int echoPin = 8;     // ECHO pin

float duration_us, distance_cm;

void setup() {
 // begin serial port
 Serial.begin (9600);

 // configure the trigger pin to output mode
 pinMode(trigPin, OUTPUT);A
 // configure the echo pin to input mode
 pinMode(echoPin, INPUT);
}
```

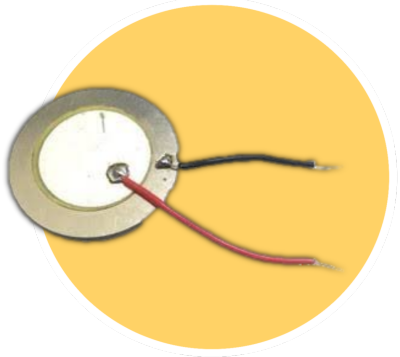
CODING PART

```
void loop() {
 // generate 10-microsecond pulse to TRIG pin
 digitalWrite(trigPin, HIGH);
 delayMicroseconds(10);
 digitalWrite(trigPin, LOW);
 // measure duration of pulse from ECHO pin
 duration_us = pulseIn(echoPin, HIGH);
 // calculate the distance
 distance_cm = 0.017 * duration_us;


 // print the value to Serial Monitor
 Serial.print("distance: ");
 Serial.print(distance_cm);
 Serial.println(" cm");
 delay(500);}
```

VIDEO EXAMPLE

THE INNOVATION



EACH TIME THE USER TAKES A STEP, PIEZO ELECTRIC SENSORS GENERATES SOME AMOUNT OF ELECTRICITY, WHICH DIRECTLY RECHARGES THE BATTERY ON THE GO

BY THIS USER DON'T NEED TO CHARGE THE BATTERY FREQUENTLY.

THE TEAM

YOGESHWAR SINGH

SHAURYA VIKRAM VERMA

MUKUL VERMA

DHRUV AHUJA