GUIDE FOR BLIND

SMART BLIND STICK USING ARDUINO AND ULTRASONIC SENSOR

INTRODUCTION:

AIM :

The study focus on a simple method of detecting the obstacle and route by using an ultrasonic sensor that can detect a hole or stair with maximum range about 2 meter. As we can see Blind people is having their trouble to do their life routines because they can't see even a single things.

- This ultrasonic blind stick have a several feature that surely can help this blind people to navigate routes and detect an obstacle that surely can make their life routines easier.
- The user just need to use the blind the normal blind stick , the different is , blind people can detect a hole or stair more faster and easily.

OUR AGENDA IS…

This project intends to make ease for the optically defected people as a guide.

- To make them feel confident enough to do their works on their own.
- To help them to be aware of their surroundings as equally as a normal person.
- To make them feel safe and secure to move around while walking

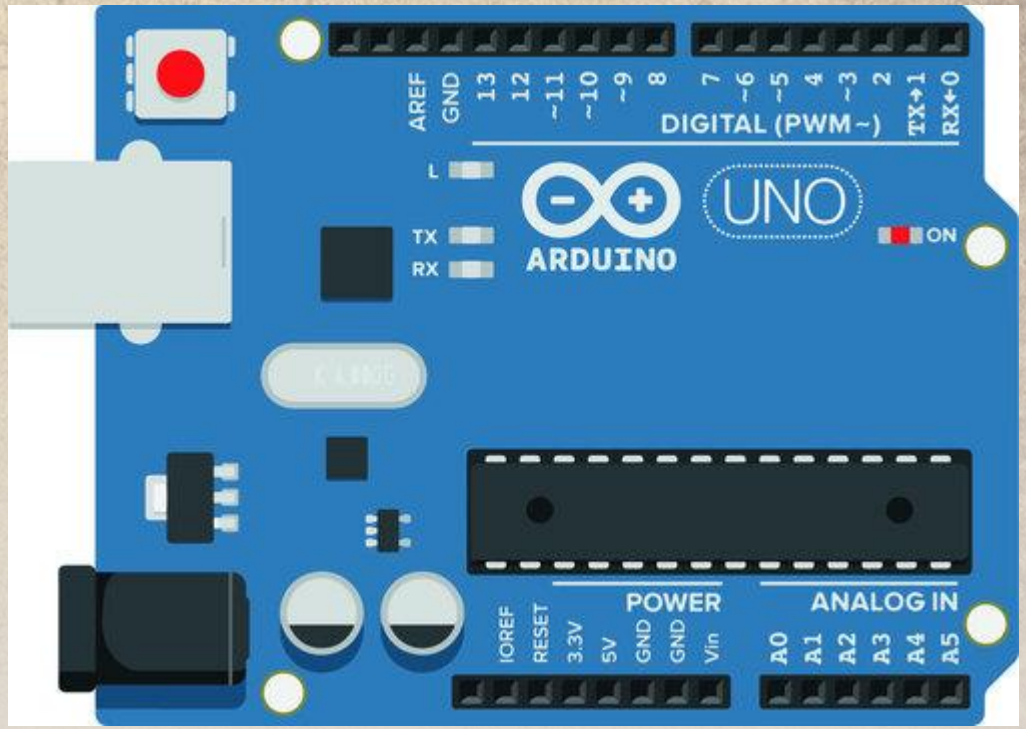
Keywords: Arduino uno, Ultrasonic sensors, RF transmitter and receiver

PROBLEM STATEMENT:

- Blind peoples have to face many challenges in their life, one of them is finding their way on the streets.
- Blind people can't easily recognize obstacles or stairs while using normal blind stick. No safety features on the normal blind stick.
- The blind traveler should depend on any other guide like blind cane , people information , trained dogs, etc. About the 90% of the worlds visually impaired live in developing countries.

REQUIRED COMPONENTS:

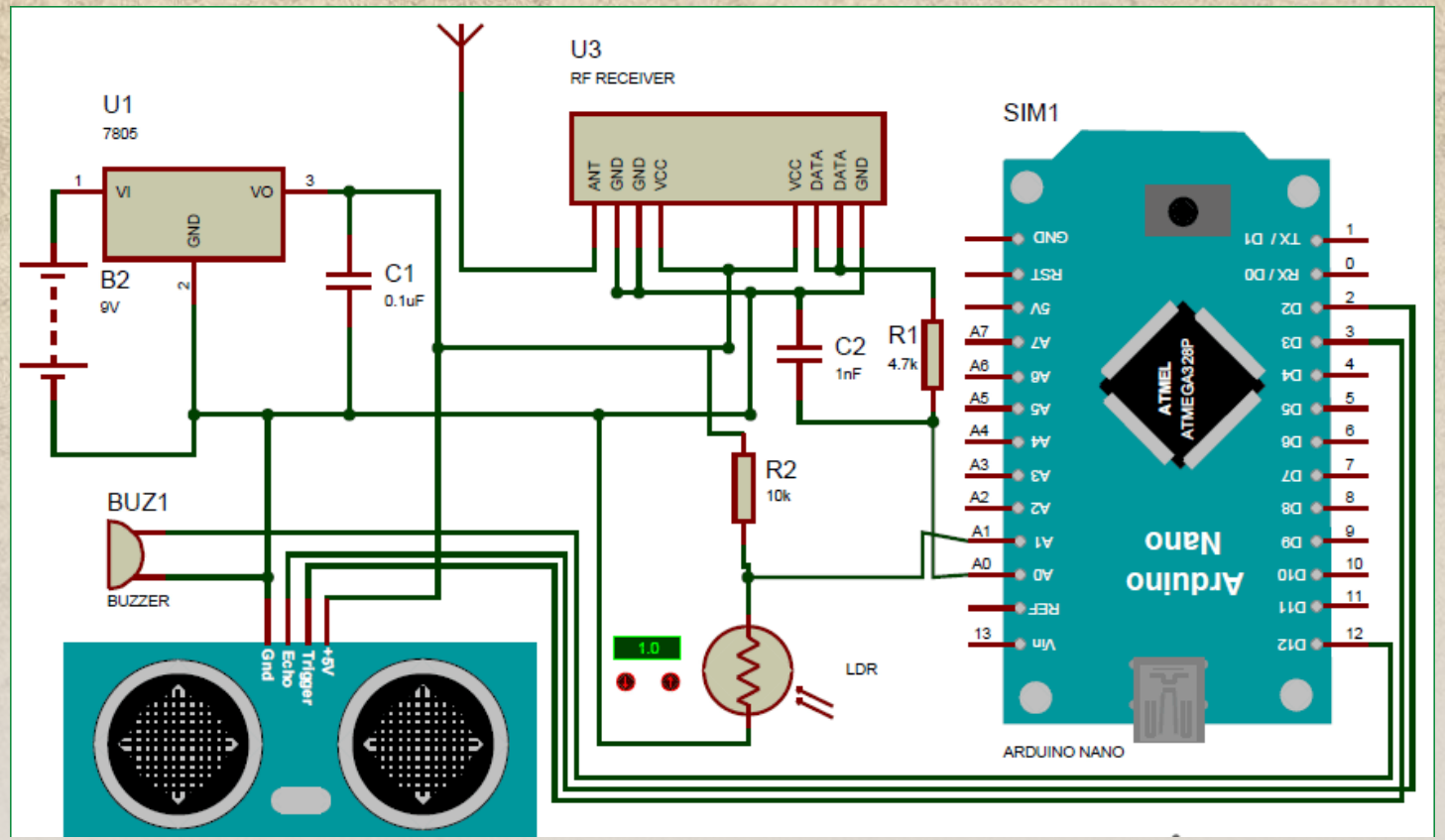
- Materials used for final invention build
  - Arduino UNO
  - USB cable for uploading the code
  - Jumper wires
  - Breadboard
  - HC-SR04 ultrasonic sensor
  - Buzzer
  - LED with a 220 ohm resistor
  - DC batteries



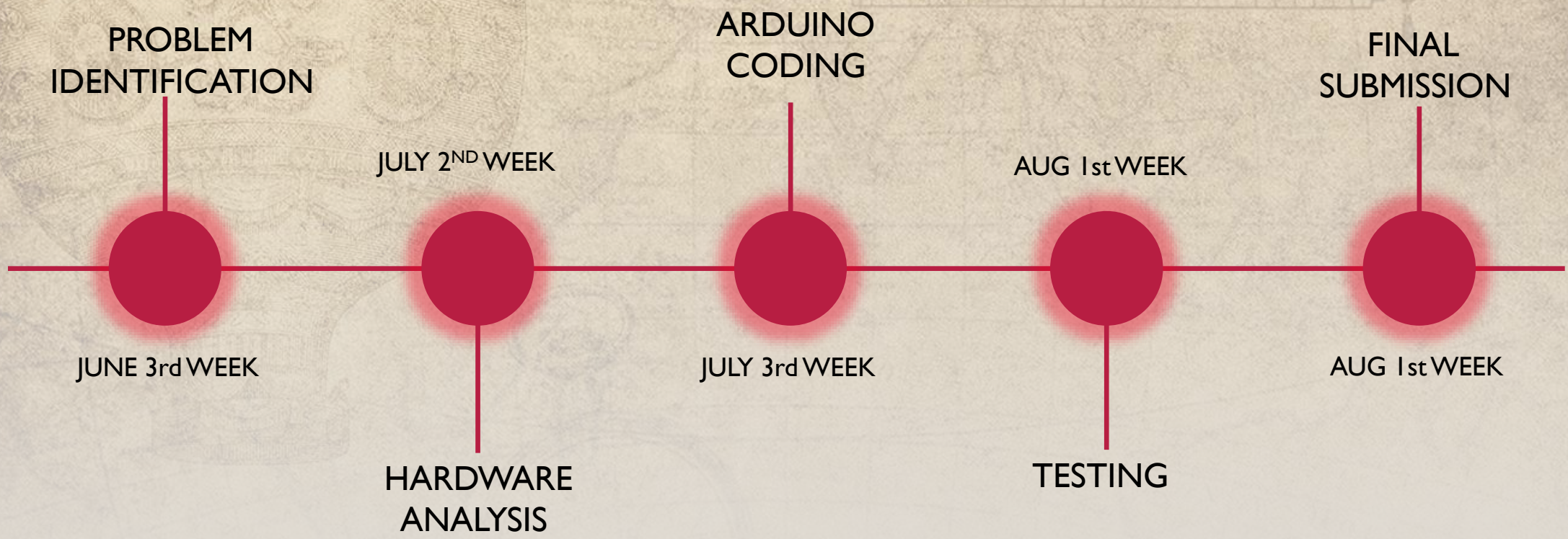
HOW DOES IT WORK…?

- The **Smart Blind Stick** scans the path in front of it with the help of an HC SR04 Ultrasonic sensor.
- Whenever the sensor detects any object in its path the buzzer starts beeping and also at the same time the LED turns on.
- The blind person can hear the beeping of the buzzer and manage to change the way. In this way, the person can easily find his way without getting injured.
- This smart stick works in the same way as the Ultrasonic range finder did. You can also see the real-time values of the distance in cm on the Arduino serial monitor.

CIRCUIT DIAGRAM



TIME LINE:


PROBLEM IDENTIFICATION
JUNE 3rd WEEK
JULY 2ND WEEK
HARDWARE ANALYSIS
ARDUINO CODING
JULY 3rd WEEK
AUG 1st WEEK
TESTING
FINAL SUBMISSION
AUG 1st WEEK

REFERENCES

- https://maxbotix.com/blogs/blog/how-ultrasonic-sensors-work#:~:text=An%20ultrasonic%20sensor%20is%20an,information%20about%20an%20object's%20proximity.
- https://www.arduino.cc/
- https://techatronic.com/smart-blind-stick-using-arduino-and-ultrasonic-sensor/

TEAM MEMBERS:

- Chollangi Prasanth (21BCE9339)
- Mokara Hemanth kumar (21BCE9109)
- Marudi Anjana devi (21BCE9061)
- Allada Manasa (21BCE9087)
- Neeli Subhash (21BCE9549)
- Bylapudi Lahari (21BCE9969)

GUIDED BY:

Prof: Phani kumar meduri

THANK YOU