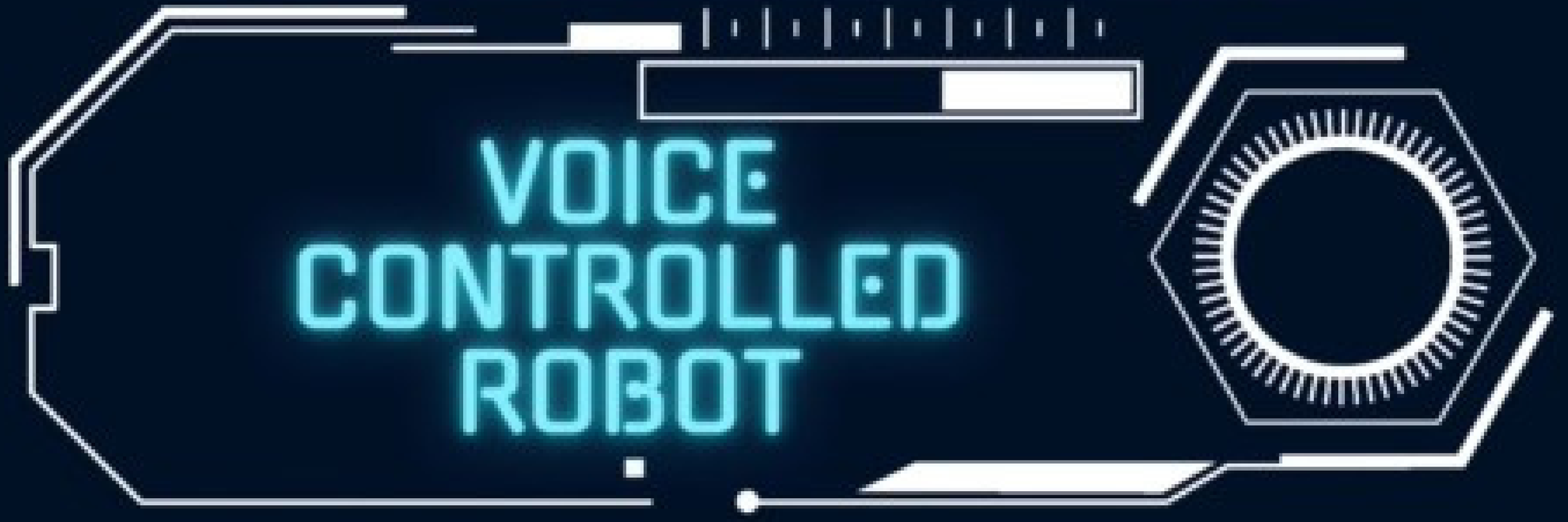
WELCOME TO OUR PROJECT



VOICE CONTROLLED ROBOT

IN THE FUTURE TECHNOLOGY IS DEVELOPING VERY FAST

PROBLEM STATEMENT

Despite the advancements in robotics, there still exist several challenges in providing adequate assistance to people with disabilities, or limited mobility.

There is a need to improve the safety and efficiency of transportation and logistics.

Also to reduce manual labor needs in various industries such as retail, healthcare, and agriculture.

Therefore, we have to develop some technologies to address the existing challenges and improve the quality of life for individuals with disabilities and enhance efficiency and productivity in various industries.

OUR SOLUTION

Canva

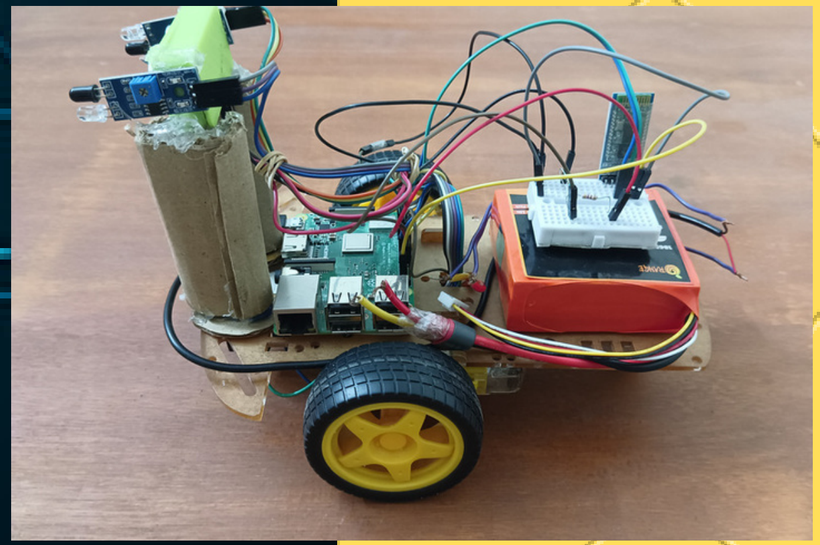
For the existing problems, we have designed a robot that can perform the voice-controlling system and object-following task.

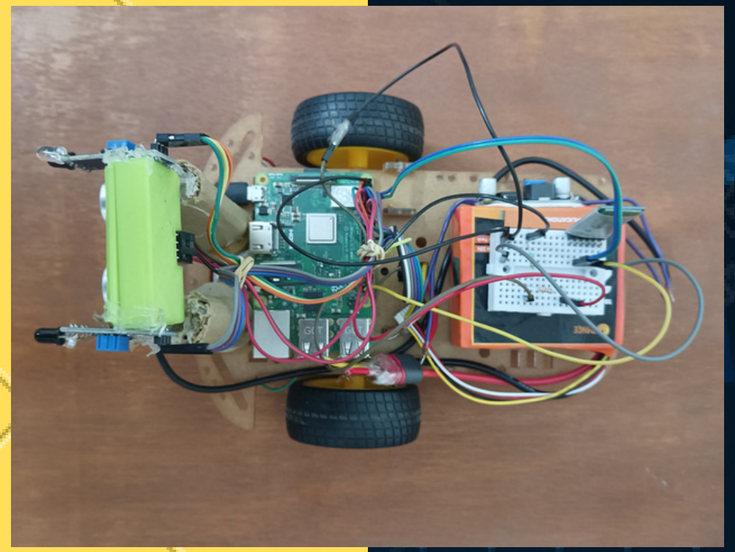
Object-following bots are more adaptive and flexible compared to normal robots. Voice Controlled Robotic Vehicle helps to control the robot through voice commands received via mobile phone.

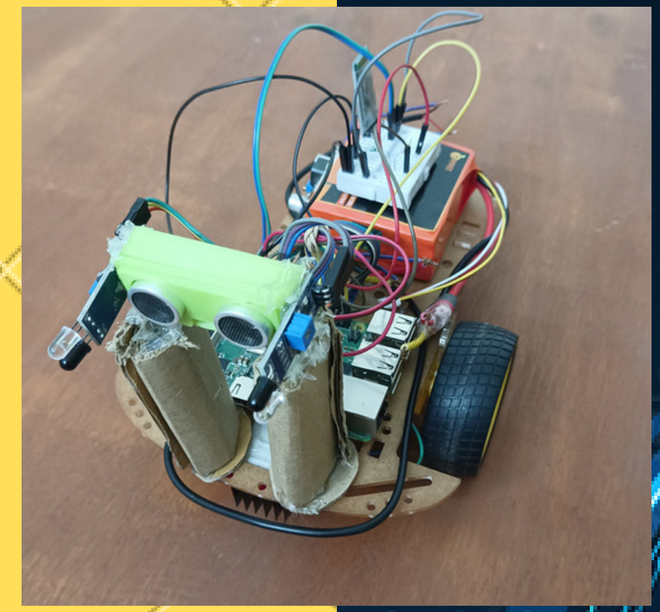
Disabled people who can't move or have difficulty in moving can instruct the bot to do the task for them.

Labor work can be decreased by using this bot instead of people doing the tasks in the industries.

This bot is user-friendly and uses a significantly less number of technicalities.







HOW DOES IT WORKS?

It performs the following steps:

Serial Communication

It uses the Bluetooth Module HC05 to communicate between the Raspberry Pi and the Mobile which takes the input of the command.

Sensor Interfacing

Mainly the sensors in our robot are being used when it has to fulfill the task of an object following. Therein it uses an Ultrasonic sensor and an Infrared sensor to fulfill the task. These send data to the Raspberry Pi via GPIO pins.

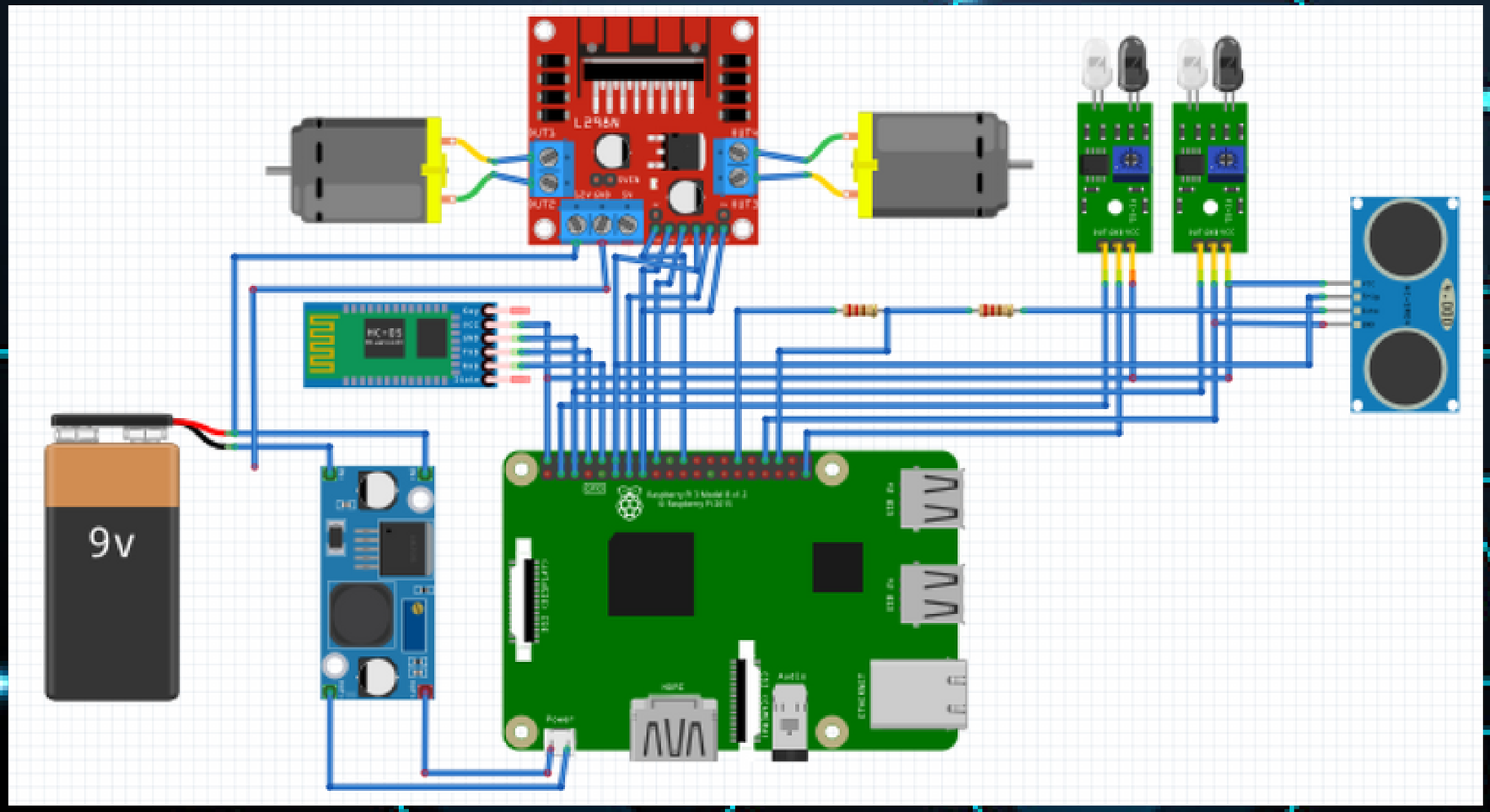
Data Processing

The microcontroller can then read the sensor data and process it accordingly.

Data Flow

These all commands have a series of instructions that are sent to the Motor Driver which further sends it to the motors and the bot moves around accordingly.

CIRCUIT DIAGRAM



SIMULATION

CLICK HERE

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Supervised By :-

Somak Bhattacharyya

GROUP No. - 32

Team Members :-

Prasoon Sahay - 21095086
Allu Sai Neha - 21095010
Vaibhav Bansal - 21095124
Shambhavi Shrivastav - 21095105

THANK YOU!!