GOVERNMENT POLYTECHNIC COLLEGE

TUTICORIN - 628 008.

PROJECT WORK REPORT

ON

AN IOT BASED WIFI CONNECTED CAR-CONTROLLING SYSTEM

Under the Guidance of

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

SYNOPSIS

Nowadays brake failure in many cars causes Accidents and ends up people with death. So, This project is made to prevent people from death even if a break failure is attempted in cars. "We built the car employing a variety of transmission methods. But what about a car that can be controlled over WIFI." WIFI is the most promising technology right now, and developers are always working to improve it. This technology is prevalent today and will be for many years to come. WIFI with low power consumption has also been developed. So let us concentrate on this technology today. We created a car that can be controlled via WIFI. If you host your IP address on a website, you can control it from anywhere in the globe, because, the Internet is inevitable in this World, but we'll stick to local WIFI for now. It also senses the driver's heartbeat through the heartbeat sensor and sends data to a hospital when the driver is affected by a sudden heart attack or other heart-related problems.

INTRODUCTION

1.0 INTRODUCTION

This project is aimed to prevent car accidents caused by brake failure. With the increasing number of accidents due to brake failure, this project is designed to save lives by enabling a car to be controlled remotely.

This car can be controlled through WIFI. WIFI technology is becoming increasingly popular and is continuously improving. By utilizing low-power consumption WIFI, we developed a car that can be controlled remotely, allowing it to be safety in the event of an emergency.

Furthermore, the car is equipped with a heartbeat sensor that can detect heart pulse rate via a heart rate sensor. The data collected from the sensor is sent to a Microcontroller which determines when to send an alert message to the hospital for prompt medical attention and alerts. The project aims to save lives and make driving safer with these features.

BLOCK DIAGRAM

2.0 BLOCK DIAGRAM FOR AN IOT BASED WIFI CONNECTED CAR CONTROLLING SYSTEM

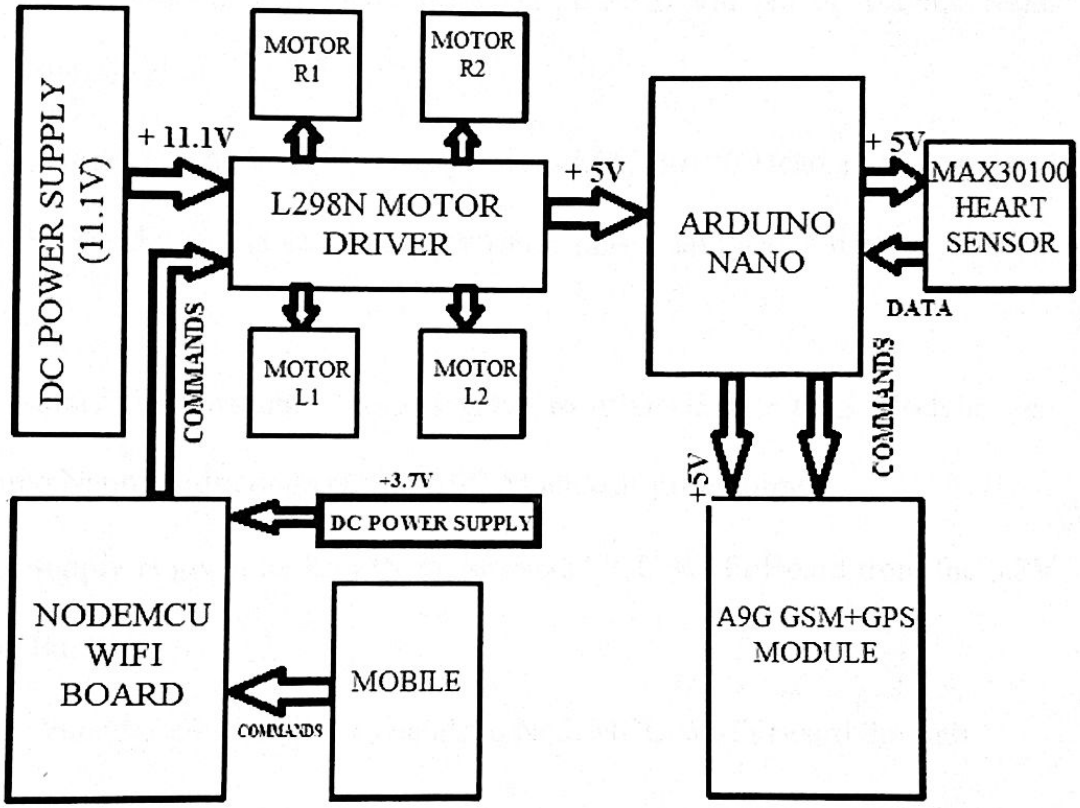

Fig 2.1 Block Diagram

BLOCK DIAGRAM EXPLANATION

- DC Power Supply +11.1V is given to L298N Motor Driver +12V terminal.
- Four motors connected to L298N Motor Driver's OUT 1, OUT 2, OUT 3, OUT 4 terminals.
- +5V supply from L298N motor driver is given to Vin pin of Arduino Nano microcontroller.
- +5V supply from Arduino Nano is given to MAX30100 Heart rate sensor and MAX30100 Heart rate sensor senses Heart pulses and sends data to Arduino Nano.
- +5V supply from Arduino Nano is given to A9G GSM + GPS Module then Arduino Nano sends commands to A9G Module as programmed.
- +3.7V supply is given to the VIN pin of NodeMCU Wi-Fi Board from the 3.7V Li-Ion Battery.
- Mobile Phone used to send commands to NodeMCU Wi-Fi Board through Wi-Fi.
- NodeMCU Board sends a command to L298N Motor Driver to control motors.

6. COST OF ESTIMATION

S. No	Components Name	Qty.	Amount
1.	ESP8266 (NodeMCU)	1	400
2.	MAX30100 SPO2 Sensor	1	360
3.	Arduino Nano	1	500
4.	A9G GSM/GPRS + GPS/BDS Module	1	1500
5.	Capacitive Touch Sensor	1	60
6.	L298N Motor Driver	1	230
5.	Car Chassis Kit	2	900
6.	Lithium-Ion battery	1	200
7.	Lithium-Polymer Battery Charger	3	1100
8.	Miscellaneous charges	-	750
	Total		**6000**

Table 6.1 Cost Of Estimation

7. CONCLUSION

An IoT-based Wi-Fi-connected car-controlling system has the potential to revolutionize the way we interact with our cars. With the ability to remotely control and monitor a vehicle's functions through a smartphone or other internet-connected device, this system provides convenience, security, and efficiency to car owners. Additionally, the ability to collect and analyze data from the vehicle can lead to better maintenance, reduced fuel consumption, and improved safety. While there are some concerns around the security and privacy of these systems, advancements in technology and increased awareness of these issues will likely lead to even more secure and reliable solutions in the future. Overall, the IoT-based Wi-Fi-connected car controlling system is an exciting development that has the potential to make our driving experience safer, more efficient, and more enjoyable.