

COMSATS UNIVERSITY ISLAMABAD ATTOCK CAMPUS

Project Proposal

“Remote Control IOT Based Car ”

DEPARTMENT: *Electrical Computer Engineering*

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COURSE: *Electronic Devices And Circuits*

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**Project Proposal:**

**Project Title:**

**“Remote Control 2WD Car Project”**

**Project Overview:**

This project aims to design and build an IoT 2WD car using electronic components such as the L298N motor driver, the ESP8266 NodeMCU microcontroller, and the Blynk interface. The car will be remotely controllable using a smartphone or tablet.

**Componenets To Be Used:**

1. **L298N Motor Driver**: A dual H-bridge motor driver that allows bidirectional control of two DC motors, enabling precise motor control.
2. **Arduino NodeMCU ESP8266:** A microcontroller board with built-in Wi-Fi capabilities, used to interface with the motor driver and establish internet connectivity.
3. **Jumper Wires:** Used to make electrical connections between the various components of the car.
4. **Lithium Battery Cells 4.2V (x2):** Power source for the car's motor driver and microcontroller.
5. **DC Motors for wheels (x2):** Provides the mechanical motion for the car.
6. **Car Frame:** The structural frame of the car to house the electronic components.
7. **Arduino IDE for coding:** The integrated development environment used for programming the NodeMCU microcontroller

**Project Goals:**

The goals of this project are to:

* Design and build a functional IoT 2WD car with remote control capabilities, focusing on the integration of electronic components and systems.
* Utilize the L298N motor driver to control the car's motors, showcasing an understanding of motor control principles.
* Establish a reliable and secure connection between the car and the internet using the ESP8266 NodeMCU.
* Develop a user-friendly Blynk interface to control the car remotely, applying principles of human-computer interaction and user experience design.
* To get familiarize with the concept of IOT , hardware and software interface

**Project Schedule:**

The project will be completed in three phases:

**Phase 1:** Design and build the car (1 week)

**Phase 2:** Connect the car to the internet and develop the Blynk Interface (1 week)

**Risk Associated:**

The main risks associated with this project are:

* The car may not be able to be controlled remotely
* The car may not be able to connect to the internet
* The Blynk interface may not be user-friendly
* The circuit connectivity may not be correct

**Project Mitigation Strategies:**

The following mitigation strategies will be used to address the risks associated with this project:

* The circuit wiring be testing in order to make sure everything works
* To check car motors rotations clock and anti-clockwise
* The car will be tested thoroughly before it is deployed
* The car will be connected to a variety of different internet connections
* The Blynk interface will be user-tested with a variety of different users

**Project Conclusion:**

This project has the potential to be a valuable learning experience for the students involved. The students will learn about the design and construction of an IoT 2WD car, the use of the L289 driver, the connection of a device to the internet, and the development of a user interface. The students will also gain experience working in a team and managing a project.