GEAR MOTOR

GEAR MOTOR

GEAR MOTOR

GEAR MOTOR

BATTERY

MOTOR DRIVE

ESP32

MOBILE

CONTROLLER

Control **Mechanism:**

* + Design a mobile-controlled car using IoT technologies that allows real-time remote operation with minimal latency and high reliability.

1. **Implement Overvoltage Protection:**
   * Integrate overvoltage protection circuits and algorithms to safeguard sensitive electronic components from power surges, back EMF, and other electrical anomalies.
2. **Create an Automated Emergency Parking System:**
   * Develop an emergency parking mechanism that enables the vehicle to safely stop in case of system failures, such as loss of communication, power anomalies, or component malfunctions.
3. **Ensure Real-Time Monitoring and Alerts:**
   * Equip the system with sensors and communication modules to monitor voltage levels, motor performance, and environmental conditions, providing real-time alerts to users about potential issues.
4. **Enhance Safety and Reliability:**
   * Design fail-safe mechanisms to ensure the car can operate safely in diverse environments, including rough terrains and under adverse conditions like EMI and temperature fluctuations.
5. **Optimize Power Management:**
   * Implement efficient power management solutions to handle irregularities in power supply while ensuring consistent performance during both normal and emergency operations.
6. **Develop a User-Friendly Interface:**
   * Create an intuitive user interface for controlling the car and monitoring its status, accessible via mobile devices or web applications.
7. **Incorporate Environmental Protection Measures:**
   * Protect the system against environmental factors such as moisture, dust, and extreme temperatures to enhance durability and reliability.
8. **Achieve Scalability and Customization:**
   * Ensure the design is modular and scalable, allowing for customization based on different applications and user needs.
9. **Promote Cost-Effective Design:**
   * Optimize the system for cost-efficiency without compromising on safety and functionality, making it accessible for widespread use in applications like robotics, surveillance, and smart transport.

LED INDICATOR