BASICS

* The Robo\_Car consists of a car chassis attached to a robotic hand; both built using materials from ROBOKART.
* It uses 2 geared motors to control the motion of the car and 2 servo motors to control the arm.
* The Robot turns right by running only left wheel and vice-versa.
* The circuit and battery is mounted on the chest of the chassis which is enclosed in a box which consists of a power switch.

ARDUINO –ANDROID- NODE MCU SYSTEM

* The Arduino controls the motor system and the Node MCU, with ESP8266 inbuilt, controls the Wi-Fi communication with the Android Phone.
* The ESP acts as a client and is connected to the JIOFI local network via Wi-Fi, which acts as the server.
* The Android Robo\_Car companion App is also connected to the same server via mobile Wi-Fi.
* When the user puts forward a command via the android user interface, the app sends an equivalent text code to the JIOFI server via a GET request.
* The ESP module accepts and validates the request and returns corresponding feedback command to the Android which gets showed up on the user interface.
* This command is then sent to Arduino via Serial communication.
* The Arduino now converts this command into mechanical form so as to make the motors work accordingly.
* The movement motors are connected to the Arduino via an H-Bridge motor driver owing to high power rating of the motors.

WHAT IS ARDUINO?

Arduino is an 8-bit AtMel AtMega microcontroller board. A microcontroller is a single chip computer (IC) that consists of a processor, memory and I/O peripherals on a single chip. It is a framework by The Arduino Team which allows us to easily convert Algorithms into real life projects.

WHAT IS NODE MCU?

Node MCU is a low cost IOT platform working on ESP-12 Wi-Fi module. ESP is low cost Wi-Fi microchip with full TCP/IP stack and microcontroller capability. It enables you to connect to a local network via Wi-Fi.