BUILD MOBILE APP

CONFIGURE THE MOBILE APP FOR

CONTROLLING MOTORUSING BUTTONS
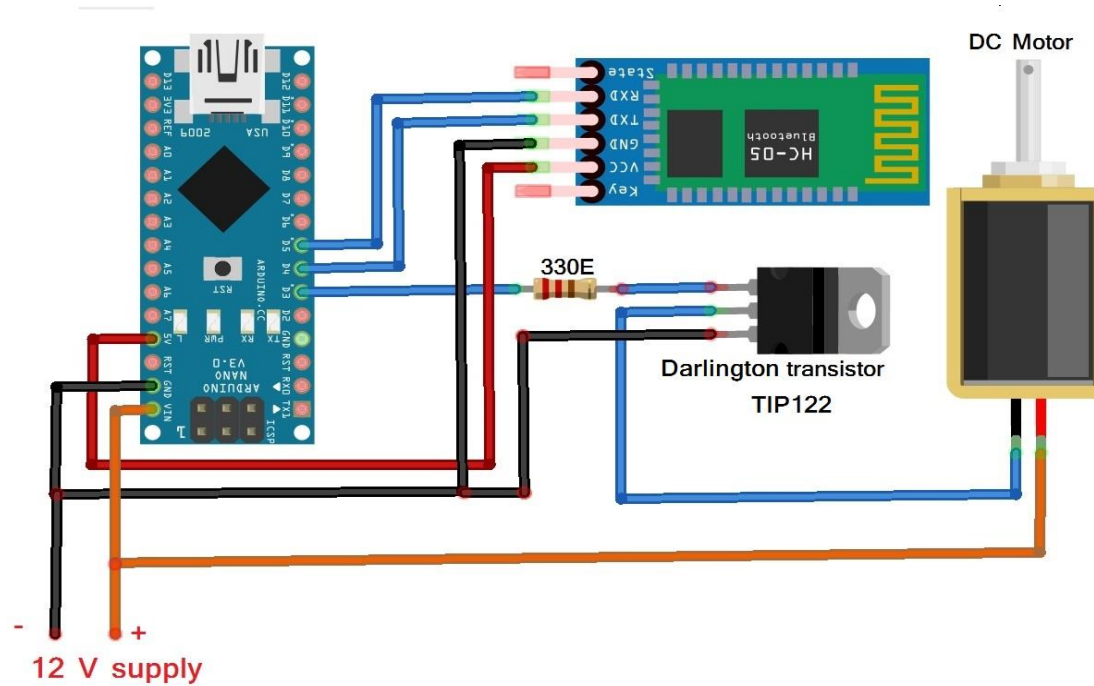
Date	10 November 2022
Team ID	PNT2022TMID07790
Project Name	Real – time River Water Quality Monitoring and Control System
Maximum Marks	4 Marks

This time, we'll be covering DC motor speed control via an Android application (app). For this project, the app is installed in a smartphone device that uses Bluetooth to send commands to the circuit, which controls the DC motor speed. This Android app has an eye-catching graphical user interface (GUI) that's inviting and easy to use. We'll use buttons, a slider, and a speedometer, making this project quite different from the others we've covered.

This circuit is built using only three components: Arduino NANO, the Bluetooth module HC05, and a Darlington transistor TIP122.

- The HC05 has four interfacing pins: Vcc, GND, Tx, and Rx. Here, the Vcc pin is given a 5-V supply from the Arduino board and the GND pin is connected with the board's ground. The Tx and Rx pins are connected with Arduino's pins D4 and D5, respectively.
- The PWM output pin D3 drives the 12-V DC motor using the TIP122. It's connected to TIP122's base terminal through the current limiting 330-ohm resistor.
- The TIP122 is used to amplify the current, providing the required current to the motor. The DC motor is connected between the collector output and the 12-V supply. The TIP122's emitter terminal is connected to the ground.

Circuit diagram:

BLOCK DIAGRAM: