

SMART AGRICULTURAL PESTICIDE SPRAYING ROBOT

AIM:

Design and Development of Smart Agricultural Pesticide Spraying Robot.

PURPOSE:

Robotic plays major role in modern times. They save lot of time and efficient than human work. They can work 24 hours without halt. Agriculture needs lot of machinery to do work fast. Now a day's human work force will decrease day by day. To solve this issue we will propose new solution for spraying application. Spraying robot that can spray water or pesticide and controlled from android Application.

DESCRIPTION:

Bluetooth (HC-05) connected to Arduino UART communication. H-bridge ics (L293d) connected to Arduino digital pins. DC pump controlled by 12v relay.

WORKING:

Toe motors controls Robot base in various directions like front, back, left and right. We can control robot directions from mobile Bluetooth app. App is designed according to our custom application. App has control buttons for easy operation. Also we can ON and OFF spraying DC pump. DC pump is very high power and can push water more than two meters. Spraying pump has nozzle to increase speed of water flow. This nozzle setup rotates in x-axis and y-axis to cover pesticide spray in all the directions.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontrollers	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Motors	:	12VDC Gear Motors
H-Bridge	:	L293D
Bluetooth	:	HC-05
Motors	:	DC gear motors
Relay	:	12VDC
Pump	:	12VDC
Power Source	:	12VDC Battery

SOFTWARE:

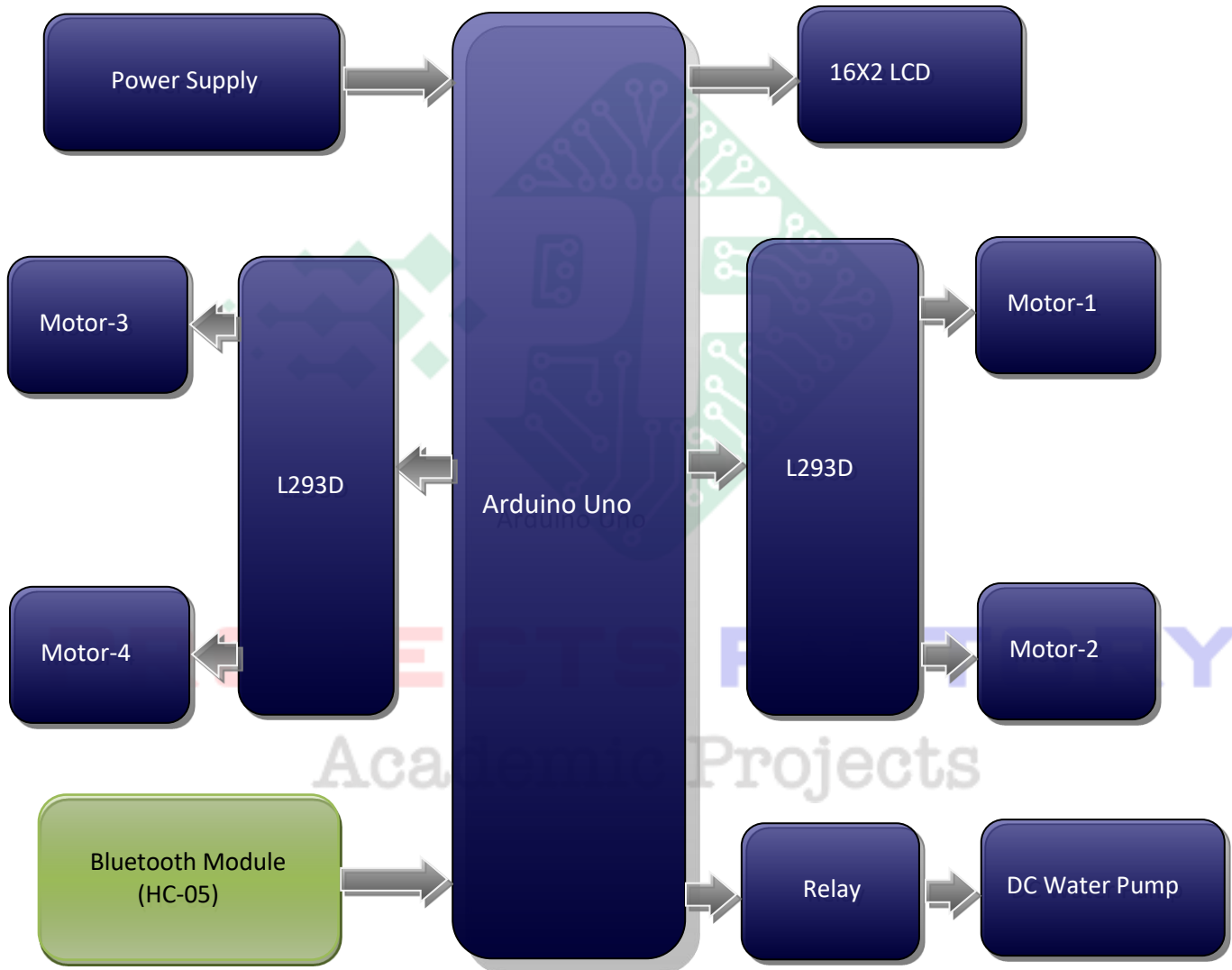
Arduino IDE

Proteus based circuit diagram

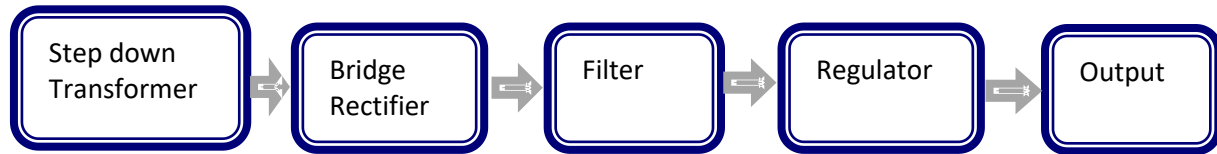
APPLICATIONS:

- Robotic Applications
- Agriculture Robot
- Spraying Robot

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered Bluetooth (HC-05) interface
- Pump and motors interface

PROJECTS FACTORY
Academic Projects