

## Design and Implementation of Bluetooth Controlled Autonomous Vehicle

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**Abstract :** This paper presents both circuit simulation and hardware implementation of a robot vehicle that can be either controlled manually via Bluetooth with video streaming or navigate autonomously to a target point by avoiding obstacles. In manual mode, the user controls the mobile robot using C# windows form interfaced via Bluetooth. The camera mounted on the robot is used to capture and send the real time video to the user. In autonomous mode, the robot plans the shortest path to the target point while avoiding obstacles along the way. Ultrasonic sensor is used for sensing the obstacle in its environment. An efficient path planning algorithm is implemented to navigate the robot along optimal route.

**Keywords :** Arduino Uno, autonomous, Bluetooth module, path planning, remote controlled robot, ultra sonic sensor

**Conference Title :** ICCARVE 2020 : International Conference on Control, Automation, Robotics and Vision Engineering

**Conference Location :** Toronto, Canada

**Conference Dates :** June 18-19, 2020