

Spy car: Wireless remote control camera robot with live streaming

Grace Nealon
Science & Engineering
Manalapan High School
Englishtown, NJ
426gnealon@frhsd.com

Andrew Kabatsky
Science & Engineering
Manalapan High School
Englishtown, NJ
426akabatsky@frhsd.com

Sharone Krasnopolsky
Science & Engineering
Manalapan High School
Englishtown, NJ
426skrasnopolsky@frhsd.com

Abstract

For the duration of this semester, we have designed and built a remotely controlled car that utilizes a camera to wirelessly relay a live video feed from the car back to the user. The project consists of three main parts: the car, the controller, and the camera. We experimented with different chassis, used a Logitech F310 to control our rover, and a Raspberry Pi motor hat to facilitate the signals received from the controller to the motors. We created smooth communication between the car and controller through the use of a WiFi connection and a Raspberry Pi setup. We also were able to relay live video and allow for video recording, as well as transmit data using serial communication.

This project allowed us to study different aspects of robotics, programming, and project design. We learned to use microcontrollers to command different electronic components, and our goal was to obtain wireless communication between devices. We combined both software and hardware aspects in this project.

Index Terms

Traffic Safety Division, Monmouth County Engineering, spy car, road study, Raspberry Pi, 802.11, wi-fi, video, electronics, robotics, Arduino