ROS-Enabled Survelliance Robot

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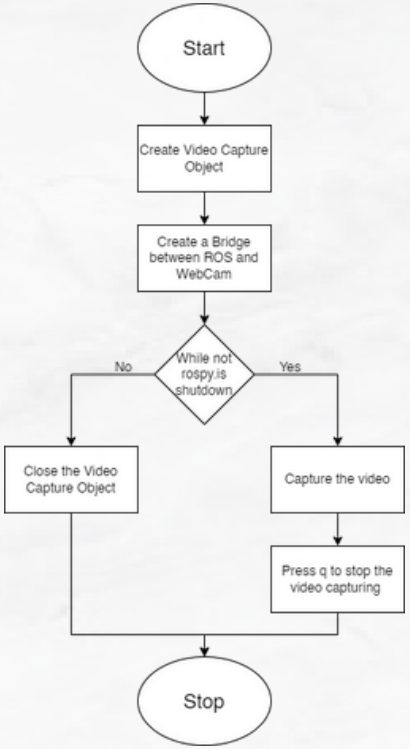
Branch: Computer Science And Artificial Intelligence

Introduction

A ROS-Enabled surveillance robot is designed which can be controlled remotely and streams the video feed simultaneously. It uses an USB Camera and a motor driver which captures the video and controls the dc motors to move the robot. Robotics operating system is used in order to control the movement and the video stream.

Flow Chart



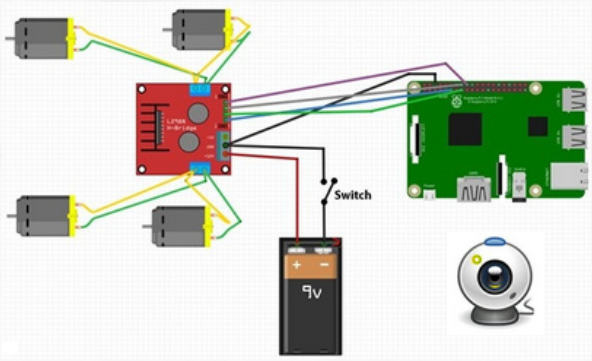
Software used

- Ros Noetic Ninjemys
- Ubuntu Mate 20.04 Focal Fossa
- Remote Desktop
- Balena Etcher
- Windows Disk Management
- SSH (Secure Shell)
- Python

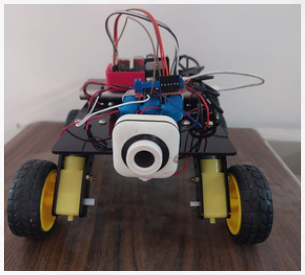
Hardware used

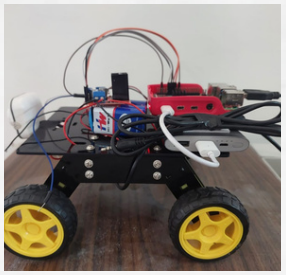
- Raspberry pi
- SD Card
- L298N Motor driver
- Webcam
- Kit4 Curious Robot Chassis
- Power Bank & 9V Batteries
- DC Motors
- Jumper Wires

Block Diagram



Images





Output

Resources

- https://ubuntu-mate.org/download/arm64/
- http://wiki.ros.org/noetic/Installation/Ubunu
- https://www.raspberrypi.com/documentation/
- https://components101.com/modules/l293n-motor-driver-module
- http://wiki.ros.org/usb_cam
- https://www.electronicshub.org/raspberry-pi-l298n-interface-tutorial-control-dc-motor-l298n-raspberry-pi/