

Surveillance Robot

MOTIVATION:

In today's world terrorist attacks are spread all over world as clouds in rainy season covers the sky, in such scenario we are in need of a bot that normal people can control after minimal training by use of an android app.

BROAD VISION:

To design a bot which can follow a particular object and will have a dart gun which will be controlled by an android application.

FINAL DEMONSTRATION :

A version of a bot following an particular object and gun fully controlled by an android application.

WORK STRATEGY :

Step 1: Design of bot. (includes movement of bot, camera and gun)

Step 2: Image processing to follow an object and purchase of required accessories.

Step 3: Control of bot and camera according to the image Processed.

Step 4: Android app to control gun according to the image processed.

Step 5: (Extra feature) Artificial intelligence to control gun according to the image processed as when required by user.

SKILLS INTENDED TO BE LEARNED :

Through this project we will learn image processing , control of servos , communication protocol and development of an android application.

TIMELINE :

Week 1: Design and manufacture of bot and image processing.

Week 2: Components for real time image processing and control of camera and gun and their calibration with microcontroller.

Week 3: Control of Servo motors and bot according to the output image processed.

Week 4: Android App to shoot target according to the image processed.

Week 5: Artificial Intelligence for automatic control of gun according to the image processed.

COMPONENTS REQUIRED :

- (i) 4 servo motors
- (ii) webcam
- (iii) lead acetate battery
- (iv) Basic electronics components.
- (v) Raspberry pi or any microcontroller for image processing

COST ESTIMATED :

Not more than 10k.

TEAM DETAILS :

Member 1 : Ayush Agrawal

14D070042

8290455500

Member 2: Saurabh Garg

140070003

7666412651

Member 3: Debarnab Mitra

140070037

Member 4: Jagesh Golwala

14D070005