

AQR ROBOT

ABSTRACT

Our main purpose of making this project is to learn new various technical and mechanical aspects. Making an autonomous quadrotor, being a fairly challenging task, is a good means of learning these aspects. Our project is different from just a remote controlled quadrotor that flies. Our end result will not only be able to fly autonomously but also it can surveil.

IMPLEMENTATION STEPS

Our first step in making this robot is to make a basic quadrotor. Then our next step will be to attach sensors to the robot. To make it autonomous we will use these sensors to detect the threats and hurdles and give the quadrotor an escape path based on the predicted trajectory of the incoming threat using the monitored acceleration and velocity of the threat. At we will do rigorous testing of the robot.

COMPONENTS REQUIRED

- Raspberry-Pi/Beagle Bone
- Polycarbonate/Acrylic
- Brushless Motors
- Infrared Distance Sensors
- Camera
- Propellers
- Li-Po Battery
- ICs
- Bread Board
- Transmitter-Receiver

TIMELINE

1ST Week: Studying the components and planning the project, designing, purchasing required components, construction of basic structure and making its CAD in Solidworks.

2nd Week: Making the Circuit and ensuring that robot starts its basic flying.

3rd Week: Enabling the bot to receive data from sensors and be able to evade the threats.

4th Week: Making the robot Autonomous.

5th and 6th Week: Testing and Debugging.

COST

Rs. 8000-10000

PRACTICAL APPLICATIONS

- Surveillance
- Spying
- Can go to inaccessible areas where it is difficult for humans to reach.
- Military Application
- Rescuing

TEAM MEMBERS

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