

RC Quad+boat

Objective:

The main aim is to build a general purpose surveillance vehicle which would perform well in all conditions, in air as well as in water.

Implementation steps:

- 1) Building the Quadrotor (week 1)
- 2) Creating a floating surface (week 2)
- 3) Building the propulsion and control system for boat (week 3)
- 4) Mounting camera for vision (week 4)
- 5) Performing specific tasks like object identification and locating certain objects in water as well as in air. (week 5)

Components required:

(Some of components like transmitter and receiver may be available from MAV lab or aeromodelling club)

Components	Quantity	Approximate Cost (\$)
Quadrotor chasis	1	10
Brushless motors	4	60
Motor accessory pack	4	7.4
Electronic speed controllers (quad)	4	52
Propellers	4	10
Boat propellers	2	10
Boat motors	2	44
Electronic speed controller (boat)	2	30
Camera	1	20
Transmitter and receiver	1	90
Quadrotor control board	1	25
Battery	1	11
Total		369.4

Learning objective:

- 1) Studying the control systems of multi rotors and boats
- 2) Image processing