Hybrid Quad copter

Implementation

A race against time

1st week (5th April to 11th April)

Detailed study on project

2nd week (12th to 19th April)

1st review of our study.

 Narrowing down on materials.

 Applying 6 hats to get to know what we need

3rd week (20th to 26th April)

Getting our materials in place.

 Creating a blueprint of our work.

 Creating the wheels

4th week (27th April to 3rd May)

Quadcopter build.

Review 2

5th week (4th to 9th May)

Hybrid quad copter version 1.0.

 First test flight.

3rd review

Analysis 1

6th week (10th and 11th May)

Version 1.1.

Second test flight.

Finishing touches.

12th May

Project exhibition.

Components required and their prize estimate:

SI	Component Name	Specification	Amount
1	Wireless Surveillance Camera with Receiver	RKI-1371	Rs.1950
2	Motor x4	hexTronik DT750 Brushless Outrunner 750kv	788 * 4
3	Electronic Speed Control (ESC) x4	RCTimer 30A SimonK ESC	750 * 4
4	Flight Control Board	HobbyKing KK2.0 Multirotor LCD Flight Control Board w/ Updated Firmware	3000
5	Radio transmitter and receiver	Turnigy 9X 9Ch Transmitter w/ Module & 8ch Receiver (Mode 2) (v2 Firmware)	5820
6	Propeller x4 (2 clockwise and 2 counter-clockwise)		480
7	Battery & Charger	Turnigy Nano-Tech 3000mAh 25-50C 3S LiPo	2100
8	Miscellaneous cost	Wire, bolts, glue etc	300

Objectives:

- To design and build a manoeuvrable and agile quad copter.
- To design a completely longitudinally stable copter for better imaging purposes.
- To combine the quad copter and hovercraft design and build a hybrid model that can fly as well as glide on the surface of water and ground for better imaging of specimen.
- To understand the concept of Ground Effect Vehicles.
- To carry and drop light weight objects.
- We may test this Quad copter to carry sensors as in Remote Sensing satellites and study various parameters regarding it.

Learnings:

- In depth knowledge about aerodynamics
- Clarity in the basics concepts of physics -pressure and thrust
- To know more about dynamic of quad copter
- To know the basics electrical involved

These are the various learning from our project.