

MTB – Multi Terrain Bot

MOTIVATION:

In today's world there's no bot that can travel over land, air and water. So basic desire is to create a bot which can travel on all types of terrain in spite of all obstacles in path. The driving force was the MH 370 which went missing

BROAD VISION:

To design a bot which travels on land, water and air . This Bot will be controlled by a remote controller. This project can be thought of as a prototype of a all-terrain vehicle or a unmanned robot vehicle which can go anywhere.

FINAL DEMONSTRATION :

A version of fully remote controlled bot that can travel over land, air and water.

WORK STRATEGY :

Step 1: Completion of paper work-By complete paper work we refer to the complete blue print of the project. Our bot will be made inside out. Thus we need to first work on the dynamics and body of the bot. Thus complete paper work would refer to the CAD sheet of the model of special wheels, chassis of the bot and other related things. Also it would put out electrical specifications like type of motor and batteries, etc. Also it will include various states at which the

bot will run at different conditions i.e. rpm of motors when travelling on land and in air etc.

Step 2: Getting accessories

Step 3: Fabrication of parts.

Step 4: Assembly

Step 5: Special concern to waterproofing: The bot's electrical component will be divided into three parts which will be separately waterproof. These three components are main motors, central ICs and servo motors. Most probably the material which we are using will be carbon fibre.

SKILLS INTENDED TO BE LEARNED :

Through this project we will learn remote communication and mechanics related to drone and Amphibian bot.

TIMELINE :

Week 1: 100 % completion of paper work and clearance of authenticity from mentors.

Week 2: Getting accessories and designing and completion of required electrical circuits. (both of bot and remote controller)

Week 3: Fabrication and construction of required components i.e. bot parts and necessary coding to be done.

Week 4: Assembling and testing of bot.

Week 5: Debugging of bot

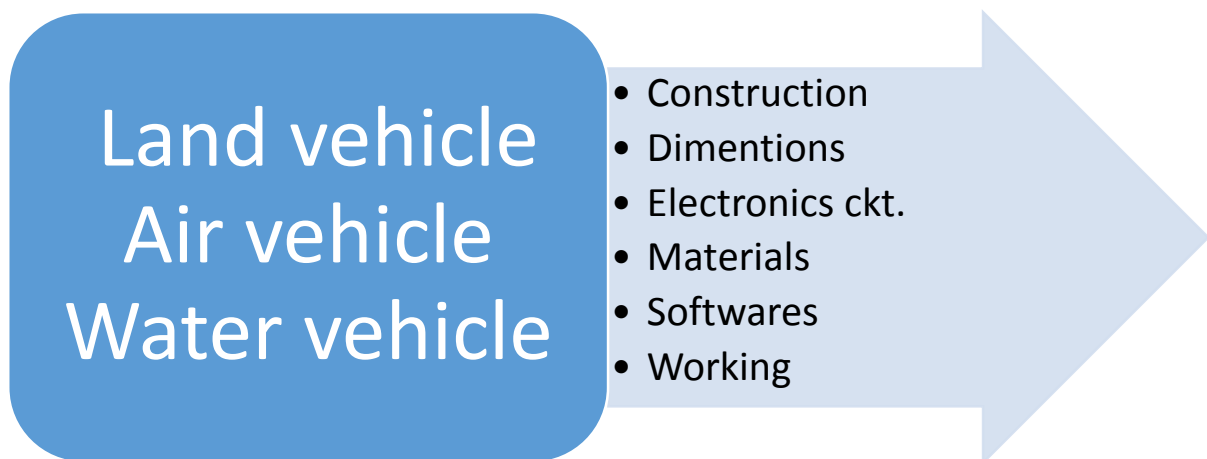
COMPONENTS REQUIRED :

- (i) 4 High RPM motors.
- (ii) 4 servo motors
- (iii) Li-po battery
- (iv) Basic electronics components.
- (v) Basic mechanical components and accessibility to 3-D printer.

COST ESTIMATED :

Not more than 15k.

DATA COLLECTION :



TEAM DETAILS :

Member 1 : Ayush Agrawal

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Member 2: Saurabh Garg

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Member 3: Debarnab Mitra

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Member 4: Jagesh Golwala

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