Quadcopter with integrated applications.

MAIN MOTTO

- Our Motto is to evolution of technology by drones.

- To help farmers by introducing seed bomb and fertilizers spraying
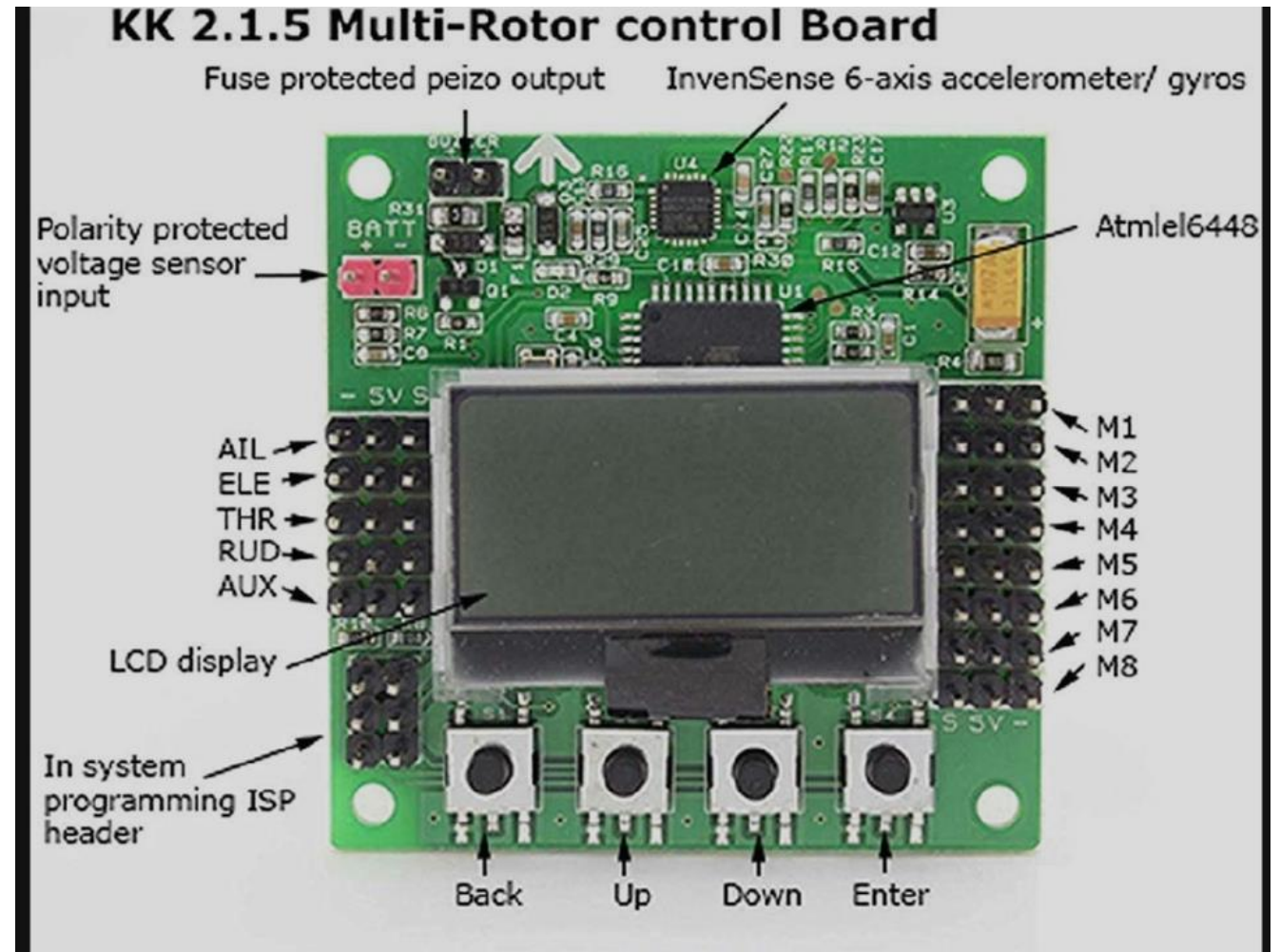
Working model
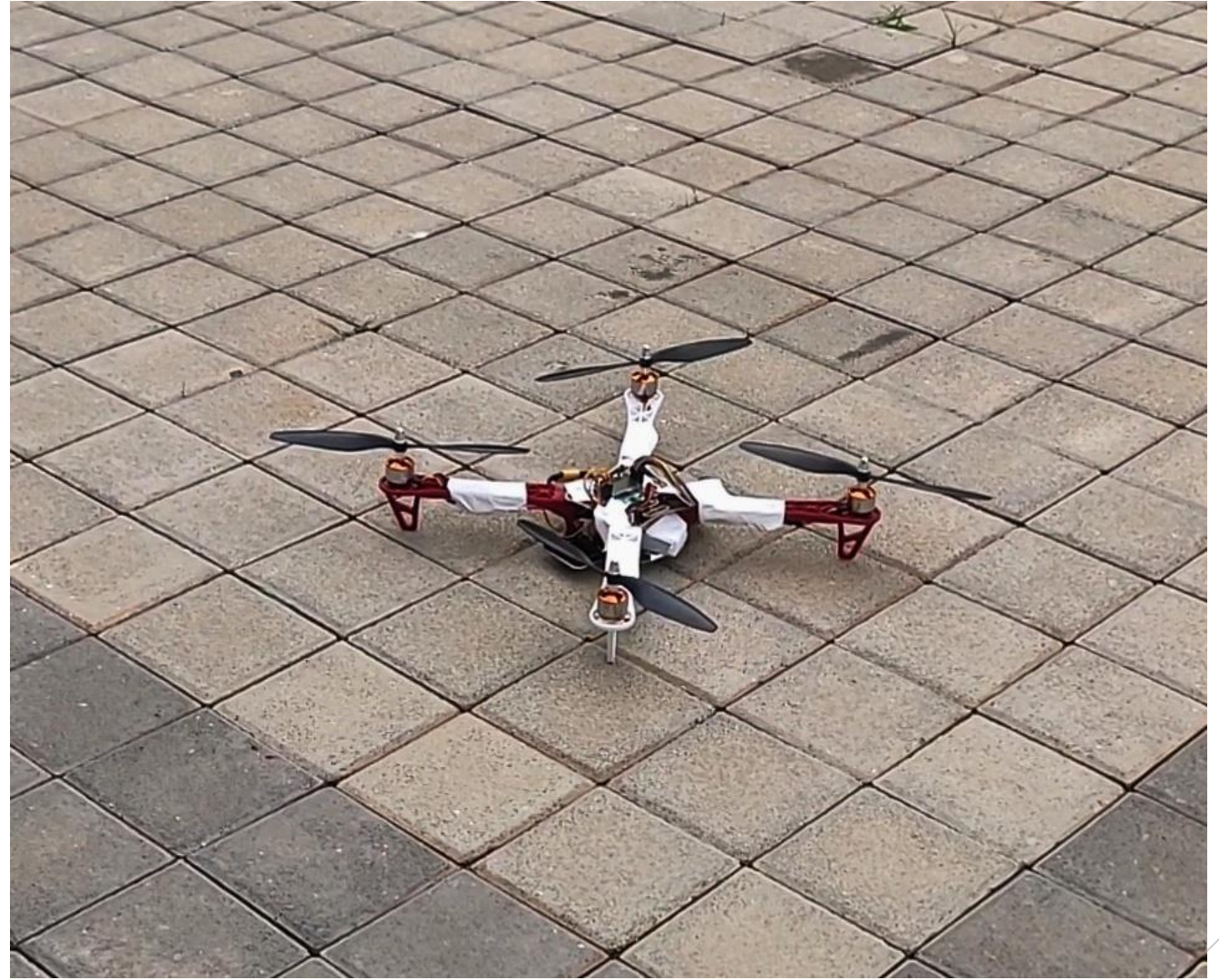
Main Parts

- Custom build Quadcopter
- 1000kv brushless motors
- Flight controller KK2.5
- Propellers
- Battery 11.1V
- Arduino UNO
- Ultrasonic sensor
- Connecting wires(such as jumper cables,etc)
- Tower Pro SG90 Mini/Micro Servo Motor
- Electronic Speed Controller

1000kv brushless motors

Flight controller KK2.1.5

KK 2.1.5 Multi-Rotor control Board

Fuse protected peizo output

InvenSense 6-axis accelerometer/ gyros

Polarity protected voltage sensor input

Atmlel6448

AIL
ELE
THR
RUD
AUX

M1
M2
M3
M4
M5
M6
M7
M8

LCD display

In system programming ISP header

Back   Up   Down   Enter

Propellers

Battery 11.1V

Quadcopter frame

Arduino UNO

Ultrasonic Distance Sensor Module - HC-SR04
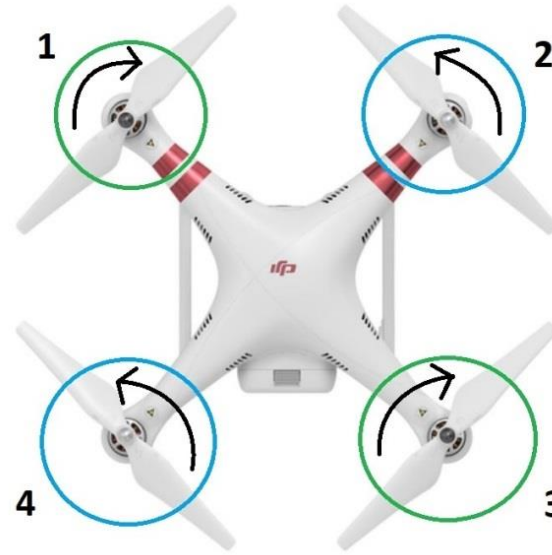
Tower Pro SG90
Servo - 9 gms
Mini/Micro Servo
Motor

Jumper cables
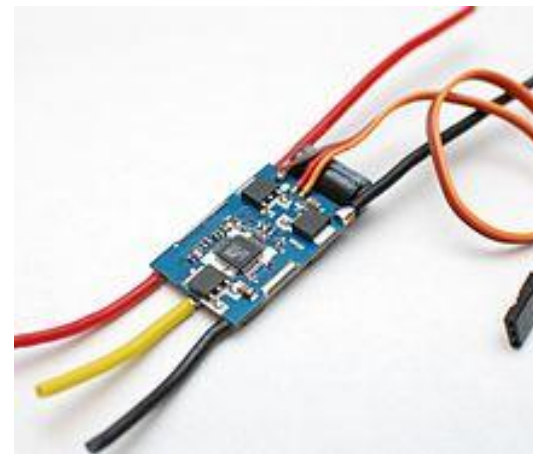
ELECTRONIC SPEED CONTROLLER

Main Principle

In this above diagram, you can see the quadcopter motor configuration, with the 2 / 4 motors are rotating counterclockwise (CCW motors) and the 1 / 3 motors are rotating clockwise (CW motors). With the two sets of quadcopter motors configured to rotate in opposite directions, the total angular momentum is zero.

Main Principal

- **When the properler rotates it creates a low pressure. Because of the low pressure, the helicopter lifts. Is my understanding that this is just an application of Bernoulli's theorem.**

- **Drones use rotors for propulsion and control. You can think of a rotor as a fan, because they work pretty much the same. Spinning blades push air down. Of course, all forces come in pairs, which means that as the rotor pushes down on the air, the air pushes up on the rotor. This is the basic idea behind lift, which comes down to controlling the upward and downward force. The faster the rotors spin, the greater the lift, and vice-versa.**

Electronic Speed Controller

- An Electronic Speed Controller (ESC) is anelectronic circuit that acts as the interface between the pilot's commands and theindividual drone motors.

- There are severaltypes of ESCs in market, but brushlessmotors require a 3-phase ESC

Applications

AGRICULTURE

How Aerial Reforestation Works

Leaf Shroud
Seedling
Soil
Biodegradeable Container
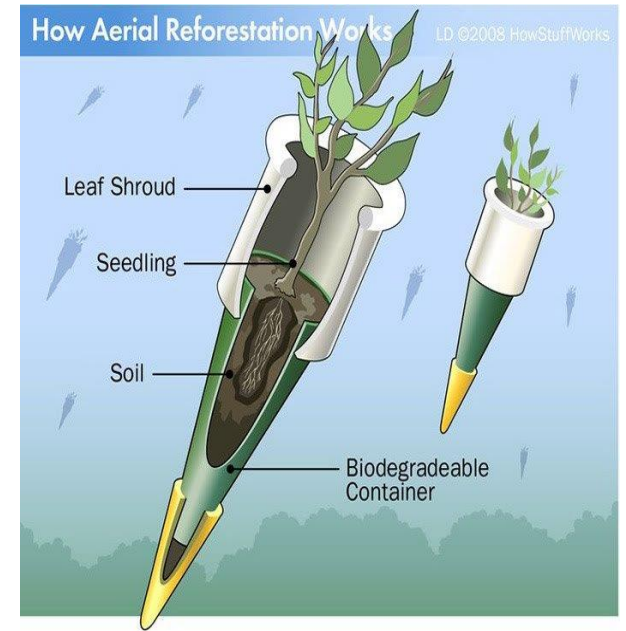
EMERGENCY RESPONSE

TELECOMMUNICATIONS

ADVERTISING

Conclusion

- Urge for power is a basic human incentive

- And it is achieved by means of engineering and technology

- Easy access to physical space is one such power

- One practical way to access the places we can't directly access is through…Drone

- But why so hype about this flying toy

- How can this little one give us such immense power?

- It is because of the simple fact that it can access the physical places that humans find it risky or impossible to

- Drone is not a toy of engineers but of creative people from all fields

- Drones for everyone… Let us look at some of the applications of dronre technology

Thank You

- By Group 2
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