

## DRONE PROJECT

### MATERIALS USED TO BUILD THE DRONE:

1. KK 2.1.5 multi rotor lcd flight control board.
2. 450 quad rotor frame with integrated PCB for easy wiring
3. Brushless ESC
4. 1045 propeller pair
5. A2212 1000kv brushless motor
6. Fly sky CT6B 6CH remote transmitter with receiver
7. Lipo battery (polymer battery, 2200 mah , 11.1V)
8. ESP32 cam (camera)
9. Arduino UNO
10. MPU 6050 (tracking device)

### STRUCTURE OF THE DRONE:

- Assembled the quad rotor frame and placed the integrated PCB to the center of the drone.
- One side of the brushless ESC is connected to the positive and negative terminals of PCB and other side of ESC is connected to the brushless motor. And also the battery is connected to the PCB.
- Propellers are attached to the motors.
- Transmitter (remote) is connected to the receiver and receiver is connected to the KK 2.1.5 flight controller board.
- The side of ESC which is connected to the PCB is also connected to the KK board.
- Now we setup the KK board by following certain instructions therefore the motors, receiver, transmitter connects with the KK flight control board.
- Finally we can operate the drone using the transmitter (remote) which helps to fly the drone.

### STATUS OF CAMERA:

- We have used ESP32 cam (camera) , we have setup this camera using Arduino UNO
- We have stored the program in Arduino UNO and once we run the program it generates an IP address and when we search this IP address using browser it gives you the camera page where many features/options are displayed and also the main screen of camera is displayed.
- Finally we can click photos and save it.

### CURRENT ISSUES:

- Not able to connect Arduino to the drone and want to learn drone programming.

### CURRENTLY WORKING ON:

- Connecting MPU 6050 (It helps us to measure velocity, orientation, acceleration, displacement and other motion like features) using Arduino UNO.

#### **FUTURE DEVELOPMENTS AND IDEAS:**

- Basically our aim is to invent autopilot drone where first when we operate the drone it needs to copy the direction it moves or copy the longitudes and latitudes of it and the second time it should go on its own without controlling on the same way which it is copied so we need a program to develop.
- And also we need to connect the sensors so that when there is an obstruction in front of it, it needs to move aside and again move on the same path.
- We want to learn the program which record and plays and make sure that we maintain all the data.

#### **CONCLUSION:**

This is the current status of our project and we want to learn and explore new things about our project.

We are also learning about Arduino UNO, sensors, connecting networks.