

CHAPTER 7

A DRONE DELIVERY SYSTEM FOR MEDICAL EMERGENCY

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ABSTRACT

Abstract— In this project is based on drone to reduce the time of brought the medicine. Now a day due to pandemic situation we are unable to go out to buy the medicine in any time. Drone is a common term in this modern technologically advanced and growing world has been great invention and has been proven of great use in the provide efficient and convenient surveillance. In emergency situation where the present transport structure is shattered due to flood earthquake etc., this type of automatic f=drone delivery system can save precious lives with much less and nominal efforts.

Keywords— ESC, KK 2.1.5 Flight controller.

INTRODUCTION

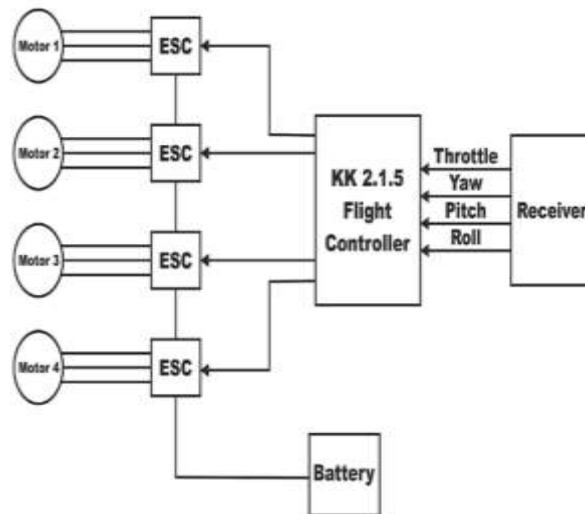
Drone are unmanned aerial Vehicles that are remotely controlled. They in size from under one pound to reversal hundred pounds. Drone are classified for consumes use, which the federal Aviation Administration (FAA) defines as drones between 0.55 to 55lbs. Since consumes drone have been available for purchase in greater number than ever before, legislation related to number of zones needs to be centrally organized. This can be done through the creation of a geo database and web-GIS map, which will allow for visualization of drone use areas. The study area for this is the state of Mayland, which was chode because it contain every type of FAA no- fly zone and it has not passed any drone use sub-national rules; this allows for current FAA regulation to be studied and improvement recommended where necessary. This web- GIS map was then constructed that allows users to differentiate between types of fly zones and obtain details regarding the permissibility of drone flight in these zones. This geo database

coupled with the web- GIS map of appropriate and inappropriate drone use fly zones provides an effective model.

PROPOSED SYSTEM

A quad copter is used to spin RPM of its varying four rotors to control lift and torque. The thrust is determined using altitude, pitch, and roll angles. It plays a key role in maneuvering, enables the user to perform flying routine which includes aerial maneuvers. To deliver the medicine item in rural area and weather condition is difficult.

BLOCK DIAGRAM



METHODOLOGY

VERTICAL MOTION

Drones use rotors for propulsion and control. A rotor as a lover, because they work just about an equivalent. Spinning blades push air down. Of course, all forces are an available pair, which means that because the rotor pushes down on the air, the air pushes abreast of the rotor. Now, a drone can do three things within the vertical plane: hover, climb or descend. To hover, the internet thrust of the four rotors pushing the drone up must be adequate to the gravity pulling it down. So, it still need for the thrusters to be greater than just a hover.

TURNING (ROTATING)

It hovering drone pointed north and you would like to rotate it to face east. In this configuration, the red rotors are rotating counterclockwise and therefore the green ones are rotating clockwise. With the 2 sets of rotors rotating in opposite directions, the entire momentum is zero. Momentum may be a lot like linear momentum, and you calculate it by multiplying the angular velocity by the instant of inertia. It gets rather complicated, but all you would like to understand is that the momentum depends on how briskly the rotors spin.

PROPELLERS:

A Propeller is mounted on top of each motor. Propeller comes in many size and shapes. Propeller dimension is (10*4.5) which mean diameter 10 and inches 4.5. Diameter give area but pitch gives

effective area. If we use high pitch propeller for same diameter it create more thrust and list more weight but it will also contain more power.

CONNECTORS:

Drone needs 3.5mm connector to the motor and ESC and also 4.5mm connector for facility board.

BATTERY MONITOR:

Battery monitor is used to give warning when the battery is dead. Battery dead is cause the drone float in the air over a pond. So battery monitor ensure the aerial vehicle don't die with the most important place.

MOUNTING PAD

Mount pad is used to reduce the vibration of flight. It is used to take the required picture and video together with your drone.

CONTROLLER:

Controller is used to share the command and facility to motor at equal time

TRANSMITTER AND RECEIVER:

Transmitter is used to controller for the user. User can operate quad copter using this transmitter only. It is based on radio communication. The receiver is attached to the drone it communicates with the transmitter. This is a completely wireless communication. The transmitter transmits a signal to the receiver and the receiver sends that signal to the flight controller. We are using "Fly sky" transmitter and receiver. If we using this transmitter at a place where magnetic interference is high, then range of transmitter will be decrease, but this transmitter has range of 1500 meter.



KK2.1.5 FLIGHT CONTROLLER

KK2.1.5 flight controller is also called as brain of drone because all the operation of drone is controlled using KK2.1.5 flight controller. It has inbuilt ATMEL mega 664 IC. It have 8 bit AVS RISC microcontroller with 64K memory. It have inbuilt accelerometer, gyroscopes, MPU. It has eight output motor and 5 input control. In this output are connected in ESC and input are connected through receiver and also has one LED display it work for user interface for drone.

CONCLUSION

There are many places where man has to risk for the surveillance in industries like in horrible temperature conditions by man, high altitude work, over street, accidents. There are many people losing their lives. So, solution to this problem can be brought up by using a medical drone for emergency purpose. This project majorly found its use in medical purpose for emergency.

FUTURE WORK

Drone has risen to the occasion whenever they were needed. They truly are an engineering spectacle, containing the best of mechanical, electronics and software technology. They just might be a day when today's generation tells their grandchildren that aircraft were manned by human pilots.

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