

AMCOPTER

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Abstract – This project is aimed at developing a prototype of drone to hand to the ambulance in saving human life. The issues of traffic are very paramount in any accident; therefore, we intend to develop a system that would be able to fly to the emergency spot earlier for medical emergency response, supply delivers and take into account multiple real time health parameters of patient such as temperature heart rate and heartbeat. The values of this essential parameter are then transmitted to the ambulance. The ZIGBEE technology is used to transmit the real time data from the emergency spot to the ambulance. When is en-route to the destination this helps to the doctor to evaluate the situation better. For the ambulance drone a new type of frame was developed that is a compact tool box containing essential supplies for advanced life support. In shoot with the ambulance drone we want dramatically increase the accident survival rate.

Key Words: Drone 1, Medi-kit 2, GPS Tracking 3, Instructing Camera 4, Auto piloting 5 etc

1.INTRODUCTION

In today world, there is a lot of traffic on roads which leads to congestion in the whole city. So, in the time of emergency crisis situation an ambulance which travels via road may not able to reach destination in time and the patient might loss his or her life. That would take the objective of “saving human life” on step closer. A drone or a Hexa-copter take aerial route and is not driven by human. using a greater number of motors and propellers in produce motor thrust. Hexa-copter which consists of six motors and propellers attached to it optimal design and provide the necessary thrust.

1.1 Introduction of Drone

A drone or a Hexa-copter takes aerial route and isn't driven by human. Employing a bigger variety of motors and propellers can turn out a lot of thrust. The hexacopter that consists of 4 BLDC motors and propellers connected thereto makes it the optimum style and provides the mandatory thrust. Four 2200mAh batteries offer power offer to the drone. The drone includes of a med-box that is capable of reaching emergency things quicker than the automobile and may live patient real time health parameters. the assorted detectors during this paradigm includes of heartbeat sensor, temperature detector, and graphical record detector. Associate in nursing graphical record detector with disposable electrodes is connected on to the chest to observe each heartbeat. The electrodes convert heartbeat to

electrical signal and therefore graphical record Sensors ready to measure continuous heart beat and offers knowledge of rate.

1.2 UAV and the Grid

Traffic in its 'peak hours' on a mean doesn't exceed 30-40 km/h ninety two of the days. In existing systems, a drone carries solely the electronic device to the emergency spot. Thus, it takes under consideration solely one parameter. This paper aims at developing a system that might be able to fly to the emergency spot previous car and take under consideration multiple real time health parameters of the patient like temperature, rate and heartbeat.

1.3 Autopiloting

UAV autopilot system allows an unmanned aerial vehicle, such as a drone, to perform entire missions autonomously without the need for manual remote control. These missions may include cargo delivery, mapping, surveillance and many other applications. Operators use ground control stations to set the parameters of the mission and the UAV autopilot directs the drone or other unmanned craft to complete the task.

2. METHODOLOGY

The prototype proposed in this paper is in a drone ambulance which is equipped with a med-box, Electro Cardio Gram sensor and heart beat sensor which reaches the emergency spot earlier than the ambulance and not only measures the real time health parameters but the also transmit them to the ambulance. The doctor presents in the ambulance can analyses the real time health parameters, such as the condition of heart provided by the Electro Cardio Gram sensor data. This enables them to prepare for the pre medication to the people.

2.1 Med- kit Releasing Mechanism

The mechanism is hooked up to the drone and carries medical aids safely whereas decreasing the quantity of take-off and landing by deploying the kits from air to land (using parachute method).The drone are going to be equipped with the mechanism that's ready to carry the medical aid kits (30 things with soap. weight of 500grams).The main plan of the navigation management of a capability to an automatic craft platform, which can permit a completely autonoments level flight from an ingenious purpose to a destination, passing by a given variety of waypoints. The UAV initial gets its current

position from GPS purpose, it attracts associate optimum mechanical phenomenon to next destination. throughout the flight, the navigator laptop problems the data concerning that direction to show and the way abundant to show. This data are going to be accustomed steer the plane servos. The formula is programmed in Java LeJOS. It uses inherent Java categories concerning GPS and Bluetooth. the most laptop, wherever the navigation program runs may be a plaything Mind storms NXT and it's used a GPSlim240 from HOLUX as a GPS receiver.



Fig-1: Releasing Med-Kit by Parachute

Capacity	Prototype model	Real time Model
Height	600cm	1000cm
Weight	1.5kg	Max 20kg
Flying time	30 mins	60-90 mins
Distance	800m	1.5 -2 km

Table-1: Measuring table

The use of drone in healthcare is the purpose of the proposed prototype. The first step is to develop a hexa-copter, both the thrust and torque produced by every hexa-copter and it is produced about center of rotation in addition to this a drag force is also produced in the opposite direction to its flight every hexa-copter tries to achieve lift yaw role and pitch via the thrust produced by the six motors attached to it. This way the propellers fixed on the motors can be used for the flight of the hexa-copter in all direction.

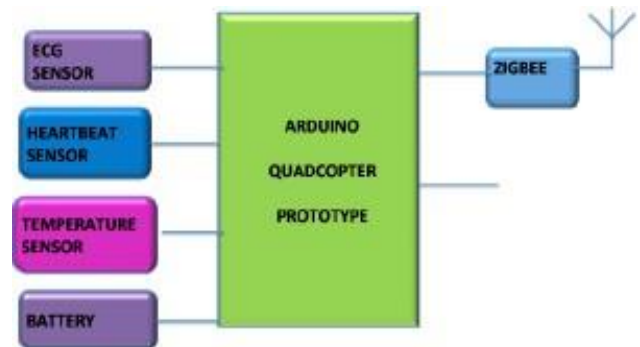


Chart -1: System block diagram

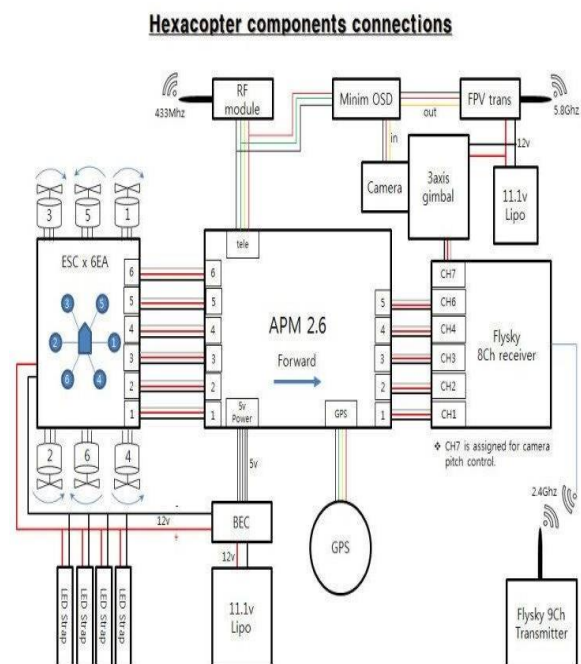


Fig -2: Circuit connection of AMCOPTER

3. Working Principle of Medi-Drone

In a scenario of cardiac muscle crisis, a hospital drone is used for offer electronic device. At remote location associate emergency air car will function a drug delivery system in associate emergency scenario. individuals laid low with metastasis syndrome is supplied with the drone that carries chemical element provides to them. the prevailing system takes under consideration solely one parameter.



Fig-3: Step 1 Prototype

The propellers were incorporated to the motors with the aim of 3 diagonally opposite propeller to maneuver in dextrorotatory direction and therefore the remaining 3 within the anti- dextrorotatory direction.



Fig-4: Instructing Camera



Fig-5: Drone with Med-Box

4. CONCLUSIONS

The Prototype of AMCOPTER develop in order assist to saving human life. The developed prototype takes to reach the emergency situation spot and helps to measure and transmit real time health parameters of the fashion to the ambulance where they can be analyses in the Lab-view software. This prototype helps in a major irreplaceable

contribution in saving the life of a patient and thus fulfills the purpose of "Life savings".

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