**MAJOR PROJECT**

**ABSTRACT**

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**AIM:**

To construct a vehicle with abilities to move in the air in 360o and to capture footage of the happenings on the ground. It shall be controlled using two 3G mobile phones and a microprocessor chip. The footage shall be transmitted live to a control station.

**REQUIREMENTS:**

ELECTRONICS:

* Motor for the main rotor 
* Motor for the tail rotor
* Speed controller
* Batteries for the motors
* Servos
* Microprocessor chip along with a battery
* Servo capable of rotating 360o
* 3G mobile phones

MECHANICAL:

* Rotor blades for the main and tail rotors
* Mechanism to tilt the blades for lateral and directional motion
* Mechanism to rotate the video camera in the required angle
* Materials to build the vehicle

**DESCRIPTION:**

The proposed vehicle works on the principle of a helicopter with a vertical rotor used to produce lift and a tail rotor to nullify the moment effects. It carries a 3G mobile phone which is used to capture the footage and send it live to the control station where it is analyzed or stored according to the requirement. The mobile phone is controlled by another 3G mobile phone from the control station. The vehicle is also navigated using the phone. The phone on the vehicle is equipped with a microcontroller chip that helps in controlling the phone from the control station. The tilt rotor can be used for effective navigation and the tail rotor decreases the moment effects. Both of these are powered by batteries and are operated using servos.

**ADVANTAGES:**

* Flexibility in operation
* Ease of control
* Relatively inexpensive in terms of manufacture and control unit
* High operational capabilities
* Quick responses and better performance

**APPLICATIONS:**

* Vigilance in highly populated and crowded areas
* Surveillance and patrolling round the clock
* Good source of information in case of emergencies
* Quick data collection and storage for future uses