

Indoor Photography Quadcopter

Summary

250 size, approx. 14 inch bounding box (including props)

Constant altitude.

Rotates around Z axis taking pictures.

Maybe video

Approach to get to prototype

Purchase off-the-shelf components to construct basic drone:

- Transmitter and receiver
- Frame
- Motors x 4
- ESC (motor speed controllers) x 4
- Propellers x 4 plus spares
- Battery plus spare
- Battery charger
- Flight controller
- Misc. wires, connectors etc.

Purchasing economical, quality components this should cost of the order of \$250

When assembled this should produce a working drone

We then customize:

- Advanced programmable flight controller (Beagleboard Blue)
- Add camera plus controller
- Add altitude, Z axis control
 - Camera
 - Controller
 - Ultrasonic proximity sensor

Additional cost ~ \$140

Next Steps

Following achieving an acceptable prototype we should be thinking about:

- Aesthetics
- Portability
- How to control
 - SSH to onboard processors used for prototype not a long term solution
 - Our own transmitter design
 - Tablet / phone, maybe not App, drone could be web server
- Outdoor drone (bigger, GPS), Object avoidance