Building a Quadcopter Framework with Arduino

by Ahmad Sadiq

About Me

- Name: Ahmad Sadiq
- FUT Minna 1999/2000
- 8085 Development System 1999
- Worked in Software Outsourcing
- In China as team member of Nigcomsat-1 Project: 2006
- Founded Microscale in 2009

About MSE

- Founded in 2008
- Promote Electronics and Microcontrollers and spread its knowledge and understanding amoung students and hobbyists.
- Make parts and tools readily available
- Serve as catalyst for the emergence of a hi-tech sector
- NGO vs Business: Self sustaining and Growth
- Achievements: Successfully developed products.

Products

MICROSCALE
EMBEDDED
SMARTKON
MSSK6PV1.0

MICROSCALE
EMBEDDED
MSAC60AV1.0
MAINS
GEN
FUSE
1A
STOP

Sharing vs Protection

- Sharing is good for the community at this stage of our development.
- It is the future
- Don't go to the grave with your ideas.
- You're more likely to succeed when you share
- Always share some part of all your projects.
- Aim to eventually share 100% of your IP in your lifetime

Quadcopter Design Goals

- On-board flight control that receives high-level commands: set altitude. move to (x,y,z). turn(yaw, row, pitch).
- Build from readily available parts that can be easily substituted
- low cost: starting from about N10k for the micro drone.
- applications: platform for developing machine learning, AI and deep learning robotic algorithms. e.g. should be able to figure out the features of a house. navigate through rooms autonomously and carryout tasks such as pick and drop objects as described by operator.
- open source. contribution from the community.

Components

- Arduino Uno
- Gyroscope
- Lipo Battery
- Frame
- Propellers
- Speed Controllers
- Wireless
- Remote Control

What we have done so far

Release Plans

- Date: Jan 2016
- WIll be on github
- watch out:
- www.microscale.net
- www.facebook.com/microscale
- www.twitter.com/msedesign

Thanks