Quad Website Layout:

1. Project Quadcopter

A short introduction to the project. Describe the reason why am I working on this project and introduce the reader to the rest of the project page.

2. Quadcopter Parts List

Short list of components followed by a description of each component briefly. Component that need more detailed explanation hyperlink to the lower sections of the page where those parts are explained in detail.

3. Flight Controller Components

Explanation of the components of the flight controller. The ATmega328 (mention Arduino Uno), the voltage regulator to step-down the 3S LiPo. Talk about the modules of the ATmega328 used, ADC, timers, Serial, TWI, EEPROM, FLASH,… explain why is each module used.

4. Quadcopter flight dynamics

Describe the flight dynamics of the quadcopter. Mention the two modes (rate mode or autoleve) and what sensors are used to achieve each type of control mode.

5. PID Controller

Short explanation of the PID controller.

6. Pseudocode

Explained pseudocode of the flight controller program.

7. MPU6050 communications and fusion code

8. Timers for measuring RC signals

9. Timers for outputting ESC signals.

10. Future work and additions.