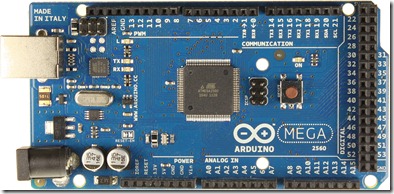
Recently I have been involved in an Autonomous Underwater Vehicles competition(The Singapore Autonomous Underwater Vehicles Competition) organised by the IEEE OES Singapore Charter(You can find the website [here](http://ewh.ieee.org/r10/singapore/oes/sauvc/)) which will last until next year March-April 2013. We are still in the conceptualising phase (been here for a month at least already actually) and I shall be blogging about our development thus far! Normally you don’t really blog about your strategies online for fear of competitor copycats, but I guess for all of us we were more into the fun and joy of learning and the experience of developing an Autonomous embedded system and something state of the art!

**The brain of the AUV**

[](http://lh6.ggpht.com/-CfZPPIMmd0I/UEYliuxtX8I/AAAAAAAAMus/Dta2r1GSmeY/s1600-h/ArduinoMega2560_R3_Front%25255B5%25255D.jpg) [](http://lh3.ggpht.com/-c9BetcWU8vI/UEYlkx5ddaI/AAAAAAAAMu0/LWRXbD19O3c/s1600-h/7513051848_9a6ef2feb8_o%25255B2%25255D.jpg)

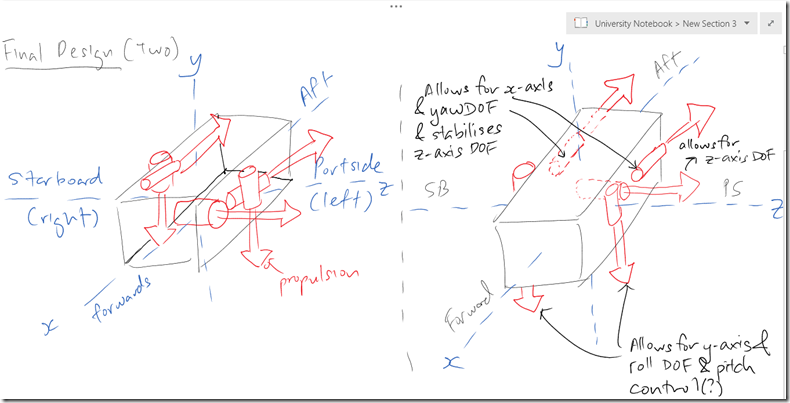
The Arduino Mega and the Raspberry Pi

A lot of hype has been going on lately about both embedded boards and we are employing both as the “Thinker” of the entire system with both boards working as parallels. The Arduino Mega(16Mhz) is aimed at low level controls whilst the Raspberry Pi(clocked at 700 MHZ and 256 RAM) is aimed at higher level algorithmic computation and at the same time for more memory intensive processes.

Our project has been further broken up into 5 components currently for each of the 5 team members to focus on a certain discipline before our eventual integration of the platform.

**1. Mechanical Design**

We had been deliberating over this portion for the longest time. And this is the final design that we decided to settle on. Based on current designs in the industry and also some research designs from MIT, we attempted to achieve 6 Degrees of Freedom in this current design though admittedly there maybe some design flaws in the motor positioning. The other mechanical design considerations, such as bouyancy, will be made by our Mechanical engineer, Devansh.

[](http://lh3.ggpht.com/-1ZfSlWopJRc/UEYlmoCK36I/AAAAAAAAMtc/hVpsER9ojFs/s1600-h/discussion_AUV%25255B20%25255D.png)

The finalised two designs for our propulsion.