Project Objective: RPi_Quadx3

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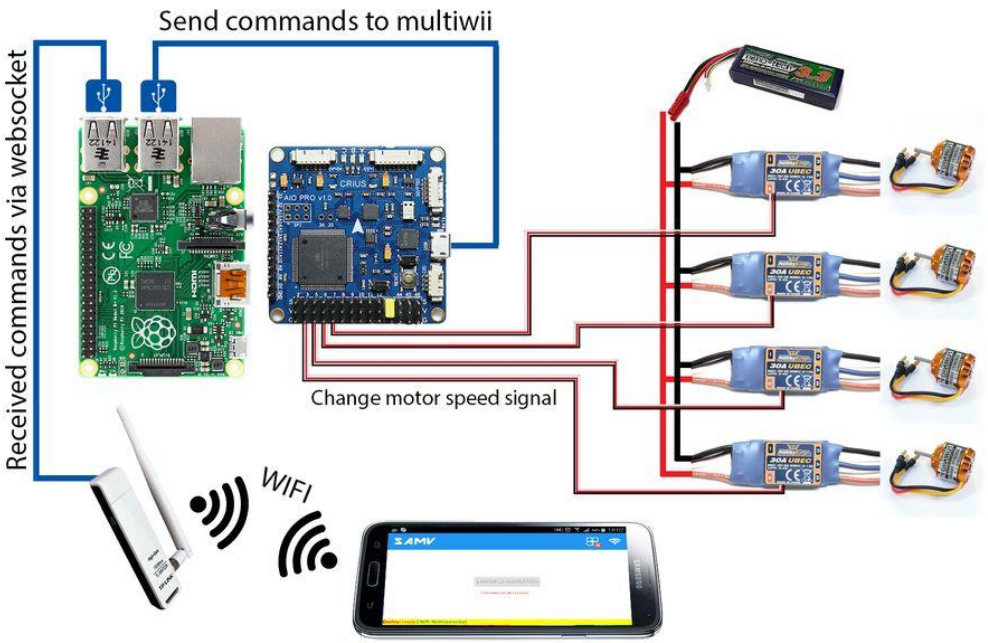
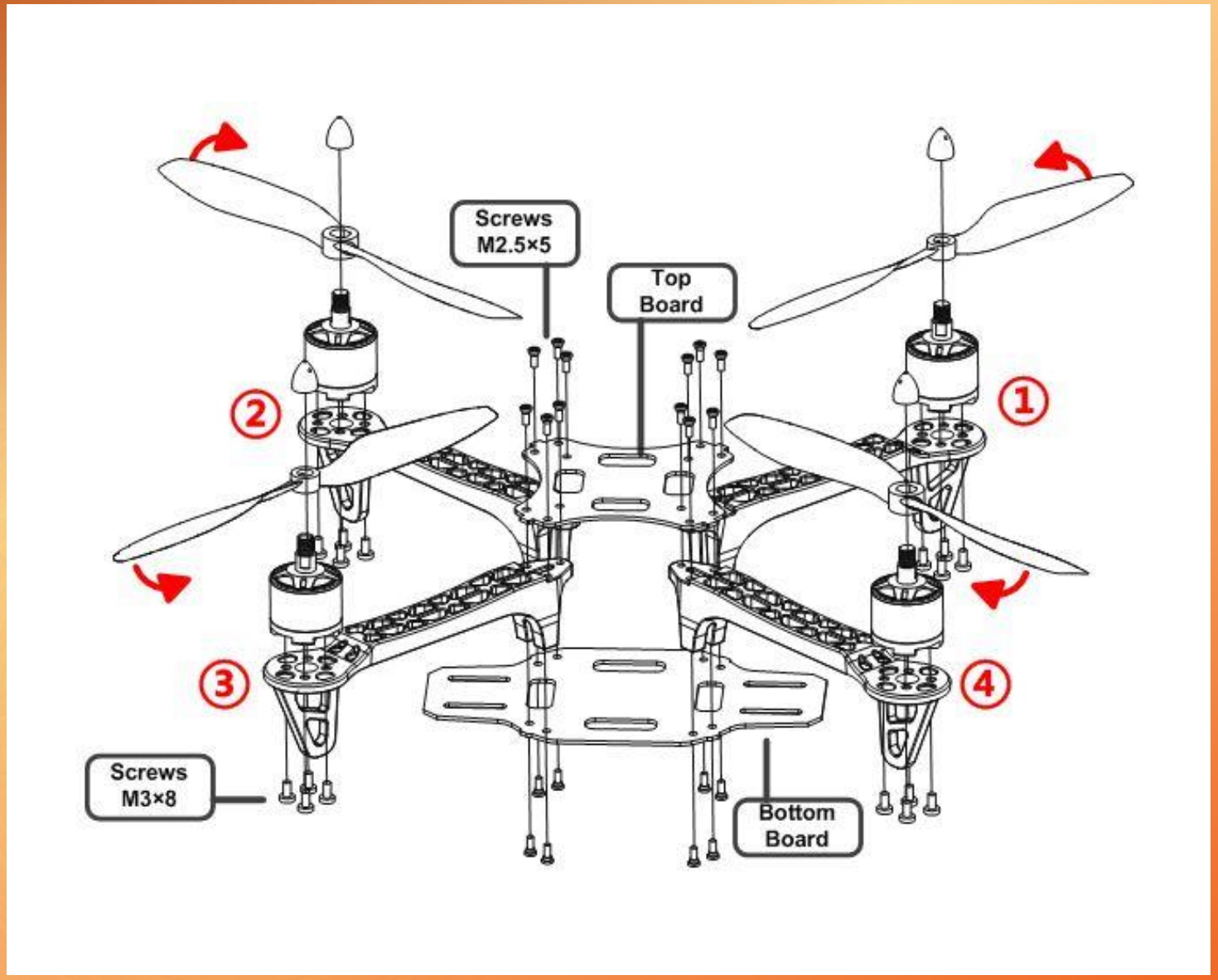
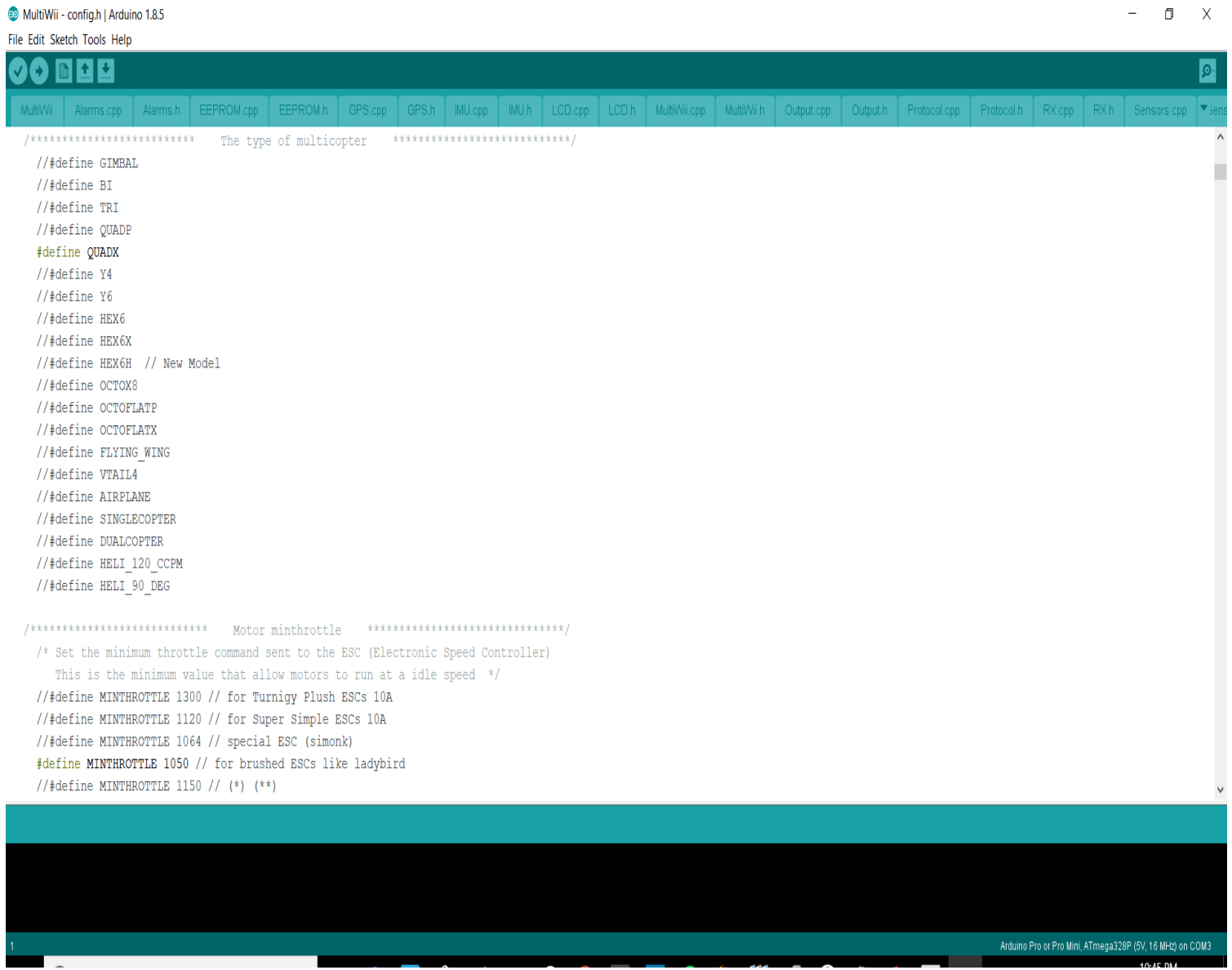
Design/Technology Used!

- Smartphone
- Flight Controller
- Raspberry Pi3
- Brushless Motors
- ESCs
- Lipo Battery
- MultiWii Application
- Quadcopter Frame





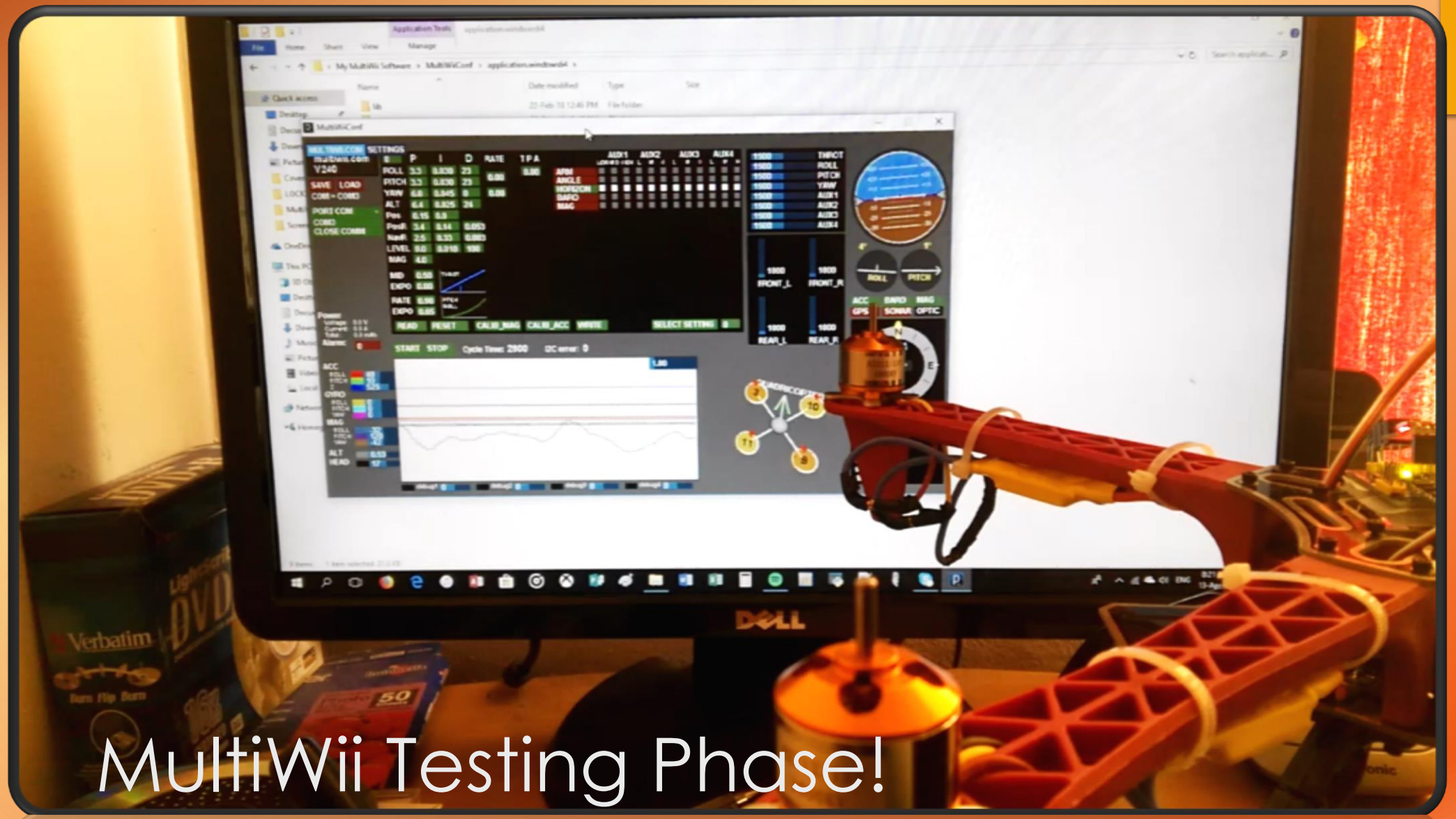
My DIY Quadcopter Construction Plan

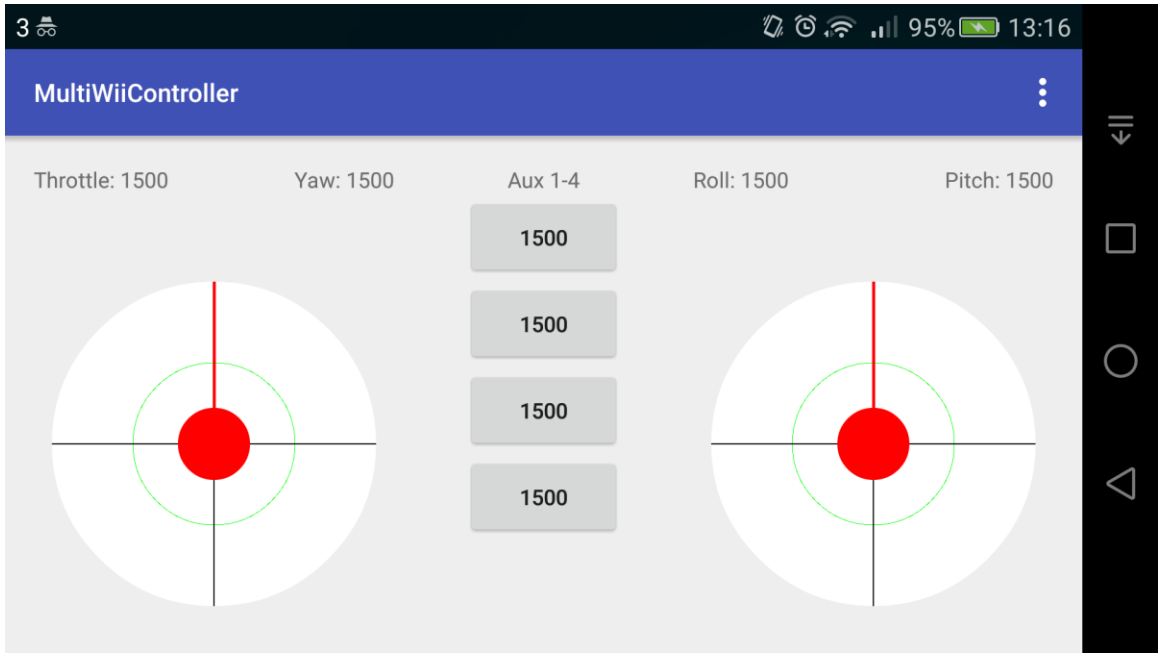


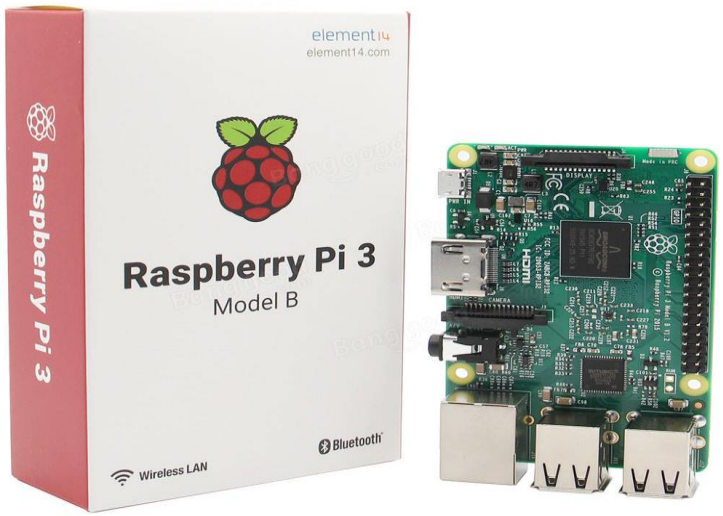
Configuring The MultiWii Board

MultiWii GUI Adjustments

- Graphical Data representing the behavior of the Drone
- Flight Modes for the Auxilery Channels set to Horizon
- Java Based Program
- Drone Based Model displayed on Screen

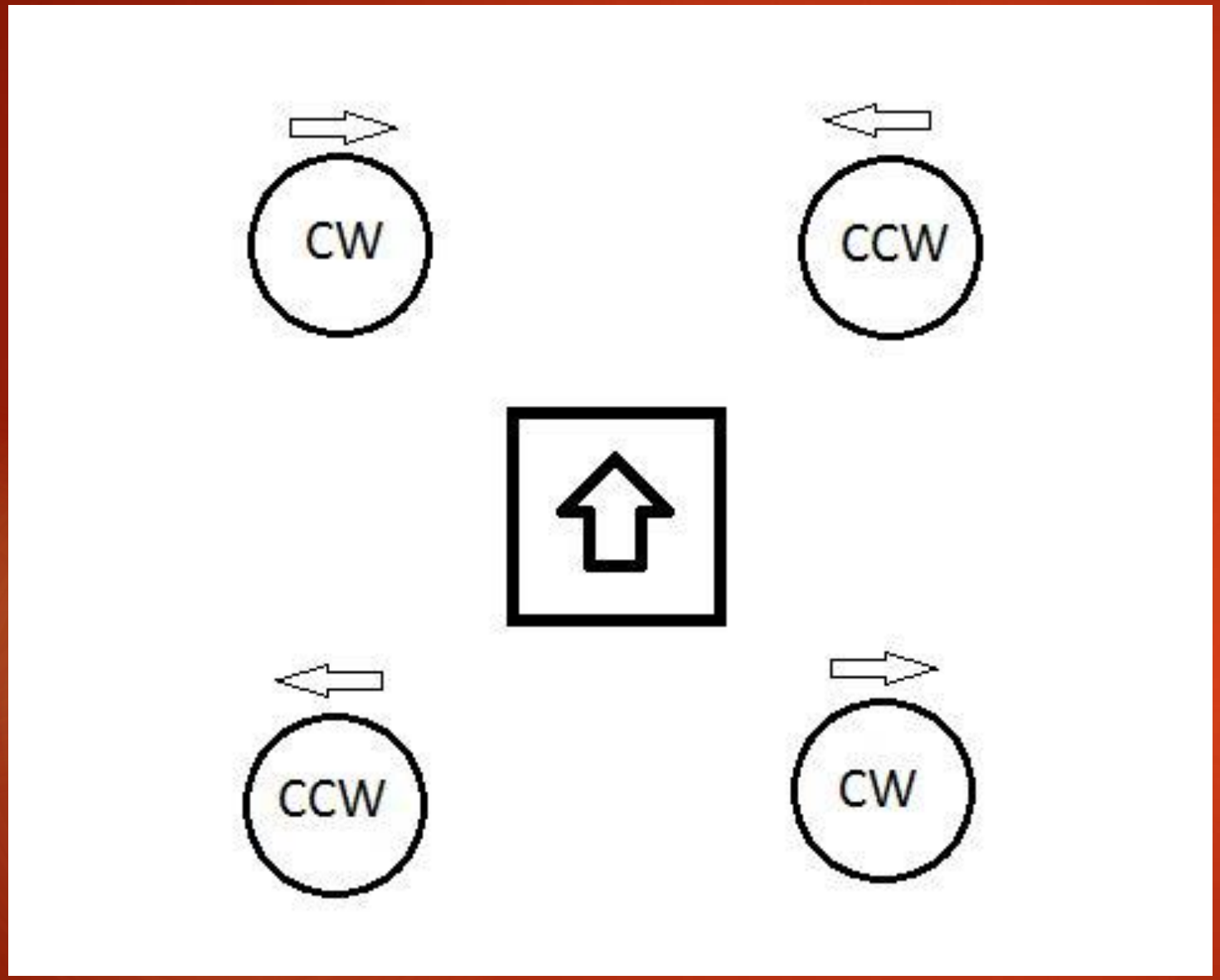

MultiWii Testing Phase!





Remote Application & Raspberry Pi 3

Demonstration of the Smartphone, Pi & MultiWii Communicating



How Does a Quadcopter Fly?

Challenges Encountered

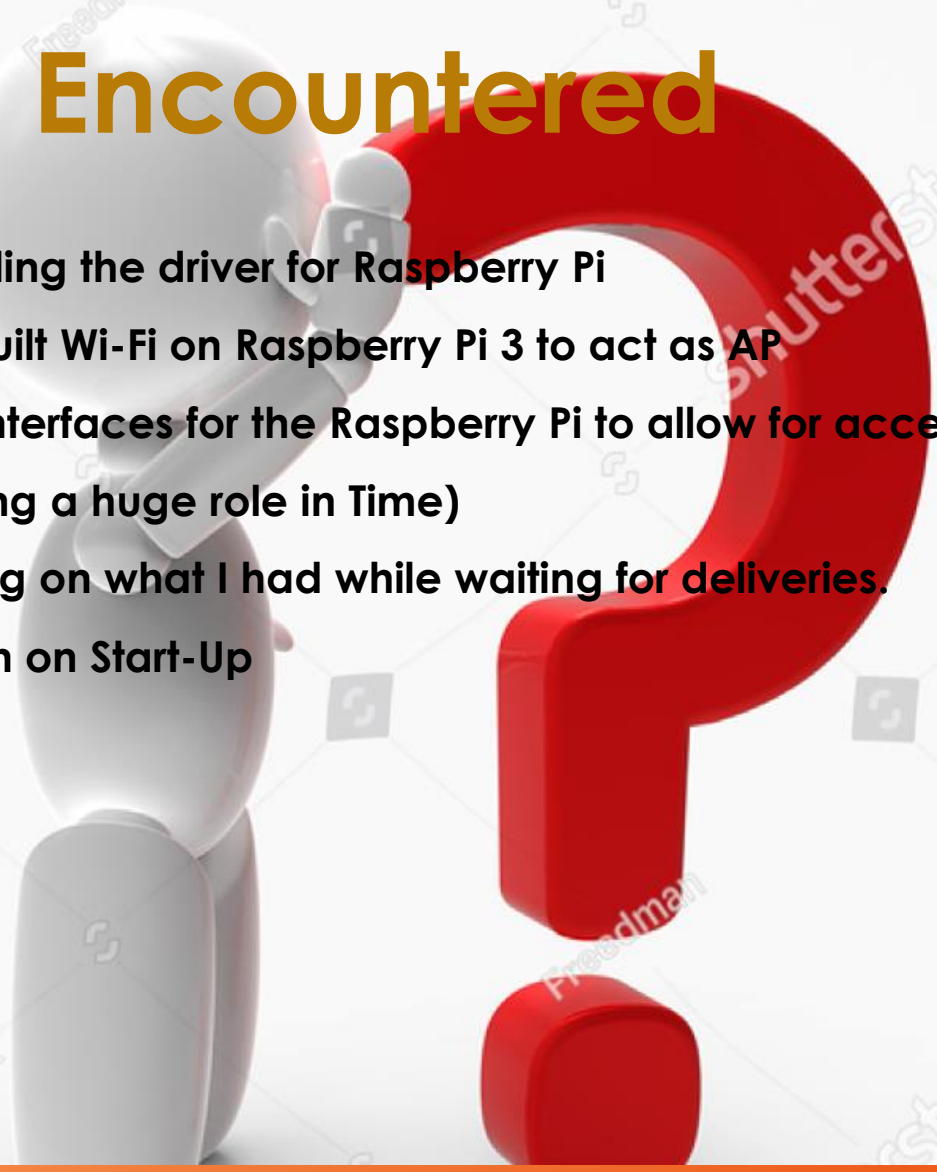
- Setting up Wifi Key & installing the driver for Raspberry Pi

Solution → Changing the in-built Wi-Fi on Raspberry Pi 3 to act as AP

- Configuring the Network Interfaces for the Raspberry Pi to allow for access
- Delays in Deliveries (playing a huge role in Time)

Solution → Focused on working on what I had while waiting for deliveries.

- Compiling the server to run on Start-Up



Things I Learned!

- Expanded my Knowledge in RC Aircraft Design
- Deeper Understanding Raspberry Pi's Network's Interface and the Pi itself.
- Patience
- Critical Thinking
- Source Control

Summary (Future Improvements)

1. Change the Communication System, why? (for more reliable & efficient use)
2. Add a Camera Module to the Quadcopter System
3. Research into adding Sensors (for accurate calculations)
4. Change the Look of Smartphone Transmitter.

Thank You!