Paulus Haapala
Oulu
+358 50 3541940
paulus.haapala@proton.me
github.com/patunki

DIY RC airplane

Just like the game, the visuals of the plane are not it's greatest strength. However, a lot of things were learned once again.

Electronics used:

- 2.4Ghz ELRS receiver and transmitter
- F405 flight controller with the ArduPlane firmware
- 800Mhz telemetry radio to allow communications between the plane and my laptop
- GPS receiver
- FPV camera and video transmitter
- Servos, cables, etc.

I had never designed an airplane, but I roughly knew what an aerofoil is supposed to look like so drew one up in Autodesk Fusion and printed out multiple thin profiles. I added a carbon fibre bar and a foam cover to finish the wing.

I followed the same process for the fuselage, printing out parts to fit the carbon tubes and foam.
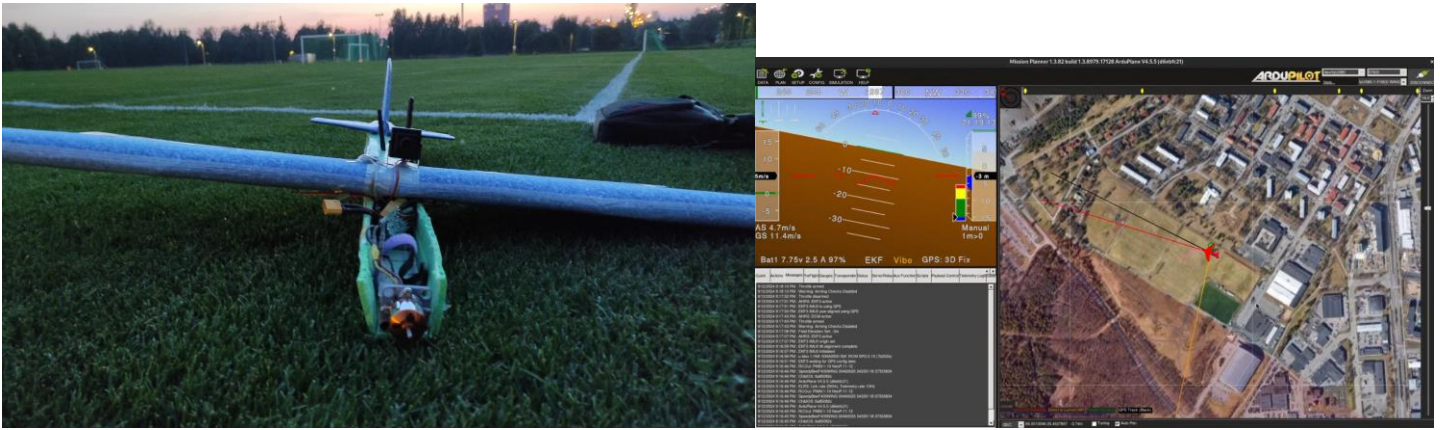
After some successful, and some not so successful flights in both manual and autonomous mode it was time to take a break for the winter. This project got me interested in ELRS which is an open-source protocol made for hobbyist RC. While I have managed to control a STM32 Blackpill with an ELRS receiver and transmitter and send back some telemetry I am only just starting to learn the nitty gritty of it.