

Quadcopter

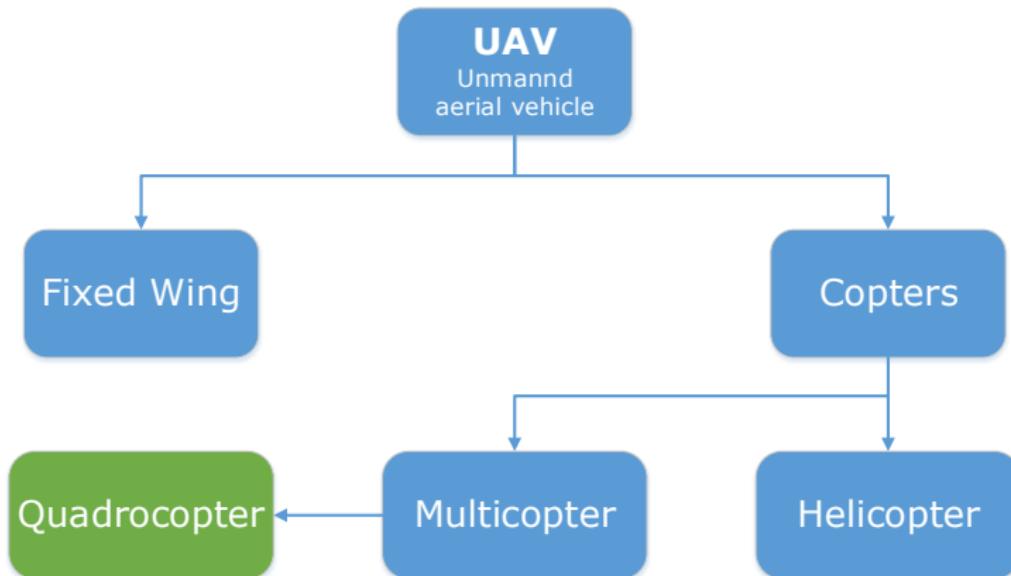
Pascal Häfliger, Cyrill Knüsel

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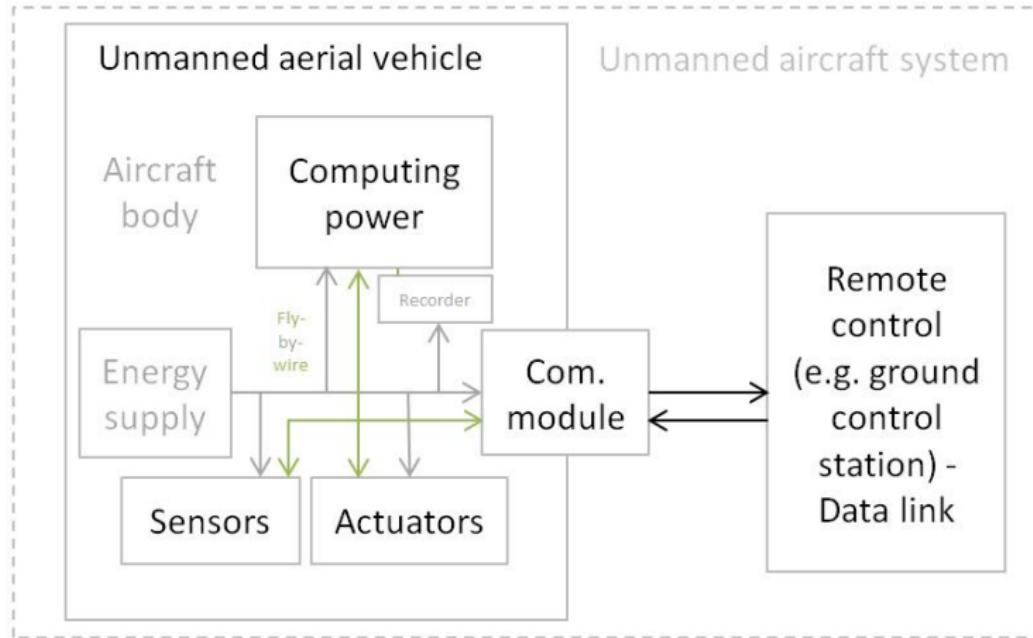
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Introduction



Introduction



Introduction



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Conmpromis between:

- Flight time
- Agility
- Control
- (Money)

Self build kit

- No special knowledge required
- Very sturdy
- A lot of auxiliary
- Payload
- Price-Performance ratio

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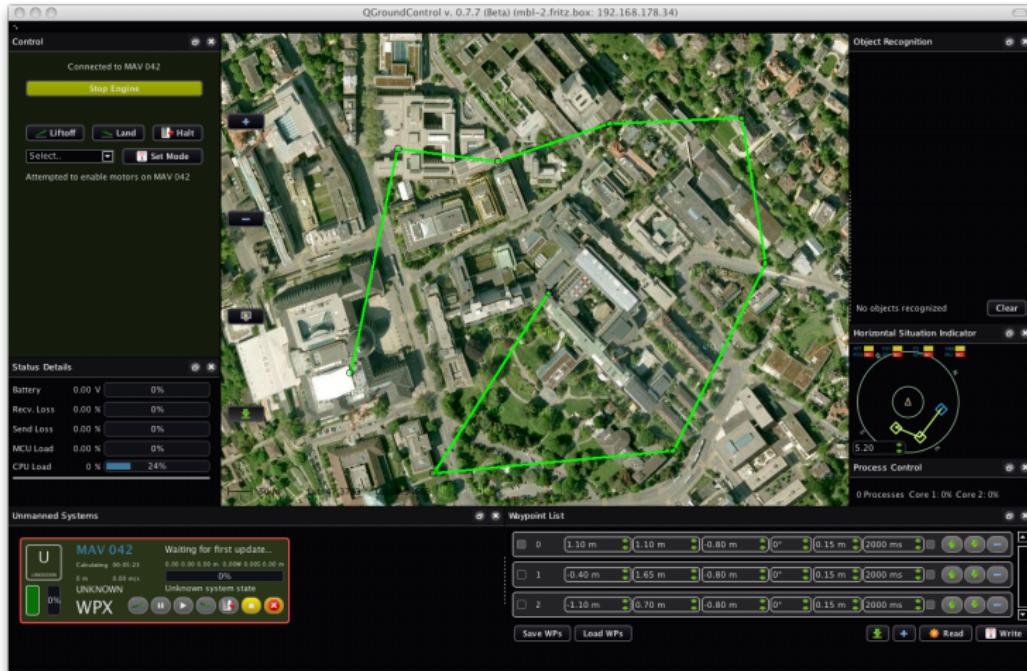
Payload



Controller, Modes

- Stabilize
- Waypoints
- Follow + Obstacle avoidance
- Acrobat
- Manual
- 6 additional modes

Tool, Waypoint



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Limitations

Gimbal



FPV - First Person View

- Transmitter
- Receiver
- Black & white picture
- Noise

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Can not
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FPV - First Person View

Add picture from FPV

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Out of the box



Disturbance

- Light weight
- 2.5 GHz channel
- Water resistant

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Disturbance



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Disturbance



Power supply

- Li-Po Battery: 14V, ...Ah → way less than 1kWh
- Flight time: 5min - 20min
- Charge time: about 2 hours
- Gasoline

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Power supply



Distance

- 1.2 miles normal
- 6.2 miles Yagi antenna

Law, Risk towards others

- Register devices
- Fish drones from sky

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Learning the basics

- Software
- Hardware
- Away from Flight Simulator -> Real flight behaviour

Learning the basics

- A lot of auxiliary
- Photography

Testing

- Cheap version of a quad
- Test new control software
- Allowed to crash

Education

- Software, Hardware is changeable
- A good mix of everything
- Mostly indoors

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Sources

<https://www.bazl.admin.ch/bazl/de/home/gutzuwissen/drohnen-und-flugmodelle.html>

<http://store.dji.com/product/f450-naza-m-v2-landing-gear-h3-3d>

<http://www.bbc.com/news/technology-30932395>

<http://www.popsci.com/airplanes-hit-more-turtles-than-drones>