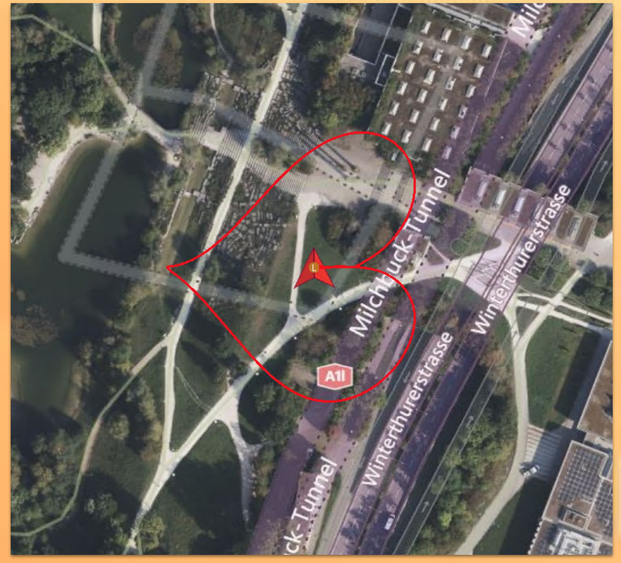
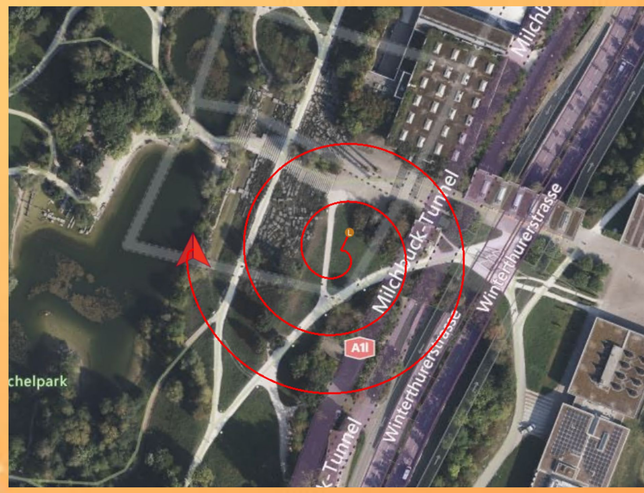
Basic Drone Show



Using

MAVSDK



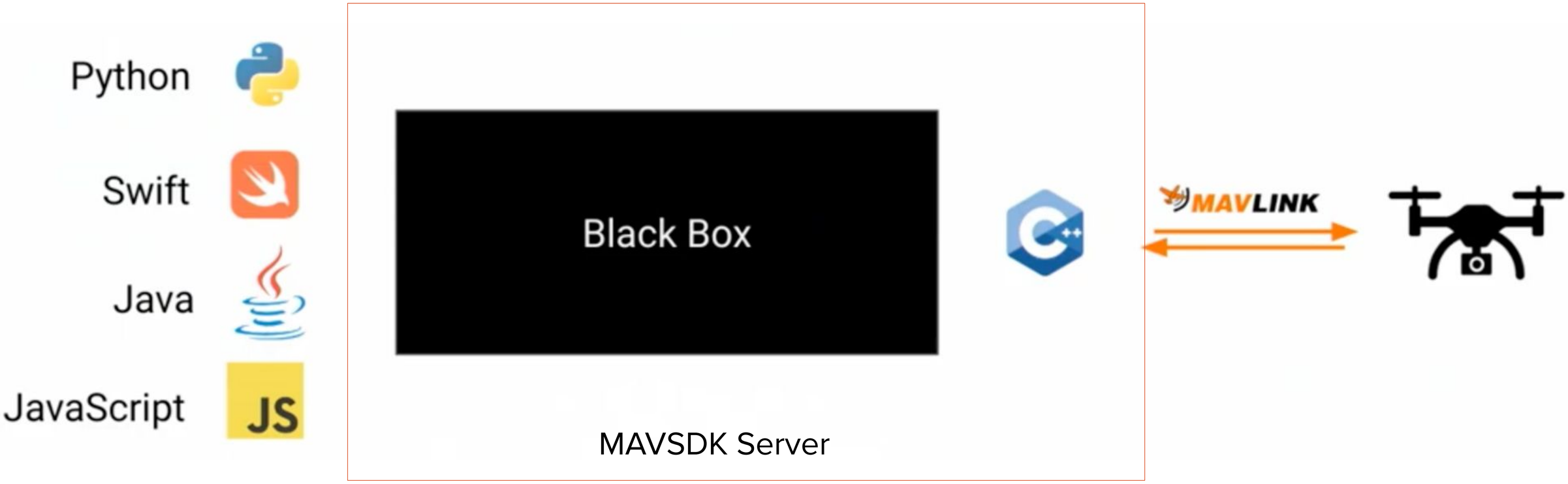
Introducing the MAVSDK

The easiest way to control Drones using MAVLink.

What is MAVSDK

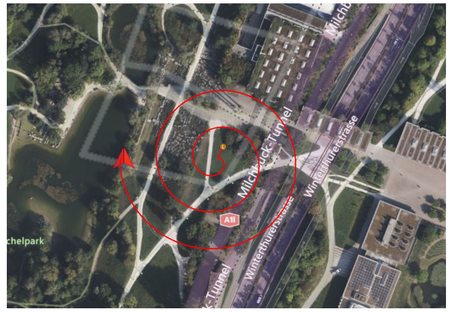
- MAVSDK is a set of libraries providing a high-level API to MAVLink

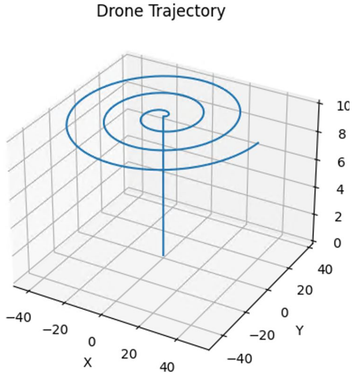
  Follow the last video on how to install and setup MAVSDK

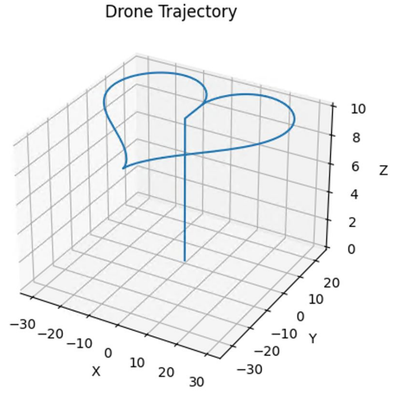


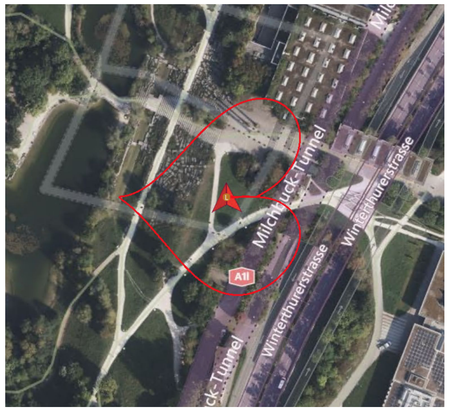
OFFBOARD Control

- Offboard Control lets your drone to control its position, velocity, acceleration, attitude and rate directly from within your control loops.
- The setpoints may be provided using MAVLink or a MAVLink API such as MAVSDK or by ROS 2.

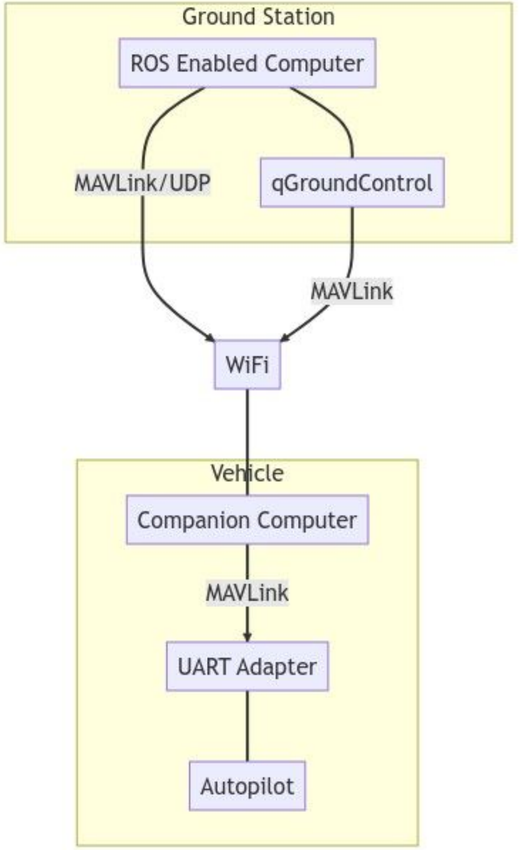






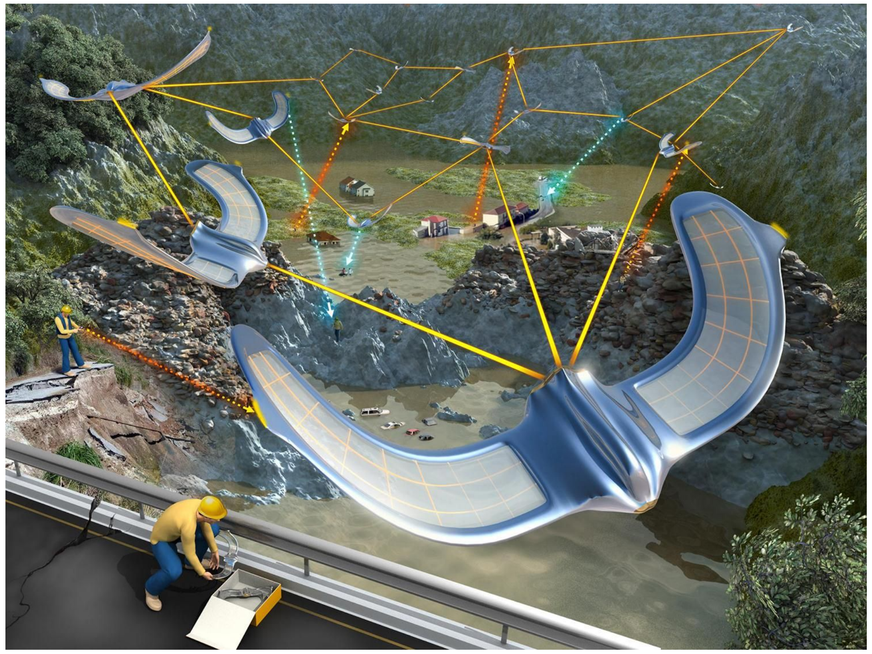


https://docs.px4.io/main/en/flight_modes/offboard.html



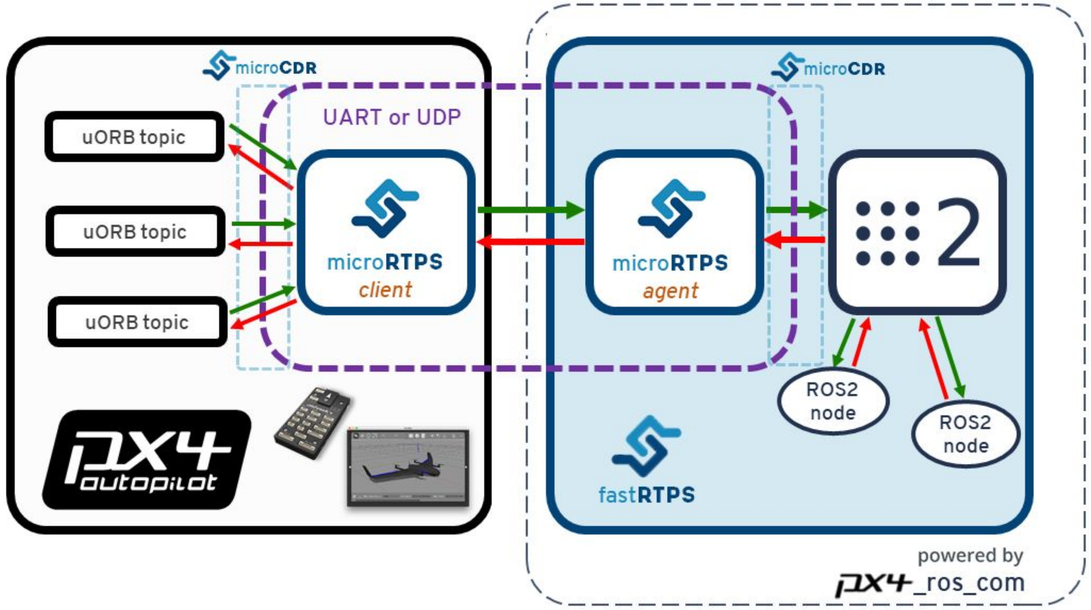
Possible Applications

- Drone Show
- Object Avoidance or Following
- Smart AI Controlled Drones
- Swarm Search and Rescue Mission
- ...



Limitations and Considerations

- MAVSDK or MAVROS?
  - FeedForward states
    (Acceleration and Velocity Feedforward)
  - Easier Implementation
  - Compatibility and Resources



- Safety Considerations:
  - Offboard Relies on Accurate Position Estimation
  - Real World Offboard is nothing like SITL
  - Always be ready for a Failsafe Action and Plan B
  - Don't Fly in populated area before you are sure about everything
  - ...