REAP:
Real-World Environment for Aerial AI-Planning

A simulation framework for aerial robotics, bridging the gap between AI-planning and real-world applications

Open Source Components

AI-Planning for Robotics

Environment based on Real-World Data

Highly Modular Design

der Bundeswehr Universität München

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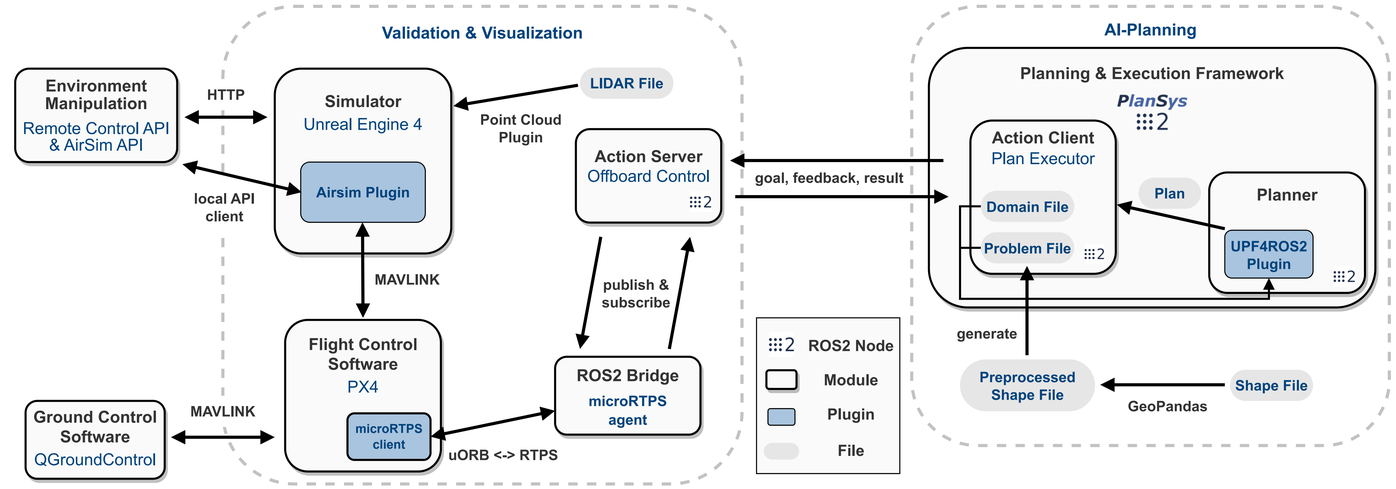

REAP is a simulation framework for Unmanned Aerial Vehicles (UAVs) that integrates state-of-the-art AI-planning tools into a visually realistic environment using open-access real-world data.

It offers:

- Realistic environment within **Unreal Engine 4** using 3D LIDAR data
- **AirSim** Plugin for UAV simulation and environment manipulation
- Seamless connection to the **ROS2** ecosystem
- Integrates with the **Unified Planning Framework**
- **PlanSys2** as PDDL-based planning system for robotics
- Processing of GIS data via **GeoPandas** for generating **PDDL** files
- Real flight control software like **PX4** for vehicle control
- Real-time monitoring and intervention via **QGroundControl**