

POI Localization and Mapping

Group: Pioneers

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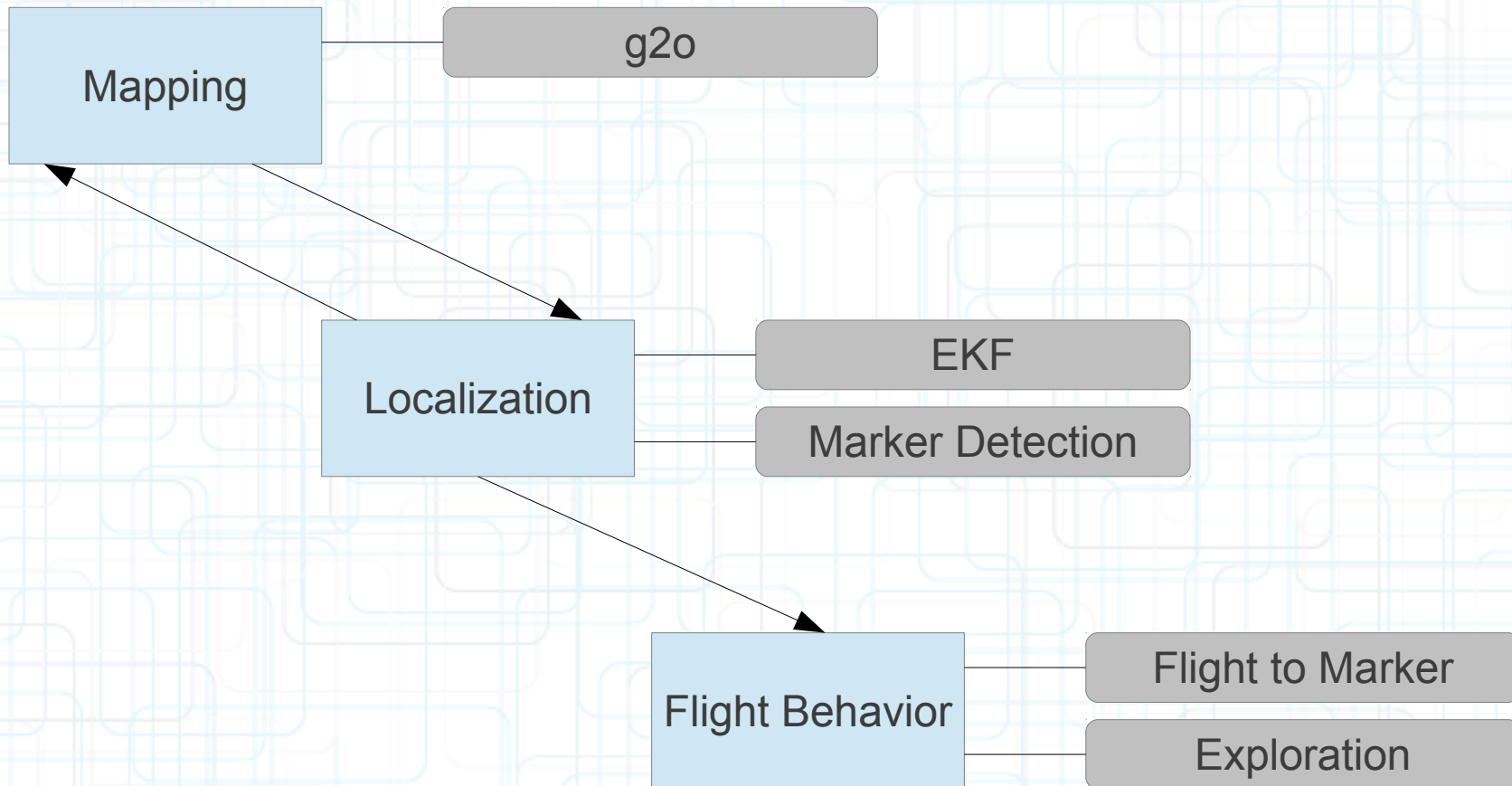


Achievements

- Added new markers
- Recorded bag-files
- Created map to contain marker information
- Implementation of waypoints for autonomous exploration
- Integration of g2o for map optimization

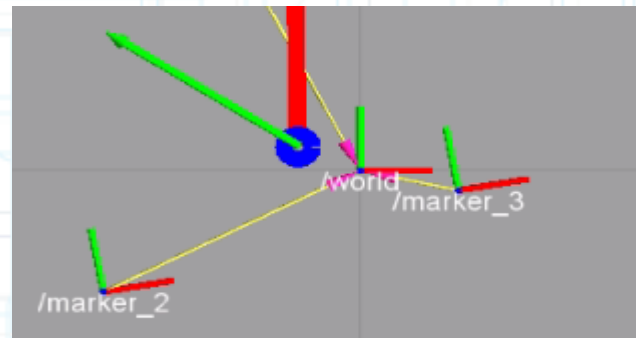
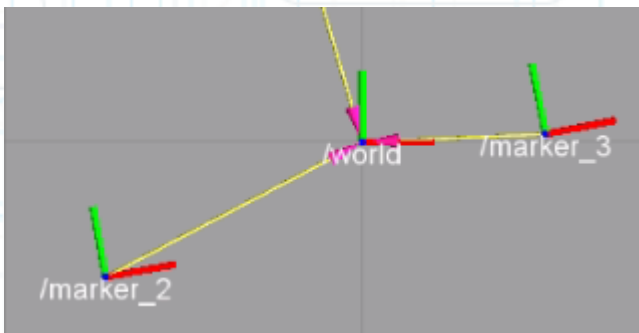


System Overview



g2o

- General purpose graph optimization library
- Available as ROS package
- Basic components
 - Points (Marker Locations)
 - Constraints (Relative Marker Poses)
- Insertion of new constraints on subsequent marker detections



Demo Video

Issues

- Marker pose estimation was unreliable
- Therefore automatic flight between markers and their placement was inaccurate

Future Work

- Improve marker detection
- Land at specified marker
- Replace artificial markers by real POI

