Keyframe-Based SLAM with Bundle Adjustment

Team: gang-of-three

Approach

Localization - 1st Thread:

- FAST + FREAK

- reprojecting map

- window matching

- Umeyama + RANSAC

->Thread communication

Mapping - 2nd Thread:

- Merge KeyFrame into map

- Calculate local map for tracking

- Bundle-Adjustment with ceres-solver

Extras

- use depth observations in cost function
- occlusion checking during pose estimation
- incorporate Pose-Pose constraints
- car parameters as user interface