SAFETY SERVER

Ko-HAF
KOOPERATIVES
HOCHAUTOMATISIERTES FAHREN

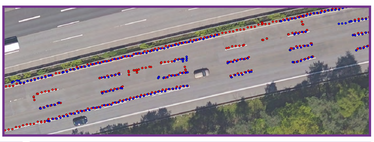
Aggregation of Ko-HAF Fleet Data on the Safety Server

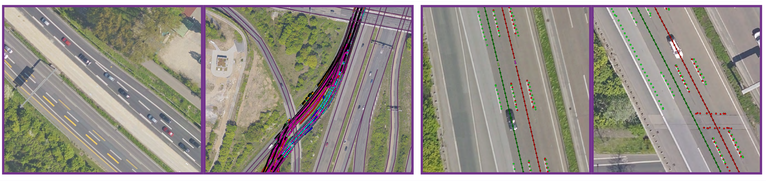
MOTIVATION

- Map data of high spatial and temporal precision required for highly automated driving
- Occurrence of changes -> HAD map has to be kept up to date
- Sensor data of multiple vehicles is processed on Safety Server to detect/update changes

CHALLENGES

- Observable features are hidden by other road users
- Drives on different lanes lead to different sightings
- Different types of changes
- Change or measurement error?





AGGREGATION APPROACH

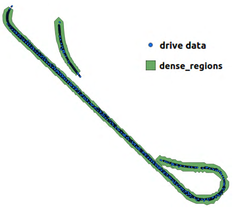
DRIVE AGGREGATION

1. Gather drive data on Safety Server

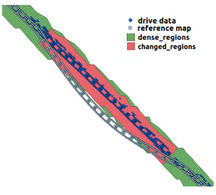
2. Associate and optimize different drives

CHANGE DETECTION

1. Find consistent areas within drive data



2. Find changed areas



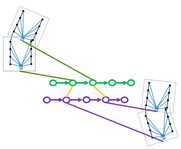
Focus: detour change, lane marking change

REMAPPING

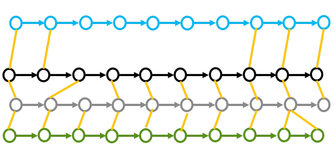
1. Generate new map in changed region
2. Align new map with existing HAD map

UNDERLYING METHODOLOGIES

- SLAM graph based association/optimization



- SLAM graph based change detection



FOLLOW UP

- Extension of methods used
- More detailed quantification of map quality

BOSCH
Technik fürs Leben

www.ko-haf.de

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