ASAM OpenCRG Transfer Project

Fourth Meeting

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February 27, 2020
Holzkirchen/Germany

ASAM Association for Standardization of Automation and Measuring Systems

General Tasks and Requirements

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- Implementation tasks for C and Matlab have to be quoted together

- Familiarity with OpenCRG 1.1.2.

- Adaption of Header and Code Style to new ASAM requirements
- Backwards compatibility has to be guaranteed.
- Implementation includes Testing

- Quote must contain the implementation of the following features (details in the following slides):
  - Georeferencing (F001)
  - Global Curvature Check (R002)
  - Map-Provider Adaption (R003)

- Please provide a quote only for the features above and a quote including the following feature
  - Multiple Data Layers (F002)

  Based on your quote additional funds are requested

Georeferencing (F001)

Georeferencing

- Matlab only

- map projection data, which is read/writen from/to CRG file headers
  This data is checked and expanded/overwritten where appropriate. Defaults are used where explicit settings are missing, see `map_intro` for details.

```
CRGDATA.mpro     (optional) struct array with these sub-structs:
        gell     ELLI struct of global geodetic datum
        tran     TRAN struct of datum transformation
        lell     ELLI struct of local geodetic datum
        proj     PROJ struct of map projection
```

- All required functions for correct mapping are available. The code has to be checked that all functionality supports the new mpro-features.

- Backwards compatibility for usage without mpro-features has to be guaranteed.

Map-Provider Adaption (R003)

Map-Provider Adaption

- Matlab only

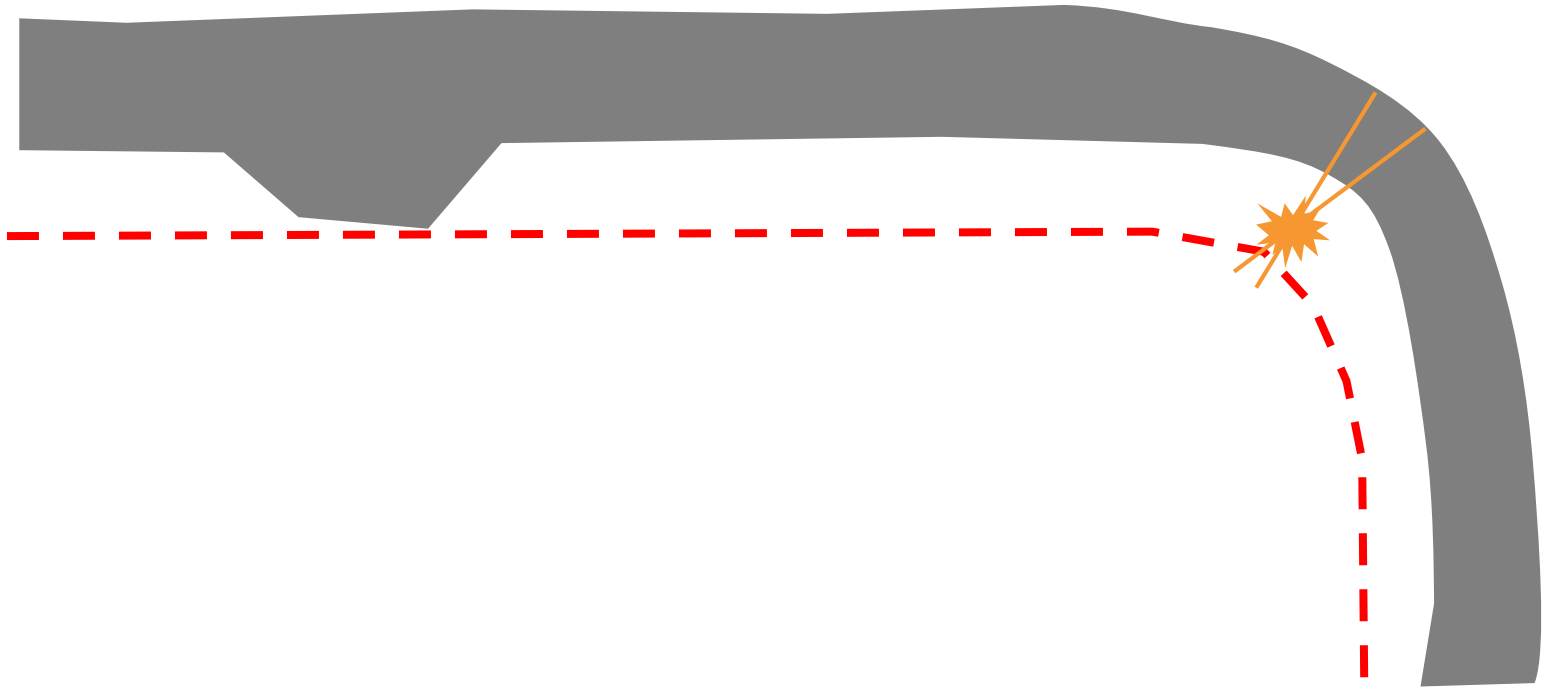
- Related to map projection
- The refline can be represented in an html-file showing the reference line in a window with Google Maps, Google Maps shall be replaced by Open Street Map

- Basically two m-File has to be changed: `crg_wgs84_crg2html.m` and `map_wgs2html.m`

Curvature (R002)

Curvature

- Matlab and C
- Problem statement: Global check for curvature vs. road width



Curvature

Testdata and local check for curvature

- crgcurvtest.crg on SVN
- Check for local curvature

```
vek_rc=[crgcurv.rc(1),crgcurv.rc,crgcurv.rc(end)];
idx_right=vek_rc< 0;
idx_left =vek_rc>=0;
min_max_v = NaN(size(vek_rc));
min_max_v(idx_right)=ceil(1./vek_rc(idx_right)./crgcurv.head.uinc).*crgcurv.head.uinc;
min_max_v(idx_left) =floor(1./vek_rc(idx_left)./crgcurv.head.uinc).*crgcurv.head.uinc;

test=min_max_v./crgcurv.head.vinc-(crgcurv.head.vmin./crgcurv.head.vinc)+1
```

Check if test is within road limits (crg.head.ir (for idx_right) and crg.head.il (for idx_left)) or based on z evaluation. The latter means check if you get a NaN value if you try to get a z-values for the first forbidden v-value. This also checks if you use a border mode resulting in NaN.

- An additional warning shall be implemented to indicate that the global check failed but the

Multiple Data Layers (F002)

Multiple Data Layers

- Matlab and C
- see additional slides

Thank you!

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