

Spover

Speedoverlay for navigation

Idea

- Apps used for navigation often don't include showing the current speed and speed limit, but Android supports overlays from third party apps
- show:
 - current driving speed, measured by GNSS (GPS)
 - speed limit, provided by OSM (OpenStreetMap)
- additional features:
 - optical/acoustical alerts for exceeding speed limits by an adjustable threshold
 - prefetching surrounding areas speed limits for offline situations

Challenges

- connectivity/offline
 - might not have the best internet 'on the go'
 - bad GPS in tunnels or between mountains
- form factor
 - navigation app should still be visible/usable
 - handle different brightness levels
 - should not distract the driver
- timing
 - when is speed limit information required?

There's no network connection

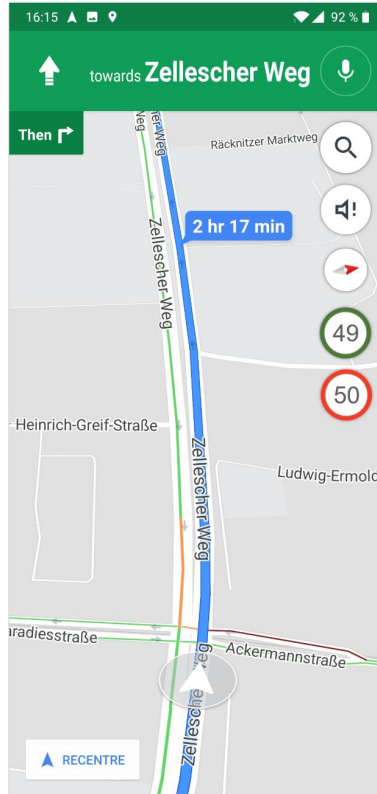
Make sure you're connected to a Wi-Fi or mobile network and try again.

OK



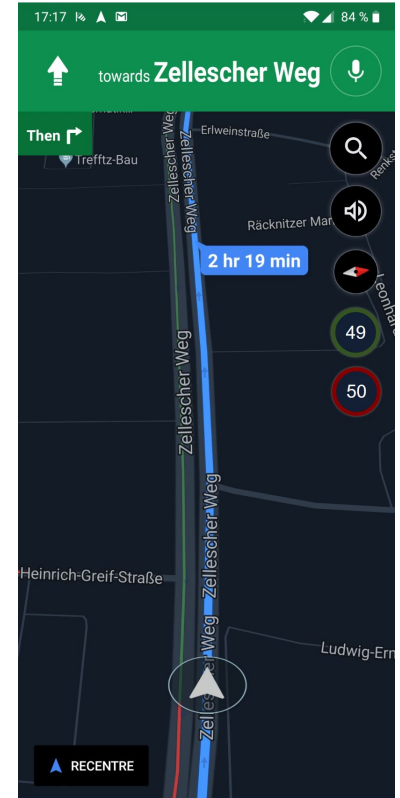
Overlay

- overlay instead of whole screen
- adjust color depending on time of day



day mode

users speed
speed limit



night mode

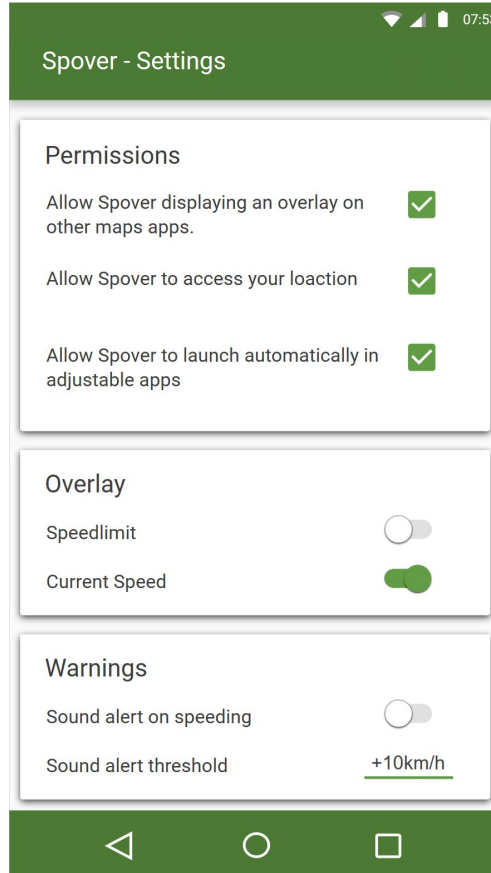
Icons for different speeds

- different overlay color depending on how much faster/slower than the speed limit the user is driving

colors corresponding to driving in a **50km/h** zone:



Settings



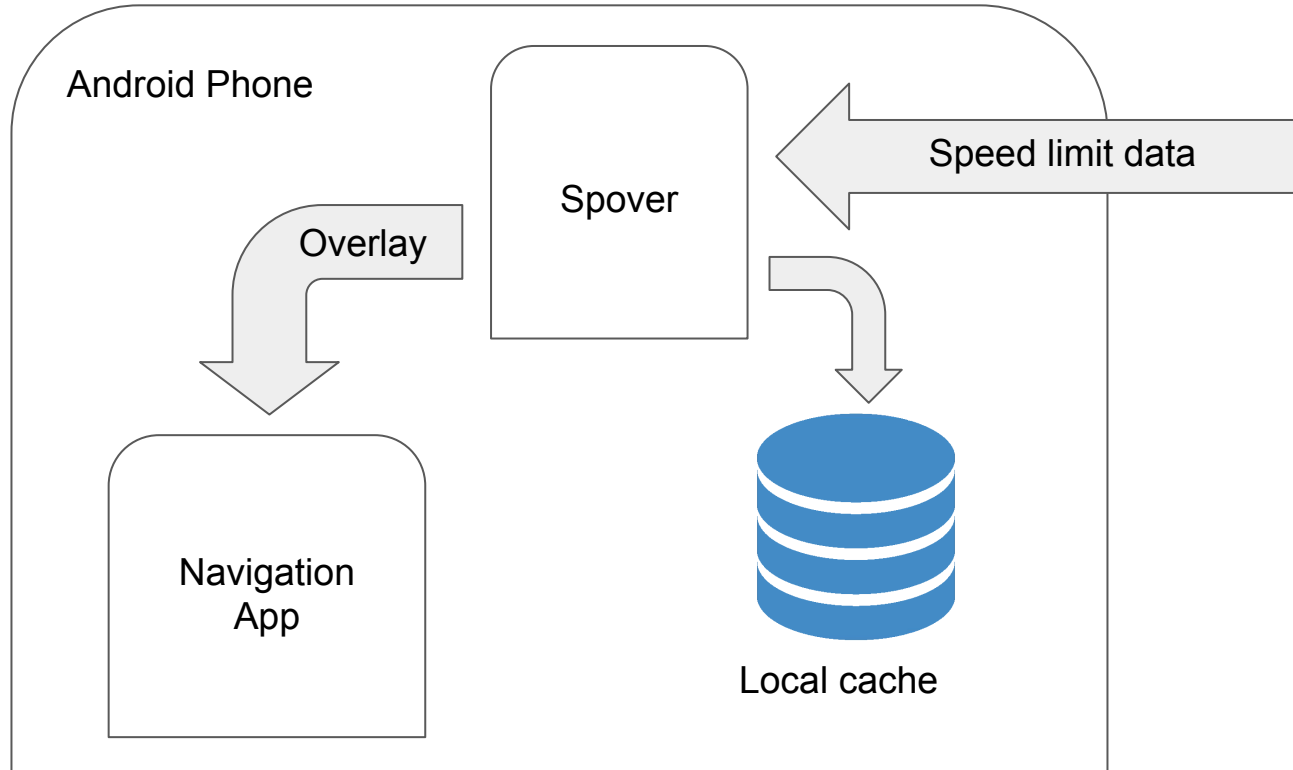
- app permissions status
- customize overlay
- sound when user is driving over speed limit

Preloading for offline usage

- prefetching speed limit data for areas without network connection



Technical Implementation



Open Street Maps
API

Work plan

Until 01.12.2018:

- make familiar with available APIs
- create settings screen
- create proof of concept for the overlay

Until 01.01.2019:

- finalize overlay
- integrate with OSM

Until 31.01.2019:

- polish everything