Fuel Stop Advisor
Current status of the Fuel Stop Advisor project

Navigation APIs in GENIVI, an overview

FSA project, a status

To-do list and call for contribution

Preamble: Why I'm here

- Peugeot Citroën (PSA) is involved into GENIVI since the beginning, to reduce the development and maintenance costs of an IVI system and to focus on added-value for customers

- GENIVI is the way PSA and other members have decided to follow, in order to achieve standardization of the middleware

- Even if every contributors have their own motivation (according to their company objectives and product road map), GENIVI initiative has proven efficiency of a collaborative work and OSS working model in the road to a pragmatic and concrete standard

- Products currently under development in PSA are GENIVI compliant, and implement the Navigation APIs
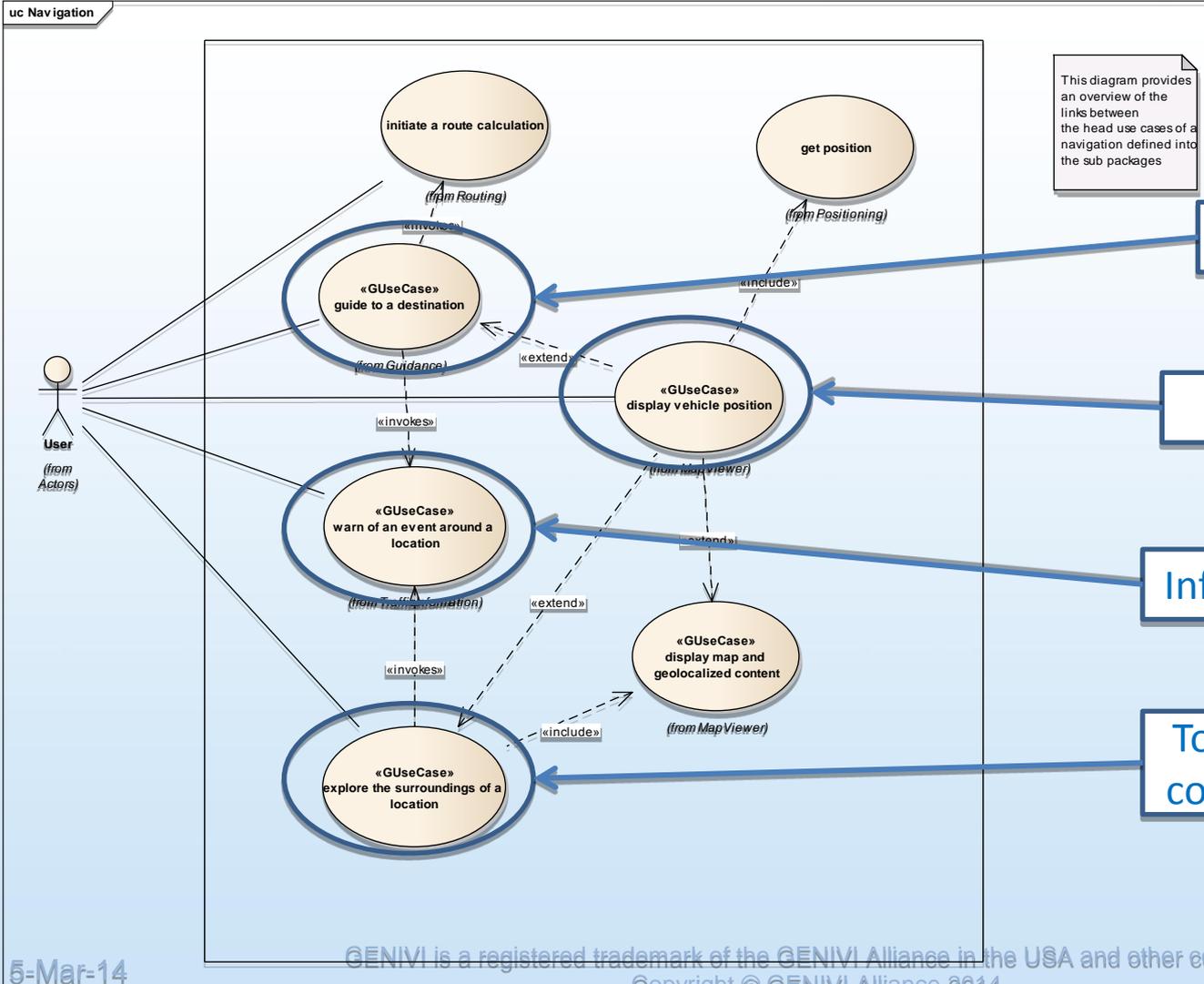
NAVI APIs

FSA PROJECT

TO-DO LIST

- In the automotive world, everybody talk about navigation, location based services, automotive apps, car connectivity... and mainly about <u>how to make money with</u>
- But the <u>business model</u> is far from being found
- Nobody seem to take in account <u>what are really the needs</u> of a driver into his vehicle
- A **user** may seem to be <u>a technology addict</u>, but a **driver** just wants to reach his destination in a <u>safely</u>, <u>comfortably</u> way, by <u>easily</u> listening to music and keep on being in touch with relatives or friends
- Because of long hours spent into a car, for a driver point of view, car is something like part of home, so <u>security</u> is also to be considered (privacy protect)

Navigation: GENIVI API

NAVI APIs

FSA PROJECT

TO-DO LIST
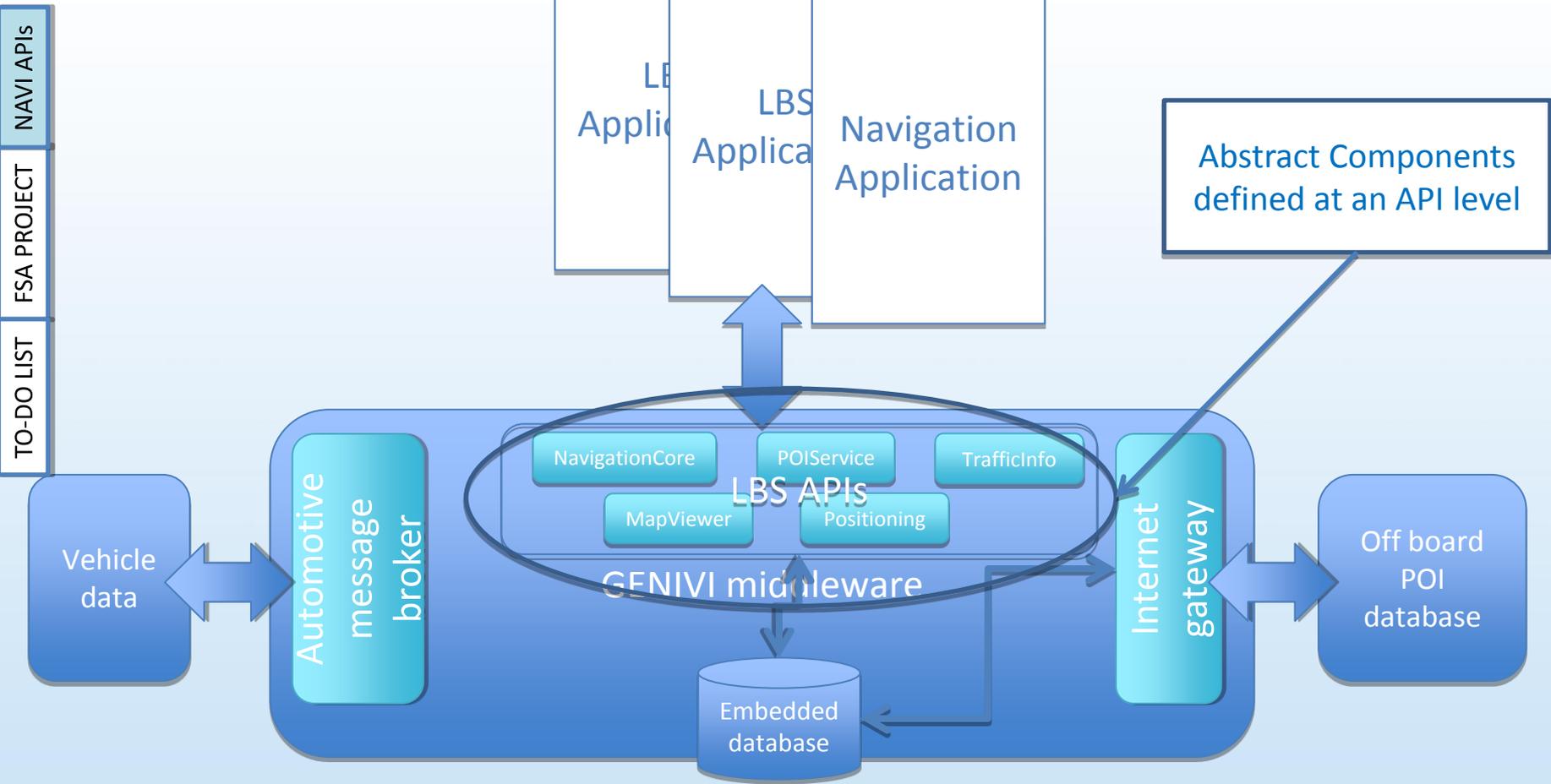
- An API defined by the LBS team has to be proven by a concrete piece of software, the Proof Of Concept (POC)
- A POC in GENIVI is typically made of a software that implements the component and a client that demonstrates the main features
- POCs of Navigation are mainly based on Navit and OSM.
- POCs are mainly running on a desktop under Ubuntu

Because of the powerful plug-in mechanism

No better source of open source map and POI data

NAVI APIs

FSA PROJECT

TO-DO LIST

- C++ for the code, HMI in Qt (Qt GUI or Qt QML)

- DBus for the IPC between clients and servers (Glib DBus or Qt DBus)

- Sqlite3 (for the POIPOC)

- Cmake

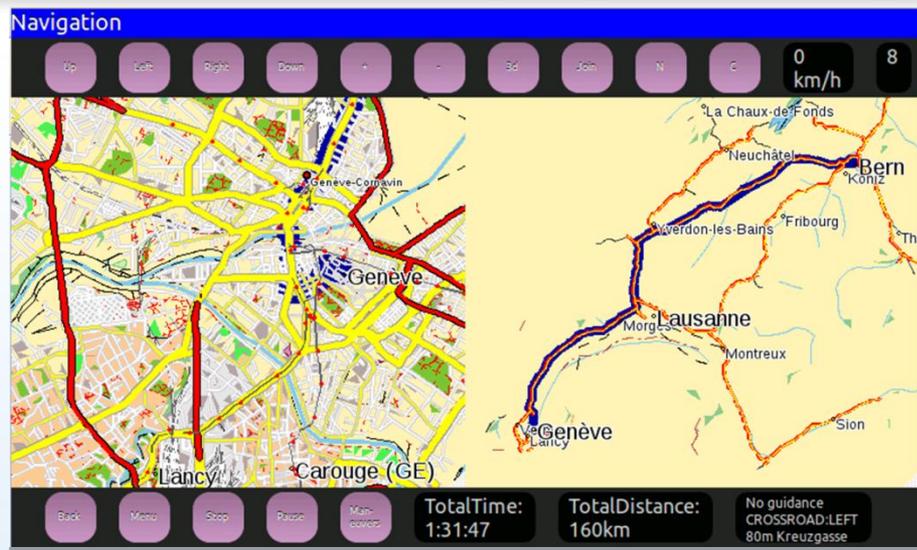- Code is running under Ubuntu 12.04 LTS
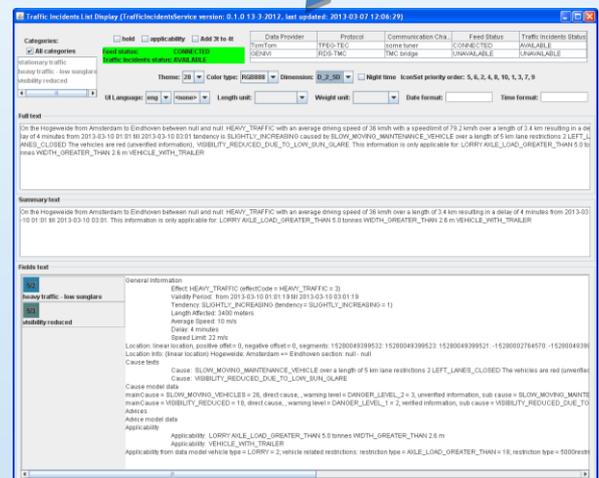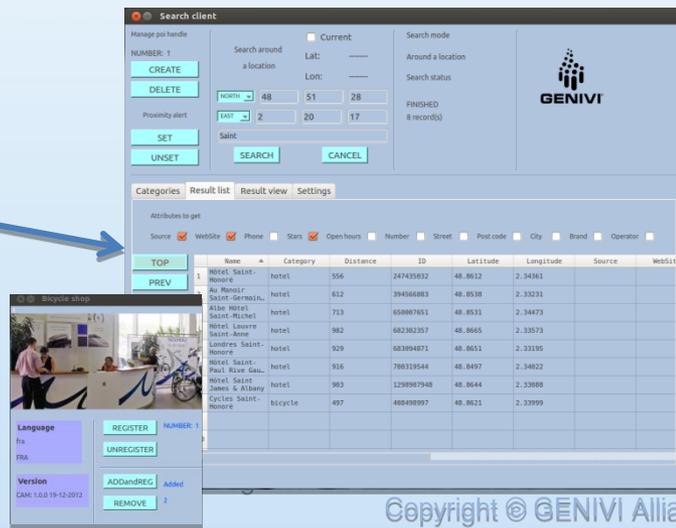
Some screenshots of existing stuff

GENIVI®

NAVI APIs

FSA PROJECT

TO-DO LIST

POC of navigation based on Navit+plugins

POC of TrafficInfo

POC of POISearch, based on sqlite3 and OSM data

NAVI APIs

FSA PROJECT

TO-DO LIST

Never run out of gas

Stop worrying about fuel level

Get Fuel Stop Advisor Application !

Picture: http://www.defensivedriving.com/

Main topics

NAVI APIs

FSA PROJECT

TO-DO LIST

- Predictive evaluation of the tank distance on the route ahead

- Warning in case of destination wouldn't be reached with the remaining fuel level

- Proposal of rerouting to an available refill station

Main goal of the FSA demonstrator is to promote the Alliance by an exciting vehicle application widely based on GENIVI APIs

NAVI APIs

FSA PROJECT

TO-DO LIST

- Input data for tank distance come from a log file (simulated route)

- Fuel consumption on the route is predicted from the speed on route segments

- HMI will be first made in QML and in HTML5

- Map data and fuel stations come from OSM

- DBus is used between HMI, Application and middleware

NAVI APIs

FSA PROJECT

TO-DO LIST

- New project launched end of 2013: "Fuel Stop Advisor" (FSA), first release in mid March 2014

- TrafficIncidents available as an abstract component for Horizon release (May 2014), so it could be connected to the FSA

- Navit+plugins, POC and FSA project moved to OSS soon (end of February)

Some items of a to-do list

NAVI APIs

FSA PROJECT

TO-DO LIST

- To port the Navit GENIVI plugins to Tizen
- To port the FSA HMI to HTML5
- To connect to an Internet Service Gateway to get additional fuel station (accessing a POI source hosted on a web server)
- To implement other LBS applications
- To align the code to the Ubuntu 14.04 LTS (Trusty)
- To make the FSA running on a Yocto based target (e.g. on a Renesas automotive target)