

OLU Collaborative Mapping

INSPIRE Hack 2017, Pilsen

Michal Kepka

Šimon Leitgeb

Dmitri Kožuch

Team Members

Šimon Leitgeb



Lesprojekt,
Masaryk University in Brno,
front-end developer (HS-Layers
NG)

Michal Kepka



geomatician,
developer of Web GIS,
spatial data modelling,
SensLog - sensor data
manager,
University of West Bohemia

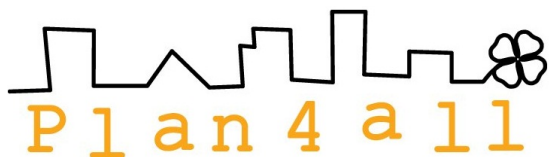
Dmitrij Kozhukh



Lesprojekt,
Open Transport Net developer

Supporting Projects

- Plan4all association – aims to provide open datasets in transport, **spatial and city planning**, **environment** and **tourism** that are easy to reuse and access – <http://www.plan4all.eu/>
- DataBio – Data-Driven Bioeconomy – Horizon 2020 project oriented on usage of Big data in bioeconomy. Pilots are focused on **agriculture**, **forestry** and **fishery** domain – <http://databio.eu/>



Input Data

- Open Land-Use dataset
 - Detailed land-use maps of various regions based on certain pan-European datasets such as **CORINE Landcover**, **UrbanAtlas** enriched by available regional data
 - Open, harmonized and seamless database
 - Open and flexible data model
 - Combination of **global and local data**
 - http://sdi4apps.eu/open_land_use/

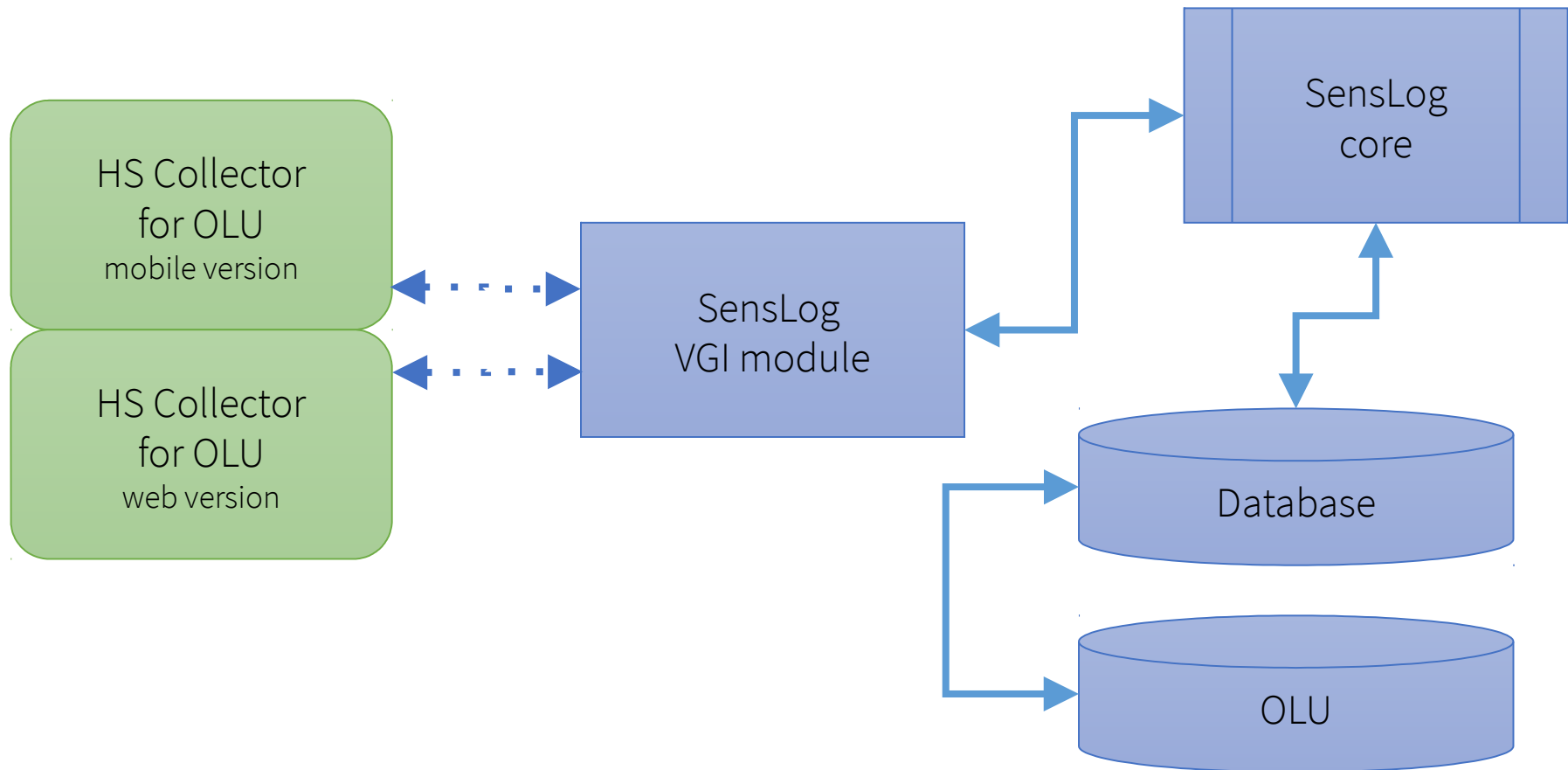
Used Software / Tools

- **SensLog** – <http://www.senslog.org/>
 - Web-based sensor data management system.
 - Solution suitable for static in-situ monitoring devices as well as for mobile devices with live tracking ability
 - Module for **collecting VGI**
 - BSD licence
- **HSLayers-NG + Cordova**
 - **Hybrid mobile** and responsive web application
 - Many components available
 - Open Source

Project Idea and Results

- Display OLU in mobile app as an **editable base map**
- **Create map features** with corresponding attributes
- Insert notes or proposals for **improvement** of the base map (OLU)
- Data model of SensLog VGI module is **independent** on the **target spatial data set**

Structure of the Solution



Mapping OLU to SensLog

object: VGIObservation
id: Long
gid: UnitPosition
time_stamp: Timestamp
category: VGICategory
description: Text
attributes: JSONObject
dataset: VGIDataset
unit: Unit
media: VGIMedia[]

General VGIObservation
object



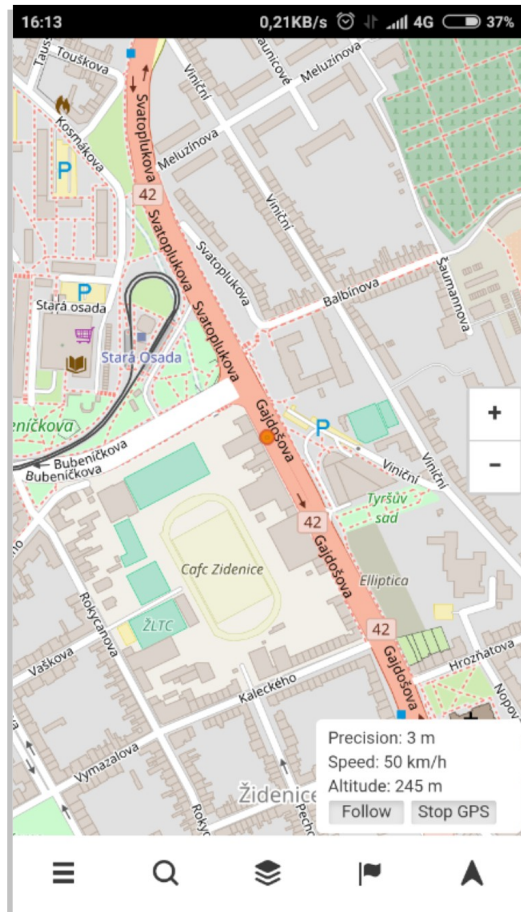
```
1 - {
2   "type": "Feature",
3   "geometry": {
4     "type": "Point",
5     "coordinates": [
6       16.6451258,
7       49.1961478
8     ]
9   },
10  "properties": {
11    "attributes": {
12      "name": "Parking update",
13      "additional_geometry": "POLYGON((13.35 49.72,
14      "status": "update"
15    },
16    "category_id": 110,
17    "dataset_id": 999,
18    "description": "undefined",
19    "media_count": 0,
20    "obs_vgi_id": 324,
21    "time_stamp": "2016-09-25 13:13:23+02",
22    "unit_id": 1111
23  }
24 }
```

Example of OLU feature
as VGIObservation

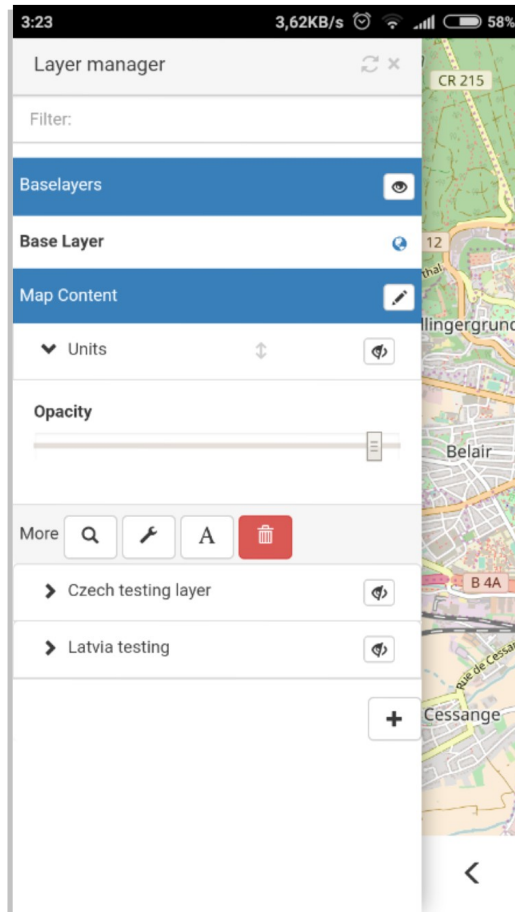
HSLayers-NG Redesign

- Conforming to **Material design**
- **Goals:**
 - Simple and intuitive **interface**
 - Responsive layout
 - **Visual integrity** across web and mobile versions
- Most functionality will also be **more accessible** as a result
 - multiple **theme** options
 - **user themes**

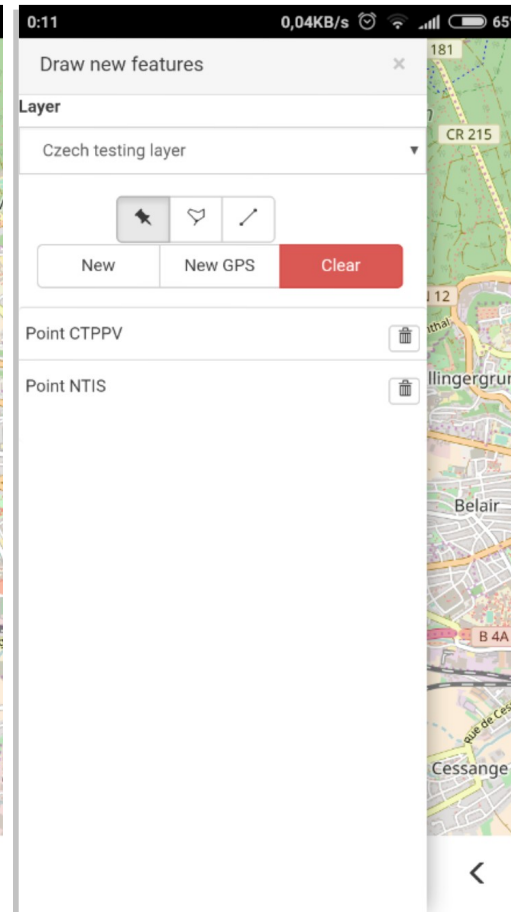
Mobile Application So Far



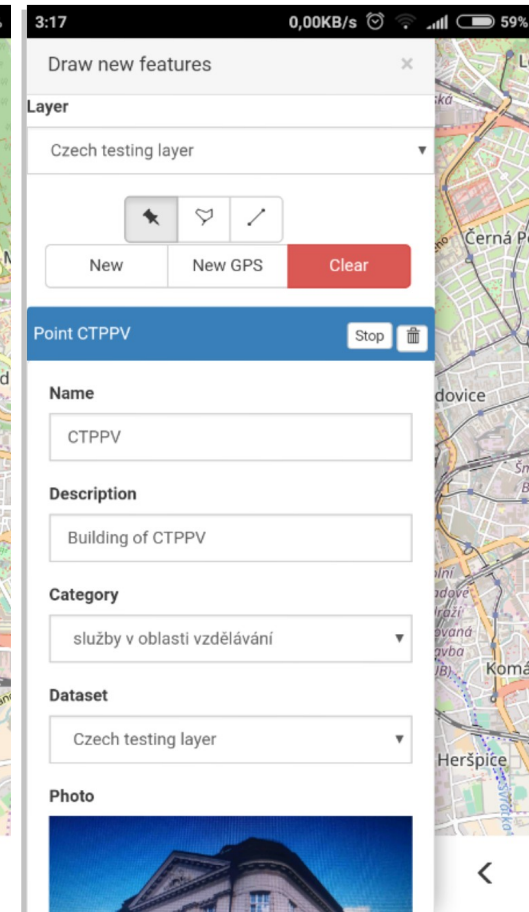
Geolocation retrieval



Layer management

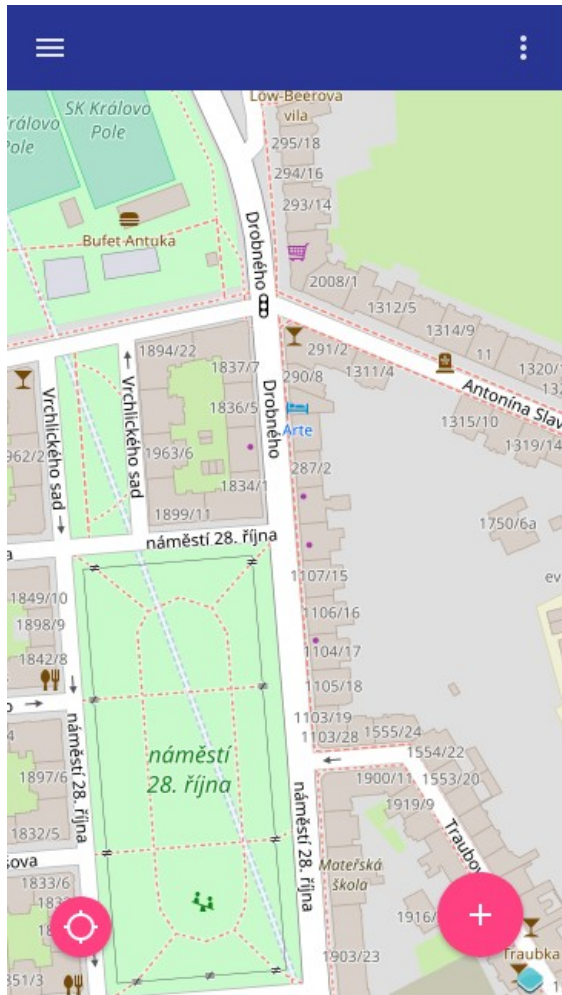


Feature list

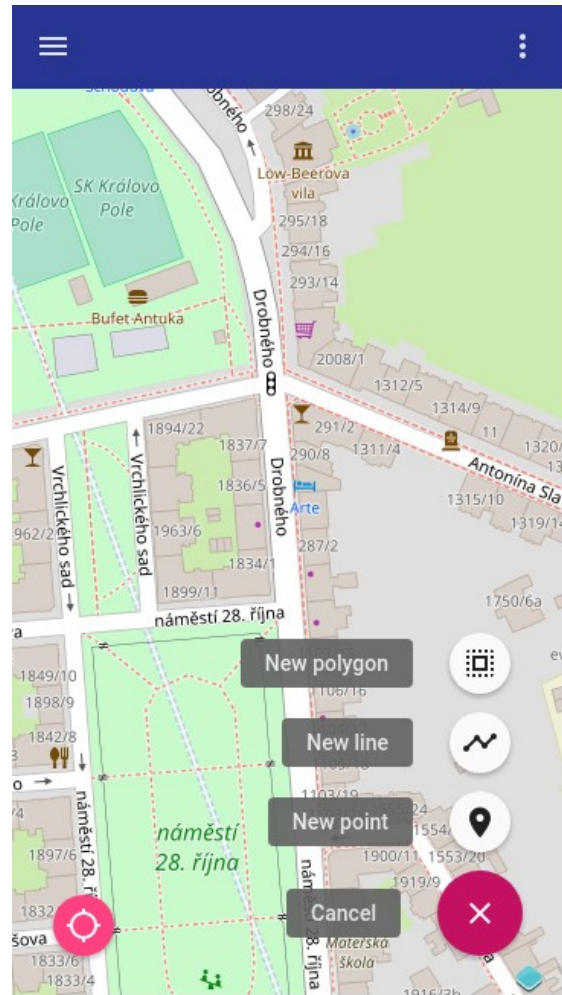


Information collection
+ media

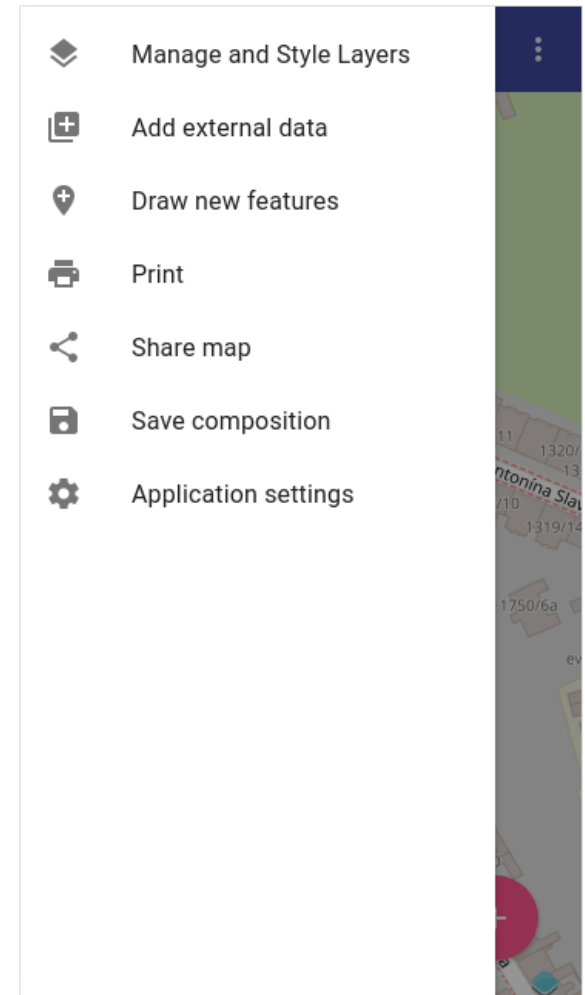
Mobile Application Redesigned



Simple UI with floating action buttons



Actions under FAB



Menu with components