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MySpot .Gent

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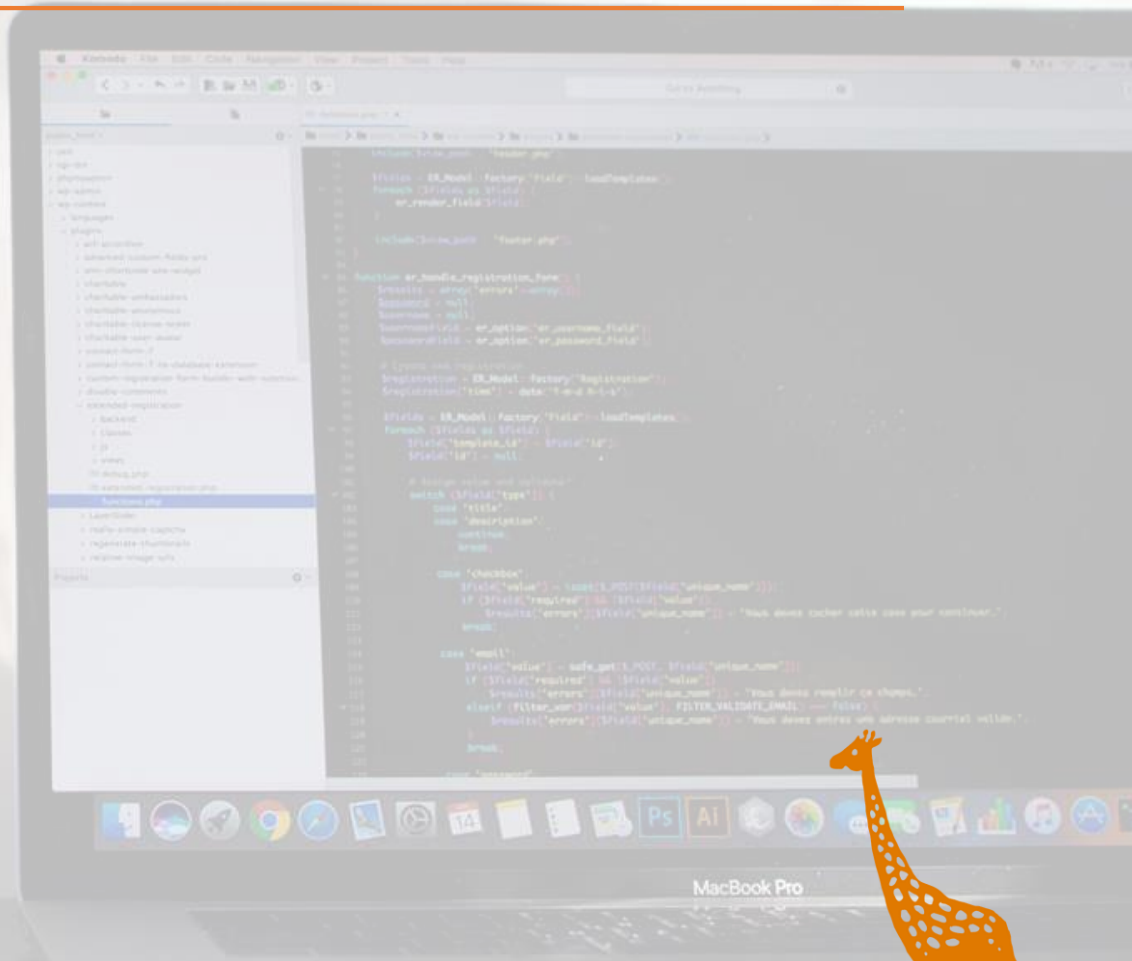
Standalone Application

Features:

- Easy to use
- MapCanvas with relevant Layers
- Maptools
- User Input
- Routing (vector and info)
- Export



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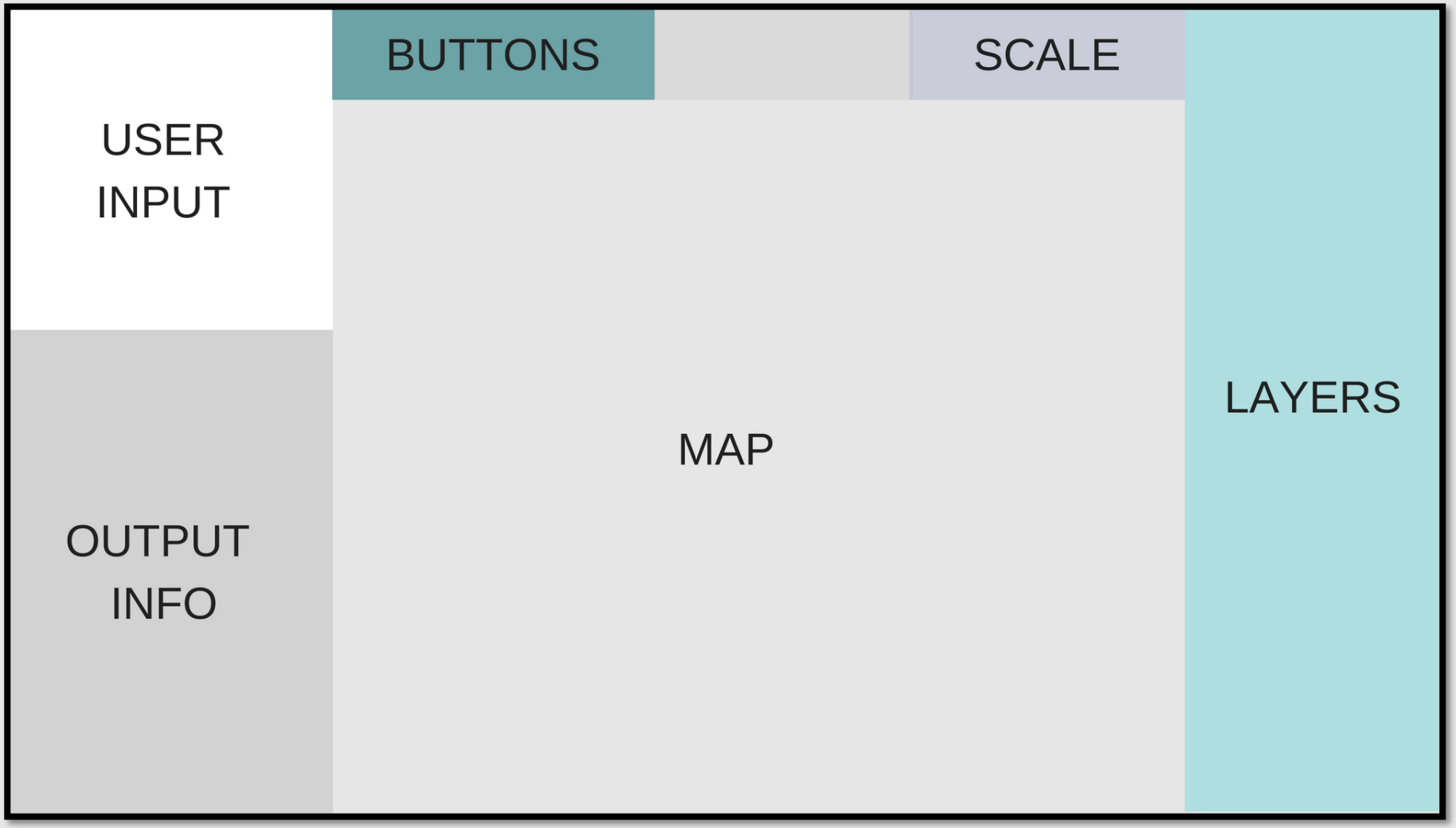
User Interface: TUFD



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Map: Layer handling & Styling

Manipulation of data with QGIS & FME

- Conversion to GeoJSON & Shapefiles in Lambert72 (EPSG: 31370)
- Bounding Box & Clipping
- Layer split-up by attributes
- Dissolve – Snipper – Chopper – Azimuthcalculator – Bufferer – Spatial relator – Tester – Attribute creation

Creation in QGIS, exported as '.qml' & '.sld'

- Colour
- Fill transparency & Line width
- Icon '.svg'
- Labels
- Scale dependency

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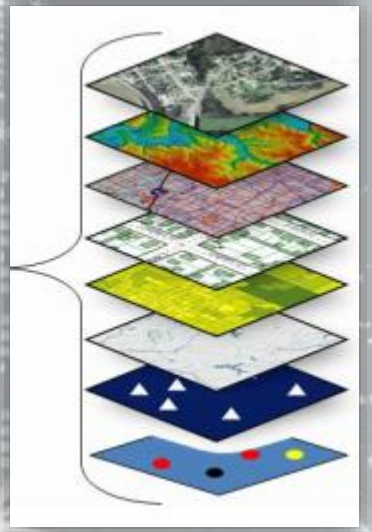
Map: Layer build-up

- POI
- Zones
- Info
- GRB
- Ortho
- Background



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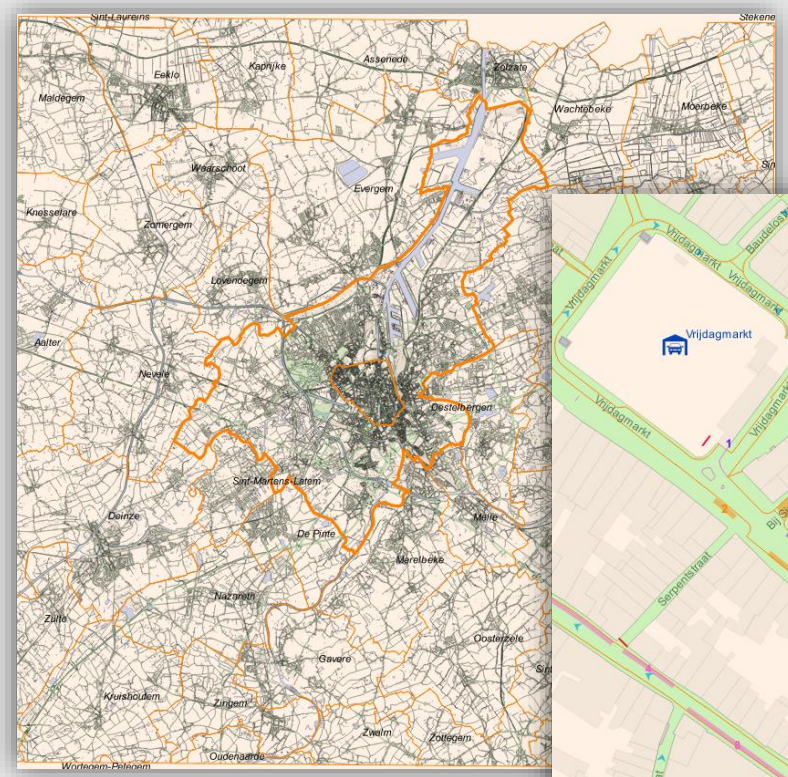
Map: GRB - Info Layer

1: 175000



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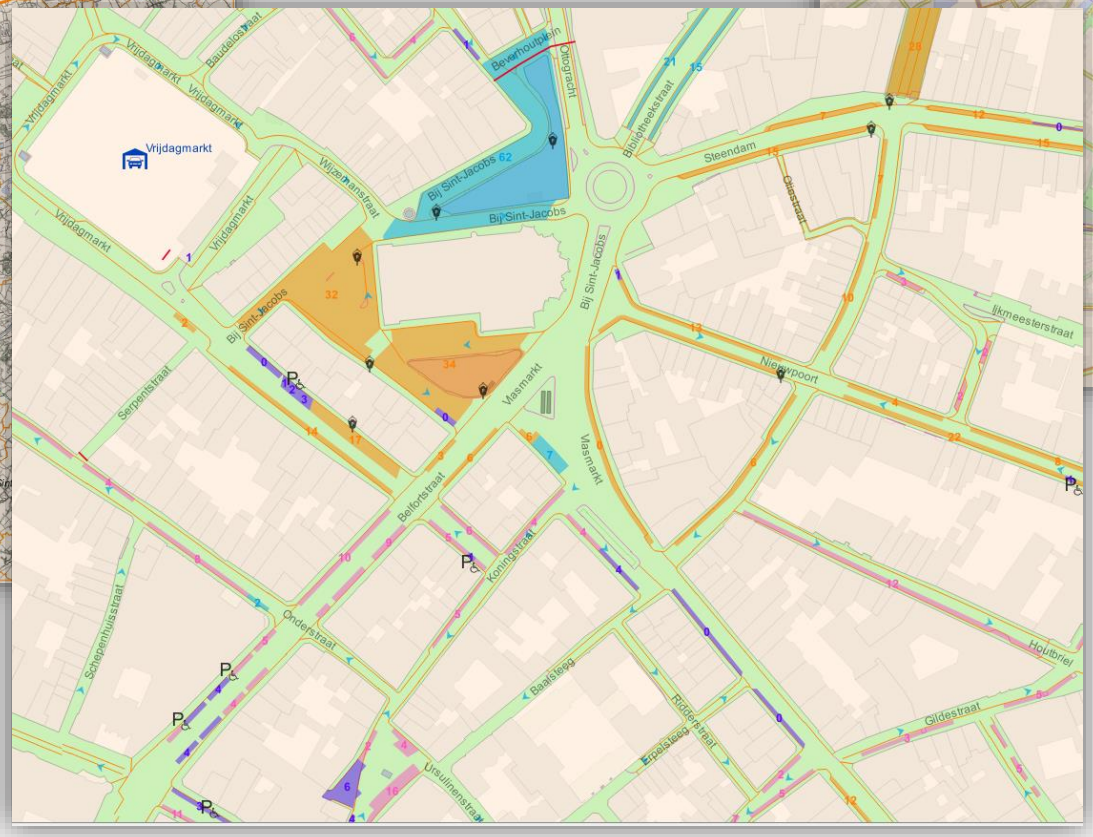

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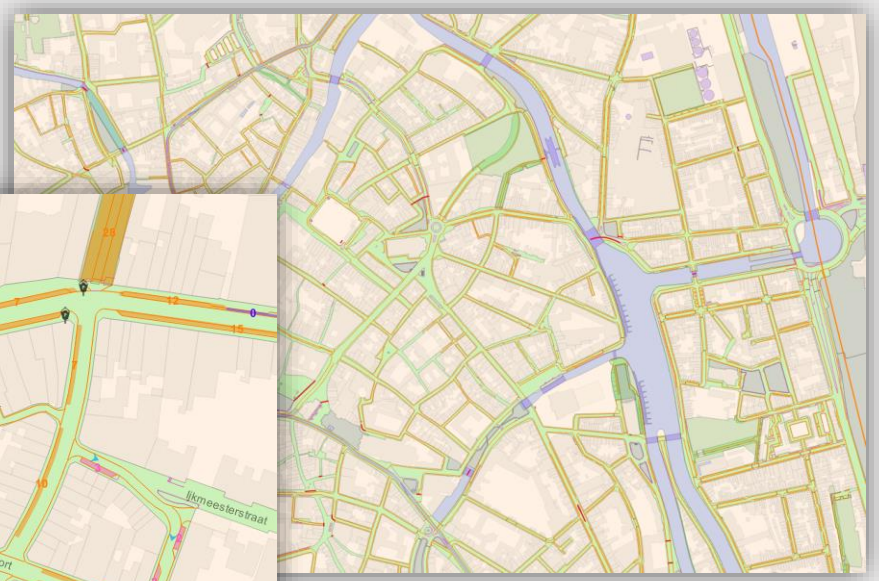

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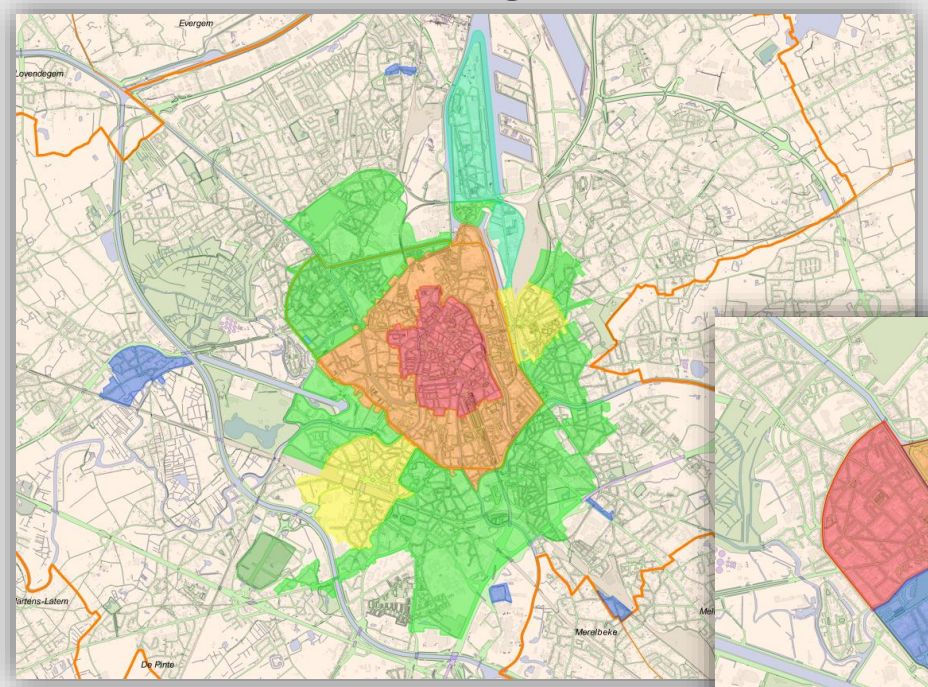
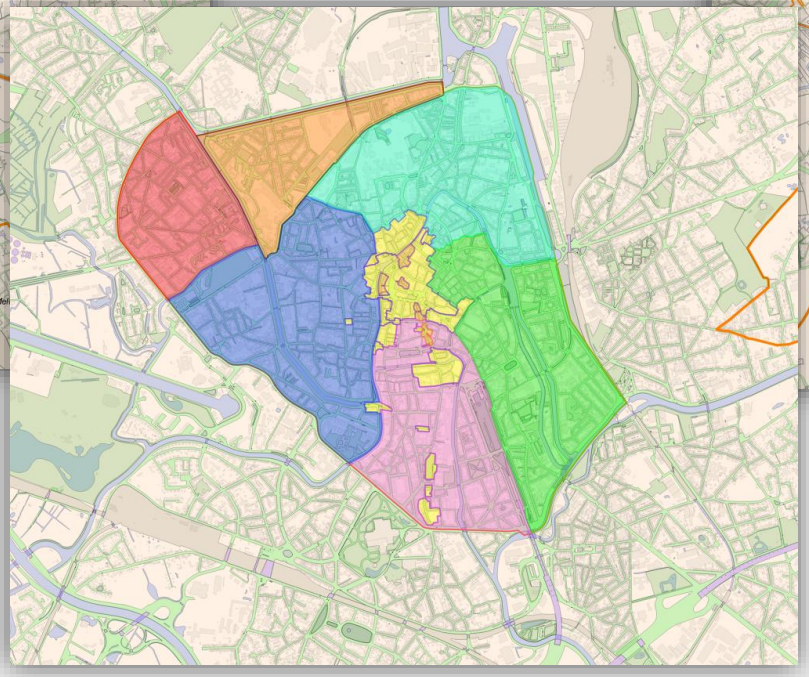
Map: Zones

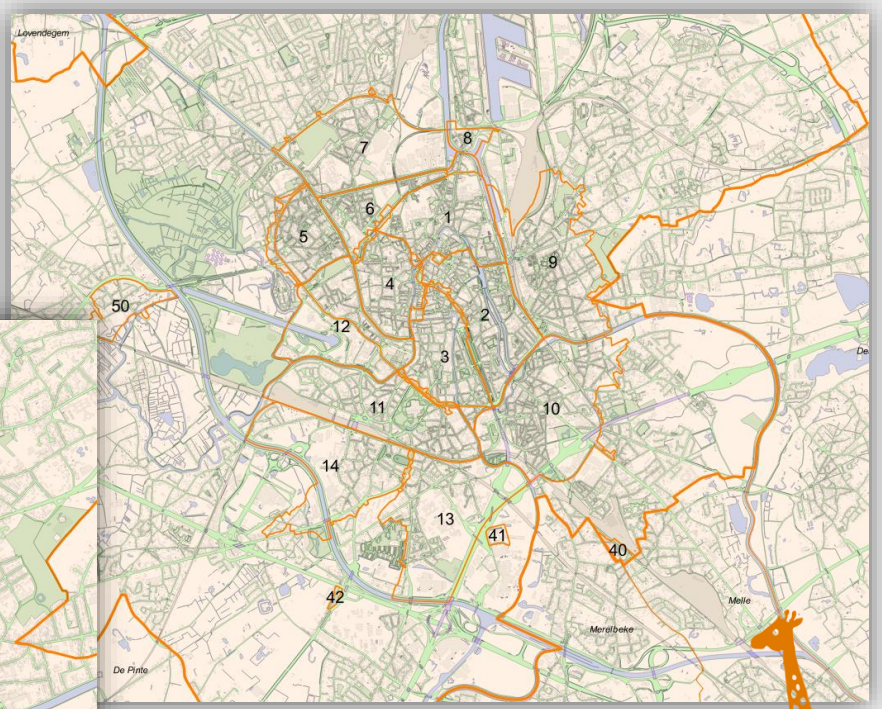
Parking



Circulation



Inhabitants



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Map: POI

P+R

Garage

Train station

Blue Bike

Cambio

Taxi

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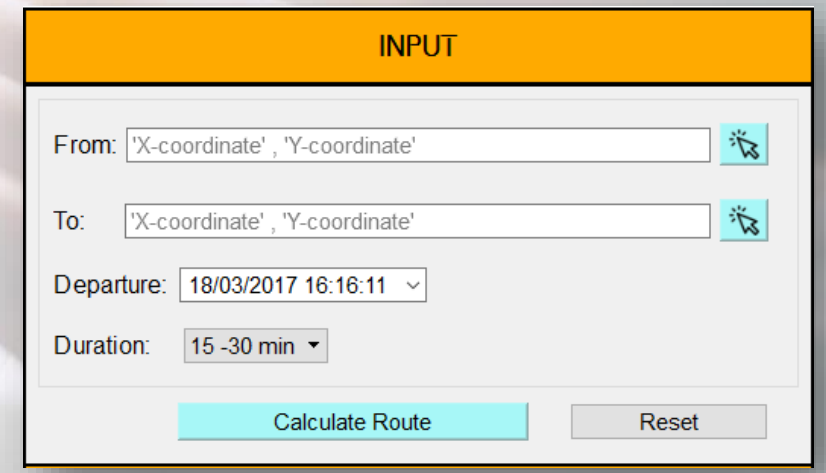
User Input

- Starting point: Coordinates or clicking on the map
- End point: Coordinates or clicking on the map
- Time of Departure: Date and time (calendar)
- Duration of stay: Tap down



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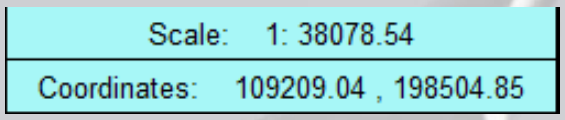
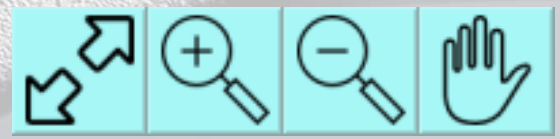
Tools: General

- Show Coordinates
- Scale Bar
- Zoom to Extent
- Zoom In
- Zoom Out
- Pan





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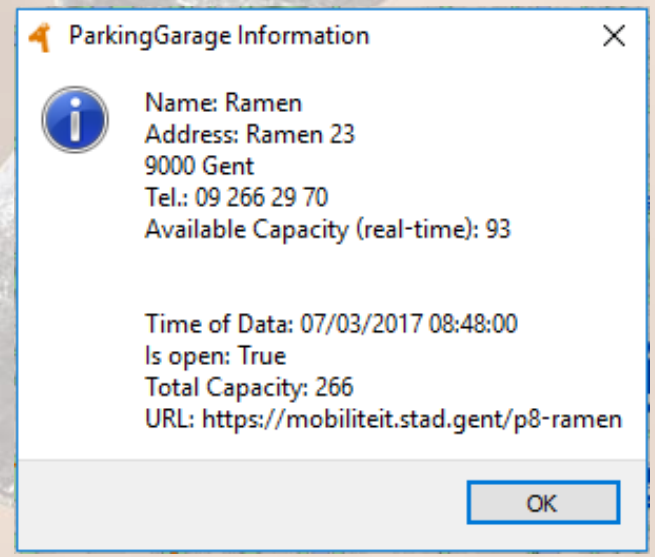
Tools: InfoTool & ClickTool

InfoTool: MessageBox pop-up for

- P +R (name, address, capacity, url)
- Parking Garages (name, address, real-time capacity, url)
- Info Layers (parking-regime, specific info, remarks, capacity)
- Circulation (name)
- Parking zones (name, url)



ClickTool:

- Click on the map to send the coordinates to the user input
- Create a vertex marker indicating the location

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Routing: Type

User: from A (starting point) to B (end point)

P+R: A →   →  B

Garage: A →   →  B

Street: A →   →  B

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Routing: Technology

Data Preparation

- Data Source: Open Street Map
- Database: PostgreSQL → PostGIS →pgRouting
- Import OSM data with different Config files
- Export as Shapefiles in Lambert72

Routing

- Retrieve User Input
- Build Graph (X 6)
- Calculate closest P+R, Parking Garage, Street Parking
- Routing through QGIS Network Analysis Library
  - Dijkstra Algorithm
  - Shortest Path
  - Consider direction
- Calculate Addresses

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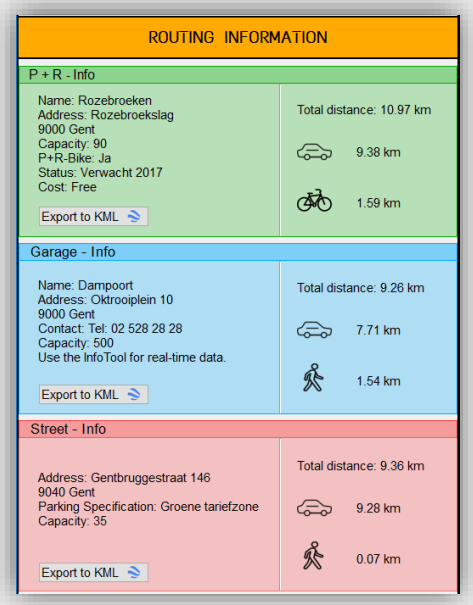
Routing: Output

Vector

- Create Rubberbands (3 X 2)
- Styling
- Show to MapCanvas

Routing Information

- Addresses
- Distances
- Parking Information



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Export: KML

Why:

- XML -> Cross Platform , easy to use, well-known
- Google Earth and Google Street View
- For experienced and inexperienced users
- Import into modern mobile and non-mobile applications

How:

- Input box for Directory and Name
- Transform rubberbands to WGS84
- Set attributes and layer fields
- Create Writer
- Add features

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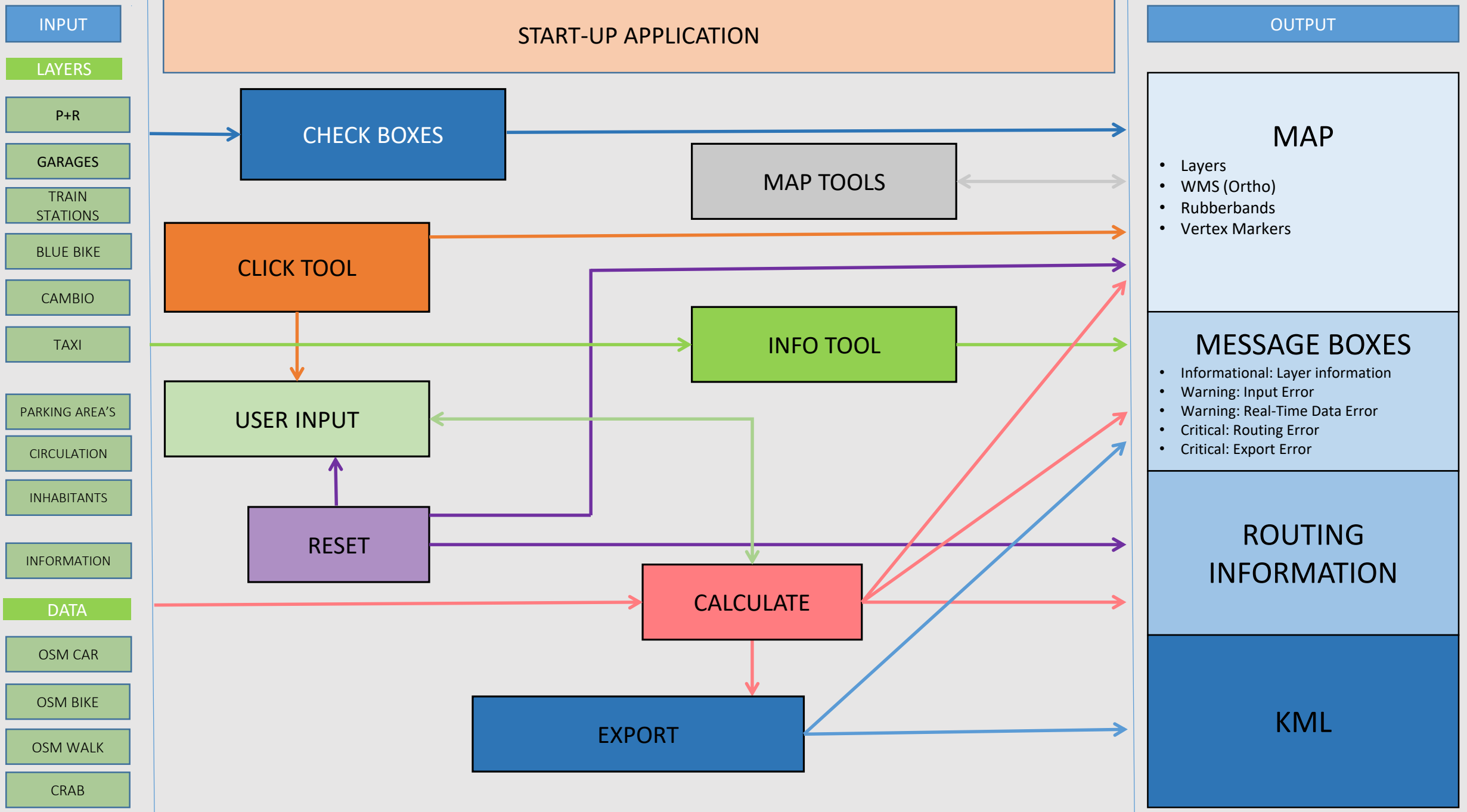

INPUT
LAYERS
P+R
GARAGES
TRAIN STATIONS
BLUE BIKE
CAMBIO
TAXI
PARKING AREA'S
CIRCULATION
INHABITANTS
INFORMATION
DATA
OSM CAR
OSM BIKE
OSM WALK
CRAB
START-UP APPLICATION
CHECK BOXES
MAP TOOLS
CLICK TOOL
INFO TOOL
USER INPUT
RESET
CALCULATE
EXPORT
OUTPUT
MAP
Layers
WMS (Ortho)
Rubberbands
Vertex Markers
MESSAGE BOXES
Informational: Layer information
Warning: Input Error
Warning: Real-Time Data Error
Critical: Routing Error
Critical: Export Error
ROUTING INFORMATION
KML

MySpot.Gent

INPUT

From: Korteboeken 51, 9930 Zomergem

To: Karperstraat 51, 9000 Gent

Departure: 18/03/2017 16:16:11

Duration: 15 -30 min

Calculate Route | Reset

ROUTING INFORMATION

P + R - Info

Name: Bellevue
Address: Herni Joseph Reystraat
9000 Gent
Capacity: 150
P+R-Bike: Ja
Status: Verwacht 2017
Cost: Free

Export to KML

Total distance: 19.05 km
16.85 km
2.20 km

Garage - Info

Name: Zuid
Address: F. Rooseveltlaan 3A
9000 Gent
Contact: Tel: 09 233 13 77
Capacity: 1036
Use the InfoTool for real-time data.

Export to KML

Total distance: 17.07 km
15.91 km
1.17 km

Street - Info

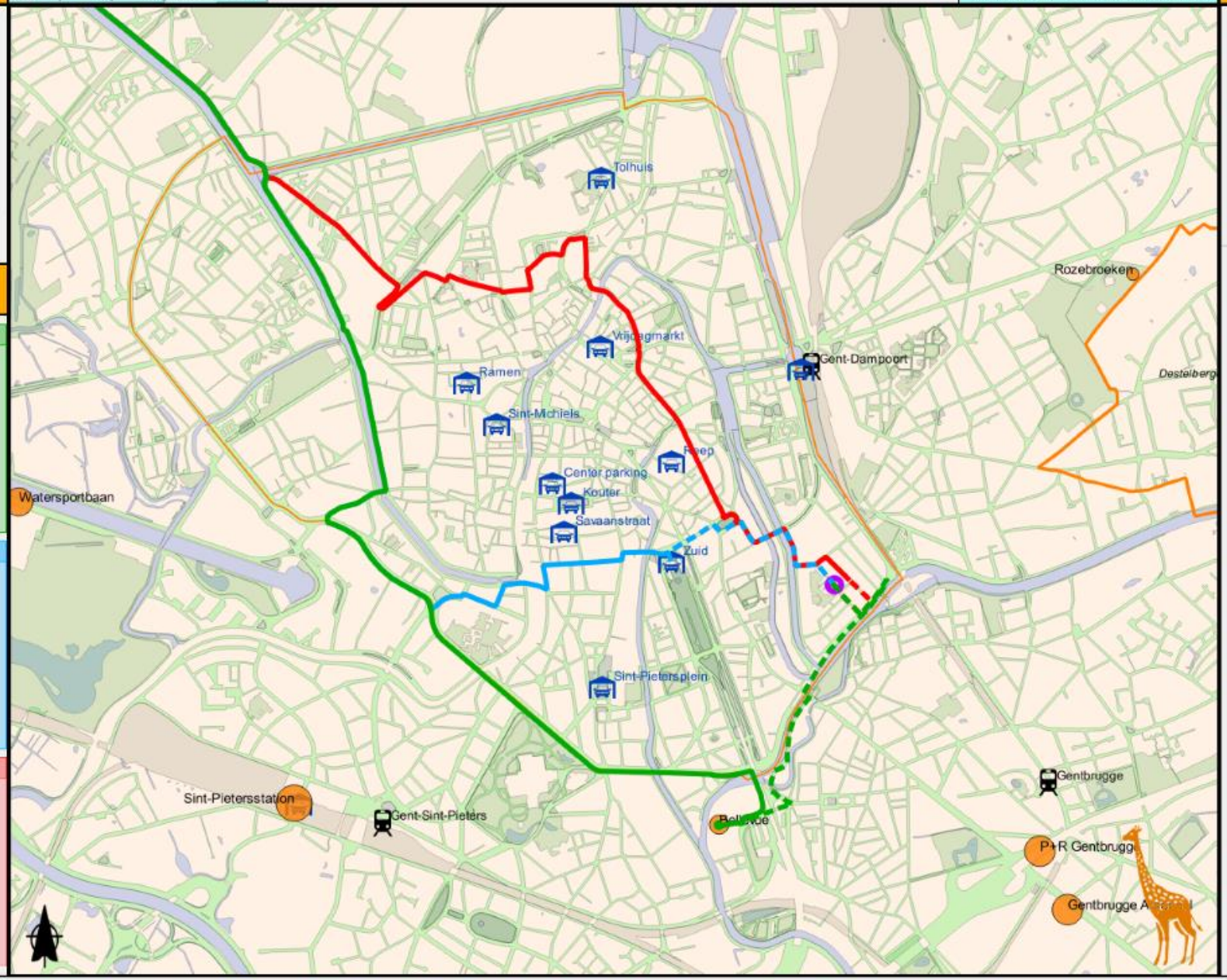
Address: Snoekstraat 63
9000 Gent
Parking Specification: Oranje tariefzone
Capacity: 34

Export to KML

Total distance: 17.05 km
16.62 km
0.43 km

MAP

Scale: 1: 19039.27
Coordinates: 106194.12 , 192762.13



LAYERS

Routing Layers

- ☑ Route P+R
- ☑ Route Garage
- ☑ Route Street

POI

- ☑ P+R
- ☑ Parking Garages
- ☑ Train Stations
- ☐ Blue Bike
- ☐ Cambio
- ☐ Taxi

Zones

- ☐ Parking Area's
- ☐ Circulation Plan
- ☐ Inhabitants

Other

- ☑ Information
- ☐ Ortho

ENG BEP 17:25 18/03/2017

Future

- Data through Database (POSTGIS) for performance
- Calculation of Cost
- Integration of Public Transport
- User can choose ‘After Transport’ (Bus/Tram, Bike, Walk)
- Routing with pgRouting:
  - Routing on shortest time or Distance
  - Compute time
  - Routing in accordance with Circulation Plan
- Responsive Window
- Compile MySpot.Gent to an Executable with PyInstaller

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