



"From the wisdom of the ages
to the challenges of modern world"


**Development of a tool allowing the elaboration of
a geographical database of Early Modern
Flanders and Brabant**

presented by *philippe.demaeyer@ugent.be*

FIG WORKING WEEK 2015
17-21 MAY SOFIA BULGARIA

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UNIVERSITEIT GENT

FACULTEIT WETENSCHAPPEN

SCIENTIFIC OBJECTIVE

create a vectorial GI database of the (Flemish part of the) Habsburg Netherlands at the end of the 18th C.

why? to allow spatio(-temporal) analysis of socio-economic data in the concerned region and period

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SCIENTIFIC OBJECTIVE

source data semantic data ?

- *status animarum*: registers (births, dead,...) of the parishes
- taxation lists (e.g. toll gate lists, ...)
- but also in the framework of already existing *HISSTAT*
- ...

→ a spatial coathanger for disperse (often uncoherent digitized) datasets (unavailable for other researchers)

SCIENTIFIC OBJECTIVE

source data geometric data ?

- map of the end of the 18th C. as a unique document
- but project must allow to be suitable for a larger timespan

SCIENTIFIC OBJECTIVE

- definition of a project called STREAM = a Spatio-Temporal Research infrastructure for EARly Modern Flanders and Brabant
- a meeting between historians discovering the space (spatial turn) and geographers and cartographers using historical maps in the digital era offering new opportunities

SCIENTIFIC OBJECTIVE

why this period?
just before of the industrial era, last signature of the Ancien Régime

but this is only the main application of a larger opportunity

retrogressive approach
from actual situation to past situation

APPROACH two possibilities

1. digitize non georeferenced maps, each map sheet as a dataset:
advantage: respect of the source
disadvantage: spatially incoherent
2. digitize in a georeferenced approach
advantage: spatio(temporal) analysis will be possible
disadvantage: interpretation of the space from the beginning of the data collection

APPROACH 2 and option 2

actual situation = actual vectorial dataset of spatial geometry

option 1: dataset of national mapping agency

option 2: open dataset (e.g. openstreetmap)

opportunity to sign agreement with IGN-Belgium as a partner in project → *option 1*

APPROACH

spatial frame = actual vectorial data


data to be referenced:

Ferraris Carte de Cabinet

Ferraris Carte de Cabinet

period: 1771 - 1774

scale: 1 : 11 520 (*7,5 lignes pour cent toises*)

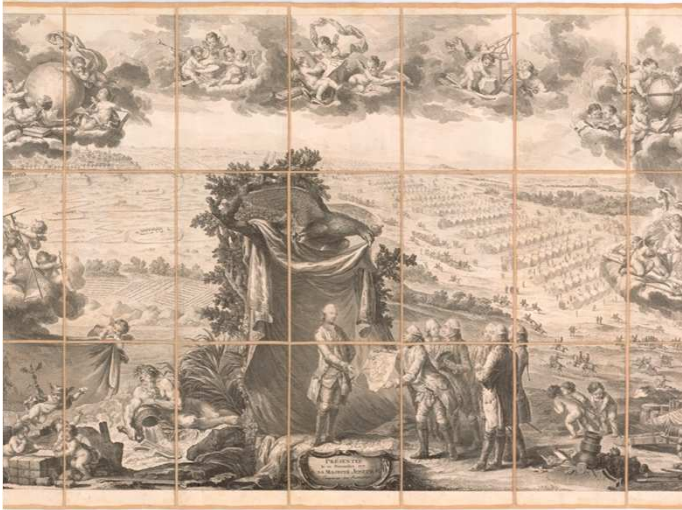


number of sheets: 275 of 0,90 x 1,40m

copies: 3 (nowadays one in Vienna, one in Brussels, one in The Hague)

look: ...

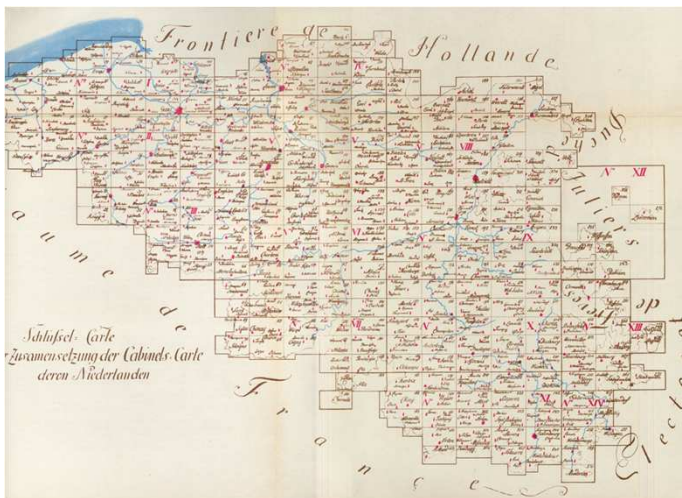
Ferraris Carte de Cabinet



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Ferraris Carte de Cabinet



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Ferraris Carte de Cabinet



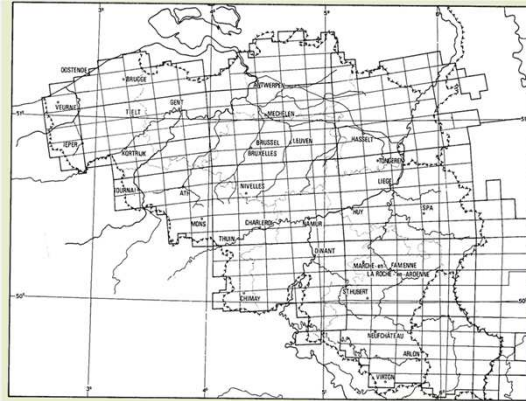
Ferraris Carte de Cabinet



Ferraris Carte de Cabinet

sheet line system : once referenced demonstrates important distortions

lack of proper and complete triangulation



APPROACH

spatial frame = actual vectorial data

data to be referenced:

sheet by sheet distortions

huge amount of local distortions

→ georeferencing difficult and not locally satisfying

need for another approach

- coarse georeferencing

- use the road network as a reliable pattern

APPROACH


other constraints

- huge dataset to create
- several operators
- not skilled in GIS (historians, ...)
- follow up of their interpretation and post-editing calculus
- ...

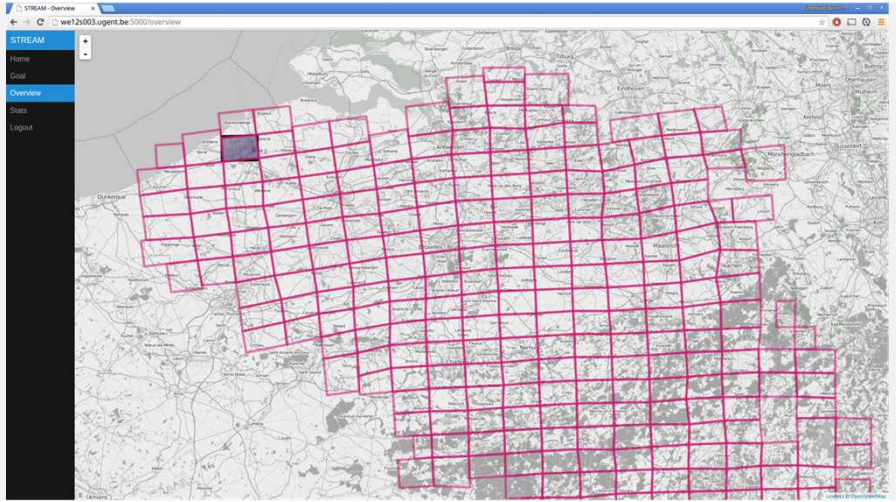
→ need of a specific tool

APPROACH


- need of a specific tool
 - reliable
 - accessible for 'dummies' in GIS, but skilled in historical interpretation
 - canvas of road network
 - editing
 - consulting different georeferenced maps avoiding layer on/off
 - ...
 - different timeslides must be possible in a later phase
 - evaluation of reliability of edition work


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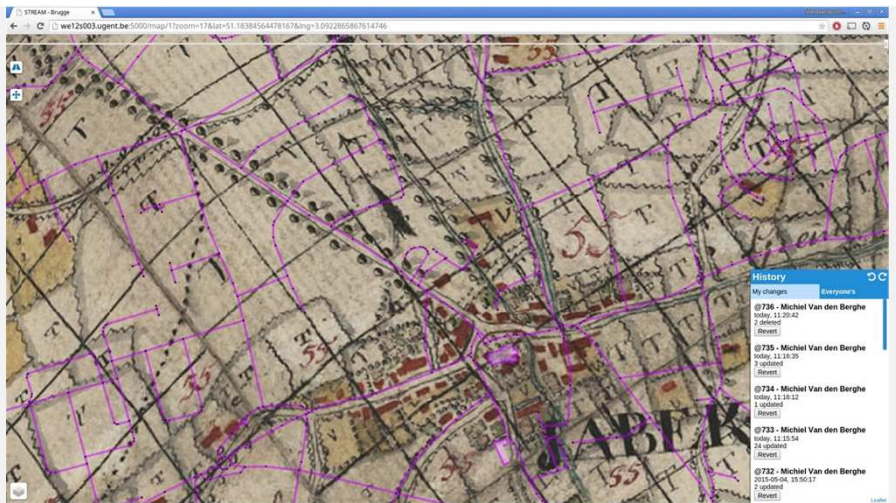
TOOL



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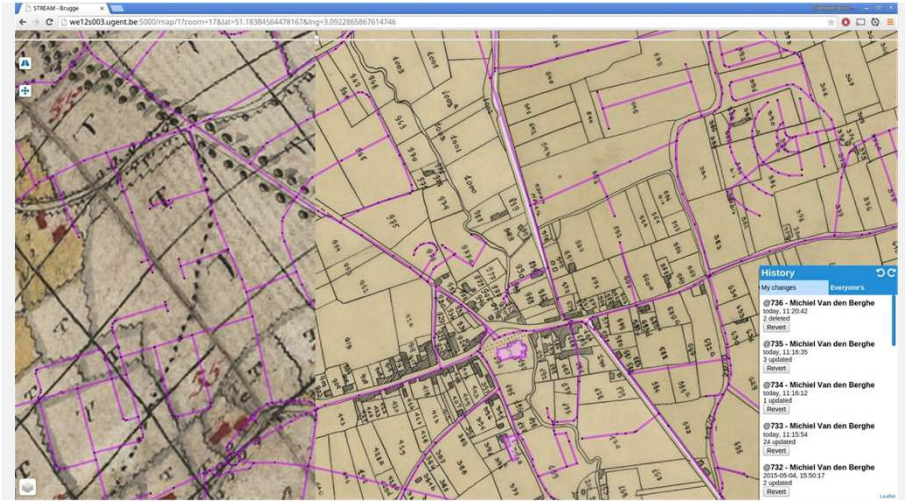

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TOOL



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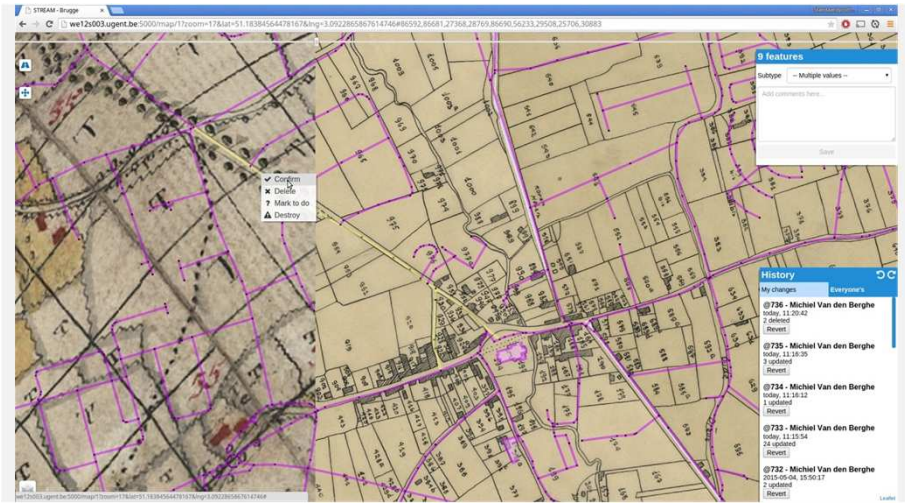
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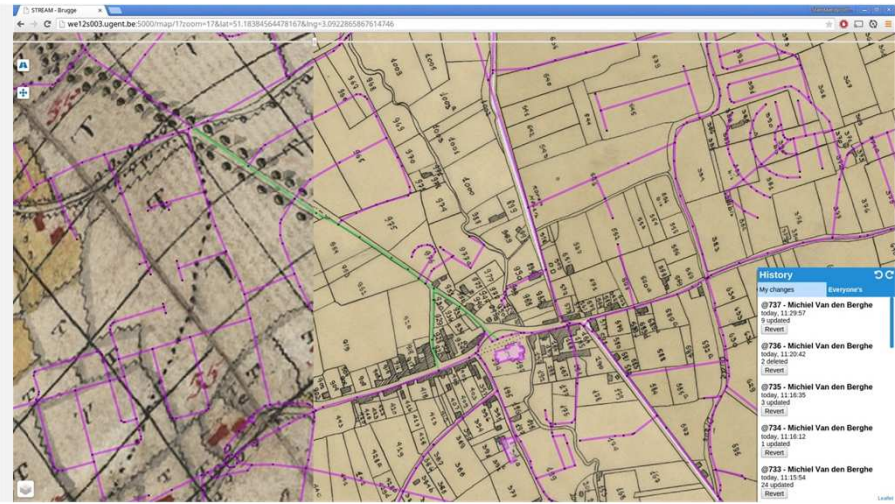
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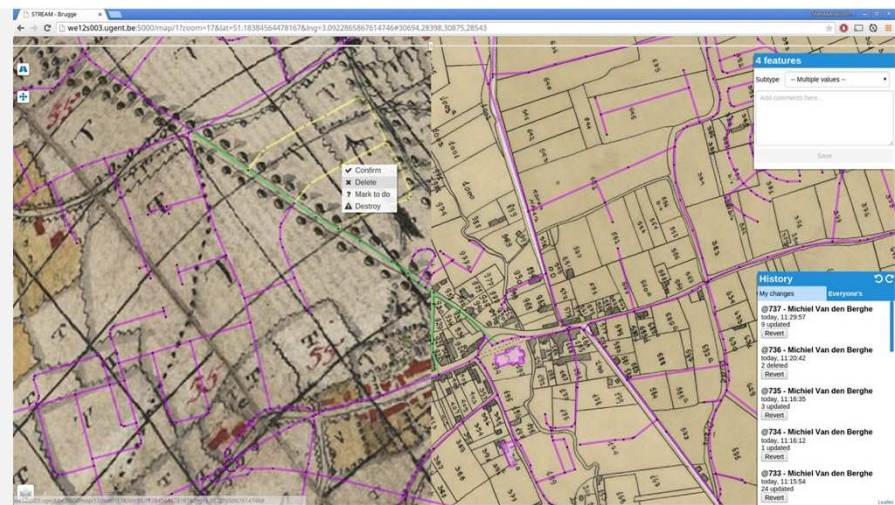
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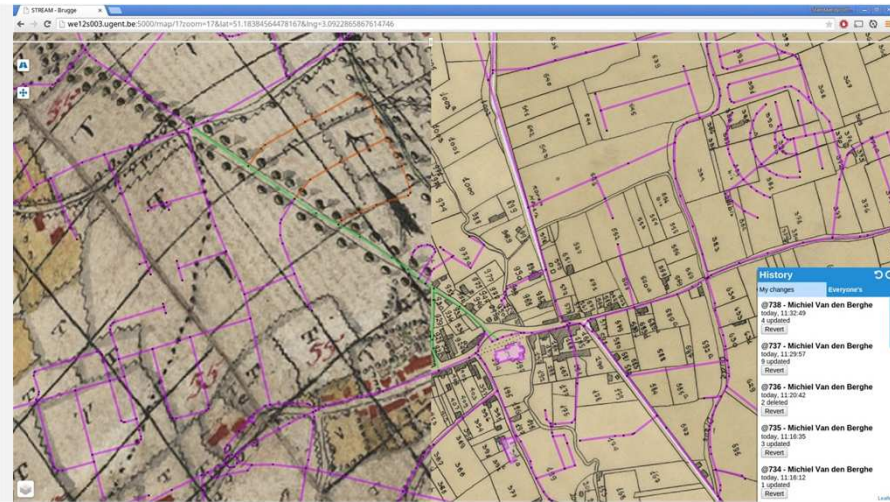
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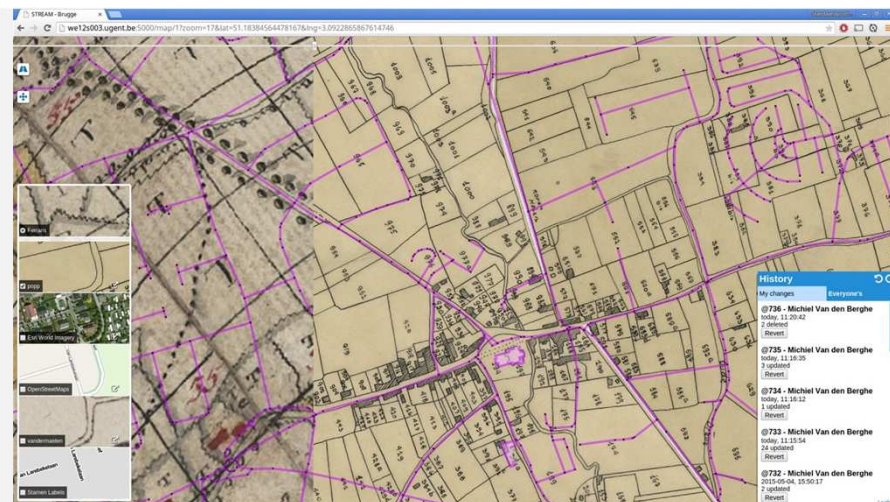
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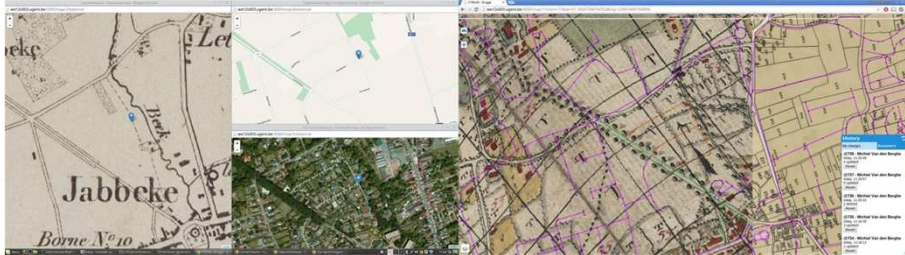
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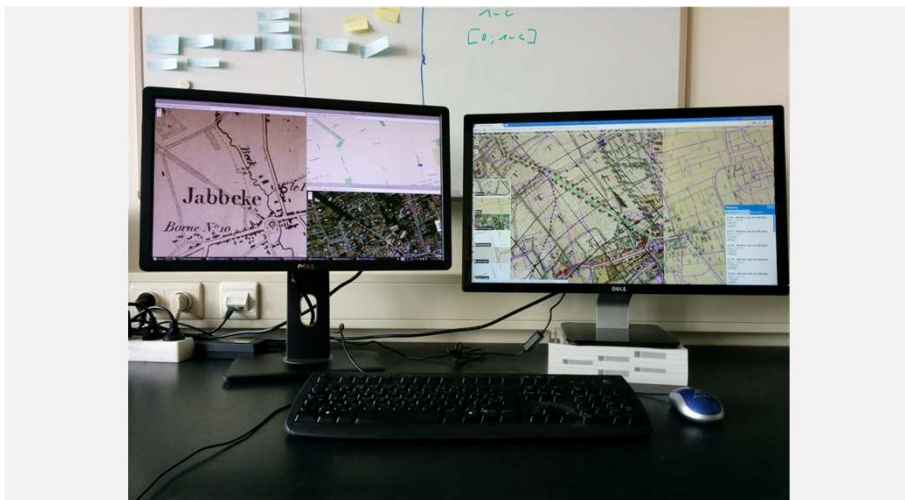
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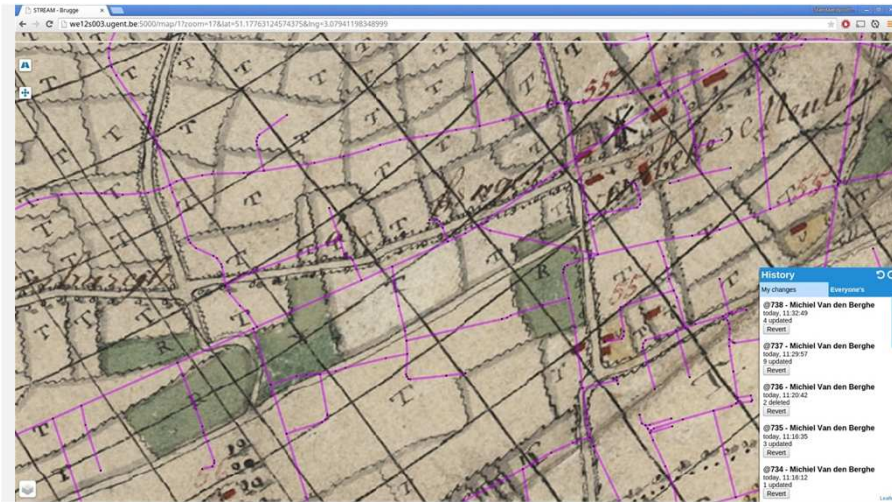
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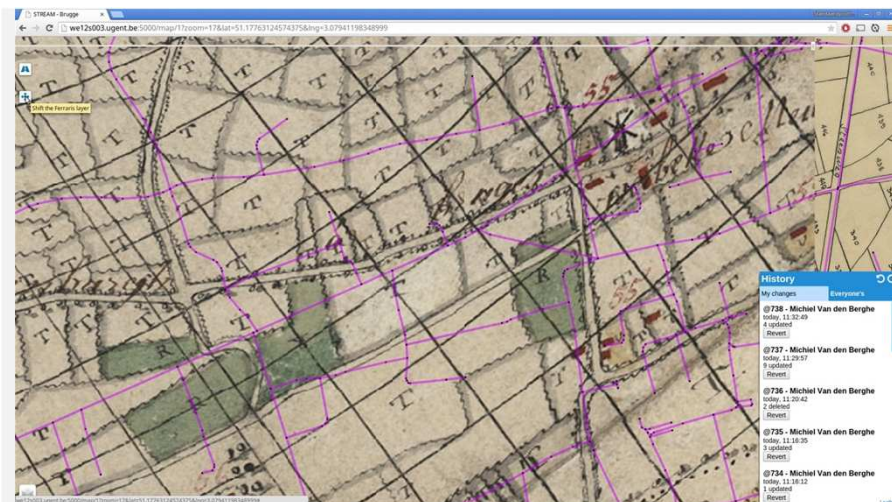
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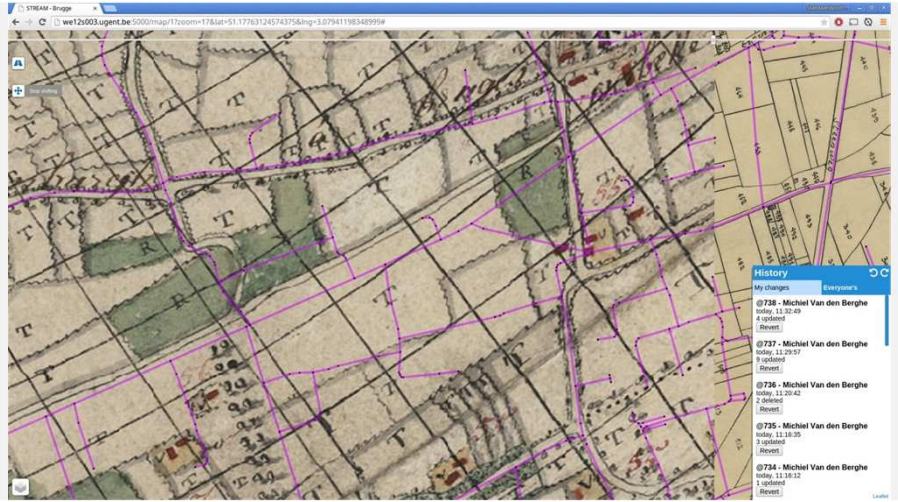
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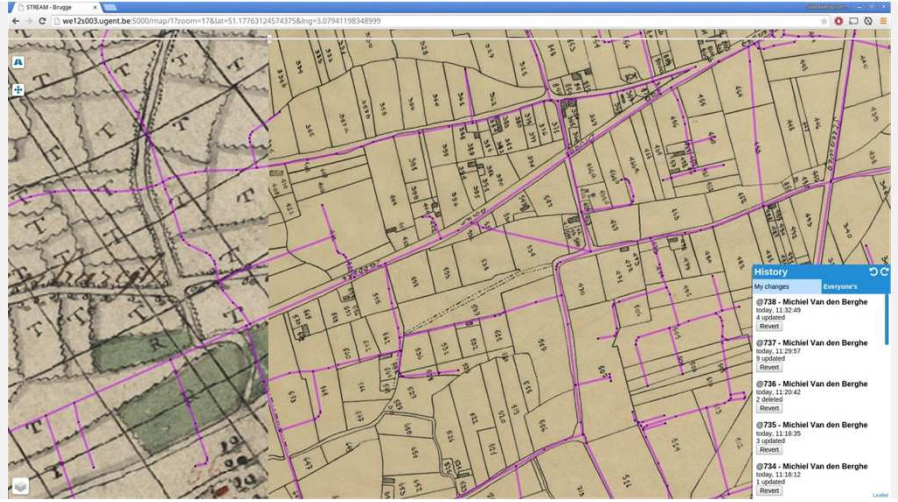
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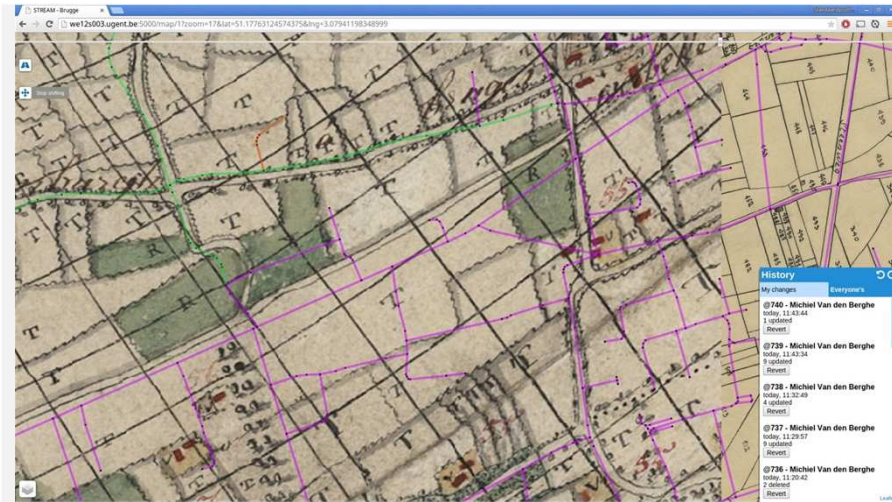
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CONCLUSION

production started

STREAM vs. STREAM Light

originality

- vector database to which enrichment by semantic data will be possible
- retrogressive data creation, different time slides possible
- historical analysis will be possible with a reliable spatial component

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PARTNERS

- *Ghent University, Dept. of Geography*
- *Ghent University, Dept. of History*
- *VUBrussel, Dept. of Geography*
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presented by
philippe.demaeyer@ugent.be

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