Language, Cultural Influences and Intelligence in Historical Gazetteers of the Great War

@muninn_project

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Digital Humanities Conference 2015
Reference URI

“Any data related to the Great War”

- owl:sameAs’s It.
- owl:differentFrom It.
- skos:exactMatch It.
- skos:closeMatch It.
- skos:broadMatch It.
- subClass it, etc...
Problem definition

Figure: Circumstances of death of John Aaron
Figure: Vimy (Ridge) on Google
Vimy Ridge

[^From M001570, IWM]
Figure: Jumping off position at Squares 36C.S.20.b (left) and objective square 36C.S.22.a (right).
Imperial Grid On Metric Map

New Projections

Map of a region, IWM
Where does the Belgian grid start?

- *Supposed* to start at the Uccle Observatory in Brussels, which moved.
- $50^\circ 25' 0.0006'', 4^\circ 22' 12.6978''$ ([4]), or $51^\circ 10' 06.895''$, $4^\circ 22' 05.89''$ ([3]), $50^\circ 24', 4^\circ 22' 5.89''$ (NGI, [2]).
- $50^\circ 23' 57.2418'', 4^\circ 22' 10.0518''$ after exhaustive search, thank you to Bill Frost and Pierre Voet.

Make it useful

- Create an API; ideal integration point between systems.
- Small app for human beings.
Great War British Trench Map Coordinates Converter

(Still Experimental - Not working on IE.)
La Capelle, France, Vimy Ridge, France, Passendale, Belgium

Enter the coordinate string using dots to separate the elements (eg: 57c.i.11.d.5.6):

36C.S.22.a Submit Query

The centroid of grid location 36C.S.22.a is at 50.3773, 2.7733.

http://rdf.muninn-project.org/TrenchCoordinates.html
Very Old Data is still useful.

The centroid of grid location 36c.S.18.d.2.5 is at 50.3821, 2.8037.
Very realistic simulation
Print your own Battlefield

posted by m4farrel on Fri, 03/27/2015 - 11:11

The Muninn Project aims to programatically recreate scenes of historical events using Linked Open Data and with the ever-increasing availability of high-quality 3D printers, we are motivated to 3D-print these scenes. In this particular post, we will talk about how to 3D-print a battlefield: the trenches of Vimy Ridge. We believe that 3D-printed models of battlefields, such as the trenches of Vimy Ridge, could be quite useful to archeologists & other individuals studying past historical events, namely the Battle of Vimy Ridge. We will discuss how to retrieve 90m-resolution elevation data inside a bounding box from the Shuttle Radar Topography Mission (SRTM), how to scale & project it with the Geospatial Data Abstraction Library (GDAL) and also how to convert it to an STL file that can be 3D-printed; we will also discuss how to retrieve lists of trench coordinates from the Muninn Project's SPARQL server, and how to extrude trenches on our model of Vimy Ridge before 3D-printing it. Lastly, we will discuss issues regarding the size & resolution of our model of Vimy Ridge and suggest how we might improve the quality of our model in the future. Thanks to Lawrence Willett for letting us use his 3D printer.

In order to 3D-print a battlefield, we first need to determine its bounding box. Currently, the Muninn Project's SPARQL server provides lists of trench coordinates for Vimy Ridge contained in (2.70251452078269, 50.0620220454661, 2.75071474125368, 50.0722188449797). We chose to 3D-print a model of the trenches of Vimy Ridge that lie inside of this bounding box.

After determining the bounding box for our battlefield, we need to retrieve the elevation data inside of it. We've built software written in modern descendant of Scheme known as Racket that allows us retrieve raster images of elevation data inside of bounding boxes. Our software also allows us to UTM-project and scale our raster images to 1m resolution, necessary in order for us to extrude trenches on a 3D-printable model of our battlefield; we use GDAL behind the scenes. Here is a projected & scaled raster image of elevation data for our model of the trenches of Vimy Ridge:
A point in space (and time)

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Historical Gazetteers of the Great War
A point in space (and time)

2.7725  2.7727

50.3710  50.3708

50.3709, 2.7726
A point in space (and time)
Figure: IWM, M_001582
Figure: Probabilistic Hough Transform
German Systems (#2 out of 20!)

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Military Intelligence, a 100 years ago
Regina
Regina

muninn-ww1: Military Trench/5712bc467a2a3cf2e154b304adb4cc2f
  → rdfs:label → "German held trench, Regina, Grandcourt Area"@en
  → owl:sameAs → dbpedia: Regina_Trench
  → time:hasDateTimeDescription → muninn-ww1: DateTimeDescription/f48c39552b0c7d810f5a59ea7fb9f2de
  → foaf:name → "Regina"@en
  → prov:wasGeneratedBy → muninn-ww1: Process/ ReginaTrenchExtraction
  → prov:hadPrimarySource → muninn-ww1: map/f48c39552b0c7d810f5a59ea7fb9f2de
  → void:inDataset → muninn-ww1: Dataset/ ReginaTrench
  → geom:geometry → muninn-ww1: Military/Geometry/5712bc467a2a3cf2e154b304adb4cc2f
  → http://www.w3.org/2008/05/skos-xl#prefLabel → muninn-ww1: AltLabel/5712bc467a2a3cf2e154b304adb4cc2f, muninn-ww1: PrefLabel/5712bc467a2a3cf2e154b304gdb4cc2f
Trenches

"Regina Trench"@en

TrenchLabel

skosxl:literalForm

prov:Attribution

Organization

rdfs:label

"General Staff, Geographical Section"@en

"Staufen Riegel"@de

TrenchLabel

skosxl:literalForm

prov:Attribution

Organization

rdfs:label

"Preußische Landesaufnahme (Deutsch Reich Generalstab)"@de

Trench

rdfs:type

geom:geometry

"Military Trench"@en
Great War Trenches Overlays

Moeuvres, France

http://www.openhistoricalmap.org/?lat=50.16668&lon=3.053815&zoom=16&layers=H
Great War Artillery Locations

Inchy-En-Artois, France

http://www.openhistoricalmap.org/?lat=50.17405&lon=3.05191&zoom=16&layers=H
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