



DEPARTMENT OF GEOINFORMATICS

Palacký University in Olomouc | Faculty of Science

ON-SCREEN EDITING OF MAP CONTENT VIA *WEB BROWSER* IN REAL TIME

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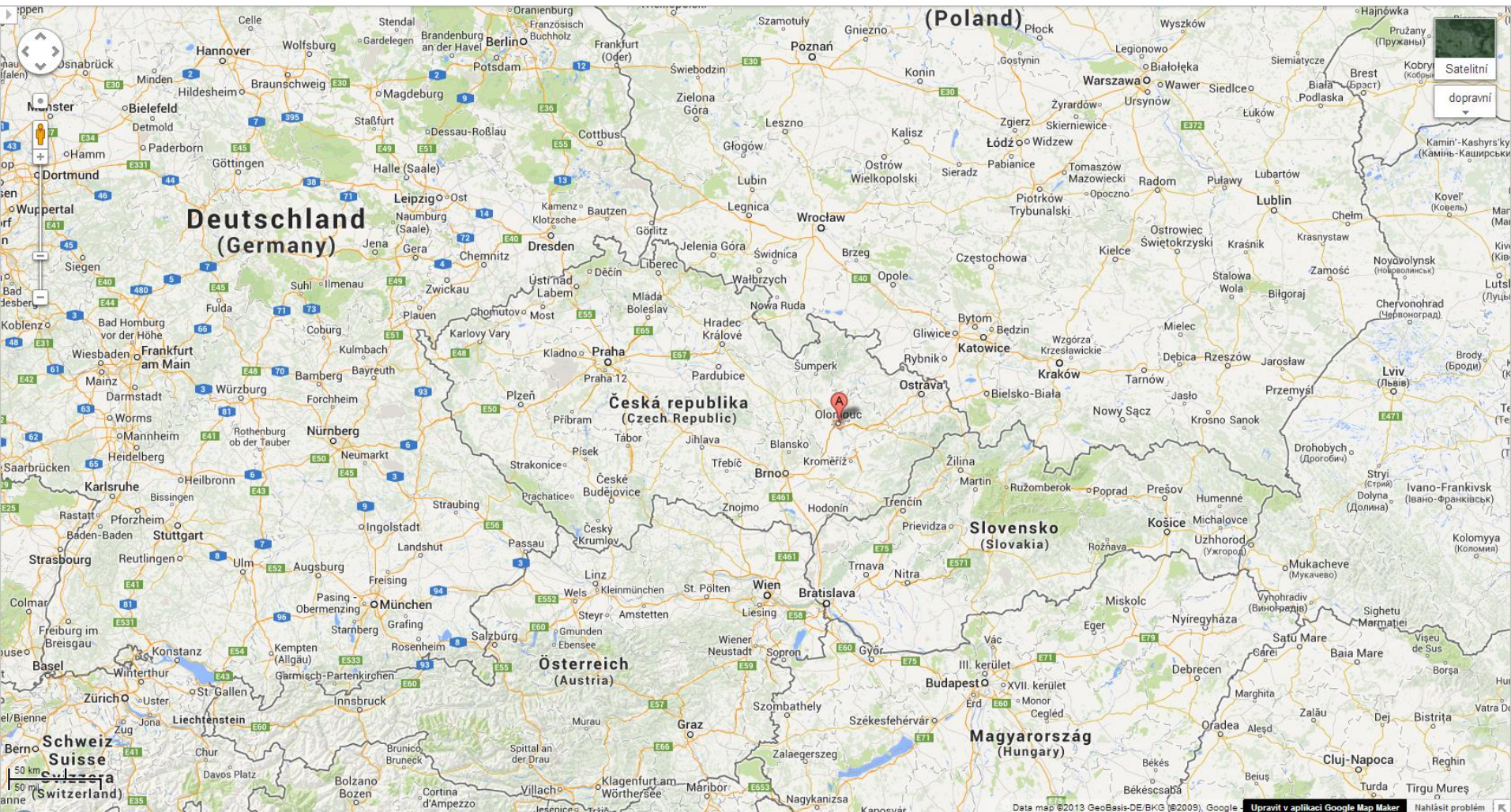
Palacký University in Olomouc, Czech Republic

Zvolen | 06/06/2014

Olomouc city

- ▶ 5th biggest city in Czech Republic
- ▶ Metropolitan and historical centre of Moravia region
- ▶ UNESCO – the biggest baroque sculpture
- ▶ 2nd oldest university in Czech Republic







Aim

- ▶ Design and develop web map client – smart client
- ▶ Crisis management support
- ▶ **Real purposes and real implementation**
- ▶ Fire Brigade of Olomouc Region



Web 2.0 + WebGIS

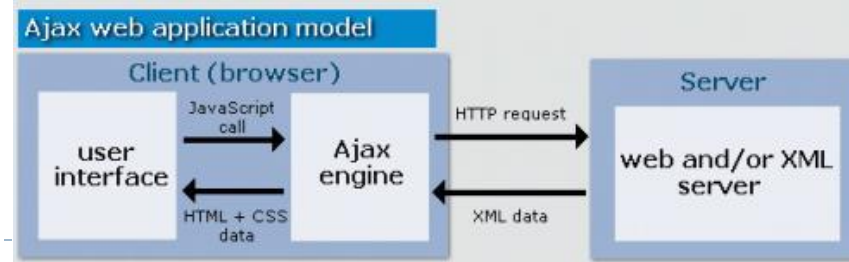
Rich Internet Application

+

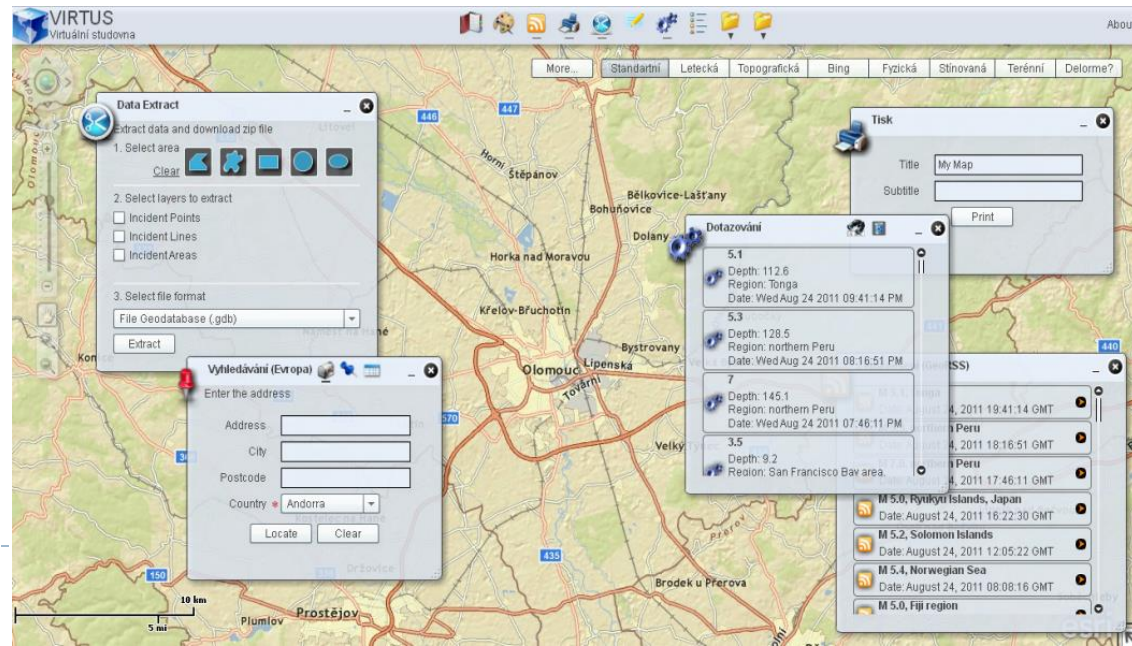
Service-oriented Architecture



Rich Internet Application



- ▶ New generation of internet application
- ▶ General concept, not concrete technology
- ▶ AJAX, **Silverlight**, Openlaszlo, JavaFX, **Flex**, **HTML5**
- ▶ Brings the tools, practices and conventions from desktop platform
- ▶ Fully web application
- ▶ Esthetical features 😊



RIA characteristics (+)

- ▶ **Run in the Web browser** (both online and offline)
- ▶ Combine properties from desktop applications into Web interface
- ▶ **No installation process required**
- ▶ Immediate feedback, refresh is not required
- ▶ **Rich content** (video, sound, animation, vectors, drag and drop, keyboard navigation, ...)
- ▶ **Platform independent**
- ▶ **Faster** processing of requests
- ▶ Rich user interface
- ▶ Focus on **esthetical** impression
- ▶ Easy distribution and start-up
- ▶ **Mobile applications** are fully supported and available
- ▶ Open source
- ▶ Wide possibility of **customization**



RIA characteristics (-)





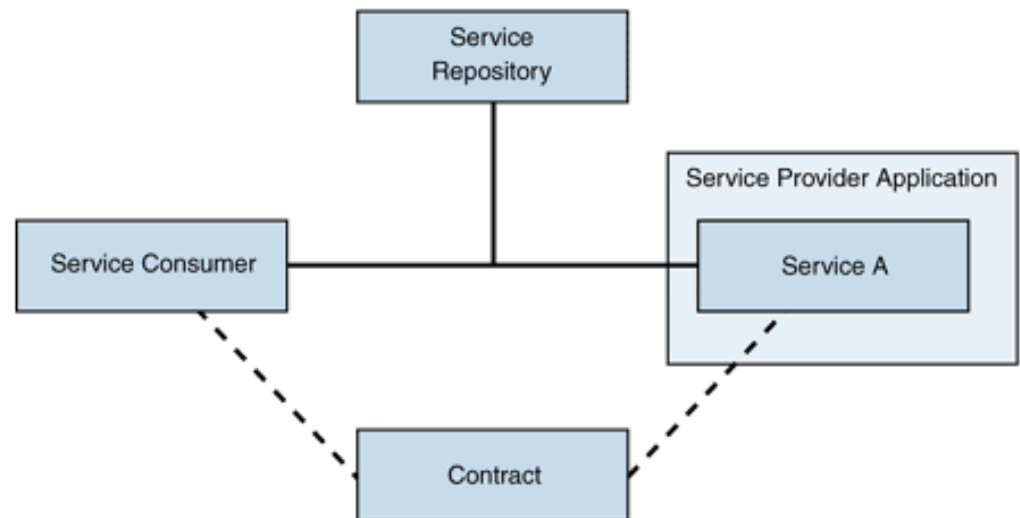
- ▶ Adobe/Apache Flex
- ▶ GIS → Flex
- ▶ Runs in the same environment like Flash
- ▶ Flex is **not** Flash !
- ▶ Allows to create highly interactive Web mapping applications
- ▶ Emphasis on desing

```
<?xml version="1.0" encoding="utf-8"?>
  <mx:Application xmlns:mx="http://www.adobe.com/
2006/mxml" >
    <mx:Panel title="My Application" >
      <mx:Label text="Hello World!"/>
    </mx:Panel>
  </mx:Application>
```



Service-oriented architecture (SOA)

- ▶ General approach
- ▶ Takes advantage from services
- ▶ Service provider - Service consumer
- ▶ Fully independent
- ▶ Interoperability
- ▶ OGC - standartization
- ▶ Web services:
 - ▶ WMS, **WFS**,
 - ▶ WCS, WPS, CSW
 - ▶ KML...



SOA & web services

- ▶ „**Remote**“ access – data located in computer or server are not required
- ▶ User can combines different layers from different sources
- ▶ Centralization - Data are stored at one place
- ▶ Data are still updated
- ▶ Software and/or platform independent
- ▶ Only Web Browser required for visualisation
- ▶ Security
- ▶ Faster and more effective data management
- ▶ Reduction of financial costs

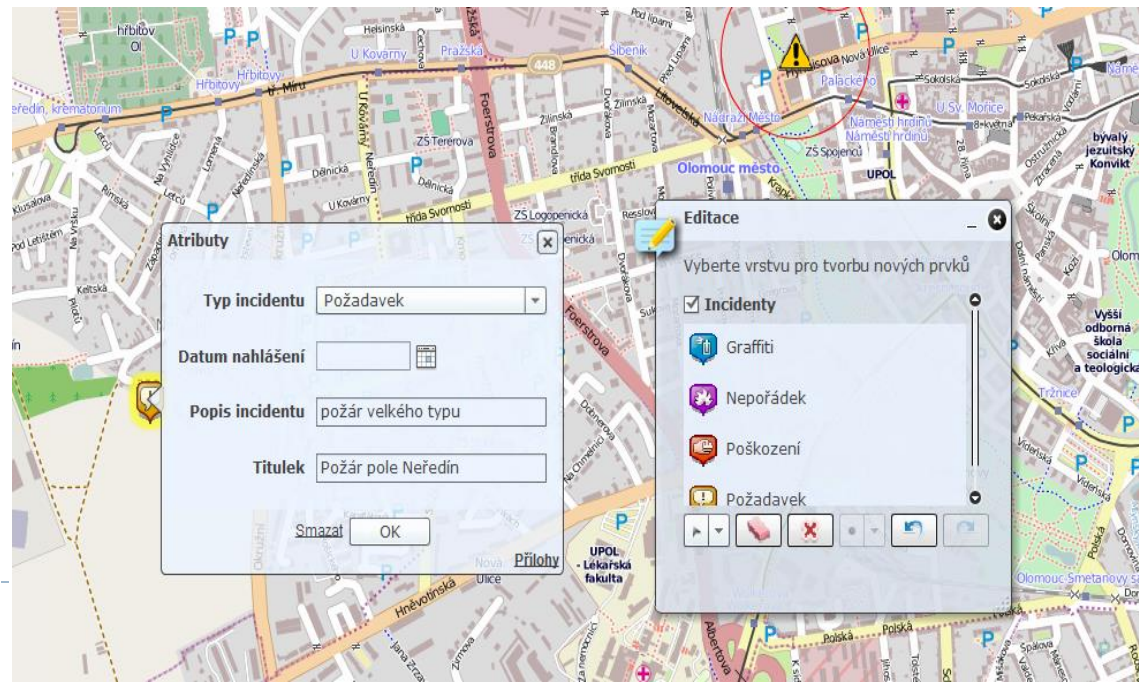


Transactional Web Feature Service (WFS-T)

- ▶ WFS provide geodata as vectors
- ▶ WFS enable visualization only
- ▶ Transaction – editation purposes
- ▶ Possibility of cascading

- ▶ Parameters

- ▶ GetFeatureWithLock
- ▶ insertFeature
- ▶ updateFeature
- ▶ deleteFeature

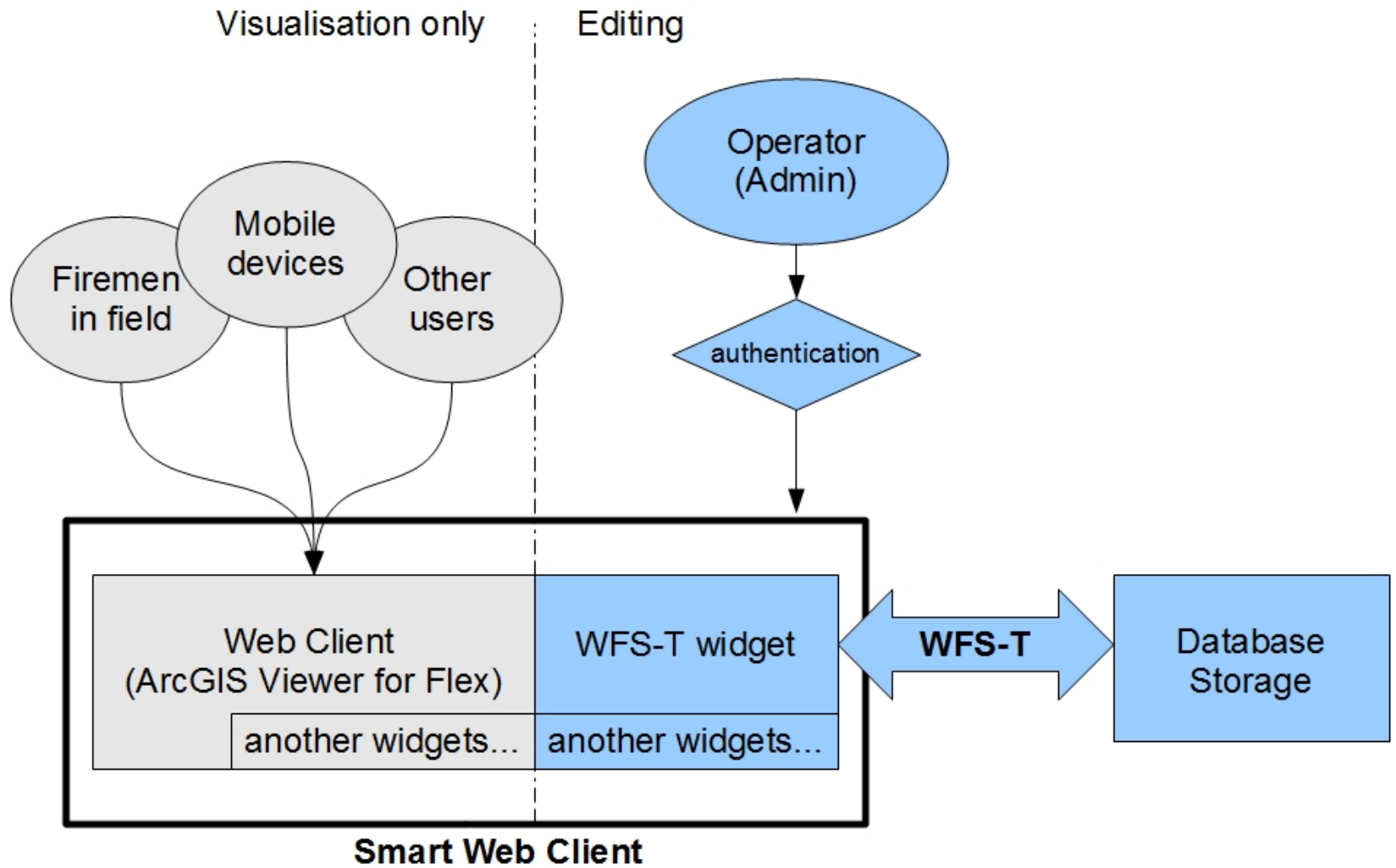


Application concept – „Smart“ client

- ▶ Open source solution by Esri
- ▶ Flex client
- ▶ ArcGIS Viewer for Flex (API)

- ▶ Additional WFS-T widget
- ▶ **Enable „on-screen editing“ in real-time**
- ▶ **Via web browser**
- ▶ Allow visualization, publication, editing and deleting both spatial and attributes data





MTBS.cz - mtbs, xc, cyklist x Mapový klient pro Havarijní x

gislib.upol.cz/app/netek13/ Aplikace Kal gis H f zidle zidleAD MTBS RC Transl Slovník Mapy YT UPmail Portál IDOS rozvoj admin Ostatní záložky

Mapový klient

pro Havarijní a krizové plány Olomouckého kraje

Atributy

Typ incidentu: Požadavek

Datum nahlášení:

Popis incidentu: požár velkého typu

Titulek:

Smazat OK Přílohy

Editace

Vyberte vrstvu pro tvorbu nových prvků

- Graffiti
- Nepořádek
- Poškození
- Požadavek

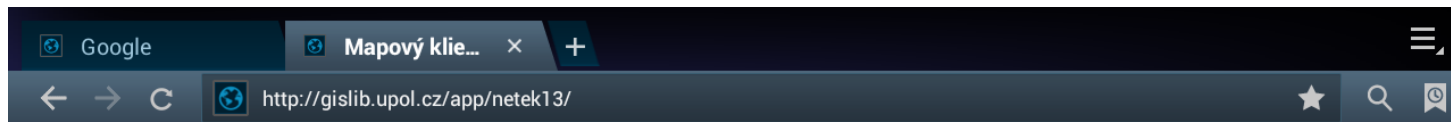
zem. šířka: 49.612223 zem. délka: 17.248275

0:09 14.10.2013

► <http://rostanetek.cz/disertace>

Done ... ?

- ▶ And what about mobile devices (Android, iOS)...?

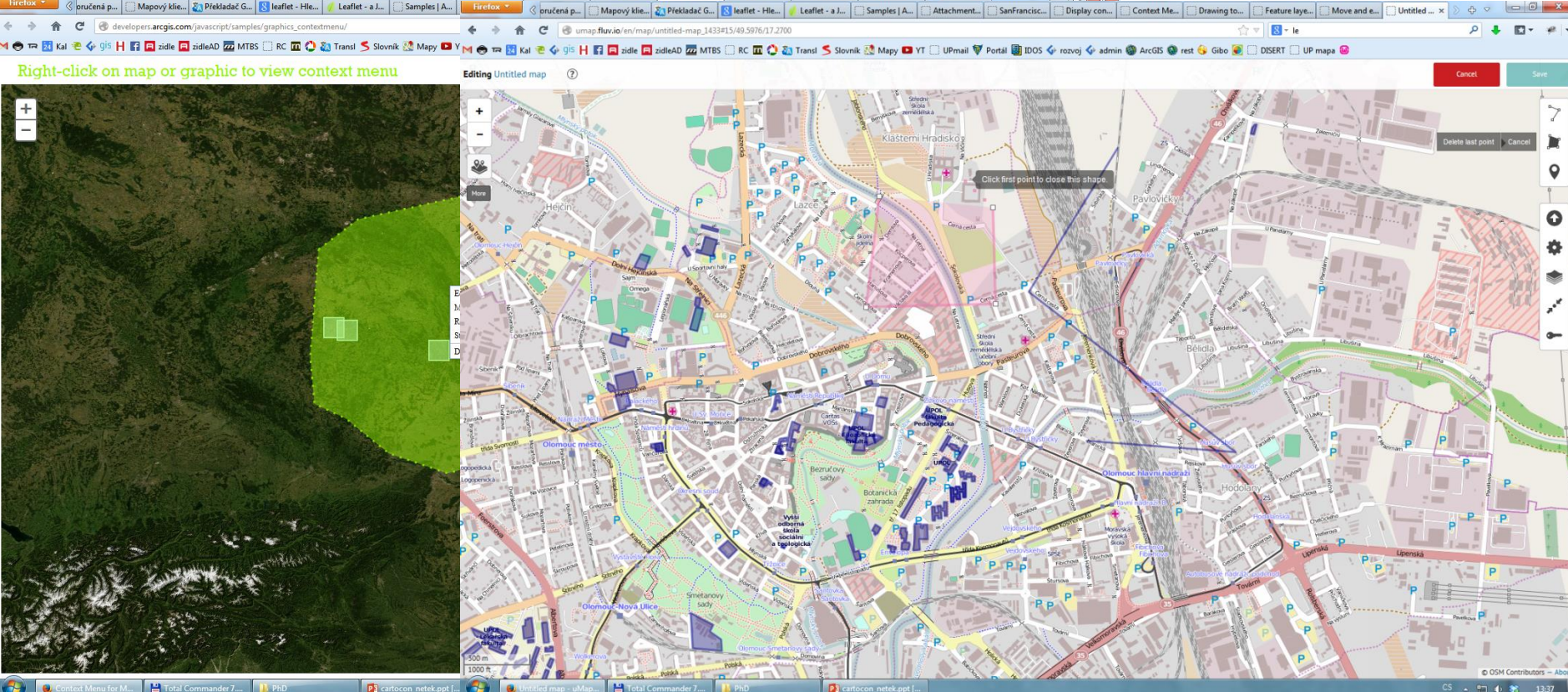


What next...?

► Comparison study

Other platforms - HTML5

Right-click on map or graphic to view context menu



The screenshot displays a web browser window with multiple tabs. The active tab is titled 'umap.fluv.io/en/map/untitled-map_1433f15/49.5976/17.2700'. The browser address bar shows the URL 'developers.arcgis.com/javascript/samples/graphics_contextmenu/'. The main content area features a map application with a satellite view on the left and a street map on the right. A green polygon is drawn on the street map, and a context menu is open over it, displaying options like 'Delete last point' and 'Cancel'. The browser's taskbar at the bottom shows several open applications, including 'Context Menu for M...', 'Total Commander 7...', 'PID', and 'cartoon_netek.ppt...'. The system tray in the bottom right corner shows the time as 13:37.

Thank you for your attention

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