An Empirical Case Study for the Importance of Mobile WebMapping and WebMapping Infrastructures in a Web 2.0 Portal

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Often quoted in the literature:

„… it is quite common to note that importance and influence of WebMapping applications have increased over the last years…”

But:

There is a lack of detailed empirical studies to assess the relevance of WebMapping applications and its functions (within a broader information context)
How relevant is the WebMapping Component?

- Are WebMapping applications really as useful as often claimed by GI professionals?
- Is it not possible that Web portals integrate WebMapping applications even though there are rarely used or required?
- And if they are used at all, to which degree?
- And which functions are seen as especially relevant?
…. and what about mobile applications (PDAs, smartphones, mobile phones, etc.)?
Time for a case study within the OsnaGo project

Gastronomic web portal for Osnabrück (Germany)

Integrates well-known functionalities from different gastronomic web portals (e.g. qype.de, yelp.de, restaurant-kritik.de, kneipensuche.com, gastronomix.de) after strength-weakness analysis

Completely based on OpenSource components
OsnaGo also includes an extensive list of desktop WebMapping applications (http://www.osnago-karte.de) based on MapFish, MapServer, PostgreSQL, PostGIS, and pgRouting
And it contains a mobile WebMapping client (http://www.osnago-mobil.de).

Osnago-mobil is based on XHTML-MP, Javascript/AJAX, MapServer, PHP/MapScript, CSS, pgRouting and PostgreSQL/PostGIS.
A complex database model
Massive Advertisement

Daten in OsnaGo werden von den Gastronomen eingegeben (KOSTENLOS). Bei fehlenden oder falschen Daten sprechen Sie Ihre Lieblingswirtin an :-]

OsnaGo
Osnabrück’s Innovativer Gastronomieführer
www.osnago.de  www.osnago-mobil.de

- Veranstaltungsinfos und Sonderangebote: www.osnanight.de
- Etwas besonders gut in der Osnabrücker Gastronomie oder etwas zu verbessern? Dann kommentieren und bewerten Sie!

Die Besten gewinnen den OSNA-KRAUSE-Cup

IGF
Ein System wie OsnaGo entwickeln? Dann studiere Geoinformatik am Institut für Geoinformatik und Fernerkundung der Universität Osnabrück. www.igf.uos.de
Massive Advertisement

OsnaGold: Gold und Geoinformatik - Abenteuerschatzsuche am Piesberg


www.osnagold.de

IGF

Geoinformatik in Osnabrück studieren
Verortet für die Zukunft
www.igf.uni-osnabrueck.de

Und Abends: 29.5. 2011, 18.00 Uhr (Cafe Solo, Möserstr. 46)

Massive advertisement (newspapers, scene journals, students news, treasure hunt, best category competition, award ceremony, 50,000 beer coasters…)

=> Ideal testbed for a case study on the importance of web portal components!
Method: open online survey especially for the relevance of the WebMapping applications

Time frame: August – October 2010

„How important is…….?“

Result: 159 filled questionnaires
Age structure of the participants

- <21: 6.6%
- 21-30: 55%
- 31-40: 16.5%
- 41-50: 15.4%
- 51-60: 5.5%
- >60: 1.1%

n=91
Gender distribution of the participants

- M: 70.9%
- F: 29.1%

n=110
Reasons to use the web portal www.osnago.de

Using geoinformatics component (mobile):
WebMapping applications and their components
Ranking: Very important for the users
Visited „new“ gastronomic facilities due to information in the osnago-portal?

- No: 83.9%
- Yes: 16.1%

n=143
Relevance of the WebMapping application (desktop)
Relevance of functionalities of the WebMapping application (desktop)

- Search for an object in the map by name (n=88)
  - 4.5% very unimportant
  - 9.1% unimportant
  - 14.8% neutral
  - 31.8% important
  - 39.8% very important

- Search for an object in the map by attribute (n=87)
  - 11% very unimportant
  - 10.3% unimportant
  - 16.5% neutral
  - 33.3% important
  - 36.8% very important

- Presentation of information after mouse click on object (n=91)
  - 22% very unimportant
  - 7.7% unimportant
  - 16.5% neutral
  - 43.9% important
  - 29.7% very important

- Routing presentation (Visualization in map and presentation of the description) (n=91)
  - 14.7% very unimportant
  - 23.9% unimportant
  - 44.3% neutral
  - 17% important

- Download of a route as gpx-file (n=91)
  - 17.6% very unimportant
  - 19.8% unimportant
  - 27.4% neutral
  - 27.4% important
  - 7.7% very important

- Printout of a map (n=87)
  - 9.2% very unimportant
  - 17.2% unimportant
  - 25.3% neutral
  - 28.7% important
  - 19.5% very important

- Printout of a routing description (n=81)
  - 7.4% very unimportant
  - 24.7% unimportant
  - 34.6% neutral
  - 28.4% important
  - 4.9% very important

Legend:
- very unimportant
- unimportant
- neutral
- important
- very important
Relevance of the mobile WebMapping application

![Bar chart showing data in percentage for relevance levels]

- Very unimportant: 6.5%
- Important: 15.2%
- Very important: 31.5%
- Extremely important: 29.4%
- Extremely important: 17.4%

$n=92$
Results

- The most important functions of the mobile WebMapping application for the participants of the study are opening hours and general information about the gastronomic facilities.
- For 34.2% the dynamic navigation map is "very important".
- So is the routing function (33.8%).
- Only one function of the mobile client seems to be "very unimportant": "Download of a route as a GPX file" (41.6%).
Some numbers (1.8.2010-18.1.2011)

- Webportal: 152,985 different requests (total) (average time: 6:10 minutes)
- WebMapping: 2194 requests (1:25 minutes)
- Mobile application: 934 requests
- Peak after different reports about OsnaGo in newspapers, advertisement, special events …
Conclusions

- WebMapping applications (mobile and desktop) are supplemental information components but with high relevance in a web portal.

- Important functionalities for WebMapping applications are:
  - Presentation of information after mouse click on object in map
  - Different query options
  - Printout of maps (desktop only)
  - Routing for mobile WebMapping applications
Thank you very much for your attention

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