

Times are Changing : How New Technologies Diversify the Role of the Surveyor

Vincent Thomas

May 7th 2012

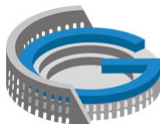


FIG WORKING WEEK 2012

May 6-10 2012
Rome, Italy



Main Tech Trends in Geomatics

Cloud Computing Lidar GeoBI
Web 2.0 & Open Data 3D
Big Data MOBILITY
Geospatial Data Quality
Oblique Imagery



Aggregators Folksonomy Wikis User Centered Joy of Use
Blogs Participation Six Degrees Usability Widgets
Pagerank XFN Social Software FOAF Browser
Recommendation Sharing Collaboration Perpetual Beta Simplicity AJAX
Videocasting Podcasting Audio IM Video Design
Convergence Web 2.0 CSS Pay Per Click
UMTS Mobility Atom XHTML SVG Ruby on Rails VC Trust Affiliation
OpenAPIs RSS Semantic Web Standards SEO Economy
OpenID Remixability REST Standardization The Long Tail
DataDriven Accessibility Microformats Syndication
Modularity SOAP XML

Markus Angermeier

1 - Web 2.0 and Open Data

Web 2.0 & Open Data

What is web 2.0 ?



facebook®

foursquare

twitter



WIKIPEDIA
L'enciclopedia libera

Web 2.0 & Open Data

The Geoweb

Followers

Filter: Showing all 1,650,314 followers as of 8/29/2011

Interests
 Most unique interests
 29% food
 12% companies
 10% causes
 7% nonprofits
 2% coffee

Also interested in
 19% fashion
 8% travel
 6% health
 3% glee
 3% parenting
 2% chefs
 1% food drink
 1% cooking
 1% food wine
 1% museums

Location
 Top countries and states
 USA
 CA OH IL
 TX
 FL
 NY
 GBR IDN
 CAN M...
 PHL B...

Top cities
 2% Toronto, ON, CA
 1% Mexico, MX
 1% Chicago, IL, US
 1% Santiago, CL
 1% London, GB

Engagement
 10% have retweeted you

Gender
 61% F 39% M

Your followers also follow
 7% humphryslcombe · Profile
 7% mochaclub · Profile
 7% mattflannery · Profile
 7% Samsource · Profile
 6% JaredCohen · Profile
 6% tristanwalker · Profile
 6% kriszy · Profile
 6% arjane/fessed · Profile
 6% pakman · Profile
 6% nckoz · Profile

The data reported on this page is an estimate, and should not be considered official for billing purposes.

Web 2.0 & Open Data

Open Data

GEOweb feedback about legal

History Date Posted to the GIS: 2004

1985
1990
1995
2000
2005
2010

2003: The building footprints (not roof outlines) were originally collected when the District of North Vancouver acquired new orthoimagery in April 2003. The building footprints were digitized by McElhanney Ltd.

2008: A formula for population estimates was derived in 2008 and values assigned accordingly to each residential building.

Accuracy

1
2
3
4
5

- Spatial information is collected and entered using the next best method applicable to this dataset.
- Where multiple collection/entry methods, the more accurate method is predominant throughout this dataset.
- Since the majority of the building footprints were digitized from orthoimagery the spatial accuracy is dependant upon the quality of orthorectification. Typically, it is estimated that these building footprints are accurate within +/- 2.0 meters. Building footprints entered from architectural drawings are georeferenced from non-coordinate system source. It is estimated that these building footprints are accurate within +/- 4m.

Completeness

1
2
3
4
5

- Some spatial information may be missing.

[View Metadata](#) | [Download SHP](#) | [Download FGDB](#) | [Download DWG](#) | [Download KML](#)

The image shows a Google Maps interface with several overlays and filters:

- Map:** A street map of Quebec City, Canada, with various landmarks and roads visible.
- Left Panel (Filters):**
 - Type d'activités:**
 - Patinoires extérieures
 - Patinoires intérieures
 - Glissades
 - Piscines
 - Terrains de Tennis
 - Pistes de raquettes
 - Pistes de ski de fond
 - Pistes de marche en montagne
 - Arrondissement:**
 - Sainte-Foy-Sillery-Cap-Rouge
 - La Haute-Saint-Charles
 - Beauport
 - Charlesbourg
 - Les Rivières
 - La Cité-Limoilou
 - Classement:** >= 0
 - Go!** button
- Pop-up Window:**

Base de plein air de Sainte-Foy

À quelques minutes du centre-ville, la base de plein air de Sainte-Foy offre un contraste saisissant. En effet, on s'y sent en pleine nature alors que l'endroit est bordé par de grands axes routiers!

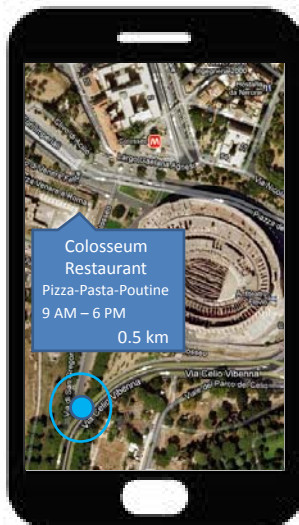
3180, rue Laberge, Sainte-Foy-Sillery-Cap-Rouge
- Right Panel (List of Locations):**
 - Base de plein air de Sainte-Foy
 - Centre de glisse Myrand
 - Domaine de Maizerets
 - Site des sports d'hiver de la Pointe-aux-Lieuvres



2 – Going Mobile

Mobility

Context-Awareness



- Allergic to peanuts
- Average to good ratings
- < 15 min walking time
- Less than 20 €

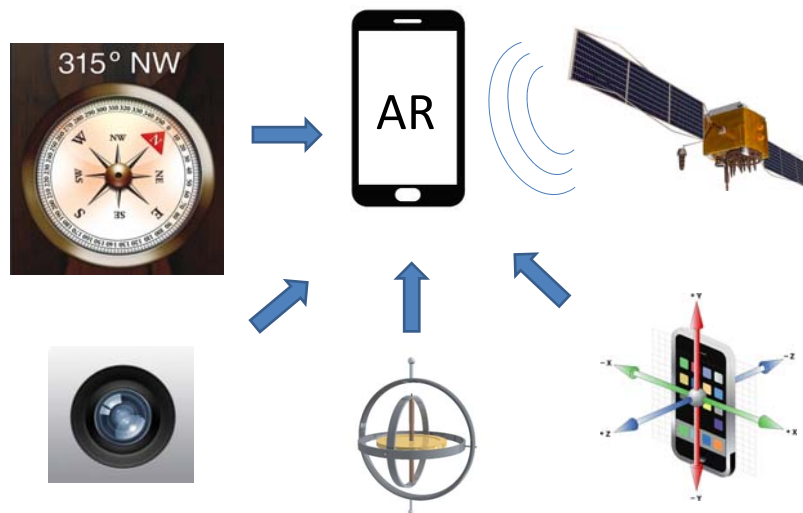
Mobility

Advanced GIS Tools



Mobility

Augmented Reality



Mobility Augmented Reality

Live Camera View



<http://damonhernandez.blogspot.ca/2008/08/virtual-heritage-adding-culture-to.html>

AR View



Mobility Augmented Reality



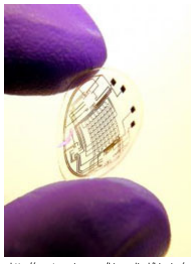
<http://www.mimoa.eu/blog/?p=1543>

AR future

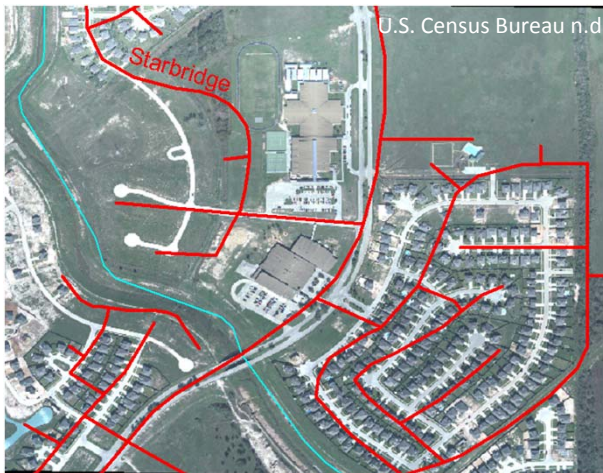
1991



2012



<http://spectrum.ieee.org/biomedical/bionics/augmented-reality-in-a-contact-lens/0>



3 - Spatial Data Quality



Conclusion & Going Towards 2020

Conclusion

What to remember from this presentation

- Web 2.0 & Open Data
 - Take advantage of open data and give back when you can
 - Be social!
- Mobility
 - Bring context-related information to your roaming users
 - Stay alert on new emerging technologies such as augmented reality
- Spatial Data Quality
 - Know your data

Imagination becomes less constrained by technological limitations

Conclusion

Towards 2020

- more and more data
 - Interoperability
 - Cloud Computing
- Trend to display information from the user's point of view
 - Lidar, Oblique Imagery, 3D Models, Augmented Reality
- Citizens initiatives

Grazie!

CANADIAN
INSTITUTE
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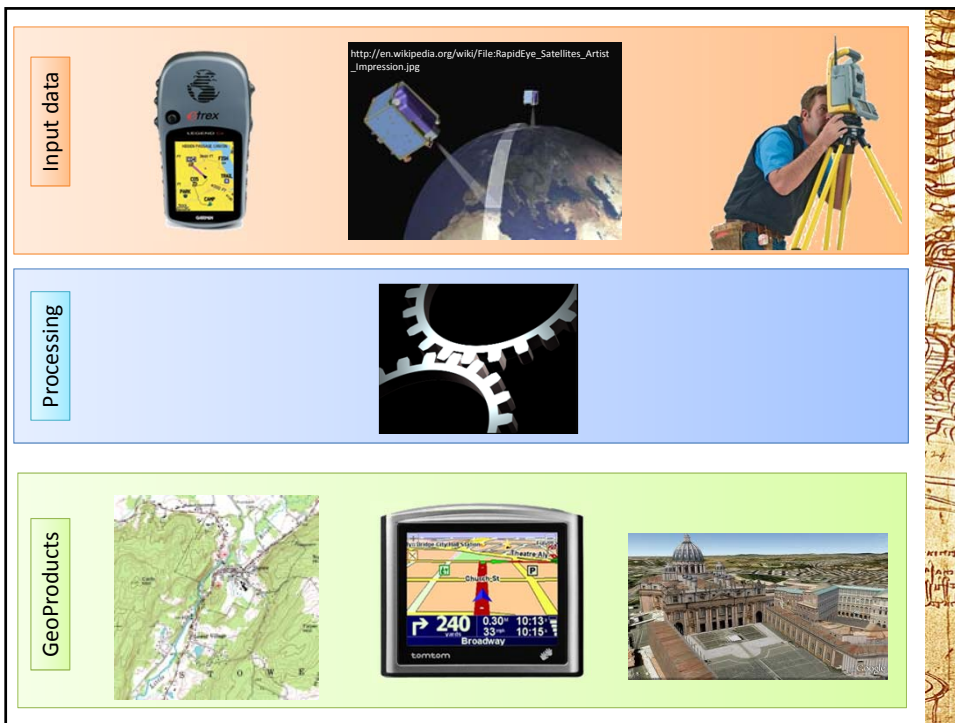
Section Champlain

www.acsg-champlain.ca

FUJITSU



@VinceThom



Geospatial data quality

Quality Assessment

- Internal quality
 - *How the product meets the producer specifications*
- External quality
 - Fitness for use
- 9 ISO Parameters: positional accuracy, thematic accuracy, temporal accuracy, completeness, logical consistency, currency, lineage, purpose and usage

Web 2.0 & Open Data

The Geoweb



Web 2.0 & Open Data

The Geoweb

	James Taylor Male Toronto, Canada
	Johanne Joly Female Montréal, Canada
	Jack Jones Male Vancouver, Canada

twitter



Web 2.0 & Open Data

Volunteered Geographic Information

OpenStreetMap
La carte coopérative libre

Recherche Où suis-je ?

exemples : « Ouagadougou », « Place Grenette, Grenoble », « HZY 1CB », ou « post office near Alger »
Autres exemples...

OpenStreetMap est une carte du monde entier librement modifiable, faite par des gens comme vous. Les données sont libres pour être téléchargées et utilisées sous sa licence ouverte. Créer un compte d'utilisateur pour améliorer la carte.

Légende de la carte

Aide
Centre d'aide
Documentation
Copyright & Licence

Communauté
Blogs de la communauté
La Fondation
Journaux

Faire un don

Libérez-vous de la carte.

Web 2.0 & Open Data

Open Data

