ACTIVITY Workshop - May 14th 2013

Dr. Peter Mooney (NUI Maynooth, Ireland) and Dr. Karl Rehrl (SalzburgResearch, Austria)
Where did the idea for the workshop originate from?
The ACTIVITY Workshop proposal was coordinated and submitted in December 2012

Several other academics provided us with support and assistance:

- **Prof. Georg Gartner (TUV, AT)**
- **Prof. Alex Zipf (U. Heidelberg, DE)**
- **Dr. Padraig Corcoran (UCD, IE)**
- **Dr. Marcus Goetz (U. Heidelberg, DE)**
- **Prof. Hartwig Hochmair (U. Florida, USA)**
Website Work - Many Thanks!

Thanks Adam - for all the major and minor updates
Why ACTIVITY?

The amount and variety of Volunteered Geographic Information (VGI) is increasing

○ Spatially explicit and spatially implicit
○ Active participation (OSM) and passive participation (geo location of tweets)
○ Forms of collective intelligence are emerging from this ubiquitous collection of data
○ Lower barriers to technologies
○ Mass participation by 'crowds'

Analysis of VGI datasets is now a hot topic
Academic Interest..

“openstreetmap” 27 articles (since 2008)
“Volunteered Geographic Information”, 25 (since 2008)

“openstreetmap” 4,900 articles
“Volunteered Geographic Information”, 1,530

“openstreetmap” 133 articles (since 2008)
“Volunteered Geographic Information”, 59 (since 2008)

“openstreetmap” 377 articles (since 2007)
“Volunteered Geographic Information”, 151 (since 2007)

“openstreetmap” 426 articles (since 2007)
“Volunteered Geographic Information”, 334 (since 2007)
There are several key research questions about the activities, interactions, behaviours, etc of these VGI communities

- How do these communities evolve?
- What are their types or patterns of contributions of GI data?
- Where, when, and how is this VGI (passive or active) being generated?
- Who are the contributors?
- What is all this VGI useful for?
The papers and presentations in the workshop are closely aligned with all of these five research questions.

- How do these communities evolve? [Jokar]

- What are their types or patterns of contributions of GI data? [Steinmann, Jilani]

- Where, when, and how is this VGI (passive or active) being generated? [Kalantari, McKenzie, Davidovic, Keßler]

- Who are the contributors? [Steinmann, Schmidt]

- What is all this VGI useful for? [Barron, Martínez]
My research thoughts: Some issues for consideration today

VGI is not just OpenStreetMap - other sources of VGI (direct or indirect, passive or active)

Sustainability of VGI schemes - what if the key contributors leave a particular project, social network, etc?

Advancing the use of VGI: In disaster management? Societal issues? Replacement or in co-existence with 'gold-standard' datasets
Influential contributors - standing out from the rest of the crowd.

http://hdyc.neis-one.org/

Johnny Carlsen
Mapper since: May 22nd, 2008
Project Days: 1815
Active Mapping Days: 1114 (61.4%)
Type of Mapper: A Crazy Mapper

<table>
<thead>
<tr>
<th>Johnny Carlsen</th>
<th>Nodes</th>
<th>Ways</th>
<th>Relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>created:</td>
<td>414 705</td>
<td>45 442</td>
<td>86</td>
</tr>
<tr>
<td>modified:</td>
<td>225 079</td>
<td>55 744</td>
<td>780</td>
</tr>
<tr>
<td>deleted:</td>
<td>30 994</td>
<td>4 489</td>
<td>16</td>
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<tr>
<td>last modifier of:</td>
<td>364 193</td>
<td>33 535</td>
<td>75</td>
</tr>
<tr>
<td>has the following ranks:</td>
<td>#773</td>
<td>#829</td>
<td>#2657</td>
</tr>
</tbody>
</table>

ChangeSets: 8 812
Changes: 780 476
First Changeset: Thu May 22 2008
Last Changeset: Sun Apr 28 2013

ChangeSets with Comments: 4 745
Unique Comments & Median Length: 1 036 (12.5%) / 4.00

Changes in a ChangeSet:
>5 <15 = 1 665
>15 <150 = 2 002
>150 <4k = 1 158
>4k = 6

UID: 38985
GPS-Tracks: 2 075
User Blocks: 0
Block Active: 0

OSM Notes:
0 Opened
0 Commented
0 Closed

Last Modifier of Way-Objects with the following Tags (% of all last modifier ways of the user):

<table>
<thead>
<tr>
<th>Amenity</th>
<th>Building</th>
<th>Highway</th>
<th>Landuse</th>
<th>Leisure</th>
<th>Name</th>
<th>Natural</th>
<th>Addr:*</th>
</tr>
</thead>
<tbody>
<tr>
<td>406 (1%)</td>
<td>3 297 (10%)</td>
<td>21 434 (64%)</td>
<td>4 001 (12%)</td>
<td>246 (1%)</td>
<td>2 993 (9%)</td>
<td>2 416 (7%)</td>
<td>22 (0%)</td>
</tr>
</tbody>
</table>
The influence of major VGI contributors is evident in our multi-city analysis

<table>
<thead>
<tr>
<th>Feature</th>
<th>Berlin</th>
<th>London</th>
<th>Minn</th>
<th>Munich</th>
<th>Paris</th>
<th>Prague</th>
<th>Sydney</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributors</td>
<td>5849</td>
<td>3928</td>
<td>589</td>
<td>3235</td>
<td>2403</td>
<td>1414</td>
<td>800</td>
</tr>
<tr>
<td>Only Edit</td>
<td>2837(48%)</td>
<td>1574(40%)</td>
<td>194(32%)</td>
<td>1620(50%)</td>
<td>1295(53%)</td>
<td>844(60%)</td>
<td>282(35%)</td>
</tr>
<tr>
<td>Only Create</td>
<td>583(1%)</td>
<td>539(1.3%)</td>
<td>73(12%)</td>
<td>260(&lt; 1%)</td>
<td>269(&lt; 1%)</td>
<td>110(&lt; 1%)</td>
<td>125(15%)</td>
</tr>
<tr>
<td>Senior [29]</td>
<td>409(7%)</td>
<td>236(6%)</td>
<td>77(13%)</td>
<td>292(9%)</td>
<td>120(5%)</td>
<td>113(8%)</td>
<td>56(7%)</td>
</tr>
<tr>
<td>Junior [29]</td>
<td>2749(47%)</td>
<td>1885(48%)</td>
<td>295(50%)</td>
<td>1423(44%)</td>
<td>1009(42%)</td>
<td>537(38%)</td>
<td>376(47%)</td>
</tr>
<tr>
<td>Non-recur [29]</td>
<td>2691(46%)</td>
<td>1807(46%)</td>
<td>218(37%)</td>
<td>1519(47%)</td>
<td>1274(53%)</td>
<td>764(54%)</td>
<td>368(46%)</td>
</tr>
<tr>
<td>Total Creates</td>
<td>413,912</td>
<td>423,499</td>
<td>189,577</td>
<td>215,360</td>
<td>346,784</td>
<td>167,945</td>
<td>94,011</td>
</tr>
<tr>
<td>Total Edits</td>
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<td>467,810</td>
<td>103,740</td>
<td>365,485</td>
<td>317,917</td>
<td>121,690</td>
<td>160,010</td>
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<tr>
<td>Top 10% Create</td>
<td>96%</td>
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<td>97%</td>
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<td>98%</td>
<td>96%</td>
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<tr>
<td>Top 10% Edit</td>
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<td>96%</td>
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<tr>
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<td>94%</td>
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<td>96%</td>
<td>92%</td>
</tr>
<tr>
<td>Top 5% Edit</td>
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<td>89%</td>
<td>82%</td>
<td>86%</td>
<td>93%</td>
<td>90%</td>
<td>92%</td>
</tr>
<tr>
<td>Top 1% Create</td>
<td>68%</td>
<td>75%</td>
<td>74%</td>
<td>55%</td>
<td>89%</td>
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<tr>
<td>Top 1% Edit</td>
<td>67%</td>
<td>64%</td>
<td>34%</td>
<td>58%</td>
<td>79%</td>
<td>70%</td>
<td>68%</td>
</tr>
<tr>
<td>TOP 1: Create</td>
<td>13%</td>
<td>7%</td>
<td>31%</td>
<td>8%</td>
<td>22%</td>
<td>34%</td>
<td>29%</td>
</tr>
<tr>
<td>TOP 1: Edit</td>
<td>7%</td>
<td>4%</td>
<td>0%</td>
<td>9%</td>
<td>12%</td>
<td>28%</td>
<td>20%</td>
</tr>
</tbody>
</table>
How are these influential contributors distributed in areas?
How does 'the crowd' build cities in VGI (OSM example)?

Paris, FR – OSM Evolution

London, UK – OSM Evolution
The social side to VGI – Are the crowds actually 'collaborating'? 

Berlin, DE – co-edit network of top 10% of contributors to OSM

Berlin, DE: “Who edits who”? OSM
Chapter 1
Volunteered Geographic Information, the Exaflood, and the Growing Digital Divide

Daniel Sui, Michael Goodchild, and Sarah Elwood

Abstract The phenomenon of volunteered geographic information is part of a profound transformation on how geographic data, information, and knowledge are produced and circulated. This chapter begins by situating this transition within the broader context of an “exaflood” of digital data growth. It considers the implications of VGI and the exaflood for further time-space compression and new forms and degrees of digital inequality. We then give a synoptic overview of the content of this edited collection and its three-part structure: VGI, public participation, and citizen science; geographic knowledge production and place inference; and emerging applications and new challenges. We conclude this chapter by discussing the renewed importance of geography and the role of crowdsourcing for geographic knowledge production.
Canadian SDI - "VGI Primer"
Planning for Today
<table>
<thead>
<tr>
<th>Time</th>
<th>Morning</th>
<th>Afternoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:25-10:45</td>
<td>Session 1</td>
<td>14:00 - 15:00 Session 3</td>
</tr>
<tr>
<td>10:45-11:15</td>
<td>Break</td>
<td>15:00 - 15:15 Planning(KR)</td>
</tr>
<tr>
<td>11:15-12:30</td>
<td>Session 2</td>
<td>15:15 - 15:45 Break</td>
</tr>
<tr>
<td>12:30-14:00</td>
<td>LUNCH</td>
<td>15:45 - 17:00 Open Floor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17:00 - 17:15 Closing</td>
</tr>
</tbody>
</table>
Open Floor Discussions

Participation Encouraged: We would like you to drive the discussions.

Possible Topics:
- **Key research topics** (actual problems we can specify?)
- Opportunities for collaboration
- What are researchers doing right/wrong with VGI?
- **VGI + Spatial UGC.** Problems? Research?
Post Conference Publication

Workshop summary journal paper

Authors: Mooney, Rehrl, Hochmair

References to all papers/presentations in the workshop and a summary of the principal outcomes of the workshop.
Twitter: Suggested #-tag
#ACTIVITYAgile2013
So ... Let's start!

Thank you again for your participation!

Remember: load up your presentations before your presentation session

Open Floor Session: Let's crowdsource some great ideas and ways forward!

AGILE Reception at 19:00 in Town Hall