Location and the Web (LocWeb 2008)

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ABSTRACT

The World Wide Web has become the world's largest networked information resource, but references to geographical locations remain unstructured and typically implicit in nature. This lack of explicit spatial knowledge within the Web makes it difficult to service user needs for location-specific information. At present, spatial knowledge is hidden in many small information fragments such as addresses on Web pages, annotated photos with GPS coordinates, geographic mapping applications, and geotags in user-generated content. Several emerging formats that primarily or secondarily include location metadata, like GeoRSS, KML, and microformats, aim to improve this state of affairs. However, the question remains how to extract, index, mine, find, view, mashup, and exploit Web content using its location semantics. This workshop brings together researchers from academia and industry labs to discuss and present the latest results and trends in all facets of the relationships between location concepts and Web information.

Categories & Subject Descriptors: H. Information Systems, H.3.1 [Information Storage and Retrieval]: Content Analysis and Indexing, H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval, H.3.5 [Information Storage and Retrieval]: Online Information Services, H.5.4 [Information Interfaces and Presentation]: Hypertext/Hypermedia.

General Terms: Algorithms, Design, Experimentation, Human Factors, Management, Measurement, Standardization, Theory

Keywords: location, geospatial, geographic data

1. INTRODUCTION

This workshop brings together researchers of different disciplines and outlines innovative ways to extract, index, mine, find, exploit, mashup, and visualize Web content with respect to its location semantics. Applications increasingly utilize location as a fundamental means of structuring information with regard to space, navigating complex repositories, and tracking the evolution of knowledge within and across organizational boundaries. The workshop takes a high level view of the many challenges raised in the pursuit of these themes and enables a truly interdisciplinary approach to their solution.

In recent years, the topic of location has appeared in many communities and is the subject of a great deal of attention — user generated content, location-related multimedia Web content, Web scale geo-content mining, and mobile search are only some of these developments. The workshop proceedings bring together work from different communities to lay the technical foundations of a location-aware Web.

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2. TOPICS

Due to the interdisciplinary definition of the workshop topic, the papers cover a wide array of topics related to the location Web. These topics potentially include:

- Spatial Web retrieval, including the crawling of Web resources and the extraction and indexing of location information embedded in these resources. Topics cover geographically focused search and crawling, ranking for geographical search, understanding and modeling location and location-based features, harvesting and mining location from different Web sources.
- Semantics of location on the Web, including location as a first-level Web concept, syntax, standards and semantics for location, core location concepts and formal ontologies for location information.
- Users and location: extracting location from Web communities and social media data, using location for novel applications that connect users to data, and to other users.
- Gazetteers and location-entity information sources: novel uses of gazetteers and location-driven datasets; generating and maintaining location-driven information sources.
- Media and location: spatial indexing of media resources on the Web, geographic annotation techniques for geo-referenced media, applications using geography-driven media and content.
- Visualizing geographic data. This topic includes geographic user interfaces for the Web, visualizing, displaying and interacting with location-driven query results, tools and applica-

tions of geographic mashups on the Web, visualizing and accessing localized data and search results on mobile devices with limited screen resolutions.

- Location and user mobility: mobile localized search, fusion of mobile sensor data and location information, interaction of physical location context and mobile applications and settings, the role of location for mobile users, security and privacy consideration for location information.
- Platforms for location: architecture, design, modeling and principals of novel platforms to handle location-driven data.
- Location-based monetization schemes: location based ads, models for advertising based on location content or user's location, models for pricing location ads on the Web.

These examples illustrate the scope of the LocWeb workshop. One of the important goals of this workshop, since it is the first one on this topic, is to explore all the areas in which the topics of location and the Web intersect. The importance of location for specific applications has been recognized for a quite some time, and the increasing availability of Internet-enabled mobile devices will become a driving force to get location information out of these confined application areas, and to establish it as a first-level concept in regard to emerging Web technology.

3. OBJECTIVES

The main objective for the workshop is to take a broad and multidisciplinary look into the field of location-based information on the Web. We expect that this first workshop and follow-up events will bring together work from different communities and in doing so will lay the technical foundations of a location-aware Web. With regard to other events in the field, the workshop aims to bring together all geospatial aspects that are related to the Web in one workshop. Besides the different technology to extract, index, mine, find, exploit, mashup, and visualize location and Web content, we expect this workshop to be host to novel and varied approaches for handling and using location data on the Web.

The workshop proceedings will be published electronically, including the organizers' summary and all accepted contributions. We hope that these proceedings will serve as a starting point for further academic exploration of the topic, and will help researchers enjoy a broad and varied (if not complete) view of this area. We aim to continue discussion and set the starting point of a network of researchers in all the fields related to location and the Web.

4. RELATED WORK AND VENUES

While the LocWeb 2008 Workshop offers a unique and broad perspective on the topic at hand, other events and publications exhibit some overlap with the scope of the workshop. We encourage those interested in the area to attend and follow related work from the following venues as well:

- The *Geographical Information Retrieval Workshop* [1] focuses on issues directly related to information retrieval and location data.
- The *International Workshop on Location- and Context-Awareness* (LoCa) [2] focuses on location technology and the modeling of space and context, but does not address topics of the Web.
- The *O'Reilly Where 2.0 Conference* [3] brings together players in the wide field of location technology and location-based Web services, but has its focus on trends and leading edge commercial applications and systems in location-aware technology, it is not a research conference.
- The *International Symposium on Digital Earth* [4] aims to represent a rich convergence of technological advance, active visionaries and recognition of the paramount need for humans to better understand the Earth. The perspective of this event is on a much higher level.
- *GeoWeb 2007 – From Mashups to Infrastructure* [5] reflects the breadth, the evolution, and the growing maturity of the Geospatial Web (GeoWeb). This event has a very broad scope with regard to technology and applications in GIS-related topics.
- *The Geospatial Web – How Geobrowsers, Social Software and the Web 2.0 are Shaping the Network Society* [6] summarizes the Geospatial Web's technical foundations, information services and collaborative tools. The edited volume also investigates the social and economic impacts of geospatial technology.

5. CONCLUSIONS

The availability of location-driven data, location-enabled devices, and location applications is guaranteed to expand the opportunities that exist in the marriage of location and the Web. This first LocWeb workshop is just the starting point in studying the various issues of the location-aware Web in the appropriate depth. We hope to maintain the LocWeb workshop series alongside the World Wide Web conference for years to come and will make all information available at `http://www.locweb.org/`.

6. REFERENCES

[1] Geographic Information Retrieval Workshop. http://www.geo.unizh.ch/~rsp/gir07/

[2] International Workshop on Location- and Context-Awareness. http://loca2007.context-aware.org/

[3] O'Reilly Where 2.0 Conference. http://conferences.oreillynet.com/where2007/

[4] International Symposium on Digital Earth. http://www.isde5.org/

[5] Geoweb – Everything is Connected. http://www.geoweb.org/

[6] The Geospatial Web. http://www.geospatialweb.com/