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COMMUNITY ACTIVITY: REPORT

An interactive bibliography on temporal GIS

Summary: This report introduces *Time*Bliography, a dynamic and online bibliography on temporal GIS. We provide a brief description of the bibliography as well as the components and functionalities of the web application that supports it. The bibliography is fully accessible on the Web at http://spaceandtime.wsiabato.info.

1 Introduction

*Time*Bliography is an online resource created in order to provide students and researchers with a dynamic bibliography whose focus is oriented towards temporal aspects of GIS and other cross-related topics. This resource complements 60+ previous surveys, bibliographies, and studies relating temporal and spatio-temporal aspects in other research fields.

The main differences between *Time*Bliography and previous bibliographies are (i) an online, dynamic interface; (ii) a thematic classification used for filtering references; and (iii) full availability on the Web with several interactive functionalities. Moreover, a large online documentation including the abstract and a link to the publisher's website through a DOI name is also available. When the DOI name is not available, a link to other academic databases is provided, e.g., ACM Digital Library, CiteSeerX, DBLP, or Google Books. As of August 2013, over 1,300 references have been categorized in several topics (Figure 1).

As shown in Figure 2, *Time*Bliography's user interface is composed of ten elements: (1) sections and categories, (2) category filters, (3) publication filters, (4) textual filter, (5) pop-up descriptor, (6) timelines, (7) categorized reference list, (8) menu, (9) multi-categorization, and (10) recommend a new reference.

As a dynamic bibliography, *Time*Bliography evolves both in number of references and in functionality. The first version was made available online in December 2011 and since then, the number of references has been increased by 50% and functionalities for filtering and searching extended. Web metrics based on Google Analytics show that from July 2012 to July 2013 a total number of 1420 visits (687 unique visitors) were registered. A returning visitor rate of 44% and an average visit duration of 00:04:40 shows that the prototype is being consulted by multiple users multiple times. A bounce rate of 61% could be interpreted as satisfactory. Most users are located in Europe, and North America. Particularly, most of the visits come from France, Germany, Spain, Portugal, and USA. References are stored in a database repository managed by MySQL 5.0. The UTF-8 Unicode encoding has been

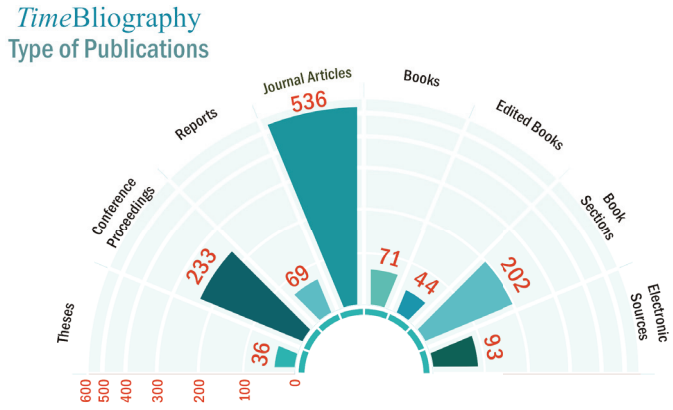

Figure 1: Frequency and type of publications in *Time*Bliography

Figure 2: General overview of *Time*Bliography's graphic user interface (http://spaceandtime.wsiabato.info/tGIS.html)

used to avoid typos in authors' names and article titles. The web application is based on JavaScript (jQuery Library), CSS, Ajax, and HTML standard 4.01. All resources and sources are available upon request. Further description, statistics, bibliometrics, as well as an up-to-date bibliographic compilation are available at http://spaceandtime.wsiabato.info.

We plan to guarantee the evolution of the prototype and maintain the updating of the bibliography by adding new references and including users' feedback. Future functionali-

ties will include search by keywords, semantics extension of the pop-up descriptor, integration of visual aids for multi-categorization, and additional interactions of the timeline with the reference list. The possibility for users to include, and not only suggest, new references in the database could eventually be considered as long as a review procedure is also included. In the near future, when the number of references and users increases, performance issues will be observed and addressed if and when necessary. The bibliography is fully accessible online at: http://spaceandtime.wsiabato.info

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