



(12) **United States Patent**
Sample et al.

(10) **Patent No.:** **US 7,685,133 B2**
(45) **Date of Patent:** **Mar. 23, 2010**

(54) **SYSTEM AND METHOD FOR AUTOMATED DISCOVERY, BINDING, AND INTEGRATION OF NON-REGISTERED GEOSPATIAL WEB SERVICES**

(75) Inventors: **John T Sample**, Diamondhead, MS (US); **Lev I Shulman**, New Orleans, LA (US); **Frank P McCreedy**, Diamondhead, MS (US)

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 418 days.

(21) Appl. No.: **11/753,389**

(22) Filed: **May 24, 2007**

(65) **Prior Publication Data**
US 2007/0276816 A1 Nov. 29, 2007

Related U.S. Application Data
(60) Provisional application No. 60/809,991, filed on May 24, 2006.

(51) **Int. Cl.**
G06F 17/30 (2006.01)
(52) **U.S. Cl.** **707/10**; 707/104.1; 707/E17.061; 707/E17.11; 707/E17.112
(58) **Field of Classification Search** 707/3, 707/10, 104.1, 103 R, 103 Y, E17.061, E17.11, 707/E17.121; 709/203, 219

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|-------------------|--------|------------------------|-----------|
| 7,353,114 B1 * | 4/2008 | Rohlf et al. | 702/5 |
| 7,386,517 B1 * | 6/2008 | Donner | 705/75 |
| 7,523,191 B1 * | 4/2009 | Thomas et al. | 709/224 |
| 2004/0117358 A1 * | 6/2004 | von Kaenel et al. | 707/3 |
| 2008/0214204 A1 * | 9/2008 | Ramer et al. | 455/456.1 |

OTHER PUBLICATIONS

Brentjens, Thijs; OpenGIS Web Feature Service for editing cadastral data, Apr. 2004, pp. 1-120.*
Raskin, R., "Guide to Making Your Data Products WMS-Compliant: A Tutorial for Data Providers", 2001, [online], [retrieved on May 21, 2007], <<http://oceansip.jpl.nasa.gov/esipde/guide1.0.html>>.

* cited by examiner

Primary Examiner—Leslie Wong

(74) *Attorney, Agent, or Firm*—John J. Karasek; Sally A Ferrett

(57) **ABSTRACT**

A method and computer system for identifying internet web pages containing documents that comply with a predetermined XML schema. The method includes searching the internet with a search engine for web pages using initial search terms and identifying a first set of HTTP URLs, web crawling at least the first set of HTTP URLs to identify additional HTTP URLs, appending a query to the identified URLs, and evaluating the responses to the query to determine which responses comply with the predetermined XML schema. The XML schema can be a Web Mapping Services schema. The system can store responses that comply with the XML schema in a database of servers, periodically check the database for validity, and convert the map requests for map servers in the database to a GIDB Portal Interface API.

30 Claims, 14 Drawing Sheets

