CenSSIS Citation Index System

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Abstract

The CenSSIS Citation Index System is designed to serve as a central repository for data and citations to scholarly publications and research-related materials generated by CenSSIS researchers and their affiliates. The database is accessible via the web. Both the submission of data and the querying of the database are web-based. Levels of access control are provided.

Accomplishments

This year our accomplishments include:

• Developed automated data submission
• Populated the system with CenSSIS data using automation tools
• System upgrade

Challenges and Significance

One problem when managing CenSSIS data is the diversity of the research being done, which makes it very difficult to find CenSSIS data in a particular web repository. Citation Index system serves a purpose of such web repository. It creates a unifying framework and a central repository of the multiple and diverse research conducted in the subsurface sensing fields. This will help improve collaboration of different research groups as well as facilitate individuals to get material generated within CenSSIS.

State of the Art

The Front End of the CenSSIS Citation Index System contains specifically scholarly literature, including peer-reviewed papers, theses, books, preprints, abstracts, datasets, posters, software, code, algorithms and technical reports from CenSSIS. The Front End of the system will also perform searches to provide actual data for viewing/downloading.

Technical Approach

As Figure 1 shows, each component of the Citation Index System consists of three modules:

All three Front End modules are implemented using JAVA servlets. As with the submission of process, a JAVA servlet generates a query form which is used to gather data. Querying the database is available to the general public, but document submission is a protected process so as to ensure that only CenSSIS-related documents are included. Finally, the security module manages that only authorized users submit documents.

The Back End modules are implemented using JAVA also. The Database Update module is an offline stand-alone module of the CenSSIS Citation Index System. It provides two modes – the Update Citations mode and the Manage Users mode. The Update Citations mode allows the user to update the contents of the citation database. The User Account Manager module is integrated with the database update module and can be reached through the Manage Users mode. It provides information about the registered users of the system as well user account administration.

Web Search Features

The system provides a web search engine that may help in finding more information about the desired document and its availability in other digital libraries if the document is not available in the system. Otherwise document itself is returned and can be viewed/downloaded. The search engine will be a meta search engine that will look in other digital libraries and present the results to the user. Candidate digital libraries of this meta search engine include:

• arXiv http://arxiv.org
• DEGIP Bibliography http://www.informatik.un-tuebingen.de/degi/bibliography.html
• Citeseer http://citeseer.ist.psu.edu/
• Google Scholar http://scholar.google.com

The digital libraries used by the meta search engine can be modified to add or remove them accordingly to CenSSIS Research Interests.

Plans

Future work will include:

Finishing populating data and perform testing

References


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