RDFHomepage[*]

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Abstract. This paper presents the RDFHomepage project, a framework for using a person's structured data sources to auto-generate an HTML homepage. RDFHomepage uses RDF files as input, and currently supports several well-known RDF schemas, such as FOAF. In addition to these we have RDF converters for other structured file-formats, like Bibtex. RDFHomepage produces valid HTML 4.01 Transitional pages, and makes it easy to roll-out functional homepages for a group of people. The generated HTML code is very general, allowing quick and easy page-redesigning using CSS. RDFHomepage is written in PHP and uses our system for generating PHP classes based on RDF class definitions, enabling quick and easy development of RDF handling PHP code.

1 Introduction

RDFHomepage is a tool for automatic generation of HTML homepages based on RDF files and other structured information sources which a user might already create and maintain. The generated page contains all things one expects on a typical homepage: it shows the person's name, email, telephone number etc., this is taken from his FOAF profile; there is a short bibliography, this taken from a file using the *homepage-schema* we created for this task; there are sections listing the projects a user is involved in, taken from the DFKI Organisational Repository (OrgRep); and section with the user's research interest. RDFHomepage generates pages that are valid HTML 4.01 Transitional, with HTML code is well structured and can easily be styled with CSS. A part of RDFHomepage is an engine for generating PHP template classes from RDFS Class descriptions. This has two main advantages, it removes the need to know the details of RDF processing, and it enables code-completion, removing the need to know the details of the schema being used.

2 Architecture

For RDFHomepage we chose to use the web-scripting language PHP. We chose PHP because it is free and open-source, and is a powerful and feature complete

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language, with good support for RDF through the RDF API for PHP (RAP) [1]. RDFHomepage uses RDF data from several standard sources, detailed below, and we also created a homepage schema, providing the semantic glue between these sources, and allowing the user to specify additional personal details in a structured form, for example his interests or personal views on projects.

2.1 RDF Data

FOAF The Friend-of-a-Friend ontology [2] was the main point of inspiration for RDFHomepage. A huge number of people in the semantic web community have created their own FOAF profile and published it[3], and there are millions more generated by LiveJournal[4], Ecademy[5] and other social sites producing FOAF.

Bibtex BibTeX is a format for managing citations when using TeX or LaTeX. BibTex defines different classes of publications, such as articles, books, theses, etc., and associated optional and required properties of these. Most computer scientists will keep a BibTeX file of their own publications up to date, for use when self-citing or when publishing their papers on their website. Since people already maintain this information in a structured format it makes sense to reuse it, and to this end we used BibTeX2RDF, written by Wolf Siberski[6].

Projects At the DFKI information about all projects and the people working in them is centrally maintained in a Organisational Repository (OrgRep)[7]. OrgRep was originally created for use in the FRODO project, but has been maintained and used in many DFKI projects since, for example EPOS and MyMory.

3 Conclusion

RDFHomepage provides a quick and easy to way to create attractive and informative homepages, with all the content typically found on a research active user's homepage. The pages are generated from RDF files allowing complete separation of content and appearance, as well as making the homepage machine processable by semantic web agents. RDFHomepage is open source, release under a GNU Public License (GPL) and can be downloaded from http://rdfhomepage.opendfki.de. To get a better impression of what RDFHomepage can do, consider visiting any of the author's homepages, they are all automatically-generated![8]

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[1] http://www.wiwiss.fu-berlin.de/suhl/bizer/rdfapi/
[2] http://xmlns.com/foaf/0.1/
[3] http://rdfweb.org/topic/FOAFBulletinBoard
[4] http://www.livejournal.com
[5] http://www.ecademy.com/
[6] http://www.l3s.de/~siberski/bibtex2rdf/
[7] The OrgRep ontology: http://www.dfki.uni-kl.de/~grimnes/2006/03/orgrep/orgrep.rdfs
[8] See also http://rdfhomepage.opendfki.de/cgi-bin/trac.cgi/wiki/WorkingInstallations