

Poster Presentations Management System

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Abstract

When people visit some conference its very important to give them an instant and detailed information about the topics they are interested in. Its highly applicable to the poster sessions. In this paper the development of a poster management system is described. The system links automatically the information about posters together and provide an end user with the instant access via QR codes. The system is planned to be in a FRUCT9 conference.

Index Terms: semantic media wiki, poster presentation.

I. INTRODUCTION

A poster presentation is one of the most widely used ways to present information on conferences or exhibitions. Usually authors hang their posters somewhere in the conference hall, visitors overview them and then ask the presenter some questions during conference breaks. Very often the presenter couldnt be found because of his discussions with other visitors, hence, the opportunity to get some actual information becomes a problem. This problem can be solved by creating a shared repository with information about all posters, authors, organizations that would be accessible through either computers or mobile devices.

In this paper, we present our solution of the problem described above. We use semantic media wiki for storing information about posters and QR-code identification for extracting it. Furthermore, using semantic annotations allows as to find relations between posters, authors, organizations.

We begin from describing common applications of SMW in Section 2 and reviewing basics of Semantic Media Wiki in Section 3, then we describe the common use case of our system and give some examples in Section 4. Finally, we discuss our current results and ideas for the future work.

II. RELATED WORK

Wiki systems proved their effectiveness in educational and scientific areas. For example, the list [1] contains hundreds educational departments, which use Wiki system to organize communities and groups according to their scientific works. This widely spread usage means that Internet community is interested in wiki-approach. The list of websites using Semantic MediaWiki (SMW) is available in reference [2].

Selection SMW as basic platform is preferable because the technology of creating semantic websites has become stable and clear during recent years. For example [3] shows the experience with building the Semantic portal based on the institute knowledge base.

QR codes are also widely used providing user with links to the corresponding web resources. The most famous example is the Android market where one can download programs by clicking on QR-codes. One can also see the KIA system for car presentation which took place in 2009 Detroit Auto Show [5] - they used QR code to provide more information about the cars presented on the exhibition.

III. USING THE SEMANTIC MEDIA WIKI

The base of the whole system is Semantic Media Wiki, a MediaWiki extension allowing to create semantic annotations or properties, in SMW terminology. SMW allows user avoid adding duplicated data again and again by setting semantic properties to one page and use them everywhere by querying. This makes the wiki looks like a data base and it is the main advantage of system.

Lets consider the following question as a simple example: What are the posters, where presenter has the professor degree? The system that manage the posters should be able to answer that question because it contains all needed information. Still traditional wiki-system doesnt work in such case because effective methods of natural language processing arent that developed yet.

Semantic MediaWiki introduces some additional wiki-markup into the text of the articles which allows users to add semantic annotations to the wiki content. As they told in the introduction: while this first appears to make things more complex, it can also greatly simplify the structure of the wiki, help users to find more information in less time, and improve the overall quality and consistency of the wiki [6]. The questions mentioned above can be addressed by using the formal query language developed by the SMW team. Semantic MediaWiki manual gives an introduction to those main elements of the system, [7] describes the formal syntax and semantics.

This brings us to the description of the semantic wiki-specific elements. Here are the elements that we have developed for the of the of using SMW in our project:

- Properties. Every word in poster content, which contains some critical fact can be marked as a named property, which have this word as value. Late it can be used in search, using ask-queries. We used such properties: poster name, annotation, authors, organizaion, date, presenter name, presenter photo, keywords, PDF of poster.
- Ask-queries special SMW queries to the database, which allow to generate lists automatically and represent data in many output formants. Lists are usually consist of items selected by some properties. Such kind of lists guarantee actual contents because it updating automatically. As a rule, ask-queries are usually used in semantic templates. Ask-queries in our system build the list of all posters on index page and lists, selected according to some values: author, keyword, date, organization.
- Semantic templates special templates, that display information on a webpage. They use the semantic properties and ask-queries to search necessary data from database and to show on a webpage. Usage of SMW-templates allows to add computer-processable properties to all pages and hide it form users. Our system should have at least two templates. Posters template displays all the information about poster and generated QR-code. Lists template contain ask-query to display list of posters, filtered according to selected property and its value. Some of the details about the templates are presented in the next section.
- Semantic forms analog SMW-template purposed on adding and editing information in database. SMW forms allows to get rid of writing semantic-coded content and provide user friendly input fields, checkboxes, dropdown lists and so on. Forms will automatically encode content to SMW-coded data and save it to database.

IV. COMMON USE CASE AND EXAMPLES

The system is available through the web interface, each poster have its own URL-address. Using URL, visitor can browse it or presenter can modify his poster through Internet browser.

URL can be presented either in a text-format or QR-code, which should take place on every printed copy of the poster. This code is generated automatically according to standard [4] when a new poster has been created. Every mobile device having a QR-code reader automatically redirect mobile browser to URL, then visitor focus camera on QR-code printed on poster. Specially optimized mobile template applies to the system, when QR-code identification is detected. You can see an example of poster page with mobile template on Picture 1.

| | |
|------------------------|---|
| Name | Poster presentations management system |
| Annotation | When people visit some conference it's very important to give them an instant and detailed information about the topics they are interested in. It's highly applicable to the poster sessions. In this paper we report about the development the poster management system that automatically links the information about the posters together and provide the end user an instant access via QR codes. The system is used in a FRUCT9 conference. |
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| Presenter | Katkov Y.V. |
| Presenter photo |  |
| Keywords | smw , poster presentation |
| Date | 2011/04/10 |
| Organization | SPB National Research University of Information Technologies, Mechanics and Optics |

Fig. 1. Web page presenting information about our poster

So, the main use case:

- a user adds information about new poster to wiki.
Submitting data to system goes through a specially-configured form providing user-friendly interface and allows to get rid of writing semantic-coded data. When the submit button is pressed, SMW automatically generates all the property values representing related data on webpage compatible with universal formats RDF and OWF.
- a user prints automatically generated QR code,
- sticks QR-code on poster,
- everyone can view information via mobile devices or web browser.

The index page shows all available poster presentations. Any visitor can choose a poster and view all information about it, e.g, date, authors, keywords, presenter photo, section, PDF-version of presentation. Every important fact presented as a link and is also clickable. Clicking on it, the visitor will see another page with information selected according to the data of this link. For example, one can see all posters, which contain some keyword, or all posters of selected section, or all posters by selected author and so on. Presenter photo is rather important field, which would help visitors finding the key person of the presentation and asking him any questions. Keep in mind, all these actions could be done on mobile device, PDA using just only QR-code, which should be located on every printed poster. You can try the system using the QR-code presented beyond.



Fig. 2. QR-code for our poster

V. CONCLUSION AND FUTURE WORK

During the project we have solved the following tasks:

- Configuring properties, templates and forms to create posters by presenters;
- Creation ask-queries and templates to present data to visitors;
- Integrating MediaWiki plugin, which automatically generates QR-code;
- Applying special mobile template with less graphics using to show data on mobile devices;

We plan to try-out the system in a real poster session during the FRUCT9 conference. After the trial and after gathering feedback well continue developing the system. Future work includes traffic optimization and some improvements in user interface. We also plan to add recommendations of the related papers by making queries to Linked Data sources or services like Google Scholar.

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