A Multilingual Media Monitoring System (MMMS) for Balkans

B. Gültekin ÇETİNER
Faculty of Engineering and Natural Sciences
International University of Sarajevo (IUS)
Sarajevo, Bosnia and Herzegovina
cetiner@ius.edu.ba

Mete GÜNDOĞAN
Faculty of Economics and Business Administration
International University of Sarajevo (IUS)
Sarajevo, Bosnia and Herzegovina
mgundogan@ius.edu.ba

Osman GÜRSOY
Faculty of Engineering and Natural Sciences
Researcher in Computer Engineering
International University of Sarajevo (IUS)
Sarajevo, Bosnia and Herzegovina
ogursoy@ius.edu.ba

Abstract: This paper describes a developed Multilingual Media Monitoring System (MMMS) software and reports how it may be utilized to effectively facilitate PR facilities at an academic institution in Balkans.

There are many international charity projects of Turkey in Bosnia and Herzegovina (BiH). These institutes comprise the academics and businessmen both from Turkey and Bosnia. Due to major number of the stakeholders and students from Turkey and Bosnia as well as other different countries, and the mission of such an institution to become an international Balkan institution requires the establishment to perform PR facilities in Balkans effectively in a multi-national and multilingual manner. Therefore, a software system called Multilingual Media Monitoring System (MMMS) was developed by the authors herein to manage the PR facilities more effectively by easing the collection, search and evaluation of the news in Balkan region and Turkey. The paper describes the system in detail.

Keywords: Media Monitoring, PR, Information Technology, Content Analysis, Balkan Cooperation

Introduction

After the war, many internatinal educational institutions have been established in BiH. They have both academicians and students from about many different countries of which the majority is from Turkey and Bosnia. The decision of the establishments goes back to the start of the post-war period when Alija Izzetbegovic, the first president of the independent Bosnia and Herzegovina had made a call to Turkey to establish the good relations with Turkey and help the country to reestablish the economy and development. Educational curricular structures of these institutions are usually based on a flexible model to allow the interdisciplinary studies and program changes considerably easy. The inspiration of the educational models is based on the structuring of curriculum at advanced academic institutions by revising them according to needs of Bosnia and Herzegovina.

The international structure and stakeholders of such institutions from different countries make it necessary to develop a multilingual effective news monitoring system for PR facilities in Balkan region and Turkey. Therefore, a project was developed during 2009 to ease the PR facilities of such an institution. The main purpose of the project was to collect the content in several languages (currently in English, Bosnian and Turkish), to categorize, evaluate and search this content by predefined staff in several roles. Collection of news and other content is made by usually editors and evaluated by commentators. The software project shortly called as PRNews is a Multilingual Media Monitoring System (MMMS) and described herein this paper in detail.

Media Monitoring Systems

Media Monitoring systems are used by modern organizations to collect information for more effective decisions and often strategic management purposes.

The application of content analysis, linguistic, and information retrieval methodologies are the focal point of the discussion in media monitoring systems. Content analysis is described as a well-described systematic strategy of inquiry to the analyzed media content object, or in other words, to a communication text (Arıkan, 2009). From the very beginning of the research it must be described what is looked after. In this project, Arıkan attempts to deliver primary information on a content analysis project to analyze Turkish Media by computer assistance. He discusses the methodological, scientific and application problems and issues related to the project.

Media monitoring can help demonstrate that political competitors and the public at large should have confidence in the media, electoral authorities and the government that is responsible for providing genuine elections. Shortcomings in media conduct can be identified through monitoring in time for corrective action. Abuse of the mass media's power to affect voter choices also can be documented, which allows the population and the international community to appropriately characterize the true nature of the electoral process. More may be found regarding media monitoring for political purposes in (coliver and Patrick, 1994) and (Lange and Palmer, 1995).

A Digital Media Monitoring project for Parliament was reported (Gilbert, 2005). An Electronic Media Monitoring Service (EMMS) was developed to allow Senators and Members to browse, search and view television and radio items on desktop PCs. In this system, news and current affairs items are recorded in Canberra by Parliamentary Library staff and published onto the EMMS web site for access by Senators and Members in Parliament House and their electorate offices. Using the system developed, media programs may be digitally captured, encoded and archived for retrieval and playback by the Library's clients.

A news media monitoring or media tracking system can be used to collect, evaluate and search certain content of news coverage for more effective PR in an organization. The content may be related to a subject, person or any organization and may be on a hardcopy magazine and newspaper, or in a digital form. The collected and evaluated content under different categories may then be sent to related bodies or searched online. The following sections describe a multilingual news media monitoring system developed by the authors.

Multilingual Media Monitoring System (MMMS)

The Multilingual Media Monitoring System (MMMS) described herein allows administrative staff to browse, search and view news items online. News and current affairs items are recorded at a centre by staff arranged as editors and administrators and published onto the MMMS web site for access by staff assigned as users. It is integrated into the institution's database which means that any staff or client may be assigned the tasks with predefined users. The Use-case diagram in Figure 1 shows the users as participants and their roles to be played in the MMMS system.
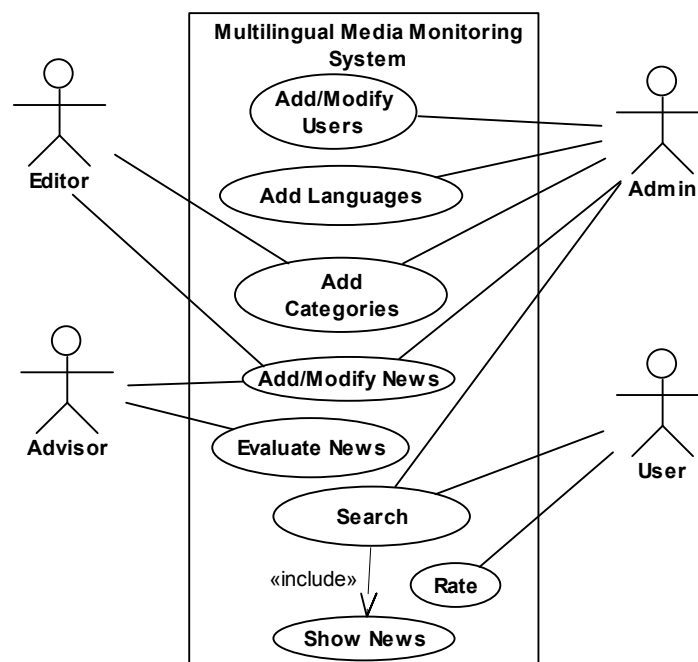

Figure 1. Use-case Diagram for MMMS

The Admin user has all rights to describe, add and user profiles and their permissions. Admin also may add additional languages and perform operations of all other users. Besides Admin user, there are 3 other users as Editor, Advisor and User. Editor may add categories and add/modify news. Editor user is a typical PR user who can collect, modify the news content. Advisor may add, modify and rate (evaluate) the news content similar to Editor. User is typically a manager who sees all the results in read-only form. He/she can search and see the content and its related ratings. The user may rate the content.

The media monitoring service is highly useful and this project has involved technology and ready to be applied to any academic institution. Using the new technology, media contents for Balkan region are digitally captured, encoded and archived for retrieval and playback by the MMMS clients. The following part describes the project, the technology, standards employed, and how certain issues were overcome to provide an in-demand PR service for administrators.

System Design for MMMS

The MMMS developed herein is a web based software application using open source application development standards such as PHP programming language and MySQL as Database Management System. The data model for the designed database is given in Figure 2.
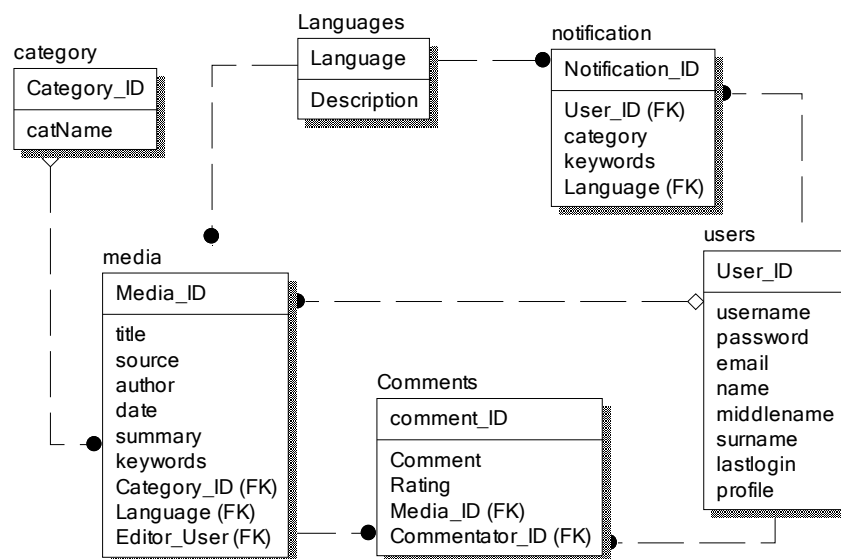

Figure 2. Data Model related to Database for MMMS

The media content has title, source, author, date of information, summary, and keywords which are used to search later the media document. Each media content is categorized with related category ID. The PR user (editor or advisor) is also recorded as Editor User. Each Media content has also language associated with. User table is integrated into the Database of hosting institution. Therefore, new users from the academic and administrative personnel may be added to the user pool in MMMS easily. Comments may be given and ratings may be added by different users. Category table keeps all categories added into the system. Categories may be edited by both Admin and editor users. Currently there are 3 languages in the system but more languages may be added to the system.

Notification is perhaps one of the most important tables in the system. Users are notified through their emails if there is a new media content in the system related to their category, keywords and language of interest. Users may also search inside the media content based on the filtering of language, keywords and category.

User Interfaces for MMMS

The user interfaces are many and difficult to show all herein. Therefore, only several important ones are described in this section. User interfaces are related to the Cases given in Figure 1. The participants are given different permissions according to their roles. The Figure 3 shows menu options for users with the roles Admin, Editor and User. The Admin user has permission to add/modify users whereas editor cannot change the users but can add News and Categories. The normal user has only read-only permission to search and see the news. The users can manage the CRUD (Create/Retrieve/Update/Delete) operations depending on their security levels. The users may be added by administrators with different privileges depending on the role of the user selected from

the human resources associated with the institution's database for employees. The alternative usage of the system may involve people from different organizations in Balkan region and Turkey to monitor the news media for research and other purposes. In this case, the actors described in Figure 1 may be distributed throughout the countries. For example, advisors from Istanbul may rate the content produced by an editor in Albania and users of Kosovo may see the content related to Kosovo produced by Istanbul editors etc. This kind of usage of the system requires a network of users from different countries with different roles.

Figure 3. Menu Options for (a) Admin (b) Editor, and (c) User

The most important part of the system is the search facility as shown in the left side of Figure 4 which shows the screenshot to be seen by admins, advisors, editors and users. The right part in the figure may be seen by only admins, advisors and editors. It contains a pool of the news produced mainly by editors. The search mechanism contains certain criteria for search and sort facilities. Filtering is available for category, language, search keywords and dates. Search is made on the html content based on the OR function of Boolean algebra. The html content may include pictures and videos. However, the system cannot search for information yet in binary content such as videos and pictures. The html results related to content are brough to the user as pdf files. Editing of the content is made over html. Sorting is possible based on the Title, Source of Information, Author, Category and Date. Editing of the content is possible via related functions. Although rarely used deletion of a content is also possible. This may be an option to be used by editors and advisors if the content's rating and evaluation require so. Currently system does not allow the users to share selected content via sending through emails. A workflow management system may also be added in future versions to accept content in a hierarchical manner. This means approval of content by advisors and certain editors. Currently system is very useful for copying and pasting digital information from digital soft copies related to events. For facilitating hard copy information, the editor needs to scan and convert the hardcopy contents (such as newspaper, leaflet etc) manually to soft copy formats through Optical Character regognition (OCR) softwares.

Figure 4. A typical screen to be seen by editors

Conclusions

The paper has described a Multilingual Media Monitoring System (MMMS) developed by the authors for the purpose of tracking the media for news content of both Balkan region and Turkey related to the conduct of PR facilities at any educational institution. The main purpose was to provide up-to-date information needed by the managers of the institution to help in their decision making processes for more effective PR. It was found useful by higher level managers in tracking the news in three different languages. The system may be utilized in a way to monitor the information gathering throughout the Balkan region by embedding editorial board members and advisors from different countries. The system is ready to be operated by any educational or academic institutions as well as any governmental institutions.

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