Chapter 9

RSS-Based Learning Using Audio

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ABSTRACT

Specifications such as RSS feeds are opening a new channel of communication for Internet-based learning, which gives a decentralized view of web resources while maintaining the privacy of teachers and students who are consulting the information. This philosophy can be used to create personalized learning tools in which users can take control of resources they want to have access to. In this regard, RSS is XML-based, which makes it easy to complement visual access with audio interfaces, adapting the feeds to different educational contexts and learning styles. This paper discusses the use of feed syndication to create personalized feed readers accessible in visual and voice formats.

INTRODUCTION

Using web-based technologies is nowadays a part of our daily lives, offering many different ways of establishing new channels of communication. One of the technological opportunities which enable us to access information in a new form is RSS.

Originally developed by Netscape in 1999, RSS (which can stand for RDF Site Summary, Rich Site Summary, or Really Simple Syndication) is an XML-based format that allows web developers to describe and syndicate web site content (Hammersley, 2003). Since its creation, Really Simple Syndication (RSS) has been used on the internet as a means to retrieve information from various web sites, not linked to one another, to be read in one specific application the user can easily access. Using pull technology, the end user no longer needs to go through all the relevant web sites in order to obtain the latest updates or interesting

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information. By subscribing to feeds available on the web, information can be selected according to personal preferences and can be delivered at the user’s convenience.

The main reasons for this syndication feature to arise were the need to save time when looking for information on the web and the possibility to give users more control over the information retrieval process, personalising the information. Really Simple Syndication allows Web content to be published using a metadata format known as a “Web feed”. There are two web feed formats on the market, RSS (RSS History: http://www.rssboard.org/rss-history) and Atom (Nottingham & Sayre, 2005), both using Extensible Markup Language (XML).

Although nowadays frequently used, in some cases users are unaware of the existence of RSS and are sometimes using RSS without realising it (Grossnickle, 2005). This is for instance the case for many users who use web portals, such as My Yahoo (http://my.yahoo.com/) or My MSN (http://my.msn.com/), which aggregate news and other types of information from a variety of different sources available on the web, according to the user’s indicated preferences and needs. Such aggregating web sites carry out the syndication process without the user needing to know too much about the technology which lies behind it.

The area in which RSS has made its biggest breakthrough is the news sector (Asmus, Bonner, Esterhay, Lechner, & Rentfrow, 2005), as feeds are an excellent way to send out the latest news flashes by letting users subscribe to any particular news topic they wish to receive information about. Organizations are using RSS feeds to create content summaries of their web sites to attract users to come and consume their content (Glotzbach, Mohler, & Radwan, 2007). Most major news web sites such as CNN (http://www.cnn.com/), The New York Times (http://www.nytimes.com/), the BBC (http://www.bbc.co.uk/) or The Guardian (http://www.guardian.co.uk/) have a wide variety of feeds available, ranging from general topics such as “international news” or “U.S. news”, to more specific topics such as “Iraq”, “European Union” or “Middle East Conflict”. This again illustrates the advantage of being able to receive personalised information, separating it from less interesting items.

In a way, newsletters sent out by email can also update a user on the latest news or information but this increases the risk of receiving unsolicited email, or spam, and when receiving RSS feeds frequently, for instance as hourly news flashes, it can obstruct email.

Feed readers usually show that new updates are available by putting the feed title in bold or using another typographical style option which visually stands out. This limits the audience which can be reached by aggregators as text does not fit well in all situations.

Thus, if we wish to enable all users to have equal access, then we have to come to the conclusion that current feed aggregators are not made to communicate to users who require to use audio while accessing material. From this necessity and with this goal in mind, the University of Oviedo has developed a software prototype called Feedo, which can communicate feeds by using both visual means and speech interaction. Although the prototype was initially created in the context of our University for educational purposes, however we can also imagine it being applied outside the educational arena, in a wide variety of contexts enabling voice access from fixed and mobile devices.

This paper explains how RSS can be used in web and audio learning. In the first section, below, we give an overview of RSS, exploring the advantages and limitations of using web feeds. The following section explores the use of RSS in education and e-learning. We then proceed to introduce Feedo, the prototype developed at the University of Oviedo for personalized web and voice-based learning using feed syndication. Finally, we present the conclusions taken from this study and point the way forward to future developments.