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BUILDING A VIRTUAL COMMUNITY FOR ALN

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Abstract

The growth of the Internet and global access to it has greatly changed our society. People not only think of working anytime, any place; they also think of learning anytime, anywhere without going to a physical campus. Asynchronous Learning online has now become a very hot research topic; researchers all over the world are trying to find effective methods for online courses. How can all the researchers in this area collaborate with each other, and become more efficient in their research? This paper introduces an ongoing research project, which is aimed at building a virtual community for Asynchronous Learning Network (ALN) researchers. The system - WebCenter for ALN research - is designed to serve as both a knowledge base and a collaborative place for the community. Members can read the latest papers in the field and discuss their research problems with other members. They can get information about ALN from the knowledge base, and also contribute to the community with new information.

Keywords: ALN (Asynchronous Learning Network), virtual community, e-learning, knowledge base, digital library

Introduction

With the growth in popularity and performance of the Internet a new paradigm appeared: Work or learn anywhere at anytime. Time and location are not important anymore within this new technological environment. Asynchronous Learning Networks (ALN), defined by A.F. Mayadas as “people networks for anytime--anywhere learning” (Mayadas), are just this kind of educational system. This is a new trend, and many researchers all over the world are working to improve this kind of learning process. This research community has an annual meeting, but no mechanism for continuous collaboration. The project we are doing now aims to provide ALN researchers with a virtual space or virtual settlement, a “WebCenter” (www.alnresearch.org) to help them better collaborate with each other and conduct their research.

A “*Virtual community*” is defined as “a group of people who share characteristics and interact in essence or effect only” (Armstrong 1996)(Hill et al. 1995) or “they are about aggregating people. People are drawn to virtual communities because they provide an engaging environment in which to connect with other people – sometimes only once, but more often in an ongoing series of interactions that create an atmosphere of trust and real insight” (Hagel and Armstrong 1998). Carol Carvel states “The virtual interaction of virtual community is aspatial (not affected by distance), generally asynchronous and acorporal (no co-presence)” (Carver 1999). Community members should be able to contribute to, discuss, and learn from the community’s knowledge, and from each other. (Ram et al. 1999) Every virtual community needs to have certain structures to hold its members. The WebCenter we are providing includes an enhanced digital library infrastructure serving as an ever-evolving repository of the community’s knowledge, which members can actively use in everyday tasks and regularly update. (Bieber et al. 2001) It also provides a place for people to contribute their thoughts, their suggested articles, their reviews for a certain article and the links they found interesting. The WebCenter also gives people a place to communicate with each other on different topics.

Libraries are representations of knowledge bases for public use. In recent decades, with development of computer technology, especially database systems, we now have digital libraries that can be accessed from anywhere, anytime with a PC and Internet connection. The digital library performs much faster and precise and complete searches compared to the traditional index system. Key technical contributions to the digital library come from areas such as information retrieval/database management. (Baldonado

et al. 1998)(Chang and Garcia-Molina 1998)(Crespo and Garcia-Monlia 1998)(Riberiro-Neto et al. 1998)(Shin et al. 1998) The library usually only provides people with a book, an article, etc.; it does not give people any analysis of the book or paper they are interested in; however, our WebCenter also provides the ALN community with analysis of the papers, which is even more valuable.

The remainder of this article presents greater detail on the objectives of this project, the web site structure (ALN WebCenter Version Alpha.1), and what information will be held by the knowledge base associated with the application.

Research Objectives

The goal of this research project as formally stated is to enhance collaboration and cooperation between researchers in ALN by providing them a virtual community web site. We believe that this will increase the quality, quantity, and dissemination of results of research on the effectiveness of ALN. We hope to use this as a pilot for providing similar WebCenters for other research communities, such as AIS.

Almost everyday, there are articles in the press about online courses, however, until now there has been no place where faculty, researchers, potential students, or the press could go to find out what information exists about:

- What empirical studies have been conducted about ALN? What were the methods, variables studied, and findings?
- What is the current overall picture of these research findings, in terms of comparisons of the effectiveness of ALN with other modes of delivery of college-level courses? What do we know about relatively effective and ineffective ways of conducting ALN?
- Who are the leading researchers in ALN, are they willing to be contacted by the press, and if so, how can they be contacted? (Video clips can be used to introduce the public to some of these leading researchers).
- What methods and research instruments (questionnaires, interview guides, etc.) are available for use by ALN researchers?
- What are the strengths and weaknesses of various research methods for studying ALN, and what methods are recommended by experts in the field as especially appropriate for understanding this form of educational medium?
- What theoretical foundations are there for the field of ALN? What theories are most appropriate for framing research studies in this area? And which methods best match different theoretical frameworks?

The ALN WebCenter hosting the virtual community includes a knowledge base for synthesis of existing studies and a conferencing system for community members to collaborate with each other. The knowledgebase we are maintaining is a database, which contains both the information about the existing articles in this field and the analysis of those studies, which could answer the above questions. The WebCenter also provides researchers with a set of necessary tools such as full citation, indexing and search for using the database. The conferencing system we are using is called Web-Board (O'Reilly-TM). It is for community members to discuss different topics, get feedback, contribute to a paper fair of work in progress, take online tutorials, etc. There is also a place in the WebCenter for members to contribute whatever they feel valuable for ALN research, such as an article, a web site, information on an upcoming conference, etc.

Research Questions

Combining a web site, an enhanced digital library and an asynchronous computer conferencing system is a new approach to implementing a virtual community. We hypothesize that providing the combination of a knowledge base and communicative conferences will help community members to cooperate better and work more effectively and efficiently. We plan to gather data to test the following premises:

1. With the ALN WebCenter, researchers who are new to the field will feel it is easier to get into the field.
2. With the ALN WebCenter, it is easier for researchers to detect problems and find solutions.
3. Using a web site and conference system is an effective way of implementing a virtual community.
4. Researchers who use the ALN WebCenter will feel that it is beneficial to their efforts.
5. Working collaboratively through a virtual community will help researchers to gain more than working individually.

Evaluation Method

In order to answer the above research questions, we are going to use the following methods to evaluate the ALN WebCenter.

Both quantitative and subjective measures will be used. Quantitative measures include data collected through log files and content analysis of the conferences. The log files will help to analyze users' access pattern and frequency. Content analysis will be judged by expert judges for evaluating quality and creativity. Subjective measures will include an online survey using a questionnaire and semi-structured interviews. These measures are used for evaluating the users' perceived satisfaction and also the perceived effectiveness of the virtual community.

- **Web site structure** (see Figure 1)
- **Project:** This links to the description of this project.
- **Published Research:** An enhanced digital library containing our knowledge database for all studies, analysis of existing ALN studies and tools such as indexing and searching. The most important options available are: (a) "List of Papers", (see Figure 2), which displays the list of all published papers existing in the database, with abstract, full text, database entry, author, title, and year hyperlinks; (b) a multi-criteria search engine throughout the database (the current version provides search on author, title, or method of study; (c) we will also provide an indexing (on keyword) tool for all the articles.
- **Resources:** A collection of useful resources for ALN research, such as web sites and bibliographies.
- **Contributions:** This is the place where people can contribute ideas, articles, and resources.
- **Register:** The registering module for becoming a community member. This is necessary if one wants to be able to join the virtual community's activities (discussions, feedback etc).
- **Feedback:** This is a conference where users can make suggestions about or discuss the structure and interface of this web site, submit published papers to be included in our collection, or suggest future enhancements or activities.
- **Paper Fair:** A conference where users can post an abstract of an article or book chapter describing what he/she is working on, in connection with Learning Networks, along with any specific issues or questions that he/she considers important or needs help on.
- **Workshops:** This conference is for online tutorials and a place for beginning researchers to discuss methodological issues with each other, or to get advice from the gurus in the area.

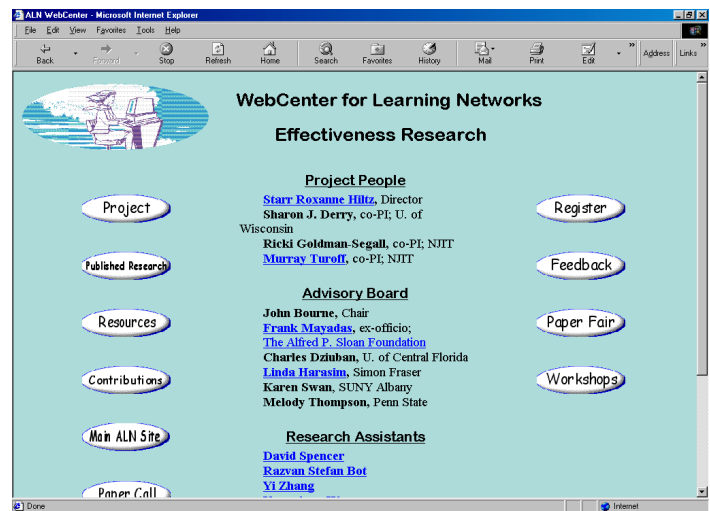


Figure 1. WebCenter Homepage (<http://www.alnresearch.org>)

Abstract	Text	Database	Author	Year	Title
[A]	[T]	[DB]	Alavi	1994	Computer-mediated Collaborative Learning..
[A]	[T]	[DB]	Alavi	1997	Using Information Technology to Add Value to Management Education
[A]	[T]	[DB]	Almeida	2000	Instructor s Alavi, Maryam, Yongjin Yoo and Douglas R. Vogel, 1997, Using Information Technology to Add Value to Management Education, design classroom..
[A]	[T]	[DB]	Andriole	1997	Requirements for Virtual class
[A]	[T]	[DB]	Arbaugh	2000	The SCALL Academy of Management Journal, Vol40, No6, pp.1310-1333
[A]	[T]	[DB]	Arvan	1998	Impacts of E-Learning on Individual and Group Problem Solving..
[A]	[T]	[DB]	Arvan	2000	A comparative analysis of face-to-face vs. ALN..
[A]	[T]	[DB]	Benbunan-Fich	1999	Gender Differences in Asynchronous Learning in Higher Education..
[A]	[T]	[DB]	Benbunan-Fich	2001	Paradigms for On-Line Learning..
[A]	[T]	[DB]	Blum	1999	Becoming a Virtual Professor..
[A]	[T]	[DB]	Bourne	1997	Blind Scores in a Graduate Test: Conventional Compared with Web-based Outcomes
[A]	[T]	[DB]	Coppola	2001	Web-based conferencing: Pedagogical asset or constraint?
[A]	[T]	[DB]	Fallah	2000	
[A]	[T]	[DB]	Foley	1998	

Figure 2. List of Papers

Contributions

By building a virtual community for Asynchronous Learning Networks researchers, we hope people who are interested in this area can join the community and obtain benefit from using the site. The beginners in this research field can be guided to master the basic ideas and technologies that are used in this kind of research, and find the latest information on the research topics. Other

researchers will hopefully find it smoother to do research in a collaborative environment where they can discuss their problems and get new ideas. By implementing this virtual community with an online knowledge base and online asynchronous conferencing system, it will be easier for community members to communicate with each other and share information with other community members.

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