

# Developing an Social Networking Repository Education Web Portal for Sharing and Capturing in Higher Education – The Info-Ca- Sh

S.Rajalakshmi, Dr.R.S.D.Wahida Banu, Dr.S.Nithiyandam and R.Maguteeswaran

**Abstract**—An institute represents the ultimate knowledge organization. Since switch over are made frequent by the faculties from one organization to another organization, they are not very much aware of the new technologies and the importance of sharing the knowledge among the other faculty members in the institutions. This may lead to redundancy in the areas of research, limited innovation and lack of social networking. To acquire and fill such gap among faculties and to use knowledge sharing effectively within an organization or a region, the knowledge management plays a systematic role.

This paper explores the possibility of using a web-based system to connect faculty members and to improve the social networking using knowledge management methodologies through a web-based portal. In this paper, a knowledge portal is developed for sharing and capturing of knowledge among faculty members for the benefit of the institution.

The info-ca-sh portal helps the faculties of institution in and around a region, helps to access the other's knowledge for the improvement in their academic. By registering in this portal, the students also get necessary information about various department and departmental Activities, Lecture notes of a faculty members, references, Useful URL links, discussion forum, Wiki's and so on. This paper also explains the development of a knowledge share tool to improve effective Teaching – Learning Process in an Educational Institution.

**Index Terms**—Knowledge Management, Information Sharing, Web based Portal.

## I. INTRODUCTION

The term 'knowledge' is defined as the skills acquired by a person through experience or education. The Knowledge sharing is an activity through which knowledge is exchanged among people, friends, or members of a family, a community or an organization. [9] The shared knowledge is captured by using one of the recent technology methods and store them by using a repository.

To process and to make a frame work 'knowledge management' plays an important role. The Knowledge management (KM) comprises a range of practices used in an organization to identify, create, represent, distribute and enable adoption of insights and experiences. [10]

There are many indirect obstacles to build a successful knowledge management repository to share and capture knowledge among faculty members and to improve social networking in an organization. The term 'social networking' is the informal exchange of information between individuals

who have grouped together for some common purpose. [11].

This paper also explains the process of understanding the importance of Social Networking, a map of relationships between individuals in Organizations, enabling problem solving, decision making, collaboration and information sharing between the web and people by computer moderated discussions. This conversation is made to take place by using a methodology web portal, over an intranet or private internet forum.

Web portals can serve as powerful tools to help knowledge organizations, such as universities, colleges and improve their collaborative activities. They can facilitate Knowledge acquisition, sharing, and discovery by allowing people to publish documents, share ideas, work collaboratively, and store information and knowledge in easily searchable repositories. Portals are becoming an increasingly important part of the information technology infrastructure of universities as they seek to integrate the vast intellectual resources within a central virtual space that is easily accessible via a web interface [3].

## II. LITERATURE REVIEW

### A. Web portals in higher education

What is a portal? An internet portal is 'a single integrated, Ubiquitous, and useful [point of] access to information (data), applications, and people' (IBM Global Education Industry, 2000). More than simply an archive of information, portals facilitate a dynamic exchange of knowledge, data, and information. By compiling content from multiple sources, they limit redundancy and efficiently increase the dissemination of information.

The most recent application of portals in higher education has been to create a point of access for administrative functions for students, such as registration, financial aid, and academic records, or for staff, such as time sheets, leave balances. In this way, the use of portals maximizes efficient use of staff and students' time. Portals have become more than convenient launch pads for Internet searchers. Today's Portals are increasingly secured applications designated to give users simple, quick, secure access to relevant Organizations & Personal data. [3]

### B. Impact of Social Networks for Knowledge sharing/Coding /capturing

In Social Networks, the relationship is made frequent

between the web and people by computer moderated discussions. This conversation is made to take place on line, over an intra-net or private Internet forum.

#### 1) What can Social Networks provide?

The social network is being realized to carry out information sharing among the staff members distributed in various colleges. A social network can be modeled as a graph with nodes representing people or groups, and links representing relationships or information flows between nodes.

#### 2) Social Barriers to Knowledge Transfer

Knowledge management is comprised of the phases or activities of knowledge generation, transfer, accumulation, adoption, and diffusion. Knowledge transfer means sharing of knowledge between different groups working within same domain of objective. Some common hindrances to knowledge sharing within these communities from social point of view are:

- Language conflicts arising due to geographical disparities.
- Conflict Avoidance and conservation attitude of those at the top of the hierarchy.
- Bureaucracy and Hierarchy that might impose formal procedures and prevent cross-sectional promotion of knowledge.
- Lack of coherence between personal and organizational strategies.

#### C. Communication Blogs:

- Each person has his or her own ideas and does not copy those of his/her neighbor
- No one dominates the conversation.
- People make thoughtful insightful statements since they have time to reflect.
- People can read all the comments of the other people and then make general or specific reaction comments.
- Often when a person writes very insightful statement, others become aware of being more insightful.
- The blog “conversations” are on topic.
- The initial blog helps to serve an assessment of the participants’ level of knowledge about the topic.
- People can go back to their earlier blogs and see what they thought at the beginning of blog and then see what they think about the topic at the end of the professional development.
- Also, blogs can be used to distribute common word processing documents such a form that you all will work on during the professional development.

### III. SCOPE OF THIS WORK

Since switch over of Staff members are made frequent form one institution to another institution, arise problem for the management of the institutions. In spite of this, the individuals Implicit or Explicit Knowledge are not made codified. This leads to lack of developing a ‘Knowledge Repository’ for the institution and after that there will no existence of communication which does not helps to form a social network group. This kind of Knowledge repository

will help in the improvement of ‘Community of Practice’. But the implicit Knowledge is a little tough task to codify. Since, that is not directly expressed; it can be gained only experientially. An individual acquire tacit knowledge only by gathering ‘Information’. In groups, by practices and relationships that develop through working together over time. The Explicit Knowledge of anything that can be codified or expressed in words, numbers or in symbols [1] [2].

In order to acquire ‘Socialization’, by means of a shared learning experience. The Engineering Technology provides various techniques for improving the process of Human Learning through the use of relevant information and a set of reasoning techniques. These are some times referred as “Knowledge Engineering”.

The new innovation of Teaching – Learning process is ‘e-learning’. This also has some obstacles and barriers adopting in an Institution. In particular, the lack of careful analysis of the curriculum to determine priorities and failure to develop and implement a technology plan based on clearly defined goals has created a barrier to effective diffusion and integration of educational technologies and also the main concept is ‘Students Control and Monitoring’. The Staff members are fails to control and monitor the students while handling the lessons by e-learning.

### IV. KNOWLEDGE PORTAL

This paper describes the concept of developing a Social Network Community; which helps to understand the Knowledge needs in the research arena and transforming those into a Web Based Knowledge Bank. This makes Knowledge available to people at right time, Connect People and build relationships across various Educational Institutions, better Knowledge Exchange Platform and to achieve better Teaching Learning process in E-Learning by Control and monitor the student’s activities in Class Room.

These are experimented by the recent inventions of Engineering Technology such as ‘Blogs’, ‘Web Portals’ and ‘Remote Monitoring system’.

The advantages of communication Blogs are as follows:

- 1) Each person has his/her own ideas and does not copy those of his/her neighbor.
- 2) No one dominates the conversation.
- 3) The initial blogs helps to serve an assessment of the participants’ level of knowledge about the topic.
- 4) People can go back to their earlier blogs and see what they think about the topic at the end of the professional development.
- 5) Also, blogs are used to distribute common word processing documents such a form that we all will work on during the professional development.

Now, the experimentation starts by creating a Communication Blog by the URL “<http://sharingandcapturing.blogspot.com>”, which is one way of sharing Tacit Knowledge by sending request to our colleague and forming a group of friends community. This environment helps to share and capture individuals or groups

knowledge. This helps to improve the Community of Practice.

The following figure shows the entity relationship of the Knowledge Portal.

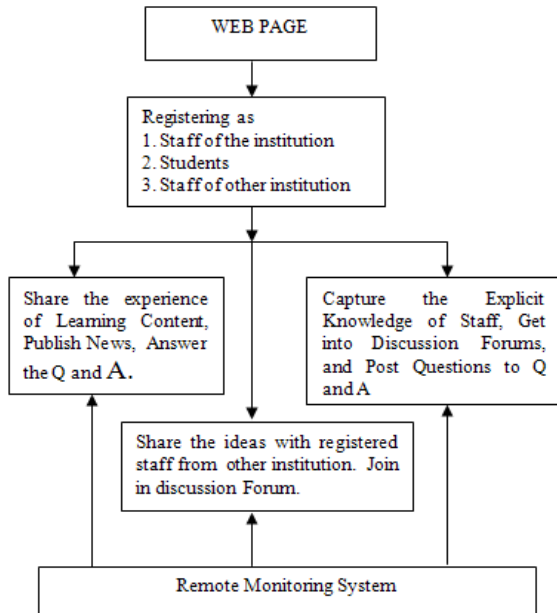


Fig1. Entity relationship for the Research Knowledge Portal.

The web Portal, serves as the powerful tool to help Knowledge Organizations, such as Universities, Colleges to improve their collaborative activities. [6] It is a web site that acts as a Gateway to the Internet by providing a broad and diverse range of services. By developing a web portal, the Explicit Knowledge can be made shared between the staff members and the students of an institution. [4]

The Remote Monitoring System (RMS) is used to control and monitor the clients system connected to our system where ever be. Here, the control system is the Server and the other system which connects to the server system be Client. This process will be helpful in Teaching Learning Process.

Here, the RMS works when one or more system is made shared with the faculty system which acts as server; it monitors the other system shared with it and it helps to control them to access other URL/web site in Internet. The Q and A module helps to analyze the ability of student understanding about the lessons taught by the faculty after the completion of each chapter.

This will show the individual's teaching ability by the performance result of each student. By this kind of analysis the faculty can improve their teaching skills better and it will lead to the better Teaching Learning Process. This also benefits the Institution. [2][3]

The key benefits of this Portal solution help us to:

- 1) Increase Student Engagement. Give Students an easy way to connect with their staff members and to their peers to get them more engaged in their classes.
- 2) Facilitate anytime anywhere learning.
- 3) Provide students with single sign on access to learning materials.
- 4) Faculty participates in Knowledge Transfer internally, within their respective Departments and externally, through their communities of practice. [2][3][4]

## V. SYSTEM ARCHITECTURE

The proposed System Architecture of the portal development as shown in Fig 2.

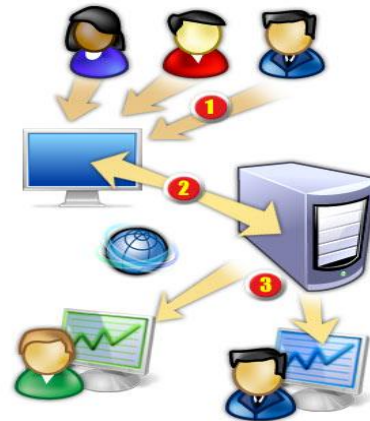


Fig2. System Architecture

The summary of the research work may include the following:

- 1) Building Portal Prototype
- 2) Development of Interactive Knowledge Portal.
- 3) Effective Knowledge Sharing & Capturing.
- 4) Better Teaching Learning Process.
- 5) Portal Demonstration.

By this architecture the Colleges will be better able to increase student retention, graduation rates and can be able to retain the knowledge of faculty members. This is designed by using PHP with Ajax and the database used is My Sql. A sample space comprising four to five Engineering Colleges in a region of interest is considered for knowledge exchange.

The faculties of these institutions are asked to participate in this portal and they register as authorized knowledge resources. By this they are allowed to share their documents, Papers, Forums & News etc through this Portal. The web-based publishing feature allows individuals to use a template or a set of templates approved by the administrator, as well as wizards and other tools to create or modify web content. The forma management feature allows documents including legacy electronic documents and scanned paper documents to be formatted into HTML or Portable Document Format (PDF) for the website. [5]

By this Portal the knowledge exchanges are made retained in a "Knowledge Repository" and can be accessed any where any time. By this repository the staff can make use of accessing lecture notes and ca used for teaching. The RMS is enabled when the e-tutoring starts. This will help the staff to monitor and control the students accessing the other sites while in class. This makes students to concentrate on that subject. The Knowledge Portal has a link which will directly connect the RMS facility for the faculty. The following screen shot shows the page used for Remote connection.

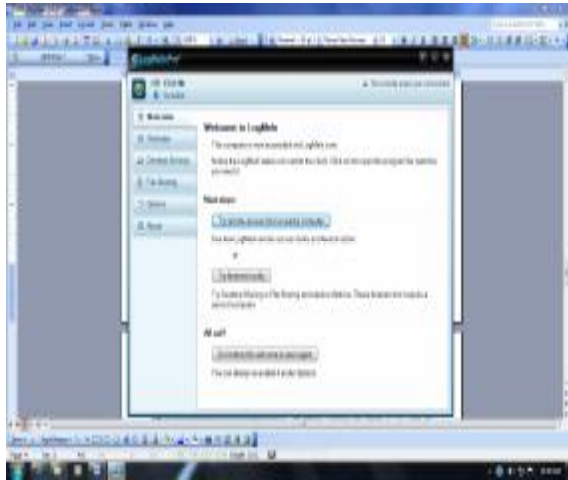


Fig3. Screen shot to show the system sharing menu

By on line Q and A section which is available in this Portal allows the staff stores 5 or 10 questions on that particular chapter.

By the result of the student, the staff can analyze the performance and can decide whether to continue to net chapter or to revise the same one again. By such analysis, we can improve the self-learning attitude and academic performance. [7]

The Home Page of the “Info-ca-sh” is as shown below:



Fig4. Home Page of Info-ca-sh

All actions like sharing News, publishing college activities, notes etc can be done through this portal. This type of sharing benefits the Institution to grow along with their Academic Work. [8]

By Blog, the sharing of some personal information between our friends is done successfully.

The following Home page shows the web page for sharing Tacit Knowledge:

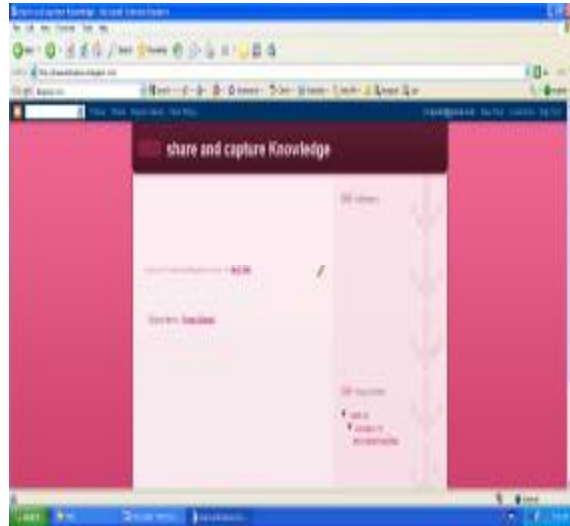


Fig5. Home page of the blog



Fig6. Page showing Dashboard of the blog

## VI. DISCUSSION AND CONCLUSION

Thus this web portal for the educational institution will be an effective resource sharing of knowledge between faculty members and students and will provide necessary needed information for students to improve their academic performance and excellence.

Knowledge management facilitates the transfer of existing knowledge and the creation of new knowledge, including interdisciplinary collaborations. Researches suggest that potential uses for knowledge management in higher education include, “building publicly accessible repositories of scholarly expertise and interest, to promote transparency and information exchange”. Using knowledge management to systematically create channels and opportunities for knowledge transfer will help preserve and disseminate tacit knowledge within the institution.” Many faculty members possess institutional knowledge. It is a challenge to convert the information and skills currently residing in individuals

and make them widely and easily accessible to all faculty members”.

## VII. FUTURE WORK

The data to be collected and the statistical report can be generated. Apart from a region, all the Universities can be made registered and make them to share the knowledge. By this the socialization can be improved.

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**Ms. S.Rajalakshmi** is graduated from Anna University, Chennai for M.E (CSE), and now pursuing Ph.D in Anna University, Coimbatore. Now, working as Asst.Prof in Jay Shriram College of Technology, Tripur.

**Dr.R.S.D.Wahida Banu** is an Eminent Professor working as a HOD/ECE in Government College of Engineering, Salem. She is the guide of Ms.S.Rajalakshmi. Her area of interest is Neural Networks, Digital Image Processing.

**Dr.S.Nithyanandam** is the principal of Jai Sriram College of Technology, Tirupur. His area of interest is Energy Conservation, Fuzzy and Neural Networks.

**Mr. R.Maguteeswaran** is the HOD / MECH of Jai Sriram College of Engineering. His area of interest is Mechanical Designing.