

SharePoint KM Educational Portal with Keyword Management

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Abstract— This paper presents a layout on how to create a participative model for sharing and accessing knowledge and learning resources within your educational institution.

We start with an overview of current approach of how knowledge and learning is managed within institutes today. This point out drawbacks arising when implementing sophisticated learning models. A Knowledge Management System based on the MS SharePoint Server 2010 platform is proposed, which provides several means in order to overcome such drawbacks.

Our system assists to share information, communication, collaboration etc. The solution utilizes portal technology and digital assets management system. We also implement an auto-summarization for the documents, uploads on this portal. Text summarization is a process of reducing the size of a text while preserving its information content. In this paper, we use automatic text summarization technology that plays very important role in information retrieval and text classification, and will provide a solution to the problem of information overload. We propose a sentences clustering based summarization approach. It is useful when the document having number of pages.

This provides consistent, common platform for students / teachers to work, communicate, and share knowledge. Therefore it is well suited for specific educational processes in the departments. Along with this we also analyze specific key technical aspects of this platform.

Key words: Knowledge Management; Microsoft SharePoint; Information Sharing; Communication Technologies; Portal Technology etc.

I. INTRODUCTION

Academic organizations need a firm platform to support the collaborative work styles that help educators and students work together and stay productive. The ability to create, share, obtain and better manage knowledge is becoming of increasing importance for organizations. SharePoint platform empower users without of the box functions, custom ideas and features that can be deployed and that can work with curriculum resources, student records, classroom materials and activities.

In todays fast pace environment, targeting *generation Y* users who are comfortable with latest web 2.0 trends. We can ride onto the changes and make knowledge sharing easily adaptable.

The purpose of this model is to increase knowledge efficiency and to enhance organizational knowledge learning and sharing for discovery and innovation of new knowledge, which differentiates an organization from its competitors.

MGM institution of Mumbai University has good educational background with more than 2000 students and

staff each year. Currently the institute working on conventional medium for communication like board notice for exams, new events, publishing rules etc.

A. Knowledge Management

In our daily life, we deal with huge amount of data and information. Knowledge is nothing but meaningful information collects from raw data, and Knowledge Management is to manage those knowledge or information.

Knowledge management can be defined as the set of processes that create and share knowledge across an organization to optimize the use of judgment in the attainment of mission and goals.

The Knowledge Management Suite for SharePoint makes it as easy as possible to manage taxonomies, to classify content and to use content classification for knowledge browsing, navigation, content discovery and search.

B. Microsoft SharePoint

It is a web application platform. It comprises a multipurpose set of web technologies backed by a common technical infrastructure. The Microsoft Office SharePoint Server is an integrated suite of server functionalities that provides comprehensive content management and facilitates information sharing.

As we use for other web technologies - HTML, CSS, Java Scripts and jQuery provides numerous way to extract and represent information on SharePoint pages like charts and graphs etc.

II. CONVENTIONAL EDUCATION SYSTEMS

For many years many organizations have adopted static approach to knowledge sharing by keeping and sharing files on file share and network drives.

Conventional educational system in India needs concepts that use the unique possibilities of latest networked communications, sharing and collaboration. Knowledge Management is key success in organizations, it can be vital if used in education.

Currently the institute is working on conventional medium for communication like board notice for exams, new events, publishing rules etc. Key knowledge is dispersed at various mediums, locations and forms. Conducting objective tests etc. are done in conventional way i.e. on papers.

It becomes time consuming and complex process to collect & collaborate on what user wants. Existing system is also limited to applications. Such as, no focus on maintaining departmental records, lack of document management and exchange. Non-transparent and often involves considerably complex administrative tasks. The generated knowledge is not managed well. Information flow and control of this system needs to be maintained.

Multi point information becomes an issue. Using SharePoint portal platform with various customizations we

suggested below, we can achieve this on one single platform.

III. PROPOSED SYSTEM

Our top level site created in above process will be one stop information point for the institution. A SharePoint site is a collection of pages, lists and libraries configured for the purpose of achieving an express goal. A site may contain sub-sites, and those sites may contain further sub-sites.

Depending on institutional requirements we can setup sub-sites for various departments or functional areas. We can further extend the capabilities of Microsoft SharePoint to create various lists like newsrooms, student groups, attendance sheets, timetables, mark sheets, student tasks and full functional student progress dashboard etc. We can also create libraries - like documents, picture, organization wide forms, projects, exam papers, research papers etc.

Along with many portal facilities Microsoft SharePoint is a web application platform and is historically been associated with intranet content management and document management. Educational institutes often have a huge amount of unstructured data in the various forms which needs to be collected, refined categorized and stored. They may have many documents libraries and documents are added more often from various sources and formats.

Out of the box featured provided by SharePoint are not sufficient in categorizing the data. Hence we created a concept and APIs in C#.net visual studio.

If no metadata concept used, SharePoint is just an Content Management System which is expensive in terms of efforts, time and money. When we use metadata SharePoint enables search, information compliance, retention policies and workflows. To get metadata, users have to enter it whenever they add or update content. But our APIs work as Metadata retrieving system and identifies metadata automatically, so people don't need to worry about it.

We create the Concept Base - large-scale database that is constructed both manually and automatically using words from multiple dictionaries in electronic form as concepts and independent words in the explanations in concept attributes and word form. We keep the database as our reference point to find keywords for related to searches. Moreover, retrieval is pushed to speed up and can be expected by narrowing the retrieval object in information retrieval.

It will automatically create metadata every time a document is created. Metadata improves SharePoint 2010 search so users rapidly find their desired content.



Fig. 1: Document Library customization

As per above figure, we have our document libraries to be customized in such a way that they have columns as

Keywords, Organizations, People, location etc.; which will be automatically extracted and filled to the document properties in the library. This will be achieved by SharePoint APIs created by us, concept base and SharePoint Designer 2010 workflow management.

This should help in efficient data mining as per users need. It will also help to create taxonomies, categorize data, and improve search outcomes. It will enable us in applying search filtration using Keywords, organization, people etc. Thus enabling us in refined output to find our designed documents easily.

This is a fully secure SharePoint environment can be used to store public as well as much sensitive information.

IV. OBJECTIVE AND SCOPE

The main objective of this project is that students and professors single point of contact for information they need. Using Microsoft SharePoint Portal Server 2010 to implement Intranet Knowledge Management Portal will help in great way for the institution. Only college students and staff with specific ID's can login to the portal from institute premises and even from home. Hence information will not be available for outsiders.

Every activity of student can be tracked. If someone deletes or removes information from documents it can be easily tracked from his login. It will control knowledge within institution, by student asking questions and Professors replying them. Teacher's tacit knowledge is digitalized.

Implementations range SharePoint from the provision of team sites supporting team collaboration, through the use of SharePoint to support specific functions, to its use as an institutional portal, providing staff and/or students with a single site from which to access key information sources and tools.

- Emerge new possibilities as system progresses.
- Only certain (pre-approved) student will be allocated to make changes and upload documents to the portal. Others can only comment or request for specific documents.
- Usage analytics like which area has been accessed more, whether students are reading announcements or not etc. can be tracked.
- Students Survey's and internal online exams can be taken using SharePoint Survey's.
- We can have social features like Facebook.com, Google + if required.
- All departments can create dashboards and small software can be created to facilitate their needs hence bringing all stuff in one environment.

A well-arranged knowledge management system as above will be a data lake for batches to come.

V. CONCLUSION

If information is stored in good way, it will be harvested and can be ripped off in best way. Information mining can help in big way in the huge world of SharePoint. It is used for purposes in corporate sector and can be taken similarly in Educational field, spanning administrative to academic functions. With our suggested customization on SharePoint

platform will help 'knowledge creators and gainers' a powerful new way to organize, find, and share information.

We can overcome drawbacks of conventional system by using integration of SharePoint with learning, documents management, knowledge management system. It is a platform and device independent 24 x7 online system which will be student and professors single point of contact for information they need.

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