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ERepository: an ICT based E-Resource Portal Implementation for Academic Institutions

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ABSTRACT: Academic institution portals are an important source which provides the information and services to its users. These systems provide users with convenient, personalized Web-based access to a collection of information resources of relevance available in the library. Academic Institution portals provides a broad range of information seeking activity from browsing to search, provide mechanisms for communication and collaboration, and facilitate knowledge creation and sharing through an intuitive interface. These portals contain gateway functionality and also provide tools for organized knowledge discovery. The portal interface provides an option for searching databases that are unfamiliar to the users. This paper highlights the concept of institutional portals and the successful implementation of web portals using open source software's (OSS) like php and MySQL.

KEYWORDS: MySQL, SQL- Structured Query Language, php-*Hypertext Preprocessor*, Portal, OSS - Open Source Software, FLOSS- Free Libre and Open Source Software.

I. INTRODUCTION

A institutional portal provides an integrated interface to a huge collection of digital resources and web-based library services of the Institution .Web portals are also important tools for users to access and utilise library and information services over a network. An informative home page provides the users helpful information about the institution library, its collection, and services. In addition, institutional portals also host links to important internet resources useful for the users.

II. WHAT IS WEB PORTAL AND INSTITUTIONAL PORTAL?

A Web Portal is most often one specially designed Web page at a website [3] which brings information together from diverse sources in a uniform way. Usually, each information source gets its dedicated area on the page for displaying information; often, the user can configure which ones to display.

An Institutional Portal [4] is a single-user interface for accessing wide variety of electronic resources, both within and outside the institutional library.

III. WHY WE NEED INSTITUTIONAL PORTAL?

When an institution contains a huge collection of electronic or other type resources users find it difficult to search [5] the most appropriate resource which is relevant to their need. Even if they find the right resources, since each service have its own unique interface, user may struggle to search it effectively. If information is difficult to find using library tools[2]and services, users obviously looking for an alternative sources. Hence this new institutional portal technology translates the institutional resources web environments effective and useful [6].

IV. ROLE OF A LIBRARIAN AND INFORMATION TECHNOLOGY DEPARTMENT IN EREPOSITORY?

Since institutional resources are maintained by a librarian so librarian has to look into the updating of the portal regularly with ease of use with the help of IT department. Using the ERepository the librarian can evaluate information and stores resources in the library single database which made resources easily available to the users at a single point.



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ERepository supports concurrent and fast access so most of the user's time will be saved [1] that specify user will be happy by the services provided in this portal

V. RESEARCH METHODOLOGY

While the research focused on three educational institutions (Bhandarkars College, Bhandarkars PU College, Bhandarkars' Post graduation Center), visits to additional institutions were made for the purposes of verification. The research was designed as both a quantitative and qualitative survey using interviews, questionnaires and observation. The research methodology was designed to facilitate a critique of current practice based on the results of these interviews, questionnaires and observations.

In summary, the following sources provided data for the study.

- Teaching staff from the PU college, Degree College as well as post graduation department
- Current students from these colleges
- Former students from these colleges
- Librarian
- Key informants from the Industry, education and telecommunications sectors in Karnataka.

VI. GETTING INTO EREPOSITORY

ERepository is web based application software that runs only in Standard web browsers. ERepository is developed using the open source technologies like php and MySQL. The methodology adopted in developing the ERepository system is two stages: First, download the free open source software MySQL and php from the Internet. Second, expand and adapt the FLOSS to satisfy local environment. The system was developed using tools such as: php and CSS3, and MySQL Database as Back-end. ERepository works in the major standard browser. ERepository helps librarian or library staff to upload the all the resource available in the institution along with library resources. The resource may be printed version or online version but librarian or a library staff can store it as digital information and provides better and fast service to library users.

ERepository can be hosted on either on intranet or internet environment.

The ERepository has Core Functionality [7] such as Users can Search the Different resources available in portal may be journals, papers, videos, presentation, database, documents, and subjects notes etc.

Admin can create new users like Student/Faculty/Research Scholar with different credentials also admin can delete the existing users also admin can create new courses with different credentials also admin can delete the existing users.

It also contains customized settings for the application

Apart from the above features it can also support resources upload either from Admin or Faculty but students are not allowed to upload the Resources in portal but they can download the resources also either student or faculty can post a questions or doubts according to subject wise.

Once questions are posted either faculty or librarian can answer the questions and doubts which are posted. Students can only see the answers which are answered by either faculty or admin.

VII. IMPLEMENTATION

The implemented ERepository portal works for 4 types of users with different different credential and different features:

➤ **NON-REGISTERED USERS**

This interface will enable the non-registered user to:

- View course information
- Search for different courses
- View Course Material.

➤ **REGISTERED USERS**



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This interface will provide the following functionality to registered user:

- View course information.
- View course materials as well as download.
- Check if a particular course is available (using search).
- Can Post a question

➤ **FACULTY**

This interface will enable the faculty to:

- Edit, Delete and view the course material.
- Upload respective course materials.
- Answer queries posted by different people.
- Can Post Questions

➤ **ADMIN**

This interface will enable the admin to:

- Edit, Delete and view the course material.
- Upload respective course materials.
- Answer queries posted by different people.
- Delete any existing users, subjects of the system.
- Add New User and Subjects

VIII. RESULTS

Working ERepository Screen shots and scenarios are as follows:

SCENARIO 1: After hosting the web portal on intranet when we type and run the following url

<http://localhost:1282/Erepos/Index.php> in the browser we will get the page in our Browser which is shown **Fig 1**. For a unregistered user



Figure1: Unregistered User

SCENARIO 2: When a Student logged into ERepository using desired user name and password student will get the page shown in **Figure 2**.

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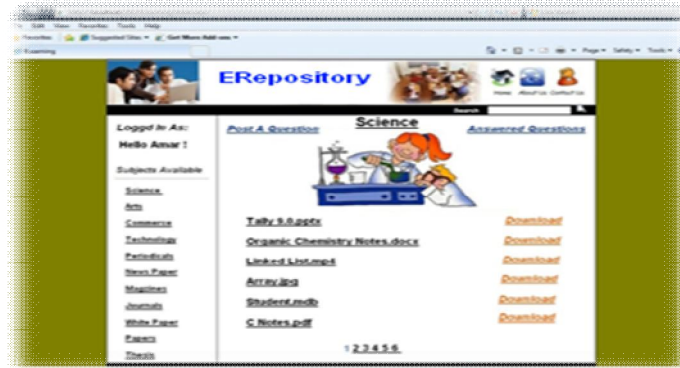


Figure2: Registered Student

SCENARIO 3: When a logged in student click on Post a question link student will get page like shown in Figure3.



Figure3: Registered User Post a Question

SCENARIO 4: When a logged in student click on Answered question link student will get page like shown in Figure4.



Figure4: Registered User Answered Question

SCENARIO 5: When a Faculty or Research Scholar logged into ERepository Faculty/Research Scholar will get the page shown in Figure 5.

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Figure5: Registered Faculty

SCENARIO 6: When a logged in Faculty/Research Scholar click on Post a question link Faculty/Research Scholar will get page like shown in **Figure6**.



Figure6: Registered Faculty Post a Question

SCENARIO 7: When Logged in Faculty/Research Scholar click on Upload link Faculty/Research Scholar will get page like shown in **Figure7**.



Figure7: Registered Faculty Upload

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SCENARIO 8: When a logged in Faculty/Research Scholar clicks on Answered question link Faculty/Research Scholar will get page like shown in **Figure8**. This page will help the Faculty/Research Scholar to answer the posted questions.



Figure8: Registered Faculty Answer Question

SCENARIO 9: When a logged in Faculty/Research Scholar clicks on Answered question link Faculty/Research Scholar will get page like shown in **Figure9**. This page will help the Faculty/Research Scholar answer the asked questions and also able to edit the already answered questions



Figure9: Registered Faculty Answered Question

SCENARIO 10: When logged with admin credentials and admin user click on create user admin will get the page shown in **Figure 10**. So here admin will able to Create, Edit and Delete the users like Faculty, Research Scholar, and Students etc.



Figure10: Admin Create/ Edit Faculty/Student/Research Scholar

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SCENARIO 11: When logged with admin credentials and admin user click on create subjects admin will get the page shown in **Figure 11**. So here admin will able to Create, Edit and Delete the Subjects names.

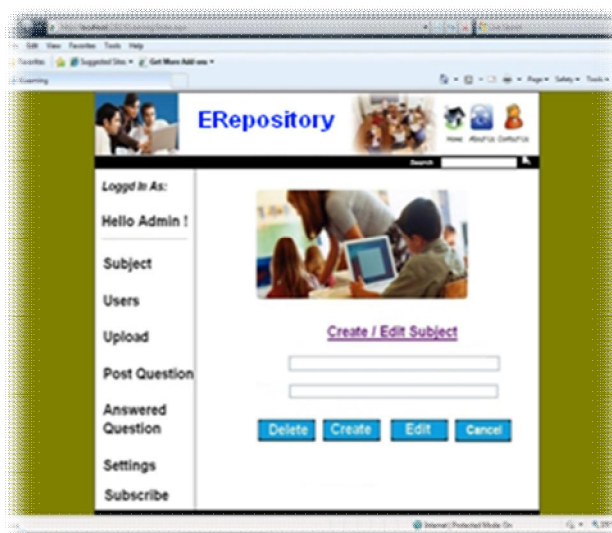


Figure11: Admin Create/ Edit Subject

IX. CONCLUSION

Technology is changing our world, and we have to understand the implications of its use for our education system in our institution. Most of the institutional resource user wants information regardless of where they find it. They don't want to limit themselves to their library's collection.

In this Electronic era, to fulfill the increasing requirements of users in a most efficient manner each institutions should provide its services and collection through an easy interface by developing a library portal. A portal offers them one place that takes them from the initial need for information through its delivery without having to use several different tools.

Hence, the ERepository will help the users to provide a fast and concurrent retrieval of information from the portal with a very few clicks. ERepository helps Users to access information which is present in various formats like text, excel, database, videos, audio etc. Since ERepository developed using open sources and its made it FLOSS there is no need to pay any amount for the portal that is major advantage so academic institution which don't have high budget they can use it for providing services to their users. ERepository supports a huge database Librarian or Library staff can upload all the collections of Library resources in ERepository and other institutional resources in a single database easily with the assistance of IT department so that institution can share this uploaded information with its student/ Faculty/ Research Scholars etc. at any time anywhere in an efficient manner that implies institution provides a better resources to his users.

In future enhancements we can add more features like Institutional repository along with e-learning facility linking of other portals to this portal.

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