

File Repository System - For Off-Campus Learning

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Abstract—Here we aspire to make File Repository for the Institute. The main aim of this project is that user can easily access the study materials which has been uploaded by Faculty and make them available to the students for learning at home by simply login process. Faculty can get a visual representation of usage of each file. De-Duplication will help preserving resources. Online Tests may help teachers to know more about student's progress and strong or weak concepts by analysing wrongly answered questions, which can help them plan their lectures accordingly. Suggestion and polls may increase the interaction between students and teachers. This abstract aims at giving an overview about a File Repository which will help to reduce the problems of Students. Moreover, a web-based application can be used remotely through any connection and it is platform independent.

Keywords --- File Repository, De-Duplication, Difficulty rate

I. Introduction

A **File Repository** can contain folders and files, images, videos, spreadsheets, and data sets – anything your project needs.

File Repository, also **on-demand Repository**, is a kind of Internet-based repository provide shared processing resources and data to computers and other devices on demand. It is a model for enabling on-demand access to a shared pool of configurable resources.

An online File Repository within a college institution which allows teachers upload notes and other study resources to the repository, and conduct polls and tests to identify student's weak areas and difficult topics which help teachers plan their lectures accordingly. [1]

With the emergence of digital world since last two decades computer networks have made a great revolution in the use of data. This data can be anything plaintext, other multimedia. While dealing with this data over a network we need to provide security to it. In order to maintain the security of the network the three major security goals must be fulfilled that is while sharing a data over a network it should be hidden from any unauthorized access (Confidentiality), its protection from unauthorized changes or manipulation of data (Integrity), and availing the data whenever it is needed (Availability)

The main things we intent to implement are:

- File Upload/Access
- Log and Usage visualization
- De-Duplication
- Discussion forums
- Suggestions and Polls
- MCQ tests
- Most wrongly answered questions

A. Aim of the Project

The purpose of this document is to give a detailed explanation of "File Repository System which will able to help Teachers and Students by uploading and accessing the notes and various other function in Repository."

B. Objective of the Project

- To create a unified off-campus learning portal
- To strengthen student teacher relationship
- To improve student's performance assessment

C. Scope of the Project

The “File Repository System” helps Students by providing study materials from Teachers and also provide various functions like MCQ’s test, Feedback, Comments, etc. which will increase the scope of the product and also helps to improve Student – Teacher communication.

II. LITERATURE SURVEY

As per the current scenario, teachers has to take lot of efforts to provide notes to every students. Have to mail personally to every student. After mailing teachers are unaware of who all are accessing it and even they have to use Third-party apps or websites to mail to every students.

So an online-file repository sets a platform for both teachers and students to upload the notes and video lectures at a particular place and all the students can access it from there. So it will help teachers to reduce their work load and also help students to get access of all the notes provided by teachers for current semester and all the previous semesters. There are various things we are planning to intend are:

A. File Upload Access

In this method teachers can upload the files in the repository and even remove them when no longer required. Students will access the files which has been uploaded by teachers and it will also help to boost teacher and students communication.

Flow Chart of File Upload:

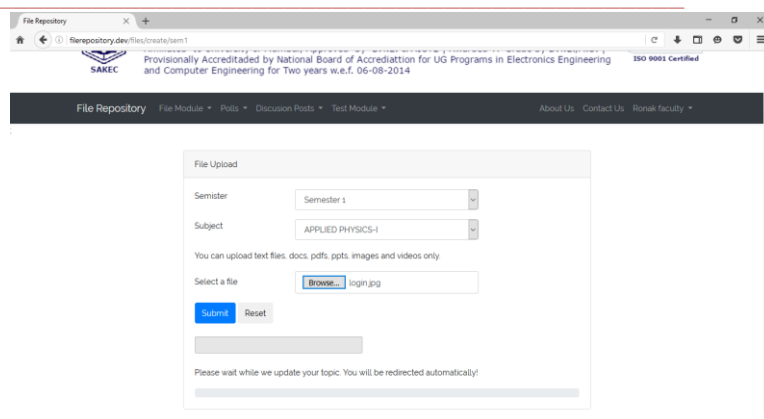
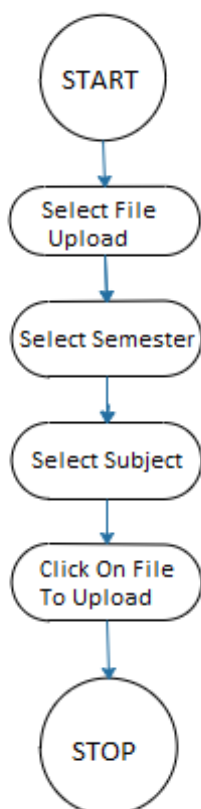


Figure 1:For File Upload

Flow Chart of File Access:

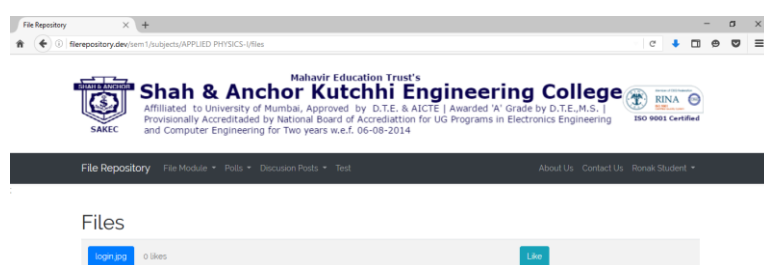
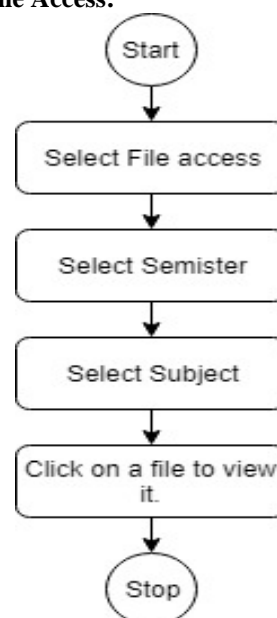


Figure 2: File Access

B. Usage Visualization

In this method teachers will get log and usage visualization of students who all are accessing the uploaded notes and even teacher can get an overview of which notes has more demand or highly accessed.

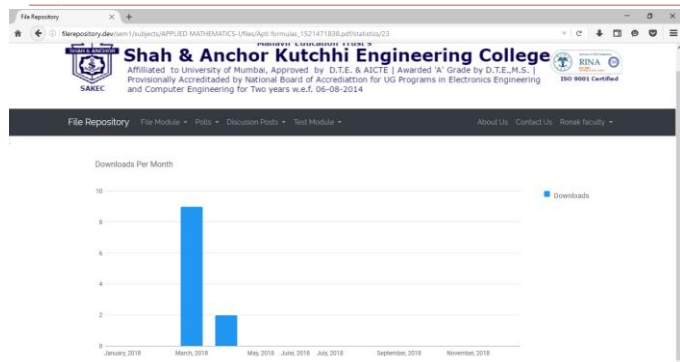
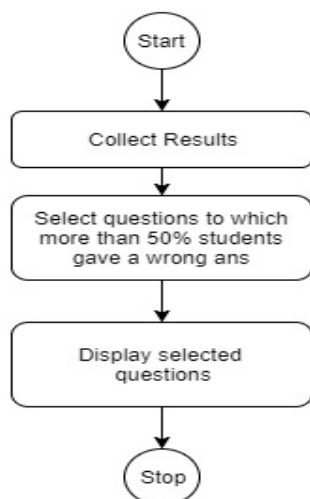


Figure 3: File Usage Visualization

C. Most Wrongly Answered Questions

- First you should know the total scores for every one of the sample.
- Second you would divide the sample in to three groups, the upper 27% and the lower 27% and the middle 46%.
- Third calculate the number of students who choose each alternative (a, b, c and d) in the upper and lower group. 3 [4]

Flow Chart of Most Wrongly Answered Questions



Facilitation value:(FV)

Group facilitation is a process in which a person, whose selection is acceptable to all members of the group, is substantively neutral, and has no decision-making authority, diagnoses and intervenes to help a group improve how it identifies and solves problems and makes decisions, to increase the group's effectiveness.[4]

$$FV = \frac{R}{N} = \frac{\text{Total Right Answer}}{\text{Total Number of Student}} = \frac{Ru + Ri}{2n}$$

Discrimination Index:(DI)

The item discrimination index is a measure of how well an item is able to distinguish between examinees who are knowledgeable and those who are not, or between masters and non-masters. There are actually several ways to compute an item discrimination, but one of the most common is the point-biserial correlation. [4]

The Discrimination Index (D) has been computed with the top 27% of the person sample in the high group and the bottom 27% in the low group.

$$DI = \frac{Ru - Ri}{n}$$

Effectiveness of Distractors:(ED)

By looking at the pattern of responses to distractors, teachers can often determine how to improve the test. The effectiveness of a multiple-choice question is heavily dependent on its distractors. If two distractors in a four-choice item are implausible, the question becomes, in effect, a true false item.[4]

$$ED = \frac{N_i - N_u}{n}$$

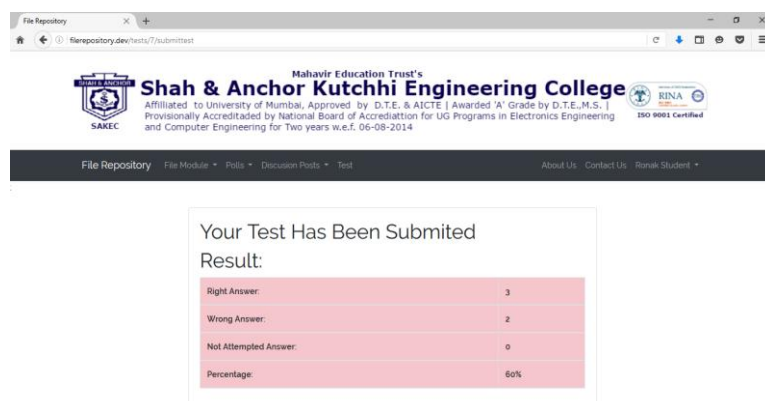


Figure 4: Most wrongly Answered Questions

D. Suggestions and Polls:

Only faculty has access of this module. They will put polls of their questions related to subject or topics of test or which topic should over in next lecture via option method and students will give suggestion by voting them. Hence faculty will follow maximum voted option and do as per student's requirements.

Figure 5: Polls

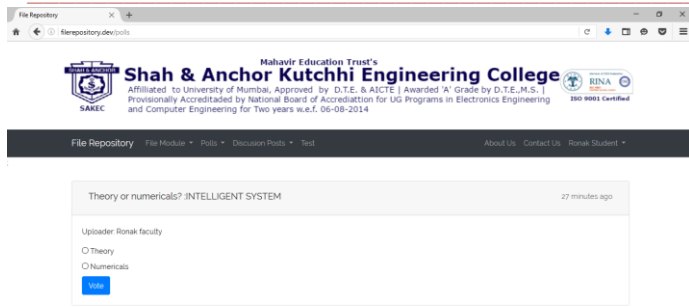


Figure 6: Suggestions

E. Discussion Forums:

In this module of system faculty will comment about subjective test or lecture related topics and there students also discuss with them about learning topics. Basically this module will use by faculty and all students to discuss their study problems and for general communication.

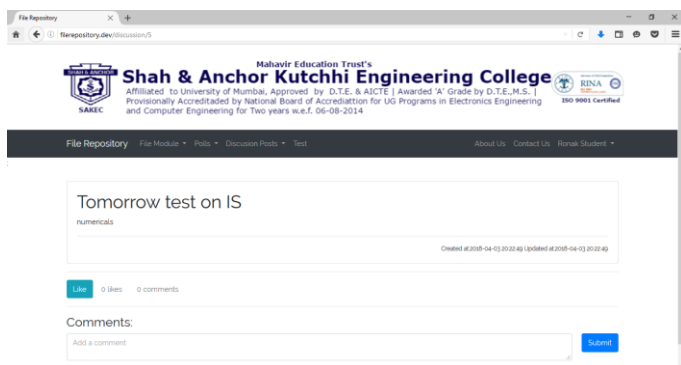


Figure 7: Discussion Forums

F. Online MCQ Test:

This module will be beneficial for faculty. Faculty will conduct online MCQ test of their subject to know how students are dealing with their subject by their test performance. Only faculty has access to upload and delete test of their subject and give result to students.

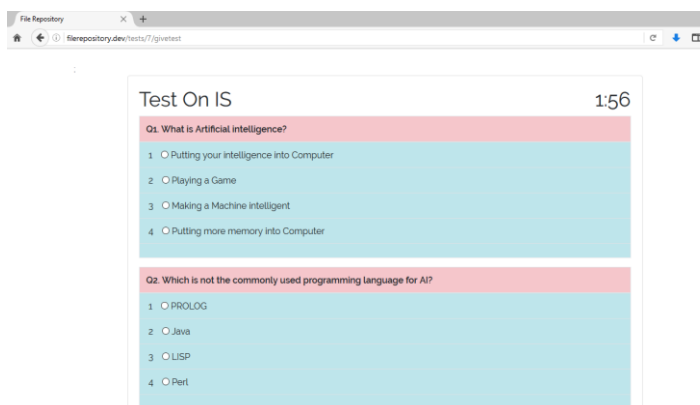


Figure 8: Online MCQ Test

After giving test faculty will observe difficulty rating of each question by graphical form.

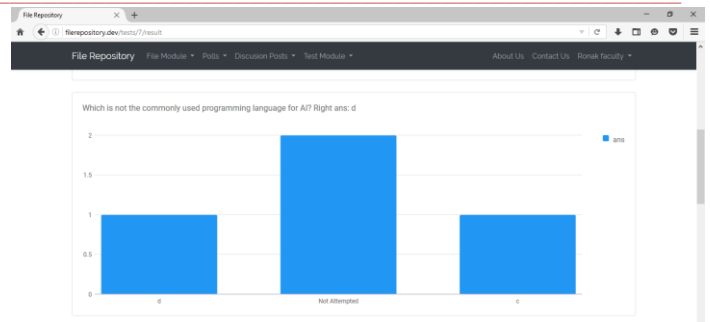


Figure 9: Graphical form of results

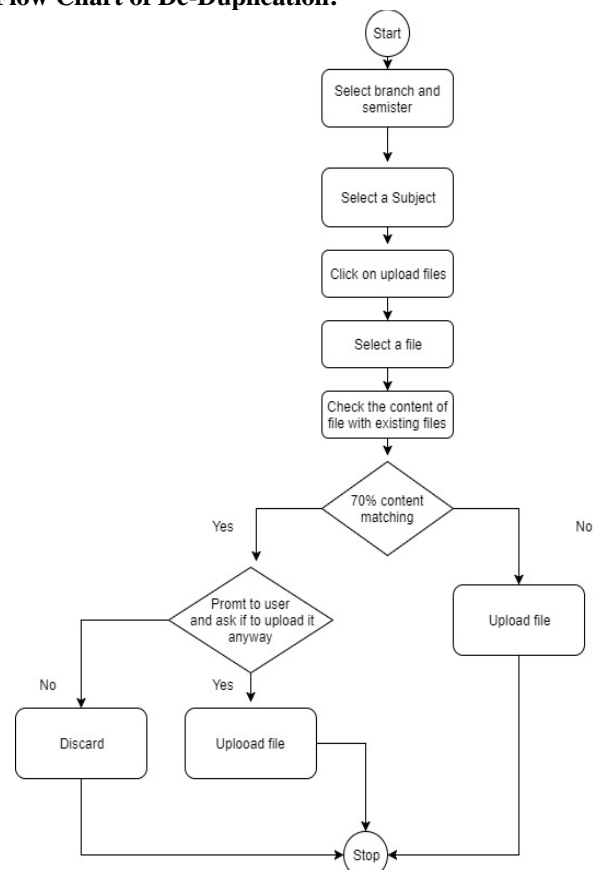
G. De-Duplication:

De-Duplication is a specialized data compression technique for eliminating duplicate copies of repeating data. This technique is used to improve storage utilization and can also be applied to network data transfers to reduce the number of bytes that must be sent.[2]

Our system works in two phases:

- One-to-many comparison of source code files using the code metrics calculated for each file. This reduces the dataset and thus returns the "suspected" files out of the hundreds or even thousands of source code files submitted by the students as a solution to a programming assignment.
- The contents of the files are compared using our own implementation of the Greedy String Tiling algorithm.[2]

Flow Chart of De-Duplication:



III. DESIGN AND IMPLEMENTATION

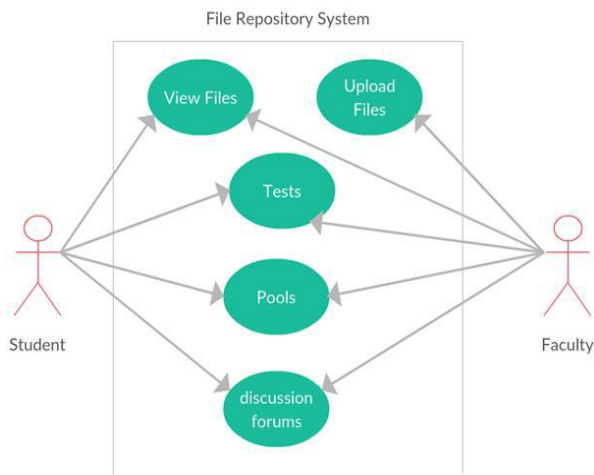


Figure 9: Use Case Diagram

IV. CONCLUSION AND FUTURE SCOPE

As education is not only limited to syllabus books or college premises, every option that we can get to gain knowledge or information must be utilized. With our repository system willing teachers get to contribute a little extra for their student's education. Suggestions, polls and discussion forums help in better interaction between students. Test results will give a better insight of student's understandings about particular topics and interest areas. The goal of this system is to assist the current education system through a simple and easy to use website.

V. ACKNOWLEDGMENT

No project is ever completed without the guidelines of these experts who have already established milestones on this path before and have become masters of it. So we would like to take this opportunity to thank all those who have helped us in implementing this project.

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