Software Systems Lab Project Report: IITB Portal

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October 29, 2017

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1   Introduction

How about a website which would serve as an online instructor for the students regarding their current courses? Or as a guide for the students who wish to practise for some courses based on their interests? Or just an aid for the confused students. IITB-Portal is an idea for these purposes which we wish to implement for our SSL Project.

2   Motivation

We don't know what we are interested in.. And if we are interested in something, can we really do it? Students should be guided into their academic future on basis of their interests and capabilities. Here at IITB we have so many things to learn, so many projects and research work running. We want to give students exposure to almost all Courses, Projects, events and talks in which they are really interested. Also keeping track of all academic activities under one roof will help the students to manage all courses and projects.

3   Problem Statement

- To make a small recommendation system for our website.

- The feed of a student profile should be sorted according to the relevance of it to the student. The student will be asked for his course interests after regular intervals and new courses and posts will be suggested automatically.

- To provide online framework for attempting quizzes given by professors to help students in improving their grades. To make progress reports more informative based on other peer's performances in same courses.

- To make the website as user friendly as possible.

4   Implementation

4.1   Login and Sign up

- All the students will have to register(Sign up) on the website.

- The username will be a unique authentication for each user.

4.2 Information requirements and Database

- Information we will need from user

  1. His/her basic information, Courses (Registered)
  2. His/her Interests and Skills

- Database

  1. All courses and their study material (uploaded by professor)
  2. All quizzes in different courses. (uploaded by professor)
  3. Other personal information about users

4.3 Student Interface

Student interface will open in News Feed of the student by default.

- News feed - Home :
  The tab/page contains the notifications, news, event information, Deadline reminders etc. The information will be sorted according to relevance of the item. The news feed is updated through Web-Scrapping and can also be updated by admins. There will a central data storage for all news and event information etc, from that we will choose the content that is relevant to the student.

- My Courses
  This tab will contain list of all registered courses. Every course page will contain the following information.

  1. Each Course is divided into parts by Topics.
  2. Each Topic can contain arbitary number of the Topic Material :
     (a) Course Material - All the course material - Slides, Readings, Tutorials etc.
     (b) Assignments - The Assignment Problem file uploaded by proff and a student submission.
     (c) Quiz - The Online Quiz added by proff.

- All courses
  Here we will list all the courses available/running.

- Student Profile
  Student's all information with his/her interests will be shown here. Also all the information can be updated here.

4.4 Professor's Interface

For Professor, we will allow to edit/upload his/her course contents assignments and quizzes. He/she can set and edit deadlines for assignments.

5 Feasibility

It could be a great hub for students to explore new topics and projects suiting their interests for which they would not have to scout around much but just go for the courses.
In future we can connect CDEEP, IITB library and other databases and frameworks to the site to build a website where all academics activities in Institute can be monitored. Also allowing outside students for registration will build bigger groups for respective fields, so that everyone gets benefited.

6 Testing

- We will test the quiz and assignment section by submitting and evaluating some test assignment and quizzes on the website.

- We will make users with mutually exclusive interests and show that their news feed has differences. Also we will add users with similar interests and show some similarities in their news feed and suggestions.

- For grading system, we can submit test quizzes and progress reports can be analysed based on their performances.

7 Deliverables

- Login and Registration feature for students.

- A Customizable User Profile for users.

- Access to Courses and Course Material available in the Database updated by Professor.

- Special Features for Professor account - Update the course he/she is registered for.

- Assignment submission functionallity for Students.

- Online Quizzing Portal for Students, where Proff adds the Quiz with correct answers provideed with each Question and Students can attempt the quiz.

- Report card for Quiz Submission - A report of submitted quiz answers with correct solution and remark for each question in the quiz.

Due to lack of time we could not complete the following promised deliverables:

- Grade card for each student.

- Progress Report and comparisons of the same for the Students.

8 References

- Moodle: The basic framework of the website
  Link - http://moodle.iitb.ac.in/

- Bodhitree: The site implementing online assignment submission and grading system
  Link - http://bodhitree2.cse.iitb.ac.in/accounts/login/

- Coursera: The site implementing a recommendation system
  Link - http://www.coursera.org/