

An Online Learning System Framework

Team project of at most three, two preferred.

In this project, you will create an online learning system framework (toy version of Canvas) for instructors.

This system will facilitate the creation of online learning materials. This online learning system framework shall support:

1. Module creation (create different learning modules)
2. Topic creation (create topics under each module)
3. Assessment creation (for instructor to create tests, assignments)
4. Instructor can test run the tests created (like in student view).

This web based learning system framework will allow instructors to create any online learning system.

Your system shall have a **login page** that will only allow registered user(in our case, instructors) to login to create an online learning environment for his/her course. Since an online system will be organized using modules, so your system shall facilitate this need and allow instructor user to create modules. For example, if an instructor wants to partition his/her course into three major parts then he/she most likely will create at least three modules. Say, an instructor who teaches Basic Web Development may want to set his/her course into three modules: client side module, server side module, and backend database module. In addition, he/she may want to create assessment module to assign homework, give tests etc.

For each module, the instructor can create different topics for user learning. For example, the instructor can create one topic for HTML, one topic for CSS, and one topic for JavaScript. For each topic, it may include links to prerequisite requirement(s) to take this topic, online video urls, pdf files, power point slides, web pages, etc. Each topic doesn't have to include all these mentioned. It all depends on the instructor to decide. But your system shall provide these options. Note different courses may do differently. The same will apply to other modules when instructors create topics.

For assessment component of your project, your system shall be able to handle multiple choice and fill-in of blanks tests. For example, to facilitate an instructor to create multiple choice assessment, your framework shall contain friendly interface to allow instructor to assign total points for this assessment, input question and answers, display assessment statistic for student at the end of an online test (e.g., how many questions wrong and how many right etc.). **Extra credit** will be given if your system can allow instructor to upload a file (you can set the form and format of this file) and **automatically** populate questions and answers so that instructor doesn't have to enter questions or answers one at a time in a test creation interface. This will speed up the creation of an online test. Most likely you need to parse the documents uploaded by the instructor and retrieve the questions and answers contained in this file and process them and then store these into backend database.

Submission instructions

Project document:

1. design document includes design, software architecture, and database schema
2. all source code
3. user manual with test run screenshot
4. An mp4 video YouTube link that explain your project.

You may put 1 and 3 together. First page of the project document is a title page with course title, project title, and all members' names on it. Second page contains project summary and a YouTube link which points to your video demo. Thirds page contains feature successfully implemented and feature not successfully implemented and contribution of each member on this project. Fourth page contains table of content.

Put all source codes to a folder and zip the folder call it *yourname-source-code*.

Put *project document*, *zipped source code folder*, and *Video file* into a folder call it *yourname-project-1*. Zip this folder into *yourname-project-1.zip*. Submit *yourname-project-1.zip* to Canvas.

Submit to Canvas 11/2/2020 before midnight.