

Functional Specifications

1 Description of Application

An online examination system, where (1) teachers can release an exam and evaluate the students' results, and (2) students can take an exam, and (3) the system administrator can manage the information of teachers and students.

2 Technical Requirement

2.1 Server Environment

Operating System: Windows, Linux or Mac OS

Web application infrastructure: Apache + PHP + MySQL (the supported installation is XAMPP)

2.2 Coding Requirement

All codes should be properly refactored. That is, codes should be re-usable and readable at your best efforts. For example, any reusable codes should be encapsulated into functions and/or separate files for inclusion. You are recommended to use GitHub to host your codes to make it easy for all team members to commit and integrate codes.

3 List of Functions

Category	Deliverables
User Registration	<ul style="list-style-type: none">• Two roles: students or teachers• Common information: login id, nick name, email, and profile image• Student specific information: gender, birthday• Teacher specific information: course
User Login	<ul style="list-style-type: none">• Use id and password to login• Remember login status using cookie• User logout (and delete cookie)• Forget and reset password
Teacher Releases an Exam	<ul style="list-style-type: none">• Specify the time slot for an exam• Add questions for an exam. For each question, specify the question type (multiple choice, true/false), answer, score, etc.• *(Optional) Add other question type (fill in the blank, short answer)
Teacher Evaluates and Views Students' Submitted Answers	<ul style="list-style-type: none">• *(Optional) Check and grade the submitted answer (fill in the blank, short answer)• View the exam result of each student (questions, submitted answers, correct answers, total score, score per question, submitted time)

	<ul style="list-style-type: none"> • View statistics of the exam scores (max, min, median, average) and attempts statistics (percentage of correct answer and average score of each question)
Student takes an exam	<ul style="list-style-type: none"> • Students can take an exam and submit answers • Students can only start the exam within the specified time slot • *(Optional) Students' answers will be saved and submitted automatically when time expires. • View the exam result (questions, submitted answers, correct answers, total score, score per question, submitted time)
System Management	<ul style="list-style-type: none"> • The system administrator can view all users' information • The system administrator can add/remove/modify user account (student and teacher)

Note: * denotes optional features that are worth 10% in total. Nonetheless, the highest score for milestone is still capped at 100%.

4 Marking Scheme

- Project report: 50%
 - All functions: 40%
 - Database design: 10%
- Video presentation: 40%
 - All functions: 20%
 - User experience and UI: 20%
- Source code: 10%

5 Delivery Time and Method

Time: On or before Dec. 14

How: Submit the following materials (zipped) to Blackboard:

1. the project report
2. 20-min video of project presentation (two group members need to explain the findings verbally)
3. the source codes (.html, .css, .js, .php, etc.)