

Requirements

The application provides an examination platform

1. Actors

There are 3 actors:

- Admins:
 - + log-in/log-out
 - + create/delete accounts
- Examiners:
 - + register/log-in/log-out
 - + manage exams
 - + view, export result
- Examinees:
 - + register/log-in/log-out
 - + do the exams
 - + view the answer after finishing an exam if allowed

2. Main use case

- Examiner creates an exam by adding questions
- After creating the exam, examiner can start it, then send the link to all the examinees.
- Examinee clicks on the link and see the questions of the exam.
- After finishing the exam, examinees can submit the result and view the score and correct answers.
- After the exam finishes, examiners can stop it, then no one can access the exam any more.
- Examiners can view the statistics of the result and export it to csv.

3. Exam management functionality

- There is a question pool for examiner to store all the questions. The questions are arranged in many-level categories.
- To create a new exam, examiner can pick questions from the question pool. He can also duplicate the old exam then edit it.
- Examiner can see the list all of his exams and CRUD each of them

4. Exam running functionality

- There can be many sessions for each exam. Each session must come with a name, for example: "Ruby test for MMJ developers 18-04-2015"
- To begin an exam, examiner need to start a new session, then send the link to all the examinees
- During the testing time, examiner can pause the session to fix some errors, then resume the session to continue the exam.
- After the exam finishes, examiner can stop the session.
- Examinees can not access or submit the exam when it is paused
- The exam can not be edited when it's running

5. Exam doing functionality

This is for examinees to do an exam.

- Examinees can see all the questions of the exam.
- Examinees can select or write the answer for each question.
- There is a clock showing the elapsed and remaining time
- If the exam session is paused, there is a notification to the examinees
- Examinees can submit the result at anytime he wants
- After submitting the result, the score appears
- Examinees can choose to see the correct answers in comparison with his answers if allowed

6. Exam statistics functionality

- Examiners can view the result of every session, including running sessions.
- The result can be displayed in table form or charts
- Examiners can export the result to csv files.

7. Exam structures

An exam contains a set of questions and correct answers. There are some kinds of question:

- Multiple choices: examinees have to select exactly all the correct choices
- Fill in the blank: examinees have to fill exactly one of the correct answers
- Typing in the answer box: examiners need to check and mark the answer by hand (*)

There are some options of an exam which is set by the examiner

- Answer visibility: after an examiner finishes an exam, he can read the correct answers or not
- Score visibility: after an examiner finishes an exam, he can see his score or not.

- Time bound: deadline for the exam. For example, after 30 minutes, exam submits will not be accepted
- Shuffle: the order of question and options is randomized for each examinee
- Number of questions:
 - + An exam can contain unlimited number of questions.
 - + If this number is set, for example 20, in each session, there will be 20 questions picked randomly to be shown to the examinee.
 - + If this number is not set, all the questions will be shown