

Quiz Project

EPITA 2018 Advanced Java

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Subject Description

This is a website that supports user registrations and login in order to create and take a multiple choice quiz. All quizzes can only be taken once, and the scores are recorded to be displayed when a user returns to the appropriate quiz page. Multiple choice questions are the only type of supported questions

Subject Analysis

Major Features

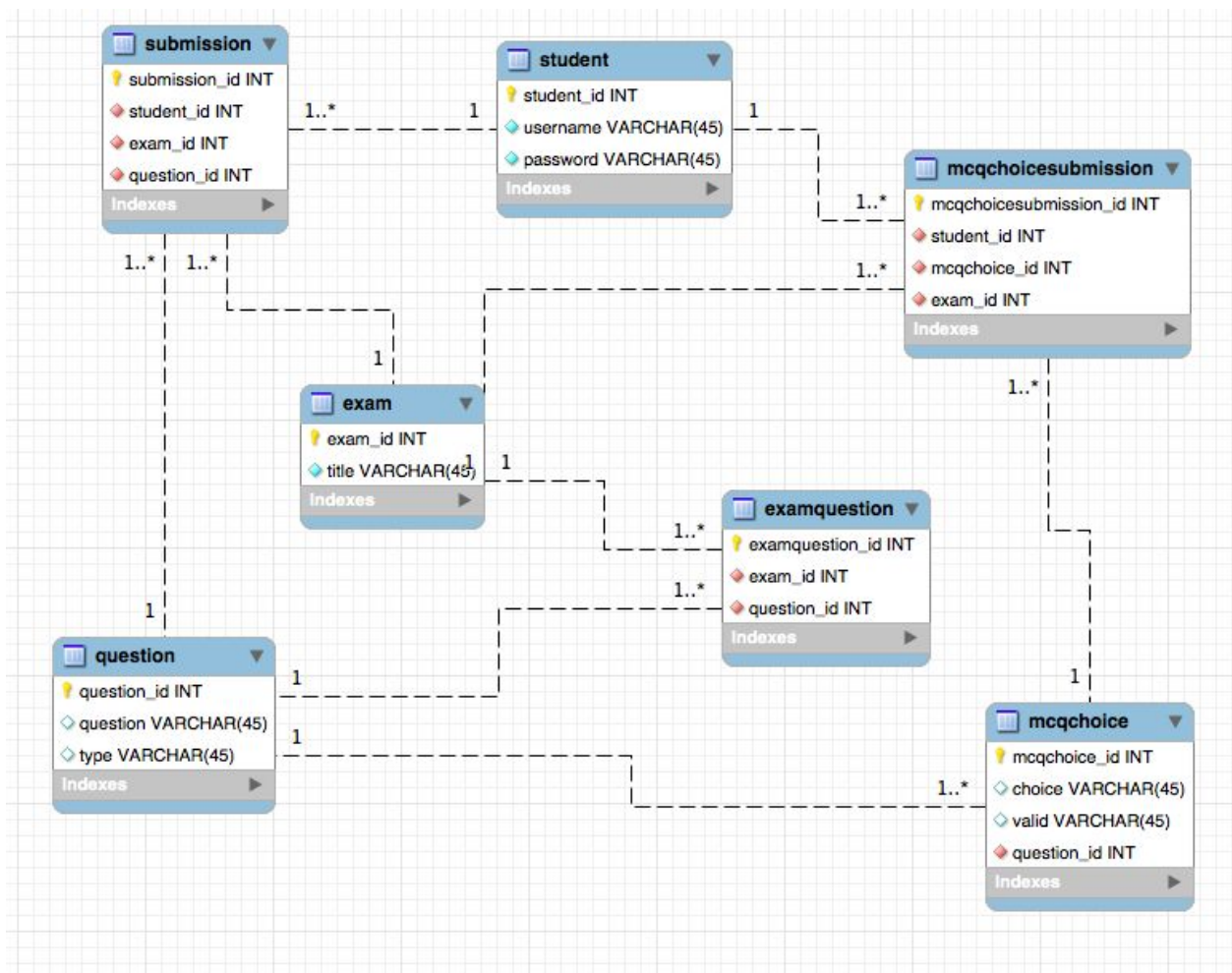
- Login/Create
 - Users are able to create an account (just with a username/password combination), or login afterward with the set of credentials
- Create Quiz
 - The first thing a user can do is create a brand new quiz
- Add Questions
 - Next to each quiz is a button allowing a user to create and add new questions
- Delete Quiz
 - Next to each quiz is a button allowing a user to delete the quiz entirely
- Take/Submit Quiz
 - A user can take and submit a quiz, after which no more submissions will be accepted. When returning to this quiz page, the user's score will displayed at the top and all choices will be disabled
- Spring Beans & Inject
 - Throughout the project we make heavy use of the spring framework and bean injection
- Hibernate Database Support and DAOs

- We make use of hibernate the manage database accesses. All of our tables are annotated accordingly for the framework to make the necessary relationships.

Application Feasibility

This was programmed in a manner where we have each web page handled by a completely separate controller. Each table has its own model and class to handle calls. Code reusability was a highly important goal, as can be seen in our DAOs. They are mostly empty with the exception of the GenericDAO that is parent to all others. We were able to use code introspection in order to easily grab all class variables and add them to a map for the search query.

Data Description



Expected Results

All users will be able to register and login. From there, they have the ability to create and/or take a quiz.

Scope of Application (limitations, evolutions)

Currently, this is a simple quiz program that has some important limitations. You cannot edit a quiz/question. You cannot delete a question from an exam. There is no support for questions other than multiple-choice

None of these are fundamental design choices, but rather features left out due to time constraints. Everything is in the database to be able to determine which questions were correctly submitted, and support for update/delete on the questions exists in the DAOs. The buttons on the front end just have not been implemented. This would be a relatively simple enhancement in the future.

Additional evolutions would be more sanity-checking on the quiz/question creation for when a user has already submitted an exam. Currently, a user is permitted to add questions even after an exam was submitted.

Conception

Data Structures

- List<Object>
- Map<String, String>
- Map<String, Object>

No other data structures were explicitly used throughout this project

Global Application Flow

The user will first arrive to the login page. If the user has never been to the site before, they must create a new user. They can enter their desired username and password then click “Create”. If the user has previously created a username and password to use the website, they can then enter their credentials and select “Login” to access their welcome page.

Welcome!

Please login or create a new user

Login

Password

Login

Create

After a user has logged using by either their previous credentials or by creating a new one, they will then be directed to the homepage. At the homepage they will see a list of quizzes that they have either previously created or some default quizzes that are provided as a start. At this page, they have a few options of where to proceed next.

Welcome, Chris

[World Capitals](#)

[C Basics](#)

Add

Edit

Delete

Add

Edit

Delete

Create Quiz

They have the option to click on a quiz to take one.

[World Capitals](#)

Add

Edit

Delete

Which will lead them to a page displaying all of their questions

What is the capital of France?

☐ Paris

☐ Lyon

What is the capital of the USA

☐ New York

☐ Washington DC

Submit

A user submits their choices:

What is the capital of France?

- ☒ Paris
- ☐ Lyon

What is the capital of the USA

- ☒ New York
- ☐ Washington DC

Submit

And upon returning to the quiz, they can see their score

Already submitted this exam, additional submissions are not accepted

Score: 1/2

What is the capital of France?

- ☐ Paris
- ☐ Lyon

What is the capital of the USA

- ☐ New York
- ☐ Washington DC

Submit

They have the option to click on “Create Quiz” to create a new quiz.

Welcome, new

World Capitals

Add

Edit

Delete

C Basics

Add

Edit

Delete

Create Quiz

Where they can create a “Brand new quiz”

Enter Test Name

Brand new quiz

Create

Which will then appear on the main page:

World Capitals

Add

Edit

Delete

C Basics

Add

Edit

Delete

Brand new quiz

Add

Edit

Delete

They have the option to click on “Add” to add a question to the quiz on the left.

World Capitals

Add

Edit

Delete

Enter Question

How many bytes is a char

Answer 1

1

Correct Answer

Answer 2

2

Correct Answer

Answer 3

3

Correct Answer

Answer 4

4

Correct Answer

Create

Which can be seen on the exam's list of questions

How many bytes is a char

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4

Submit

They have the option to click on "Delete" to delete the corresponding quiz on the left entirely.

World Capitals

Add

Edit

Delete