

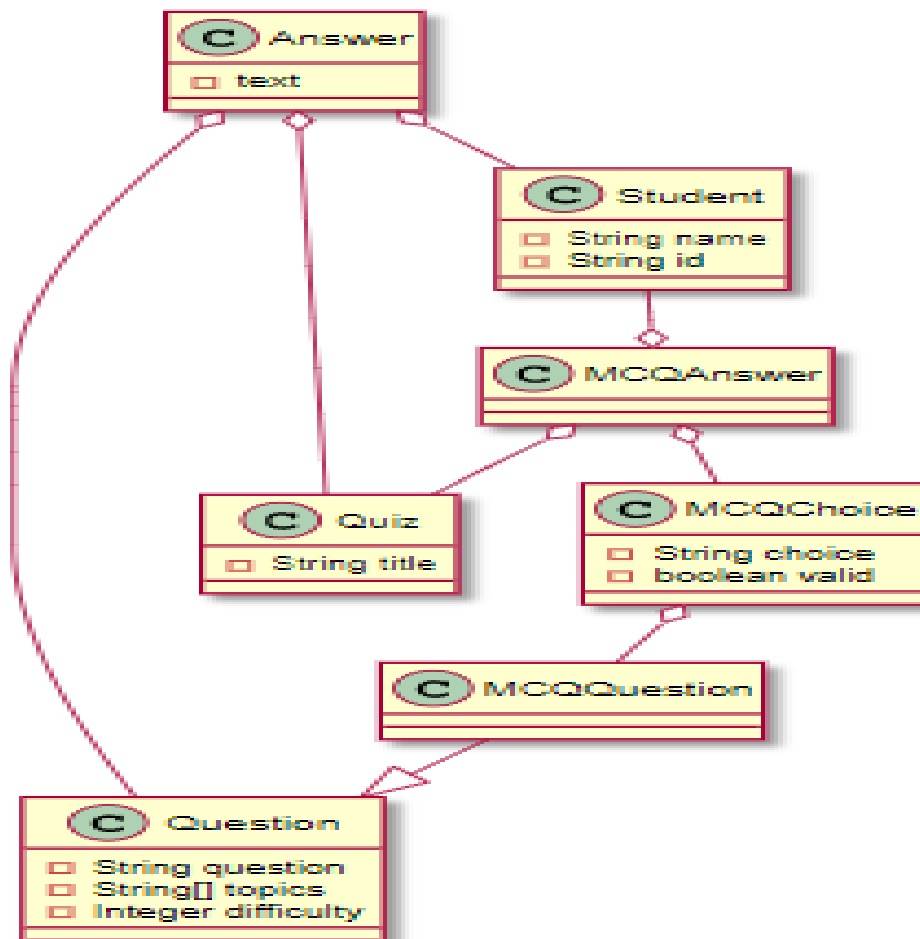
Quiz manager

Quiz Manager Technical Details

Intention of this document is to give knowledge about the structure & design of the program and how the program has been implemented

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Classes

1. Question

Question class is one of the main classes of the program. It is an abstract class used to derive other specific type questions. But it holds the most information (common attributes of questions) and most of the processes are done through this class. The common attributes includes the question text (body), question owner, topics, resource to show on GUI, question type, publicity, difficulty, correct answer count and false answer count.

- **Multiple Choice Question**

This is the container for a question where there are multiple choices and one is correct. The user needs to pick one out of 4 choice. Correct choice hold as a single string while other false choices are hold as string array. This way correct and false choices are separated from each other. When solving quiz all 4 questions are randomized in order before shown to user

2. User

User is one of the other main classes of the program. It is required to login to the system and use the functionalities. It holds the id, username and authority status. Instead of using the User object itself most of the time the id is used by other classes

3. Quiz

Quiz is the last main class of the program. It is constructed from a list of questions and a user (to indicate owner of quiz).

4. Answer

Answer is a helper container that holds an answer for a specific question. It is an abstract class to derive question type specific answers out of it, since the correct answer containers for questions are different for different type of questions.

- **Multiple Choice Answer**

Since there is only one correct answer for multiple choice question, Multiple Choice Answer holds only answer given by the user. To correct it, only checking if it matches with the correct answer of associated question will be enough.

5. Choice

Choice table is a container that holds the result of a solved quiz by a single user. It is generally the statistics of a list of answers. Once answers are corrected either automatically or manually the Choice Table entry will be updated on database to update statistics. It holds the quiz, user who solved the quiz and number of true, false and not corrected answers.

Packages

1. DAO

DAO package has a group of classes that holds the operations of Data Access Object. Here we have OptionsDAO , QuestionDAO, StudentDAO and UserDAO which helps to convert the class objects into database objects.

2. Database

Database package has a group of classes that holds the operations of Database connections and retrieving data with the help of queries. It has 2 classes. They are DatabaseConnection and Queries which helps to get the information from

3. Main

Quiz is the last main class of the program. It is constructed from a list of questions and a user (to indicate owner of quiz).

4. Pojos

Here in this project the package called pojos are having classes of Choice, Question, Student and User where choice class is having data of answers to questions and Question class is having the data of questions.

Launchers

launcher: Main. They mostly do the same things like initializing the singleton classes and setting up their parameters to make them ready for program execution. Main calls QuizManager method to perform quiz.