Test Creator Online Technical Document

How to use . . .

- ***Create a Test:*** To create a new test, begin by naming the test in the "Test Name" field provided. Do not add any spaces to the test name. For example "Quiz 1" will not work, but "Quiz1" will work. Then, type in the question in the "Question" field, and the series of answers in the list of answer fields (up to 4 answers can be inputed). Then, in the final box, list the corresponding letter to the correct question. If the question is True or False, use "T" and "F" in the "Correct Answer" field.
To add questions to a previously made test, simply type the exact name of the test into the "Test Name" field (capitalization matters), and input the questions and answers as previously stated.
To save the question to the test, press the "Submit" button. This will add the question to the test bank. Once this button is pressed, you will see all the questions and answers currently in that test. To clear the form, press the reset button.

- ***Take Test:*** To begin, enter your student ID number (up to 7 numbers). If you are already in the system, your score will be added to a list of previously taken test. Select the test you need to take from the dropdown list and press submit. Once you complete the test, select submit and your grade will be displayed.

- ***View Grades:***
    - *Display all grades:* Type in the ID of the student, and all quizzes and grades for that student will be displayed
    - *Add a new test grade:* Type in the ID of the student, the name of the test and their grade for the test, and it will be added to the students scores
    - *Update an existing student grade:* Type in the ID of the student, and the name of the test and the new grade for the test.
    - *Delete an existing test grade:* Type in the ID of the student and the name of the test you wish to delete.

Architecture

We utilized the attributes of a 4-Tier web application for our project. This included a Client Tier, a Presentation Logic Tier, an Application Logic Tier, and the Data Tier. The Client Tier is the website that the user accesses, and is the visual UI of the system. The Presentation Tier is the HTML source code that creates the UI for the user on the website. The Application Logic Tier includes the Javascript that makes our website dynamic and helps in displaying different
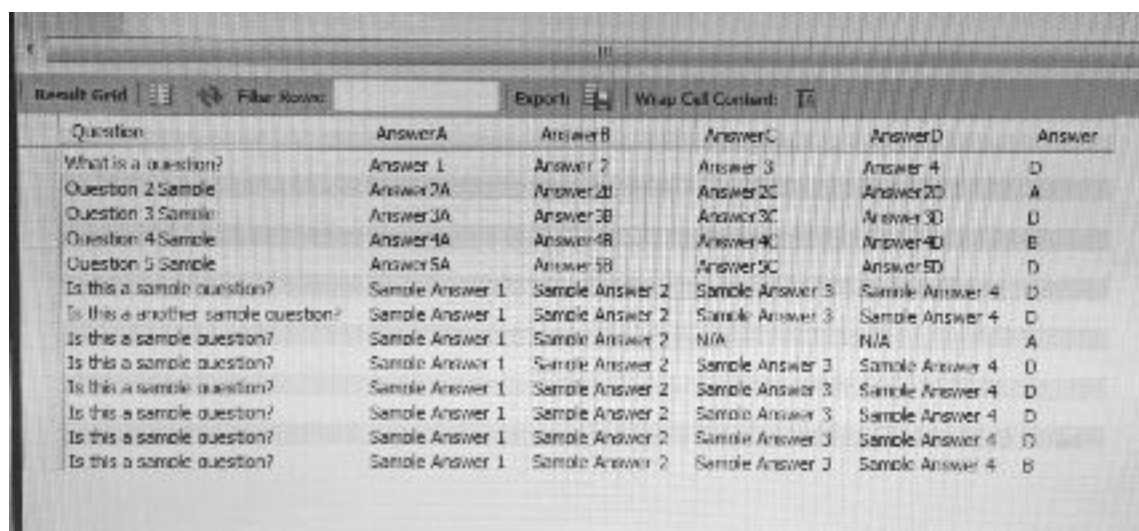
information. The Data Tier stores our websites data, including tables for different tests, student grade data, and a list of test names, all using SQL database.

Business Logic

The purpose of this software was to create an online testing center for students. This would allow instructors to create and distribute tests, as well as check students' grades on said tests. To execute this task, our group broke the tasks up and divided them amongst the members. We worked to implement the necessary features that are essential to an online test taking environment. This included a platform to create and add questions to tests, a page for students to take tests and receive results directly after taking, and a form to see all past grades test grades, with the option to update scores for discrepancies amongst the teacher and student.

Database Design
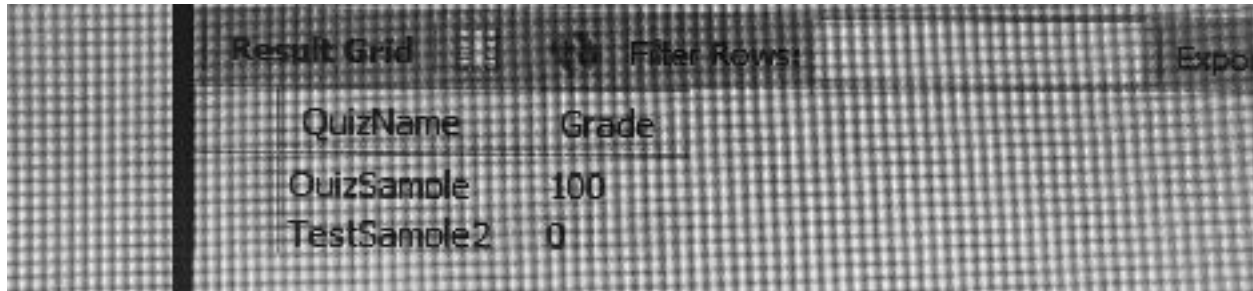
Our database contains 3 types of different tables. The first table is used to store different tests. These tables are created/added to under the "Create a Test" page upon form submission. The table name is taken from the form under when a user names the test. The table is composed of 6 columns named as follows: Question, AnswerA, AnswerB, AnswerC, AnswerD, and CorrectAnswer. When a user adds a question to a test database, these columns are populated with the user input data. If the user fails to input data into an input spot on the form, the slot is filled with a "N/A". A sample table can be seen below.

An example of a test table

The second type of table stores student grade data. Each table name begins with the letters "id", followed by the student ID. These tables are populated/created when a user takes a test. The system checks if the table name exists; if it exists, it will simply add to the table while new entries result in new tables. Each of these tables has two columns: QuizName and Grade. The QuizName column holds the name of the test, and the adjacent Grade column has the user's test grade for that particular test. A sample table can be seen below.
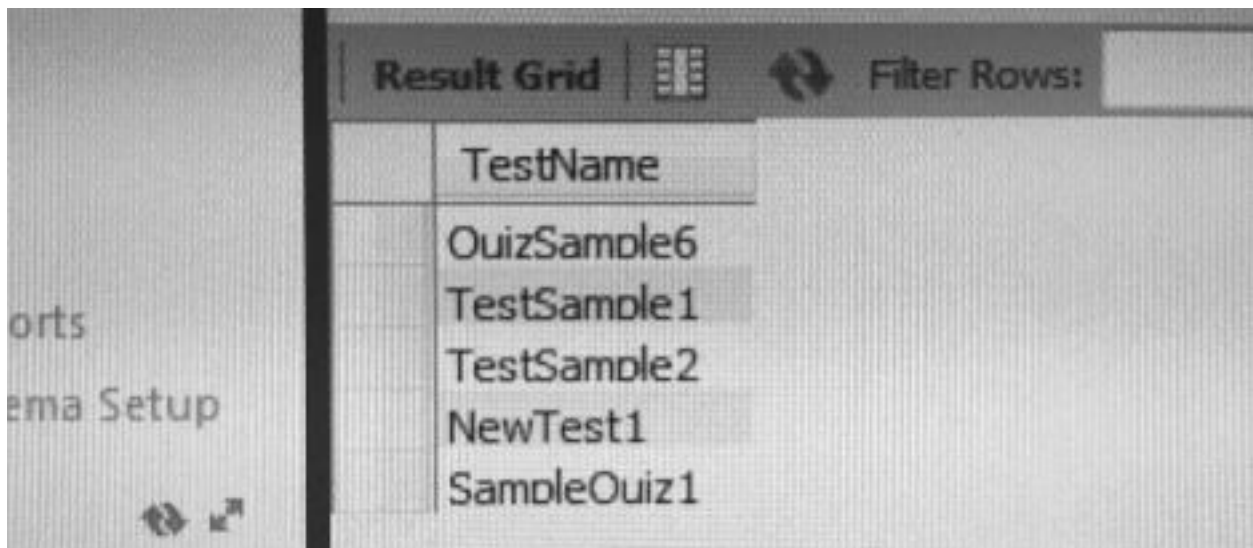

An example of a student grade table

Only one of the final table types exists, and that is the table TestNames. TestNames is a table that has only one column—TestName. This column holds all test names and is populated whenever a new test is created under the "Create a Test" section of the website. The table is used to populate the available tests in the "Take Test" section of the website. The example table can be seen below.

The TestNames table