Competency Assessment

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IN 350: Advanced Software Development Including Web and Mobility Using Python

Module 4: Multitier Architecture

Sunday, March 3, 2024

Design Document

Database Design

1. SQLite3 database that stores 24 student grades ranging between 50 and 100.
2. Name the table module4 with one column called grade.
3. Create an HTML page that displays the total number of grades, lowest grade, highest grade, and average grade.

Django Application Design

* The Django application will be divided into three tiers: Model, View, and Template.
* Model (models.py): This is where the database schema will be defined. It will include the module4 table with the grade column.
* View (views.py): This file will contain the logic to read and parse the grades from the module4 SQLite database table. It will also calculate the lowest grade, the highest grade, and the average grade.
* Template: Create a template folder to hold the HTML file. This HTML file will display the calculated values (lowest grade, highest grade, and average grade) to a web page.

The following issues were encountered during the development of the application.

Issues Log

|  |  |  |
| --- | --- | --- |
| **Issue #** | **Description** | **Resolution** |
| 1 | Module4 table is not showing. | Move the table into the myproject folder. |
| 2 | Sqlite3 CLI not working. | Reinstall sqlite3 using the apt install sqlite3 CLI command. |
| 3 | Table does not exist | Manually ran CREATE\_TABLE command. |
|  |  |  |

In this example, Grade is the model representing the module4 table in module4.db database. The display\_grades function retrieves all grades, calculates the minimum, maximum, and average, and then passes these values to the grades.html template.

**Results**

A screenshot of a test

Description automatically generated