Web Development Using Application Frameworks
Coding Assignment: Model
Instructions

Overview

The Model coding assignment is the first in a series of assignments in which we will be developing the EZU database system, a full C-R-U-D database application for a simplified university record keeping. In the Model coding assignment, we create the Django model classes that implement the database functionality and test our code using the Admin data entry feature.

Tools

I am expecting you to use the tools that are demonstrated in the tutorial videos: Anaconda and PyCharm.

Tool Versions

Use the versions of PyCharm Professional, Anaconda, and Python that we installed during Week 1 of the course when we created the *e4_trainor_django_course* virtual env. These versions are documented in *Instructions for Tool Versions, Installation, and Virtual Environments*.

Tutorial Parts

You should play 3 tutorial videos and follow along. The first video is specific to the operating system that you are using. Play one of the following:

- Get EZU Project Started on Windows 10
- Get EZU Project Started on macOS

Then, play and follow along with both of these videos:

- EZU Model Coding Assignment – Part 1
- EZU Model Coding Assignment – Part 2

Exercises

- **Exercise 1 (Required)**
  Follow the tutorial instructions exactly. There may be some talk during the tutorial that the Challenge Exercise relates to implementing a user scheme that includes both instructors and students. This was the Challenge exercise when I taught the class in a prior semester. Unfortunately, the results were messy. So, it is NOT the Challenge exercise this semester. Read below for details of the Challenge Exercise.

- **Exercise 2 (Challenge)**
  Choose one of our optional textbooks that address unit testing:

  - Myers, G. J., Badgett, T., & Sandler, C. (2012). *The art of software testing: Now covers testing for usability, smartphone apps, and agile development environments* (3. ed). Wiley.
  - A free electronic copy of this book is available to Illinois students at: https://www.oreilly.com/

  - Okken, B. (2022). *Python Testing with pytest*. Pragmatic Bookshelf.
    A free electronic copy of this book is available to Illinois students at: https://www.oreilly.com/

  - Percival, H. (2024). *Test-Driven Development with Python, 3rd Edition [Early Release].* O'Reilly Media.
    A free electronic copy of this book is available to Illinois students at: https://www.oreilly.com/

  - Pajankar, A. (2021). *Python Unit Test Automation: Automate, organize, and execute Unit tests in Python.* Apress.
    A free electronic copy of this book is available to Illinois students at: https://www.oreilly.com/

  Write a half-page to full-page (single-spaced) document meets the following criteria:

  - Includes the title *Testing Book Review* and your name.
  - Identifies the optional textbook that you chose.
  - Identifies the unit testing approach and tools covered by the chosen book.
  - Compares the unit testing approach and tools covered by the chosen book with the unit testing approach and tools used in the Blog Tutorial in Vincent Chapter 6.
  - Has been converted to a single-page PDF file named *testing_book_review.pdf.*
  - The .PDF file has been placed in the project-level directory of the PyCharm project that you are submitting for Exercise 1.

You are expected to submit one properly organized PyCharm Django project that is ready to be tested using PyCharm. Please refer to my tutorial video for details. Even if you have decided to do Exercise 2, just submit one Django project.

Non-Code Deliverables
Please be sure that the project you submit includes the following:

1. A test user (username = "tester", password = "{iSchoolUI}"
2. Sufficient test data present in the database to allow for testing all functions

Submission Method
Follow the process that I demonstrated in the tutorial video on submitting your work. This involves:
- Locating the properly named directory associated with your project in the file system.
- Compressing that directory into a single .ZIP file using a utility program.
- Submitting the properly named zip file to the submission activity for this assignment.

File and Directory Naming

Please use the following naming scheme for naming your PyCharm project:

    `surname_givenname_ezu`

If this were my own project, I would name my PyCharm project as follows:

    `trainor_kevin_ezu`

Use a zip utility to create one zip file that contain the PyCharm project directory. The zip file should be named according to the following scheme:

    `surname_givenname_ezu.zip`

If this were my own project, I would name the zip file as follows:

    `trainor_kevin_ezu.zip`

PLEASE NOTE: All file and directory names must be in lower case. Deductions will be made for submissions that do not conform to this standard.

Due Date
Please see the Weekly Schedule for the date and time when this assignment is due.

Last Revised
2024-01-31