Exercise 2.7: Data Analysis and Visualization in Django

Learning Goals

- Work on elements of two-way communication like creating forms and buttons
- Implement search and visualization (reports/charts) features
- Use QuerySet API, DataFrames (with pandas), and plotting libraries (with matplotlib)

Reflection Questions

- Consider your favorite website/application (you can also take CareerFoundry). Think about the various data that your favorite website/application collects. Write down how analyzing the collected data could help the website/application.

- Analyzing data collected by Thalia, a bookstore website, can enhance the user experience by gaining insights into customer preferences, popular genres, and buying patterns. This information can be used to create personalized recommendations, design targeted promotions, and optimize inventory management.

- Read the • Django • HYPERLINK "https://docs.djangoproject.com/en/3.2/ref/models/querysets/"• HYPERLINK "https://docs.djangoproject.com/en/3.2/ref/models/querysets/"• HYPERLINK "https://docs.djangoproject.com/en/3.2/ref/models/querysets/"• official documentation on QuerySet API. Note down the different ways in which you can evaluate a QuerySet.

-• Iteration: iterate over a QuerySet using a loop, accessing each object individually
• slicing: slicing an unevaluated QuerySet returns another unevaluated QuerySet, but Django executes
the query if you use the "step" parameter
• pickling/caching: reading results from the database
• repr(): calling repr() on a QuerySet evaluates it
• len(): get the length of the result list
• list(): calling list() on a QuerySet forces evaluation
• bool():evaluate a QuerySet in a boolean context , executes the query

- In the Exercise, you converted your QuerySet to DataFrame. Now do some research on the advantages and disadvantages of QuerySet and DataFrame, and explain the ways in which DataFrame is better for data processing.

-QuerySets are efficient for querying and retrieving data from the database, while DataFrames offer powerful data manipulation and analysis capabilities with pandas. DataFrames are better for data processing due to their flexible data structures, support for complex operations, and integration with various data analysis libraries