DWA_07.4 Knowledge Check_DWA7

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1. Which were the three best abstractions, and why?
- HtmlElements Object:
    - An abstraction that represents all the HTML elements used in the application
    - Structured method to access and manipulate the UI elements
    - This abstraction helps in improving code organization, readability, and maintainability.
- createPreview() Function:
    - Abstracts the creation of a preview button
    - It takes a book preview object as input and generates the corresponding HTML button element.
- Event Listeners:
    - The event listeners abstracts the behavior of the application in response to user actions.
    - They provide the separation between user interactions and application logic.

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2. Which were the three worst abstractions, and why?
- Data Fragmentation:
    - The code contains multiple sections that perform similar operations on different datasets, such as books, genres, and authors.
    - These sections have similar structures and perform similar tasks, but they are duplicated, leading to code redundancy and potential maintenance issues.
- Mixed Logic:
    - Some parts of the code mix the logic of UI manipulation, event handling, and data processing. For example, in the event listener for html.list.items, it both shows a modal and retrieves data from the books array.
- Code Duplication:
    - : There is duplication of code related to displaying book previews and handling the "Show More" feature.

- The logic for creating book preview buttons, appending them to the DOM, and updating the "Show More" button is repeated in two separate places, leading to unnecessary duplication.

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3. How can the three worst abstractions be improved via SOLID principles?

- Data Fragmentation:
    - Create a centralized data model or data access layer to encapsulate and manage the data. This allows for better organization and reduces data fragmentation.
- Mixed Logic:
    - Separate the concerns by introducing dedicated components or classes for rendering, event handling, and data manipulation.
- Code Duplication:
    - Extract common code into reusable functions or utility modules to eliminate code duplication.

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