DWA_01.3 Knowledge Check_DWA1

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1. Why is it important to manage complexity in Software?

Complexity in software refers to how complicated and difficult to understand the code is. It's important to manage complexity because if the code is too complex, it becomes hard to maintain and work with. Managing complexity helps make the code easier to understand, modify, and find and fix problems.

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2. What are the factors that create complexity in Software?

Business requirements: When the software needs to handle a lot of different situations and specific needs, it can make the code more complex.

Technical dependencies: If the software relies on other systems, libraries, or frameworks, it can add complexity because it needs to work well with all those different parts.

Size and scale: As the software grows bigger and more complex, it becomes harder to manage and work with.

Poor design: If the code is not well-organized or structured, it can become tangled and confusing, making it difficult to understand and change.

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3. What are ways in which complexity can be managed in JavaScript?

Following good design patterns.

Breaking code into smaller parts: Splitting the code into smaller modules with specific tasks helps keep things organized and easier to understand.

Using functional programming concepts: Functional programming encourages writing code that avoids changing data and focuses on using functions to transform data. This can make the code easier to understand and reason about.

Keeping the code organized: Using consistent naming, indentation, and file structure makes the code more readable and reduces complexity

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4. Are there implications of not managing complexity on a small scale?

It becomes harder to maintain and modify the code, making it more time-consuming and error-prone.

Bugs are more likely to occur because complex code can have hidden issues or dependencies.

Productivity decreases because developers spend more time trying to understand and work with complex code.

Collaboration becomes more challenging as it's harder for multiple developers to work together effectively

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5. List a couple of codified style guide rules, and explain them in detail.

Consistent indentation: Use the same number of spaces or tabs for indentation throughout the code. It makes the code easier to read and follow.

Meaningful names: Use descriptive and clear names for variables and functions to make it easier to understand what they do.

Limit line length: Keep lines of code within a certain character limit. It improves readability and makes the code easier to work with

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6. To date, what bug has taken you the longest to fix - why did it take so long?

If ‘undefined’ is considered a bug then my longest bug was on IWA 17, I could not output any number for a full week.
