

# DWA\_01.3 Knowledge Check\_DWA1

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

Complex software can be difficult to understand, maintain and update. If software is too complex, it can be hard for developers to make changes to it without breaking something else, or even accidentally introducing new bugs. It can also be difficult for users to understand, leading to poor usability and user experience.

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

Large codebase, the more lines of code there are in a software system, the more complex it will be.

When different parts of a software system are tightly coupled, it can be difficult to change one part without affecting the others.

Unnecessary features, including features in a software system that are not necessary or that are rarely used can add to its complexity.

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

Use comments and documentation to explain what the code is doing.

Use standard naming conventions and coding styles, and stick to them consistently throughout the code.

Use testing to check that the code is doing what it's supposed to, and to catch bugs early.

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

Yes there are, like a single codebase or small project. The code will become harder to read, understand and maintain. This can lead to bugs, inefficiencies and other problems. Another implication is that the code will be harder to change or extend, it will also be harder to add new features or fix problems without introducing new bugs.

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

- Use meaningful variable names. Variable names should be descriptive and meaningful, so that it's clear what they are for.
  - Use consistent indentation. Every line of code should be indented consistently to make it easier to read. For example, if you indent with 4 spaces for one block of code, you should do the same for all other blocks of codes.
  - Use comments to explain your code.
  - Use consistent formatting for numbers and dates. For example, if you're using American dates (MM/DD/YYYY), then you should format consistently throughout the code.
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6. To date, what bug has taken you the longest to fix - why did it take so long?

It was a button that filters books by genre, it took me so long to make it function because I did not have enough time to actually make it function perfectly and I was still familiarising myself more with Javascript.

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