DWA_01.3 Knowledge Check_DWA1

_____

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

Managing complexity in software makes it easier to debug and collaborate on the software. By making code and systems simple and easy to read, it allows for many different people to contribute and creates an opportunity to reuse code and fix any issues much more efficiently than if there was a complicated structure.
There is also an opportunity for better performance as the software will be put together in an efficient manner and this will allow for a better user experience. A code base that is clearly organised can be reused and scaled easier because all the components will be clear to see.

_____

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

Complexity in software is created when: the software architecture does not follow a logical structure; there may be a lack of documentation or the codebase itself has been updated many times by simply adding features on top of legacy code. These three factors all tie together in the sense that they create an environment where complexity is created by a lack of continuous management of the software and processes to develop it.

_____

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

Complexity can be managed in JavaScript by following style guidelines and best practices; commenting code as well as writing doc strings to elaborate on what certain code blocks do.

_____

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

By neglecting to manage complexity on a small scale, this will spill over into other aspects of the development process. A complex codebase may make maintaining the final application and debugging or enhancing the final product difficult.

_____

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

- Follow consistent indentation and code formatting.
  This rule means that there must be consistent indentation throughout the code, whether it is spaces or tabs. This consistency makes it easier to read and maintain code.

- Use descriptive variable and function names.
  By using descriptive names for variables and functions it makes it easier for anyone reading the code to follow along with what each component is meant for. Variables and functions should have descriptive names that are relevant to their functionality.

_____

6. To date, what bug has taken you the longest to fix - why did it take so long?
In the capstone we had for IWA a bug I had was making the page change from dark to light mode. It took me a long time to fix it because the code I had written around that feature was very convoluted and required me to start over again to get it working correctly.

_____