Object Oriented Programming Standards

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*Abstract-* *Object Oriented Programming (OOP) is one of the main development languages used in the software industry. OOP has many powerful features, but this power brings with it complexity, which in turn can make code more bug-prone and harder to read and maintain. The objective of this paper is to learn how to manage this complexity by describing in detail the dos and don'ts of writing OOP. These rules exist to keep the code base manageable/readable while still allowing software developers to use OOP features productively.*

# Benefits of Coding standards

With most companies that use code to create/automate their systems, the files and code might be very large and confusing. This is why coding standards are important. They bring about a sense of organization that everyone can follow, given you know the standard. Also, they provide the company with teamwork conducive to a successful business, which enhances the efficiency and productivity of the company. Software developers can navigate the coding style easily and understand all its contents. All these reasons are why coding standards are so important.

Debugging code will become very fast and efficient when using a coding standard compared to not using one. This, in turn, will help development time and increase creativity, as there will be more time to acquire creative ideas [1].

# The Best coding Standards

## Naming Conventions

Naming conventions are key to readability within your code. This is because naming conventions such as Camel, Snake, and Kebab help keep variable and function/method names specific and efficient. As an example, Camel Case starts the variable name with a small letter. Snake Case starts the same way, but if the name has multiple words, those words will get separated by an underscore [2]. Choosing either of these standards is great, though sticking to one after it’s chosen is preferred. Having one standard throughout all the code will help in numerous ways.

## Indentation

Indentations create legible code. This is the case because indentations can help section code and therefore produce readability and performance with debugging. Indentation also increases the odds that co-workers may be able to understand your code better, as it serves as a marker for functions, loops, and so on.

## Well Documented Code

Well documented code is extremely important for readability and productivity, especially if the code is being worked on with a team. Good, descriptive comments are essential for others to understand your code without taking vast amounts of time considering, thinking, and working through your code. This will help development time and teamwork through the workplace. Many, many things may benefit from well documented code [1].

## Limited Global Variables

Global variables can be useful as they can be used within all parts of the code, hence the word “global.” However, there needs to be rules on what types of data are global and what types are not [1]. For instance, a variable that is supposed to be local should not be global. This may go together with proper naming conventions, as calling a global variable the same as a local may get confusing, though their uses are different. Similarly, this may be enhanced by well documented code as comments might make it easier to tell what variables are global and which are not.

# The best coding standard

It can be said that all these coding practices/standards may be key to a successful business and a conducive working environment. The best coding standard out of the ones listed would probably be well documented code. This is the case because developers can explain exactly what they’re doing using comments and can utilize that ability to write thoughts, ideas, plans, past edits, and other similar things to communicate to their team. With any good team, communication is essential. Therefore, it is necessary to have a good system in place to enhance communication between team members. Commenting and documentation is almost needed when building the framework of an effective group.

Well documented coding can uplift many aspects of the coding process. For example, it can help with describing what each variable does, help suggest edits, and help developers communicate with testers of the code. With all of this said, well documented code is a crucial part of any coding project, whether you’re working with a team or not. Even alone, it may be hard to remember/keep track of what you thought of the day before. Comments and well documented code can help to keep track of your theories and aspirations of the code and keep everything organized to a degree.

1. Pal, Sayan. “Coding Standards and Guidelines.” https://www.geeksforgeeks.org/coding-standards-and-guidelines/. Date Accessed 30 Aug. 2023.
2. Chowdhury, Farhan. “Programming Naming Conventions – Camel, Snake, Kebab, and Pascal Case Explained.” https://www.freecodecamp.org/news/programming-naming-conventions-explained/. Date Accessed 30 Aug. 2023.