Code review, or peer code review, is the act of systematically checking code of peers to point out the mistakes of each other. It has been shown to streamline and accelerate the software development process. Though software developers often depend on automated testing for code reviews, manual review of code by peers yields better chances of correction.

Whether one is a programmer or a software development manager, it is imperative to realise the importance of code reviews. When done in a correct manner, peer review saves time by streamlining the development and reducing the amount of work required later by QA teams. Code reviews also save money in the longer run by catching bugs that may go undetected during testing, production, and then slipping into user laptops.

Whereas saving money and time are important concerns for a business in the software development industry, code review also fosters greater communication between coworkers, distributes sense of ownership for a piece of code, and provides invaluable educational context for junior developers. Senior colleagues demonstrate better methods to write clean code and solve problems with useful shortcuts while identifying issues like buffer overflows, memory leaks, and scalability.

# Understanding Code Review

A code reviewer reads the code line by line to look for any flaws or potential flaws, quality of comments, consistency with overall program design, and adhering to coding standards.

Code reviews are especially productive for finding security vulnerabilities. There are special applications that aid with the process. It helps with testing the source code systematically for potential trouble such as race condition(s), buffer overflow(s), size violations, memory leakage, and duplicate statements. Code reviews are also done for testing the quality of security patches.

Code review process consist of the following stages:

* Identifying more efficient ways to complete a task by considering best practices
* Detecting logical errors
* Identifying the vulnerabilities in the code
* Reviewing code to detect any potential malware and to find backdoors integrated into the software

# What to Look for in a Code Review

It is important to consider the following points when conducting a code review:

## Design

It is important to consider the overall design of the code. Look for answers to questions like do the interactions between different pieces of code make sense? Does the change belong to your library or codebase? Does it integrate with rest of your system? Is it a good time to add a particular functionality?

## Functionality

Is the code serving the purpose for which it was created? Is it catering to all the requirements? Is it user-friendly?

## Complexity

Is the code more complex than it is supposed to be? This is checked at every level of the code to see if individual lines are too complex. What about the functions and classes? The term “too complex” usually means that it cannot be understood easily by code readers.

Aardwolf Security team helps with code reviews to ensure that a business is not exposed to vulnerabilities. Contact us today to get a quote.