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Objective C static code analysis

Unique rules to find Bugs, Vulnerabilities, Security Hotspots, and Code Smells in your OBJECTIVE C code

All rules 315 | Vulnerability 10 | Bug 75 | Security Hotspot 18 | Code Smell 212 | Quick Fix 13

Tags

Search by name...

"memset" should not be used to delete sensitive data
Vulnerability

POSIX functions should not be called with arguments that trigger buffer overflows
Vulnerability

Function-like macros should not be invoked without all of their arguments
Bug

The address of an automatic object should not be assigned to another object that may persist after the first object has ceased to exist
Bug

"pthread_mutex_t" should be unlocked in the reverse order they were locked
Bug

"pthread_mutex_t" should be properly initialized and destroyed
Bug

"pthread_mutex_t" should not be consecutively locked or unlocked twice
Bug

Functions with "noreturn" attribute should not return
Bug

"memcmp" should only be called with pointers to trivially copyable types with no padding
Bug

Stack allocated memory and non-owned memory should not be freed
Bug

Closed resources should not be accessed
Bug

Dynamically allocated memory should be released
Bug

Functions should be declared explicitly

Analyze your code

Code Smell | Critical | based-on-misra bad-practice cert

The use of prototypes enables the compiler to check the integrity of function definitions and calls. Without prototypes the compiler is not obliged to pick up certain errors in function calls (e.g. different number of arguments from the function body, mismatch in types of arguments between call and definition). Function interfaces have been shown to be a cause of considerable problems, and therefore this rule is considered very important.

The recommended method of implementing function prototypes for external functions is to declare the function (i.e. give the function prototype) in a header file, and then include the header file in all those code files that need the prototype (see MISRA C 2004, Rule 8.8).

Noncompliant Code Example

```
void example() {
  fun(); // Noncompliant
}

void fun() {
}
```

Compliant Solution

```
void fun();

void example() {
  fun();
}

void fun() {
}
```

See

- MISRA C:2004, 8.1 - Functions shall have prototype declarations and the prototype shall be visible at both the function definition and call
- MISRA C:2012, 17.3 - A function shall not be declared implicitly
- CERT, DCL07-C. - Include the appropriate type information in function declarators
- CERT, DCL31-C. - Declare identifiers before using them

See Also

- MISRA C:2004, 8.8 - An external object or function shall be declared in one and only one file

Available In:

sonarcloud | sonarqube Developer Edition

Freed memory should not be used

Bug

Memory locations should not be released more than once

Bug

Memory access should be explicitly bounded to prevent buffer overflows

Bug

Printf-style format strings should not lead to unexpected behavior at runtime

Bug

Recursion should not be infinite

Bug

Resources should be closed

Bug

Hard-coded credentials are security-sensitive

Security Hotspot

"goto" should jump to labels declared later in the same function

Code Smell

Only standard forms of the "defined" directive should be used

Code Smell

Switch labels should not be nested inside non-switch blocks

Code Smell