

# iOS Code Analysis Tools

## The Battle

Wasupol

Growth Session #9 - November 16-17 2017

- Why we need code analysis?
- What did code analysis help?
- What do we have for iOS Developer?

## Achievements and progress

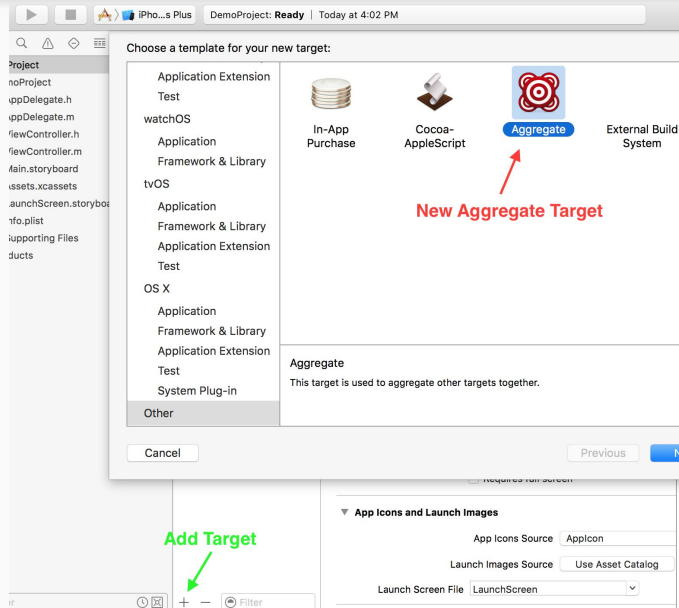
- Apply Code Analysis for Objective-C project
- Apply Code Analysis for Swift project
- Apply Code Analysis for Hybrid project (Objective-C and Swift)

## Interesting Tools

- OCLint (Open Source)
- Infer (Open Source)
- SwiftLint (Open Source)
- Objective-Clean (Paid)

- It is open source
- Supported only Clang (C, C++ and Objective C.)
- Still in development
- Can be integrated with many tools (xcodebuild, xctool, xcpretty)
  - Also could be integrated with Xcode project

# OCLint



## TARGETS



## Run Script

Shell /bin/sh

```
1 source ~/.bash_profile
2 cd ${SRCROOT}
3 xcodebuild clean
4 xcodebuild | xcpretty -r json-compilation-database
5 oclint-json-compilation-database -- --report-type xcode
6
```

☒ Show environment variables in build log

☐ Run script only when installing

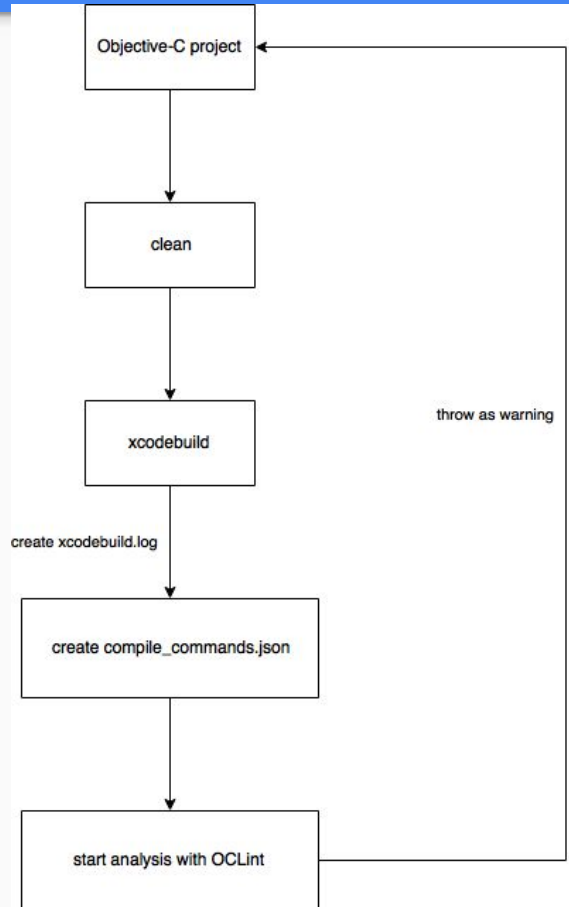
```
30
31 - (NSString *)get valueForKey:(NSString *)key
32 {
33     NSData *valueData = [self getValueData];
34     if (valueData != nil)
35     {
36         NSString *value = [[NSString alloc] initWithData:valueData
37                               encoding:NSUTF8StringEncoding];
38         return value;
39     }
40     else
41     {
42         return nil;
43     }
44 }
45
```

Unused method parameter [unused|P3] The parameter 'key' is unused.

Inverted logic

Unnecessary else statement

# OCLint



## Problems found

- RVM Dependency
- Project is not good with new Xcode (Lot of issues)
- Required skilled in command line
- Document is poor



- Developed by Facebook
- Support Java, C, C++, and Objective-C
- Written in OCaml
- Easy to set up

Code Check/ViewController.m:41: error: NULL\_DEREFERENCE

pointer `viewController` last assigned on line 40 could be null and is dereferenced at line 41, column 12.

```
39. - (NSString *)m {  
40.     ViewController *viewController = nil;  
41. >     return viewController->_s;  
42. }  
43.
```

## Problems found

- Bug with xcpretty
- It is separate from Xcode (Another flow)
- Had to clean every time before be analyzed.

```
ERROR RUNNING CAPTURE: Bi_inbuf.End_of_input
Raised at file "src/bi_inbuf.ml", line 49, characters 6-24
Called from file "src/bi_io.ml" (inlined), line 508, characters 12-35
Called from file "atd/clang_ast_b.ml", line 27505, characters 7-24
Called from file "clang/Capture.ml", line 48, characters 8-39
Called from file "clang/Capture.ml" (inlined), line 93, characters 6-35
Called from file "clang/Capture.ml", line 157, characters 26-73
```

- Developed by Realm
- Support only Swift
- It had as command line or dependency (Cocoapods)
- Easiest to set up

- Developed by Realm
- Support only Swift
- It had as command line or dependency (Cocoapods)
- Easiest to set up

```
class Hello: NSObject {  
    let noWarning = NSNumber() as! Int  
    let hasWarning = NSNumber() as! Int  
    let noWarning2 = NSNumber() as! Int //  
    let noWarning3 = NSNumber() as! Int|  
}
```

## Next Steps

- Integration with CI as process
- Customize rules to our needs



**ONE DOES NOT SIMPLY**

**RUN STATIC CODE ANALYSIS**

[makeameme.org](http://makeameme.org)



# Thanks!

Contact Nimbl3

[hello@nimbl3.com](mailto:hello@nimbl3.com)

399 Sukhumvit Road, Interchange 21  
Klongtoey nua, Wattana  
Bangkok 10110

20th Floor, Central Tower  
28 Queen's Road  
Central, Hong Kong

[nimbl3.com](http://nimbl3.com)

