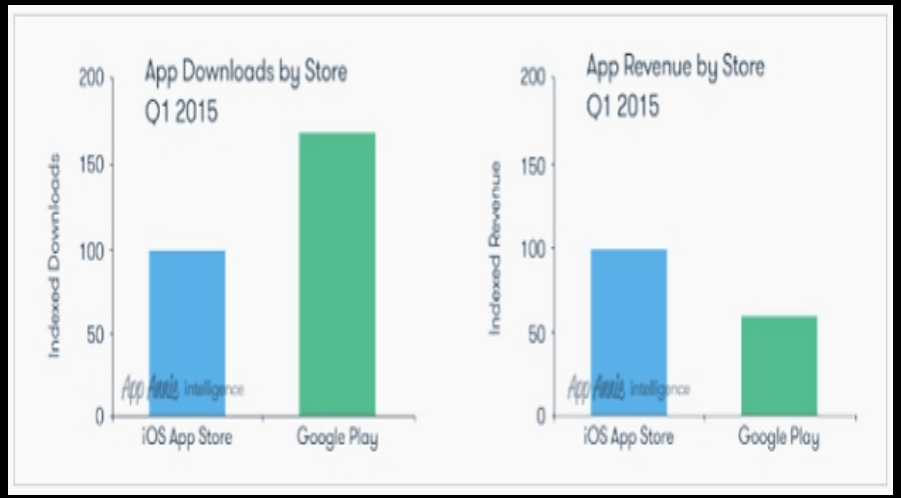
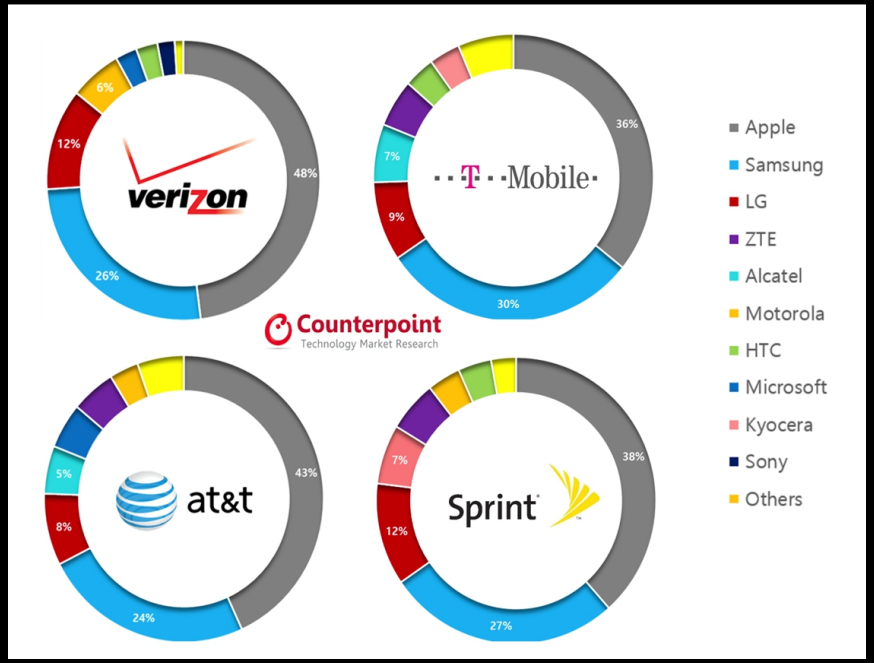
Amazing iPhone Apps with Objective-C

A CS50Seminar by Zack Chauvin’17

Why iPhone?


App Downloads by Store
Q1 2015
Indexed Downloads
200
150
100
50
0
iOS App Store
Google Play
App Revenue by Store
Q1 2015
Indexed Revenue
200
150
100
50
0
iOS App Store
Google Play


verizon
48%
26%
12%
6%
T-Mobile
36%
30%
9%
7%
Counterpoint
Technology Market Research
at&t
43%
24%
8%
5%
Sprint
38%
27%
12%
7%
Apple
Samsung
LG
ZTE
Alcatel
Motorola
HTC
Microsoft
Kyocera
Sony
Others

Why Objective-C?

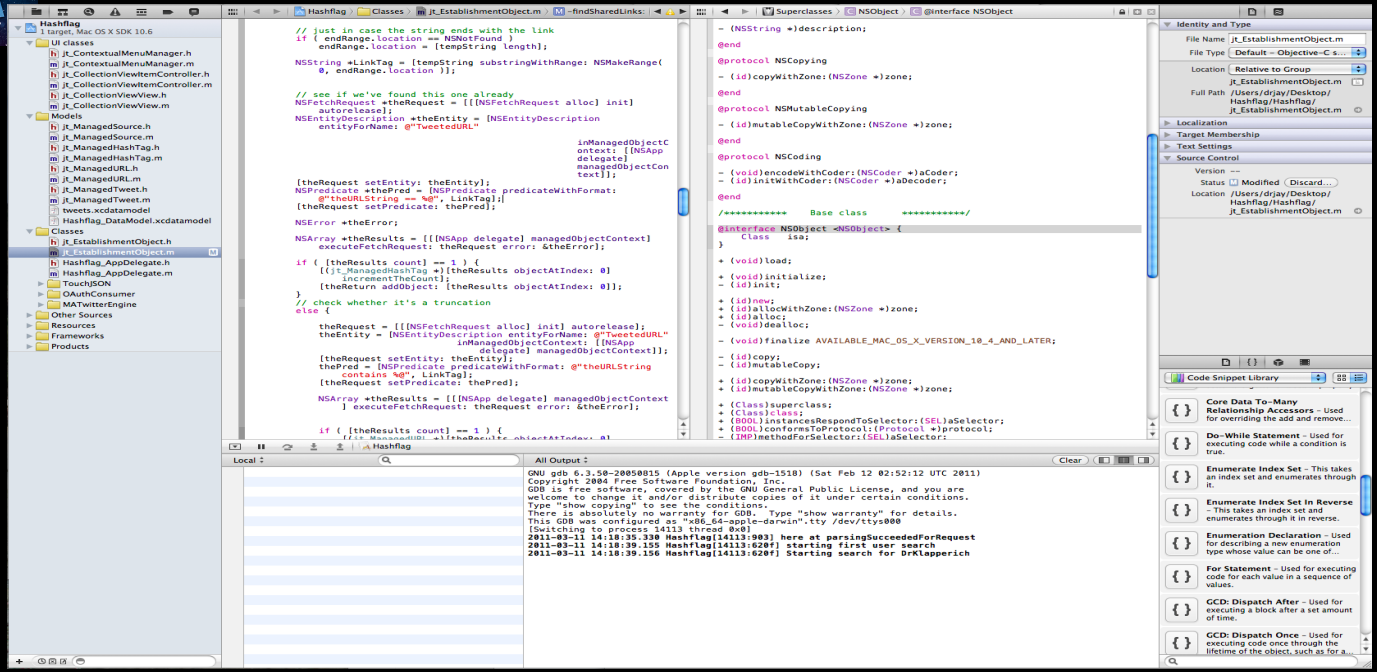
Wealth of Resources

Established language

Similarity to C

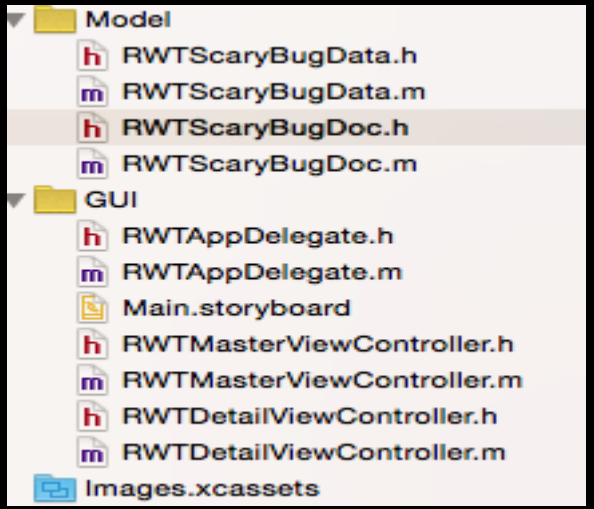
Dominates Industry

Xcode


Hashflag
1 target, Mac OS X SDK 10.6
UI classes
jt_ContextualMenuManager.h
jt_ContextualMenuManager.m
jt_CollectionViewItemController.h
jt_CollectionViewItemController.m
jt_CollectionViewView.h
jt_CollectionViewView.m
Models
jt_ManagedSource.h
jt_ManagedSource.m
jt_ManagedHashTag.h
jt_ManagedHashTag.m
jt_ManagedURL.h
jt_ManagedURL.m
jt_ManagedTweet.h
jt_ManagedTweet.m
tweets.xcdatamodel
Hashflag_DataModel.xcdatamodel
Classes
jt_EstablishmentObject.h
jt_EstablishmentObject.m
Hashflag_AppDelegate.h
Hashflag_AppDelegate.m
TouchJSON
OAuthConsumer
MATwitterEngine
Other Sources
Resources
Frameworks
Products
// just in case the string ends with the link
if (endRange.location == NSNotFound)
endRange.location = [tempString length];
NSString *LinkTag = [tempString substringWithRange: NSMakeRange(
0, endRange.location)];
// see if we've found this one already
NSFetchRequest *theRequest = [[[NSFetchRequest alloc] init]
autorelease];
NSEntityDescription *theEntity = [NSEntityDescription
entityForName: @"TweetedURL"
inManagedObjectC
ontext: [[NSApp
delegate]
managedObjectCon
text]];
[theRequest setEntity: theEntity];
NSPredicate *thePred = [NSPredicate predicateWithFormat:
@"theURLString == %@", LinkTag];
[theRequest setPredicate: thePred];
NSError *theError;
NSArray *theResults = [[[NSApp delegate] managedObjectContext]
executeFetchRequest: theRequest error: &theError];
if ([theResults count] == 1) {
[(jt_ManagedHashTag *)[theResults objectAtIndex: 0]
incrementTheCount];
[theReturn addObject: [theResults objectAtIndex: 0]];
}
// check whether it's a truncation
else {
theRequest = [[[NSFetchRequest alloc] init] autorelease];
theEntity = [NSEntityDescription entityForName: @"TweetedURL"
inManagedObjectContext: [[NSApp
delegate] managedObjectContext]];
[theRequest setEntity: theEntity];
thePred = [NSPredicate predicateWithFormat: @"theURLString
contains %@", LinkTag];
[theRequest setPredicate: thePred];
NSArray *theResults = [[[NSApp delegate] managedObjectContext
] executeFetchRequest: theRequest error: &theError];
if ([theResults count] == 1) {
- (NSString *)description;
@end
@protocol NSCopying
- (id)copyWithZone:(NSZone *)zone;
@end
@protocol NSMutableCopying
- (id)mutableCopyWithZone:(NSZone *)zone;
@end
@protocol NSCoding
- (void)encodeWithCoder:(NSCoder *)aCoder;
- (id)initWithCoder:(NSCoder *)aDecoder;
@end
/*********** Base class ***********/
@interface NSObject <NSObject> {
Class isa;
}
+ (void)load;
+ (void)initialize;
- (id)init;
+ (id)new;
+ (id)allocWithZone:(NSZone *)zone;
+ (id)alloc;
- (void)dealloc;
- (void)finalize AVAILABLE_MAC_OS_X_VERSION_10_4_AND_LATER;
- (id)copy;
- (id)mutableCopy;
+ (id)copyWithZone:(NSZone *)zone;
+ (id)mutableCopyWithZone:(NSZone *)zone;
+ (Class)superclass;
+ (Class)class;
+ (BOOL)instancesRespondToSelector:(SEL)aSelector;
+ (BOOL)conformsToProtocol:(Protocol *)protocol;
- (IMP)methodForSelector:(SEL)aSelector;
Identity and Type
File Name jt_EstablishmentObject.m
File Type Default – Objective-C s...
Location Relative to Group
jt_EstablishmentObject.m
Full Path /Users/drjay/Desktop/Hashflag/Hashflag/jt_EstablishmentObject.m
Localization
Target Membership
Text Settings
Source Control
Version --
Status Modified Discard...
Location /Users/drjay/Desktop/Hashflag/Hashflag/jt_EstablishmentObject.m
Code Snippet Library
Core Data To-Many Relationship Accessors – Used for overriding the add and remove...
Do-While Statement – Used for executing code while a condition is true.
Enumerate Index Set – This takes an index set and enumerates through it.
Enumerate Index Set In Reverse – This takes an index set and enumerates through it in reverse.
Enumeration Declaration – Used for describing a new enumeration type whose value can be one of...
For Statement – Used for executing code for each value in a sequence of values.
GCD: Dispatch After – Used for executing a block after a set amount of time.
GCD: Dispatch Once – Used for executing code once through the lifetime of the object, such as for a...
Local
All Output
Clear
GNU gdb 6.3.50-20050815 (Apple version gdb-1518) (Sat Feb 12 02:52:12 UTC 2011)
Copyright 2004 Free Software Foundation, Inc.
GDB is free software, covered by the GNU General Public License, and you are
welcome to change it and/or distribute copies of it under certain conditions.
Type "show copying" to see the conditions.
There is absolutely no warranty for GDB. Type "show warranty" for details.
This GDB was configured as "x86_64-apple-darwin".tty /dev/ttys000
[Switching to process 14113 thread 0x0]
2011-03-11 14:18:35.330 Hashflag[14113:903] here at parsingSucceededForRequest
2011-03-11 14:18:39.155 Hashflag[14113:620f] starting first user search
2011-03-11 14:18:39.156 Hashflag[14113:620f] Starting search for DrKlapperich

Broad Overview ofObj-C

Similarity to .c/.h



Object-Oriented Programming

```
@interface Car : NSObject

@property (strong) NSString *brand;
@property (strong) NSString *make;
@property (assign) float speed;

- (void)startDrivingAtSpeed:(float)speed;
- (void)stopDriving;

@end
```

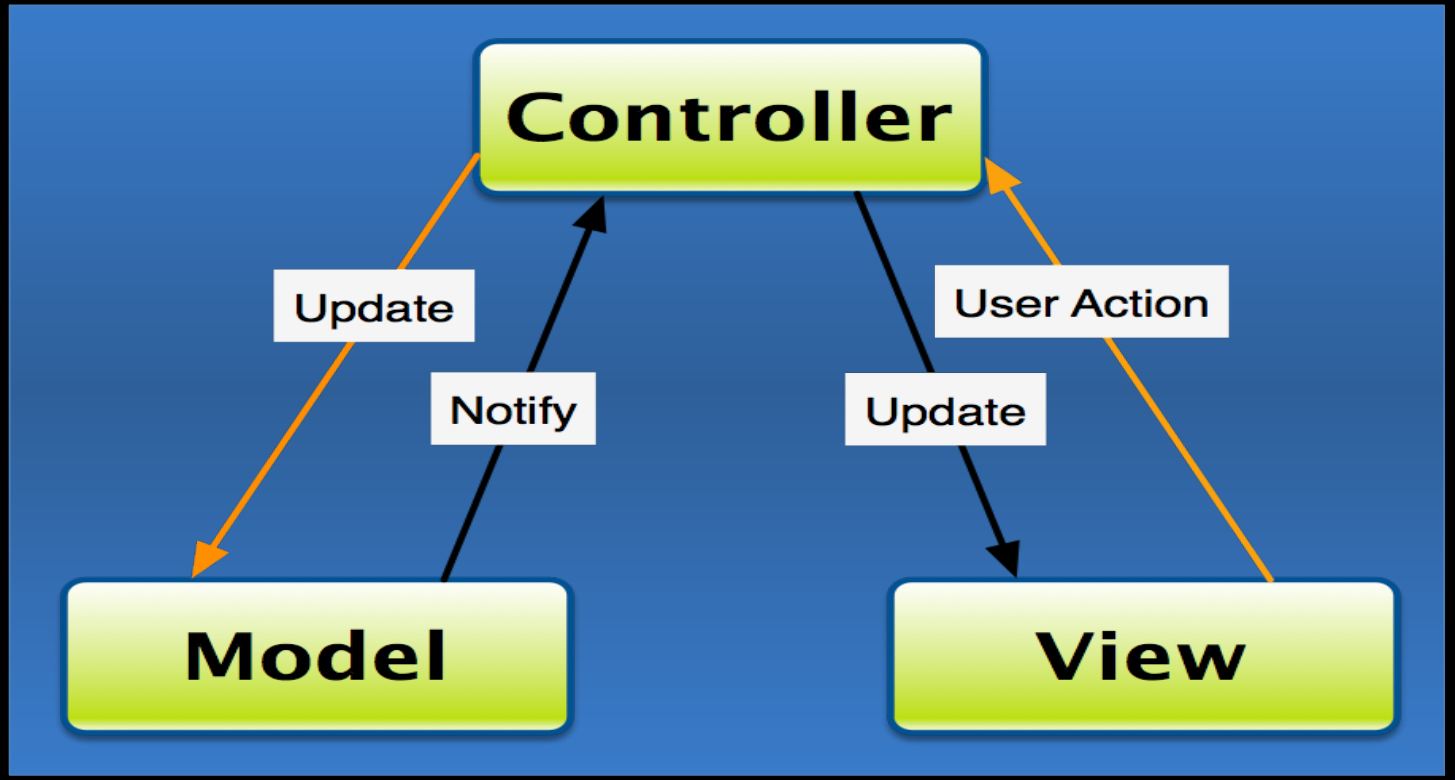
Instance and Class Methods

```
// this is an instance method
- (return type)myMethodTakesAString:(NSString*)stringVar AndAFloat:(float)floatVar;

// this is a class method
+ (return type)myClassMethodTakesAString:(NSString*)string;
```

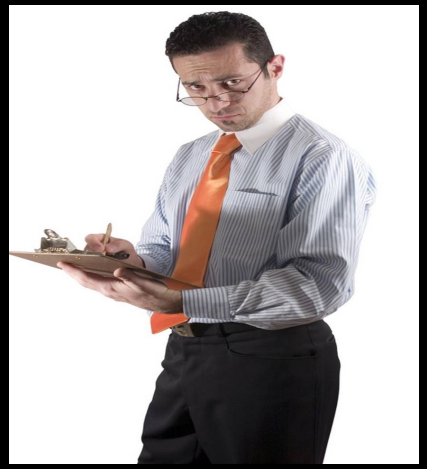
```
MyClass* instance = [[MyClass alloc] init];
[instance myMethodTakesAString:@"Hello!" andAFloat:1.5];
[MyClass myClassMethodTakesAString:"Hello Again!"];
```

Model View Controller



Analogy

Controller



Model

View

Code Example: Scary Bugs

Final Tips

Make a small practice app

before you jump into

the final project!

Usegitto collaborate with

partners and save work!

Run your code often

to catch bugs early!

Resources

raywenderlich.com

Stanford iOS Course (2013)

http://rypress.com/tutorials/objective-c