iOS App Development

3.3 Advanced Programming
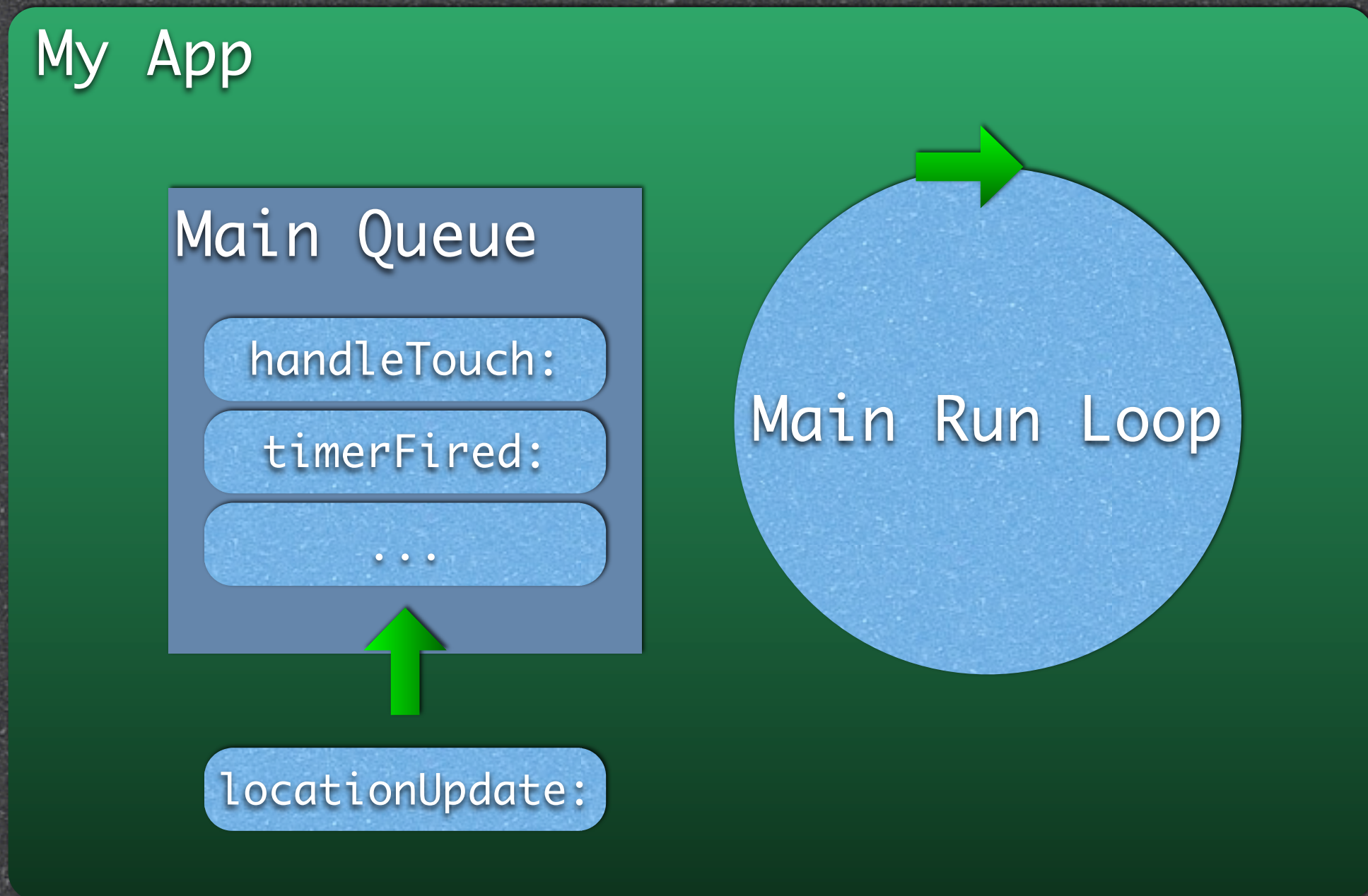
Advanced Programming

- Main Run Loop, Memory Management and ARC

- Block & GCD
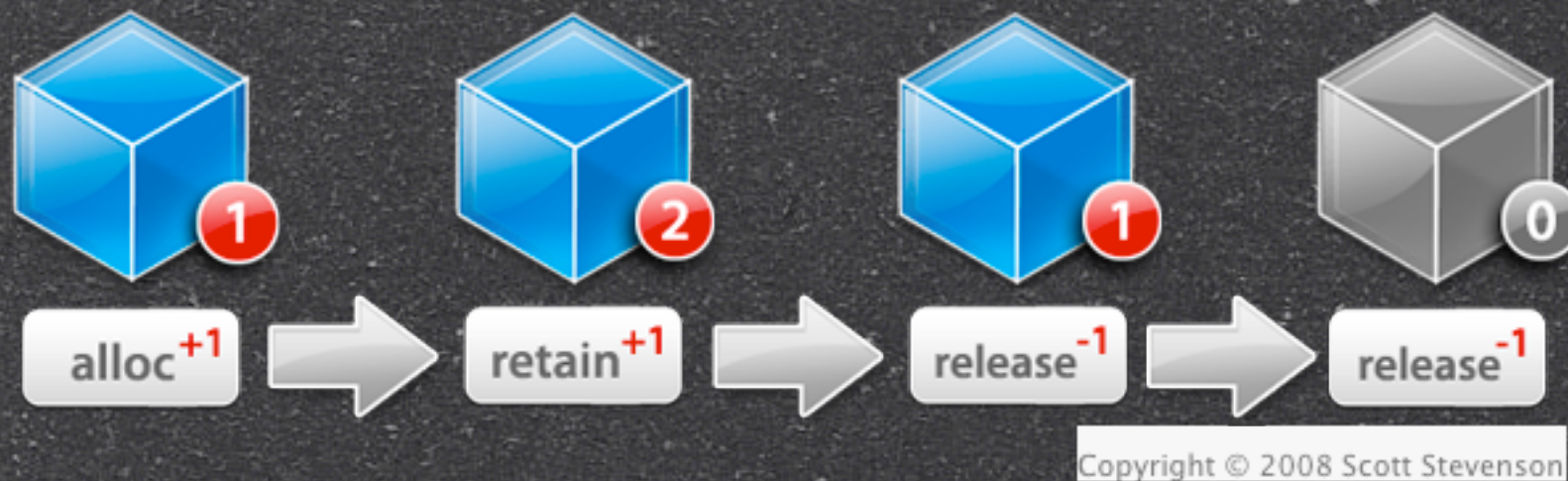
Memory Management

Without ARC

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```
MyClass *object = [[MyClass alloc] init]; // 1
[object retain]; // 2
...
[object release]; // 1
...
[object release]; // 0
```

Memory Management

@*autoreleasepool*
{

Method1: { .   Method2:

}

Pool

```
MyClass *object = [[MyClass alloc] init]; // 1
[object autorelease]; // 1
...
```

ARC - iOS 5

- Automatic Reference Counting
    - retain/release/autorelease not allowed
    - Reference to objects handle it
        - strong/weak reference
            - @property
            - local variable

Block - iOS4

```
BOOL (^isInputEvent)(int); // Block Variable

isInputEvent = ^(int input) { // Implement Block
    if ( (input % 2 ) == 0 ) {
        return YES;
    } else {
        return NO;
    }
};


if ( isInputEvent(2) ) { // Call Block
    // ...
}
```

Block - iOS4

```objc
NSString *text = @"text";
[queue addBlock:^{
    NSLog(@"Text is:%@", text);
}];
```

```objc
- (void) addBlock:(void (^)(void)) block
{
...
}
```

GCD - iOS 4

```objc
// Indicator animation starts
[self.indicator startAnimating];
self.imageView.image = nil;

dispatch_async(dispatch_get_global_queue(DISPATCH_QUEUE_PRIORITY_DEFAULT, 0), ^{
    // Background
    NSURL *url = [NSURL URLWithString:@"http://some.internet.image.jpg"];

    NSData *data = [NSData dataWithContentsOfURL:url];
    UIImage *image = [UIImage imageWithData:data];
    dispatch_async(dispatch_get_main_queue(), ^{
        // Main thread
        self.imageView.image = image;
        [self.indicator stopAnimating];
    });
});
```