

Introduction to 2d Game Programming Using cocos2d



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Overview

- Why cocos2d?
- Beginner Hurdles
- cocos2d Basics
- cocos2d Specifics
- Samples and Tests
- Resources

Why cocos2d?

- Well over 200 games shipped
- Great licensing
- Lots of features
- Extremely active community
- What's your business?

Beginner Hurdles

Beginner Hurdles

- Objective-C and Memory
- Setting Up a cocos2d Project
- Running Samples and Tests
- Understanding Tests

Learn Objective-C

Read: “Learning Objective-C: A Primer”

iPhone OS 3.1 Library ▶ Topics ▶ General ▶ Learning Objective-C: A Primer

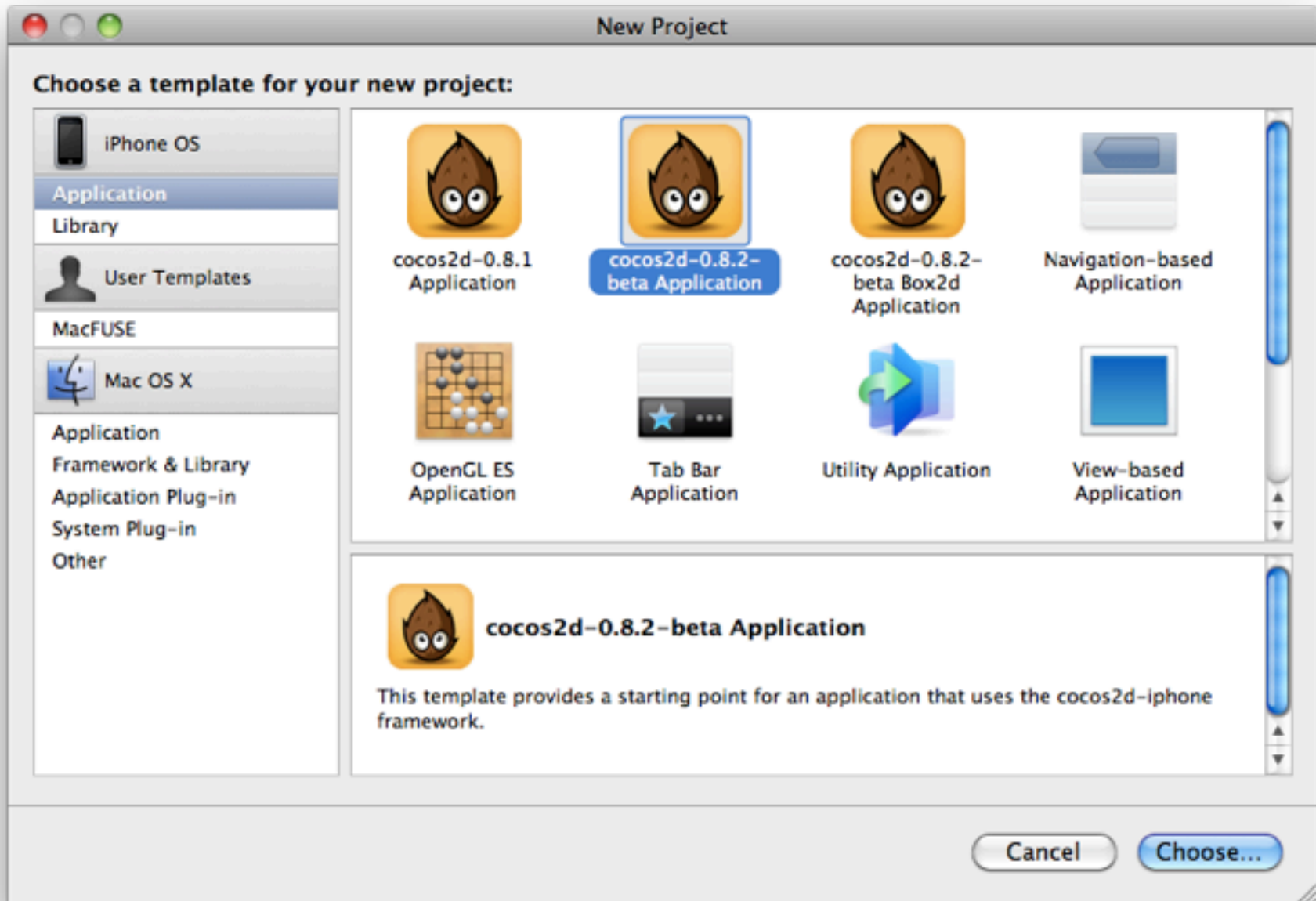
Learn Memory Management

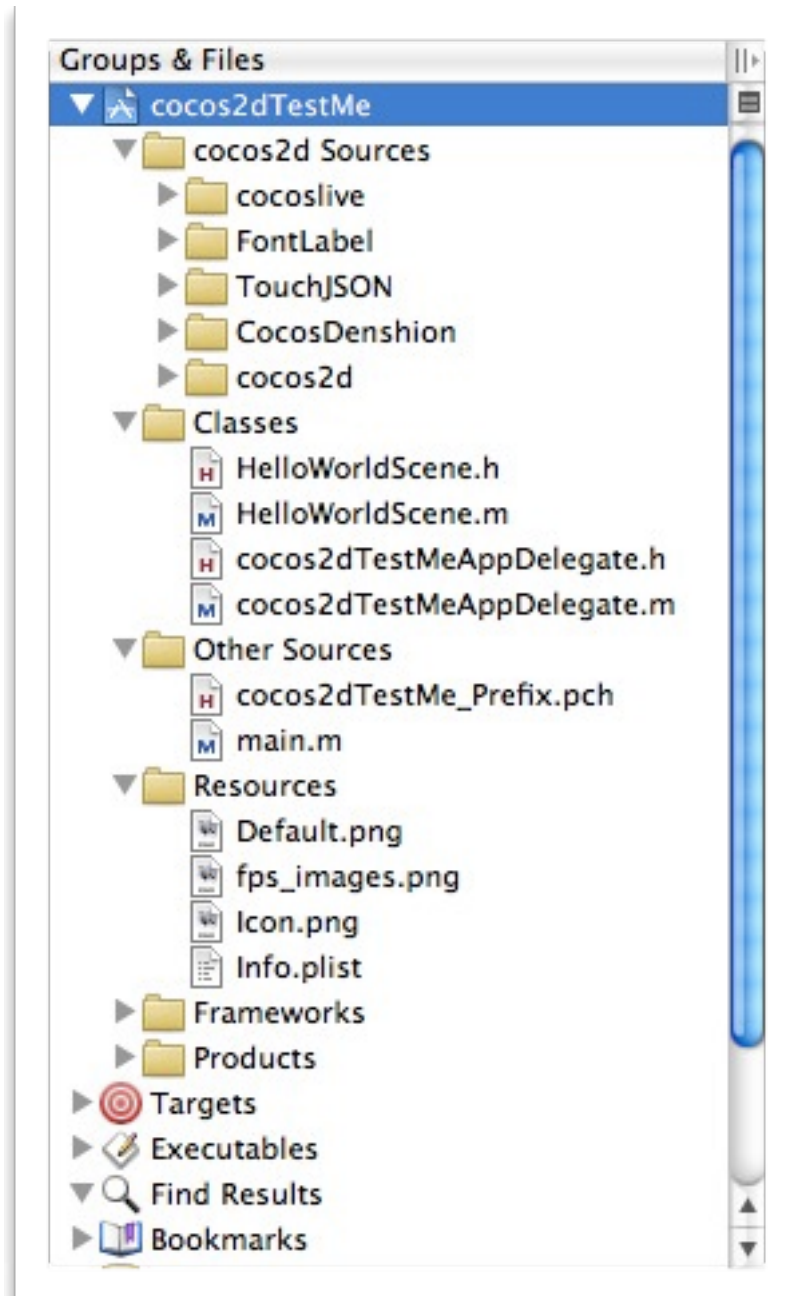
Read: “Memory Management Programming Guide for Cocoa”

iPhone OS 3.1 Library ▶ Topics ▶ Performance ▶ Memory Management Programming Guide for Cocoa ▶ iPhone Dev Center: Memc

cocos2d Project Setup

- Super easy ... now
- `sudo ./install_template.sh`

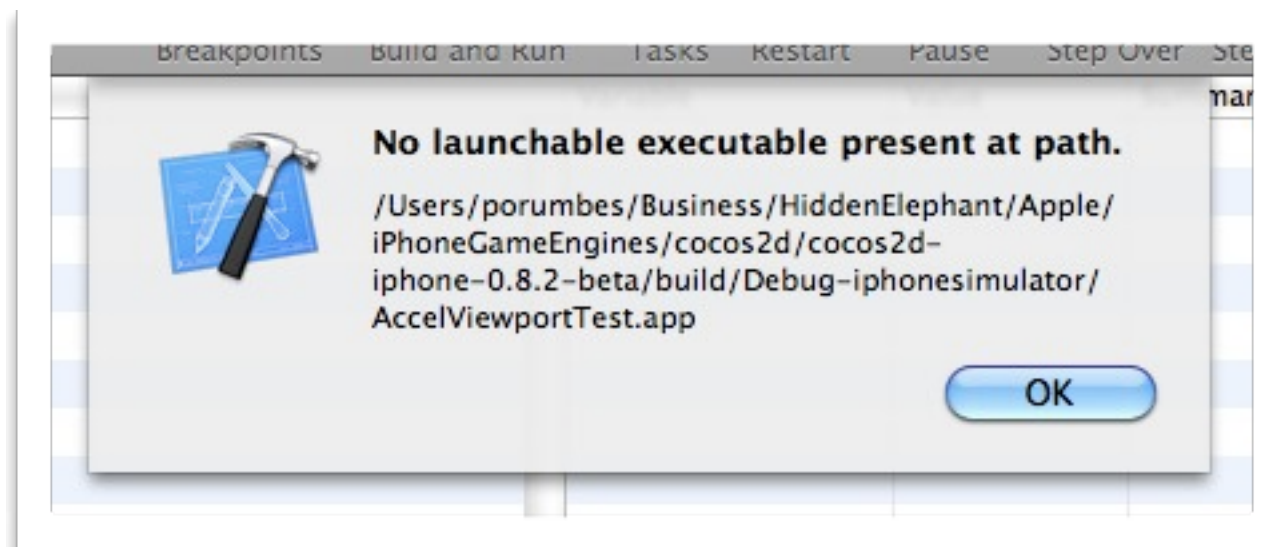






Running Samples & Tests

- Wonderful source of examples that people seem to overlook
- Once noticed, folks have issues running

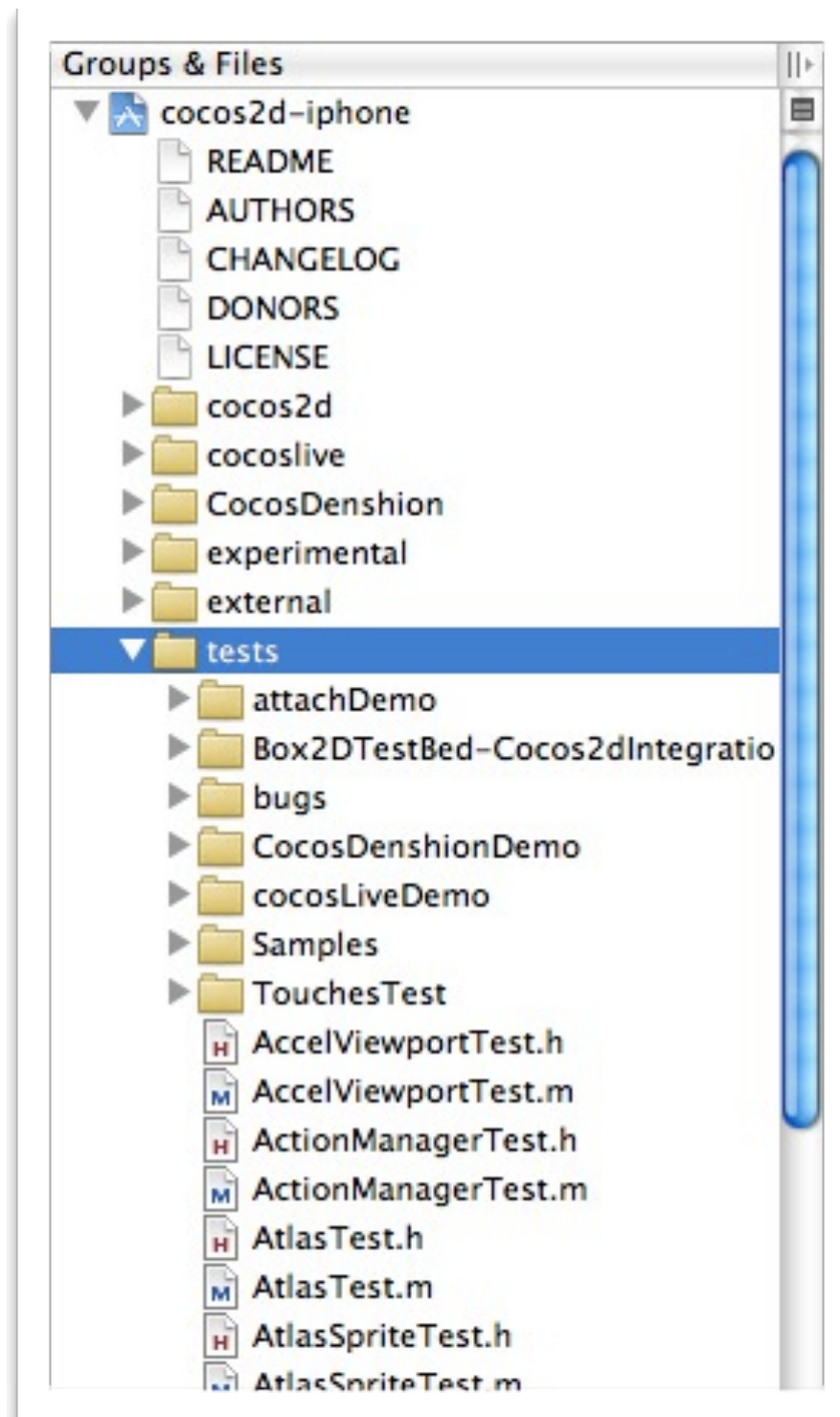


Running Samples & Tests

- Where are they and how do we run?

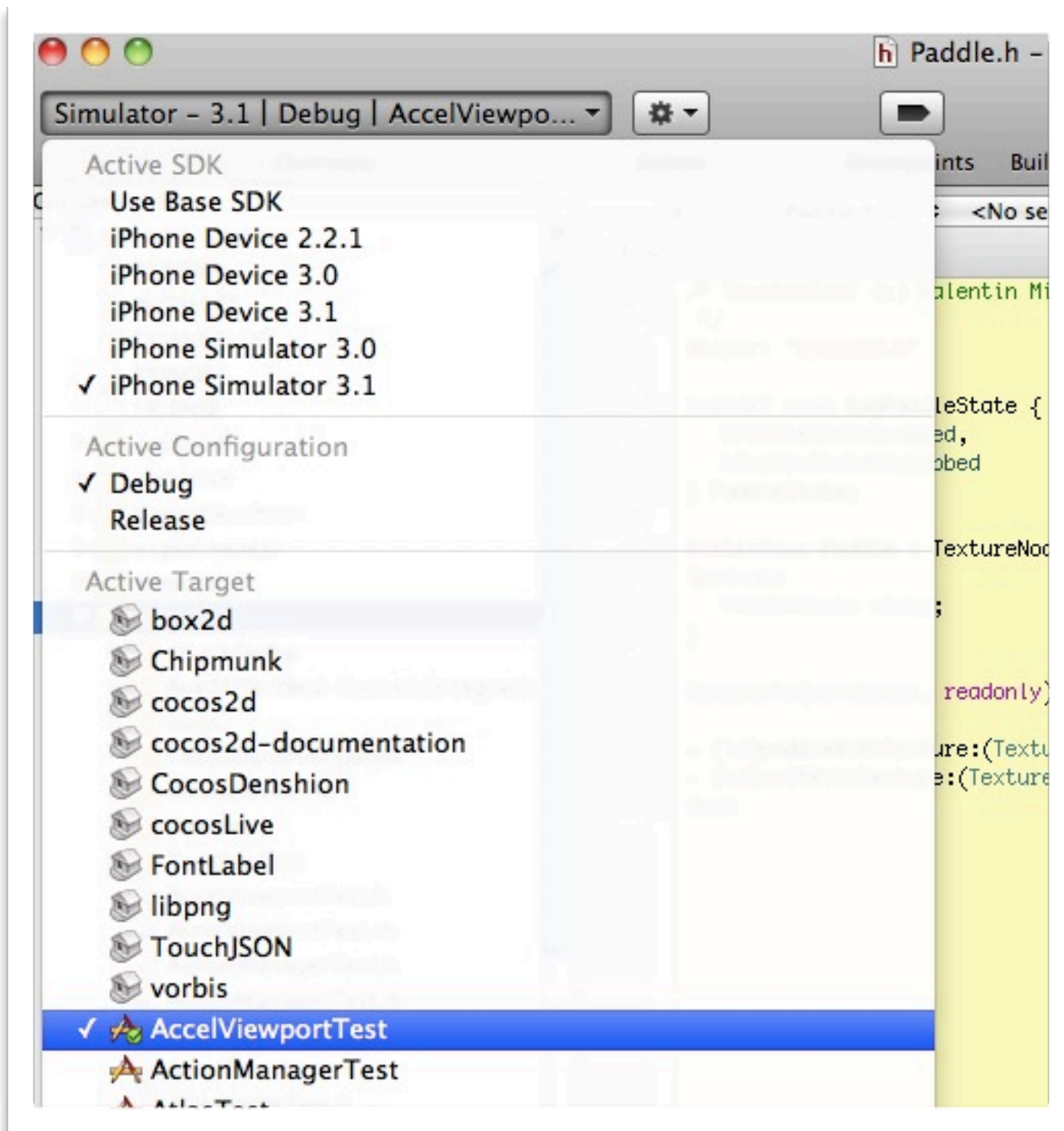


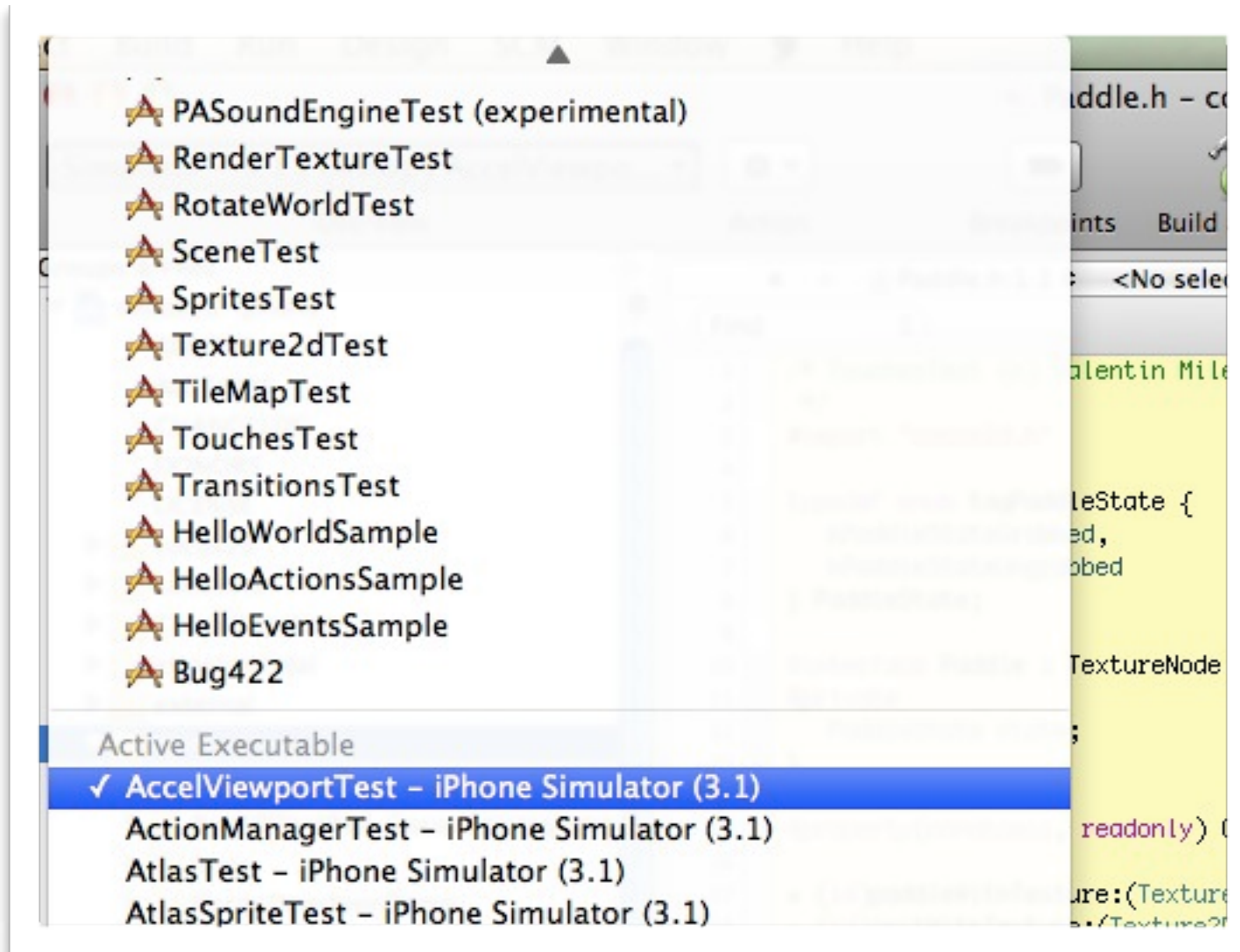
cocos2d-iphone.xcodeproj



Running Samples & Tests

- Make sure to set both the “Active Target” and the “Active Executable”





Tests

- Not games
- Meant to exercise some specific functionality
- Useful for figuring stuff out

Tests

- Structured very similarly
- Some base test class



- Instantiate new test by advancing through NSStrings using NSStringFromClass

Tests

- Let's look at `AtlasSpriteTest` and `EaseActionsTest`

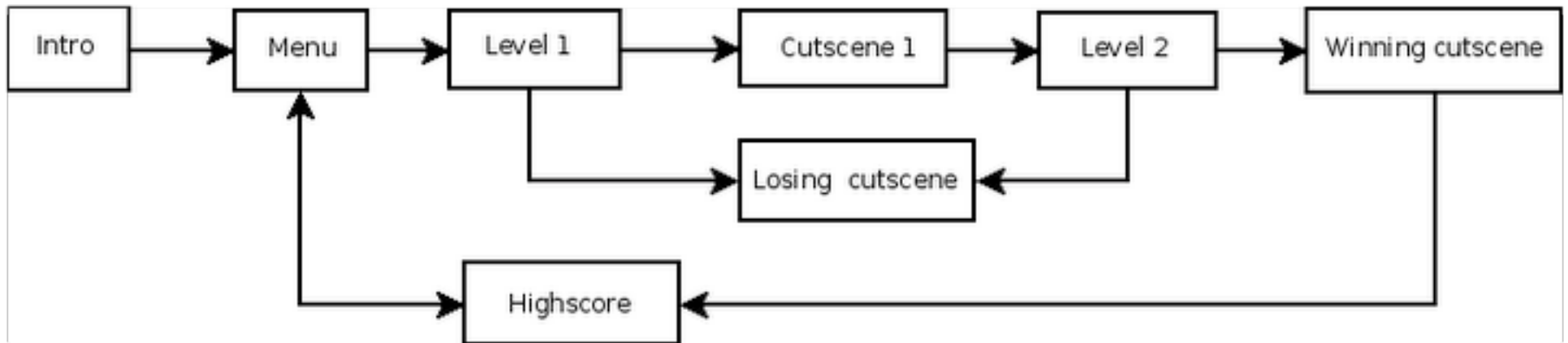
cocos2d Basics

cocos2d Basics

- Game has Scenes
- Each Scene has some number of Layers
- Layers capture user interaction and contain sprites
- Director manages the scenes

Scenes

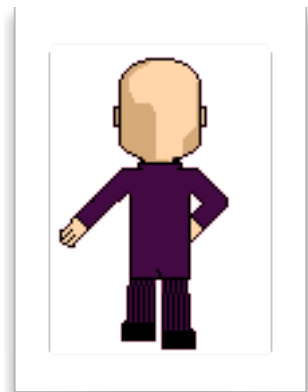
- Screens in your game
- Can almost think of them as separate apps



Layers

- Take up the entire screen
- Setup to handle touch and accelerometer
- Can contain other layers and sprites (and other stuff)

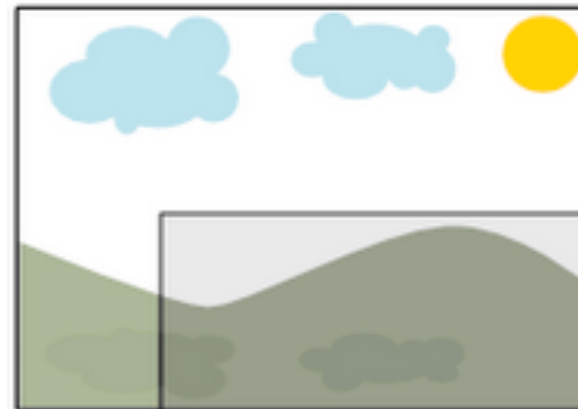
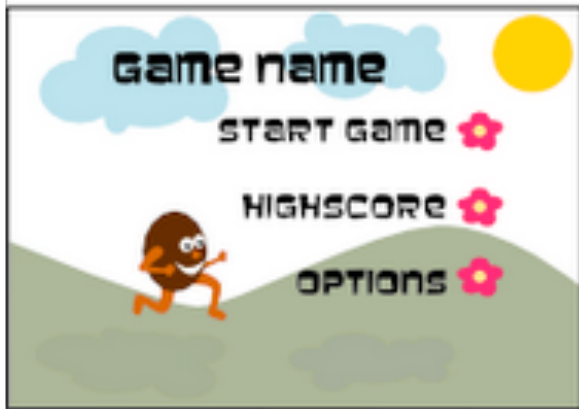
Sprites



Director

- Manages moving between Scenes
- Pausing and running Scenes
- Sets up OpenGL ES
- Layer asks Director to move on

A regular menu scene

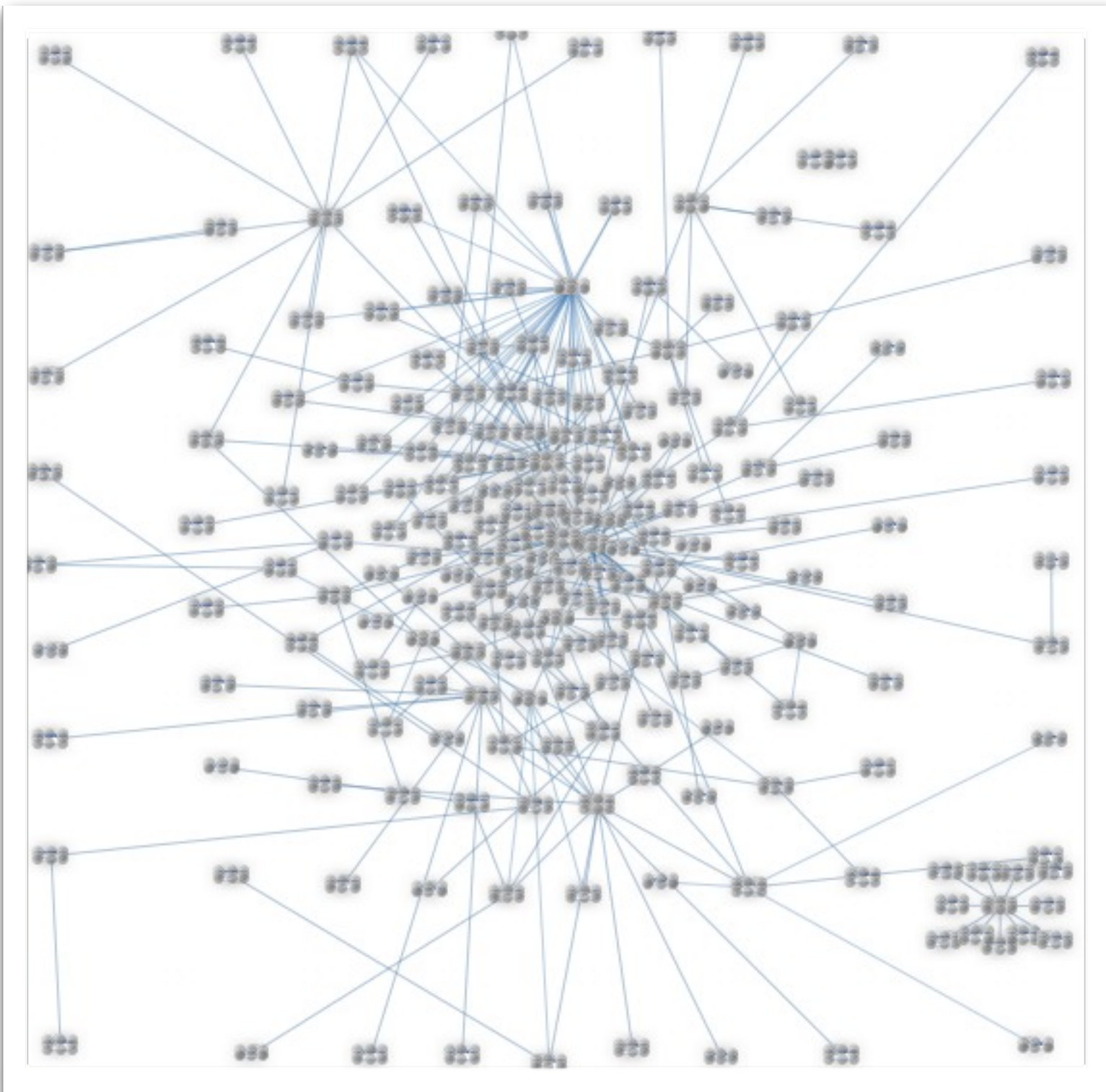


Background layer

Animation layer

Menu layer

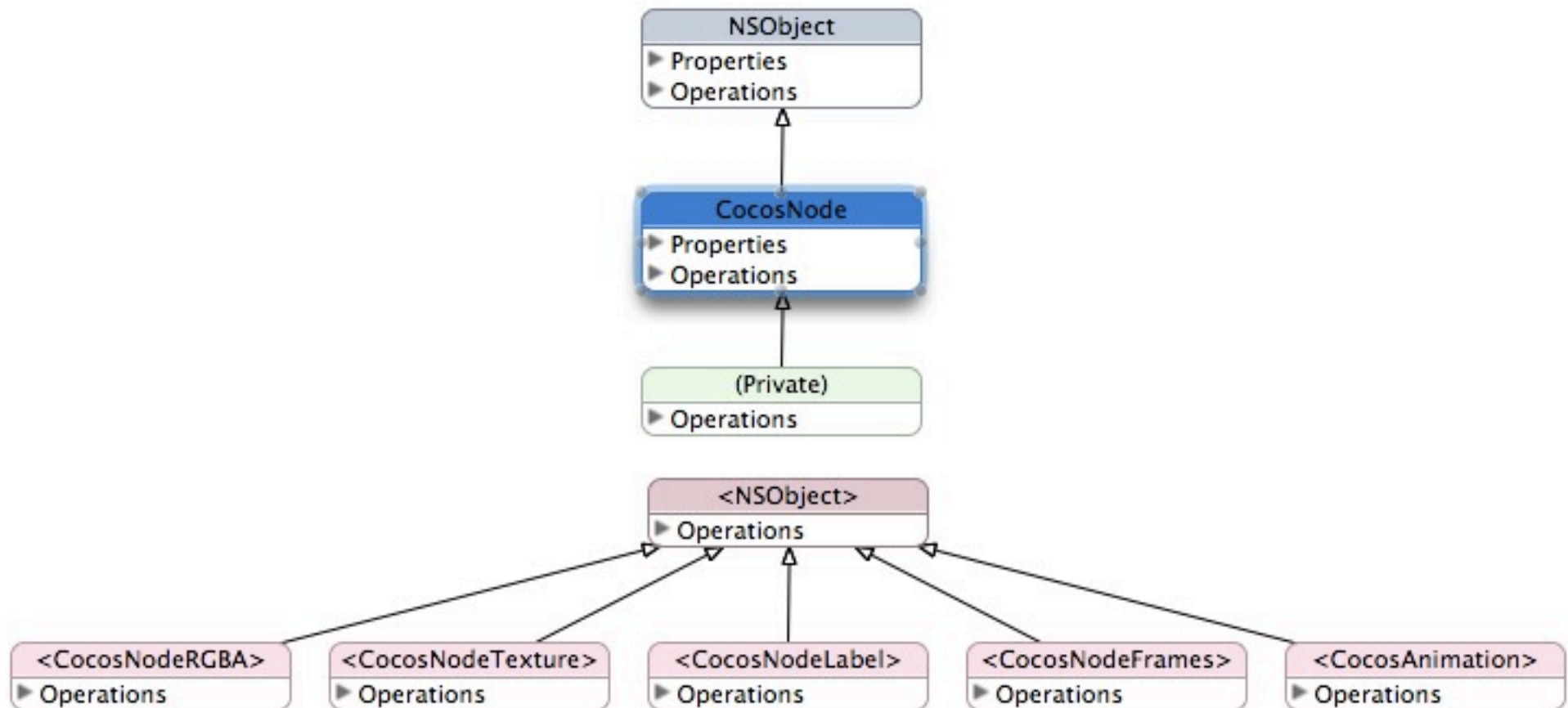
cocos2d Specifics



Important Classes

- CocosNode
- Scene
- Layer
- Director
- AtlasSprite
- AtlasSpriteManager

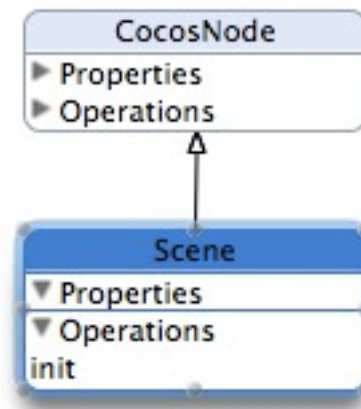
CocosNode



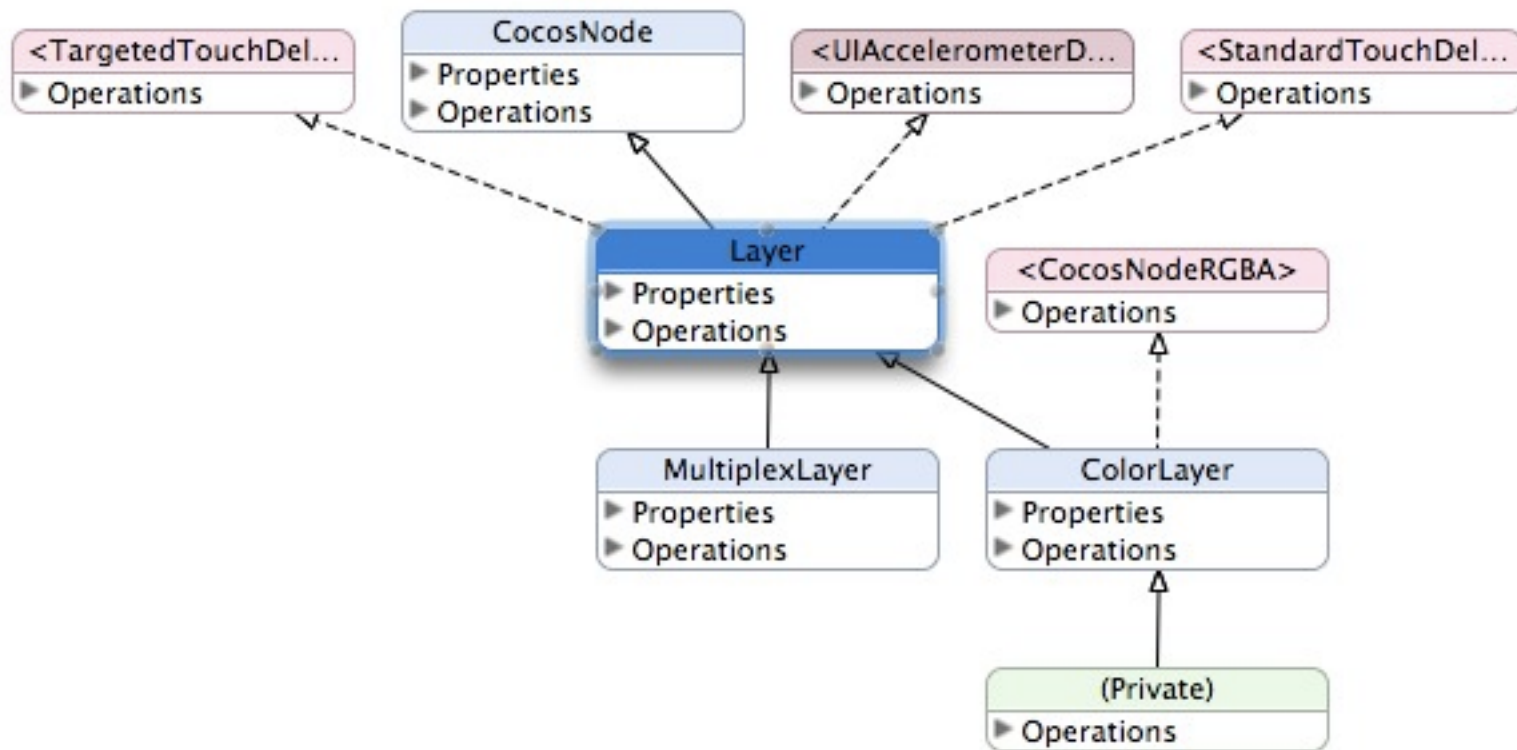
CocosNode

- Lots of properties
- position, scale, camera, OpenGL z position, children
- Most objects in cocos2d inherit from CocosNode

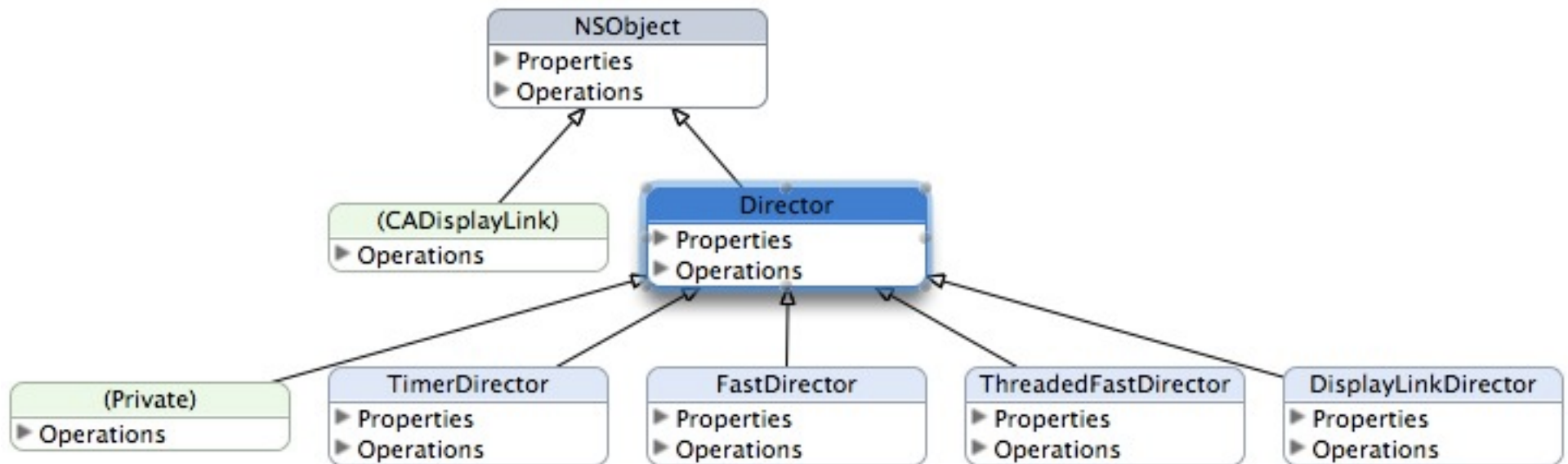
Scene



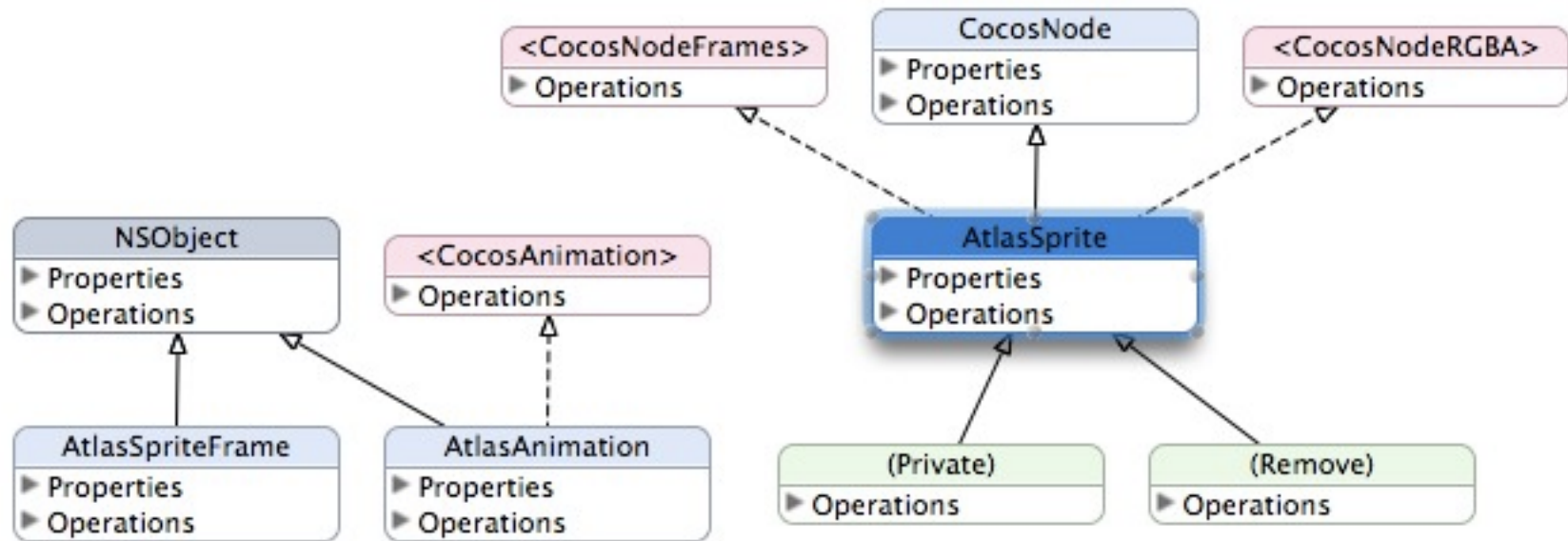
Layer



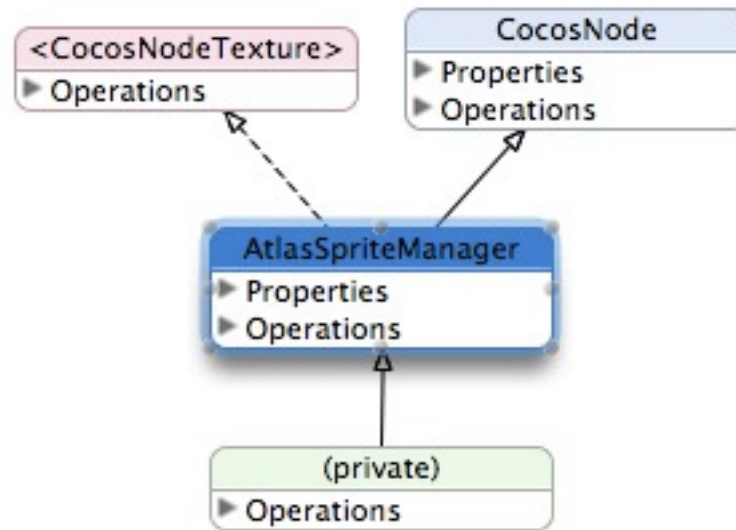
Director(s)



AtlasSprite

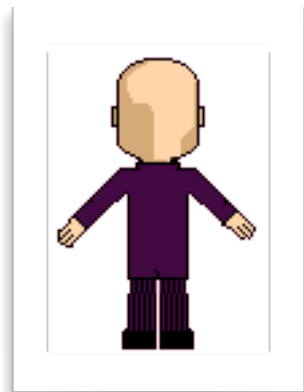
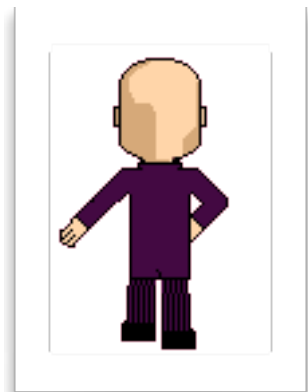


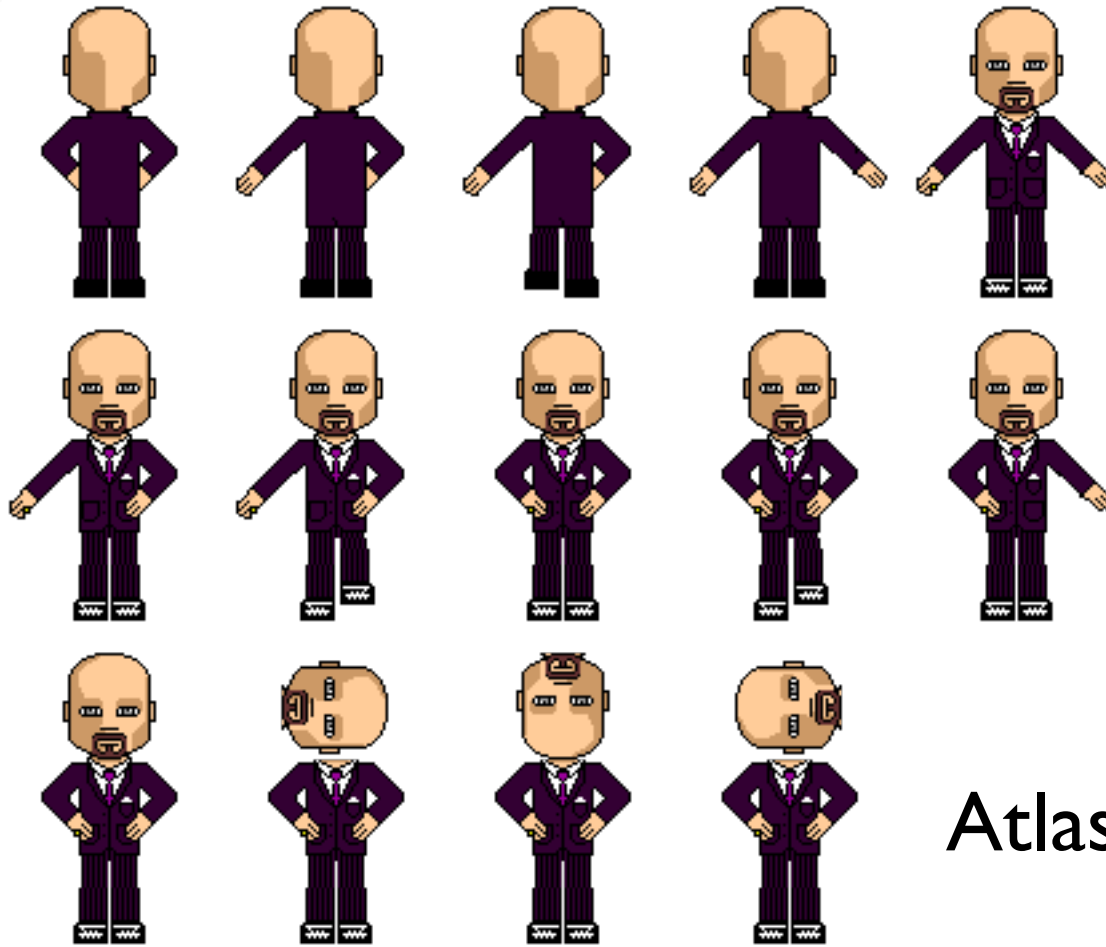
AtlasSpriteManager



Sprite vs. AtlasSprite

Sprites





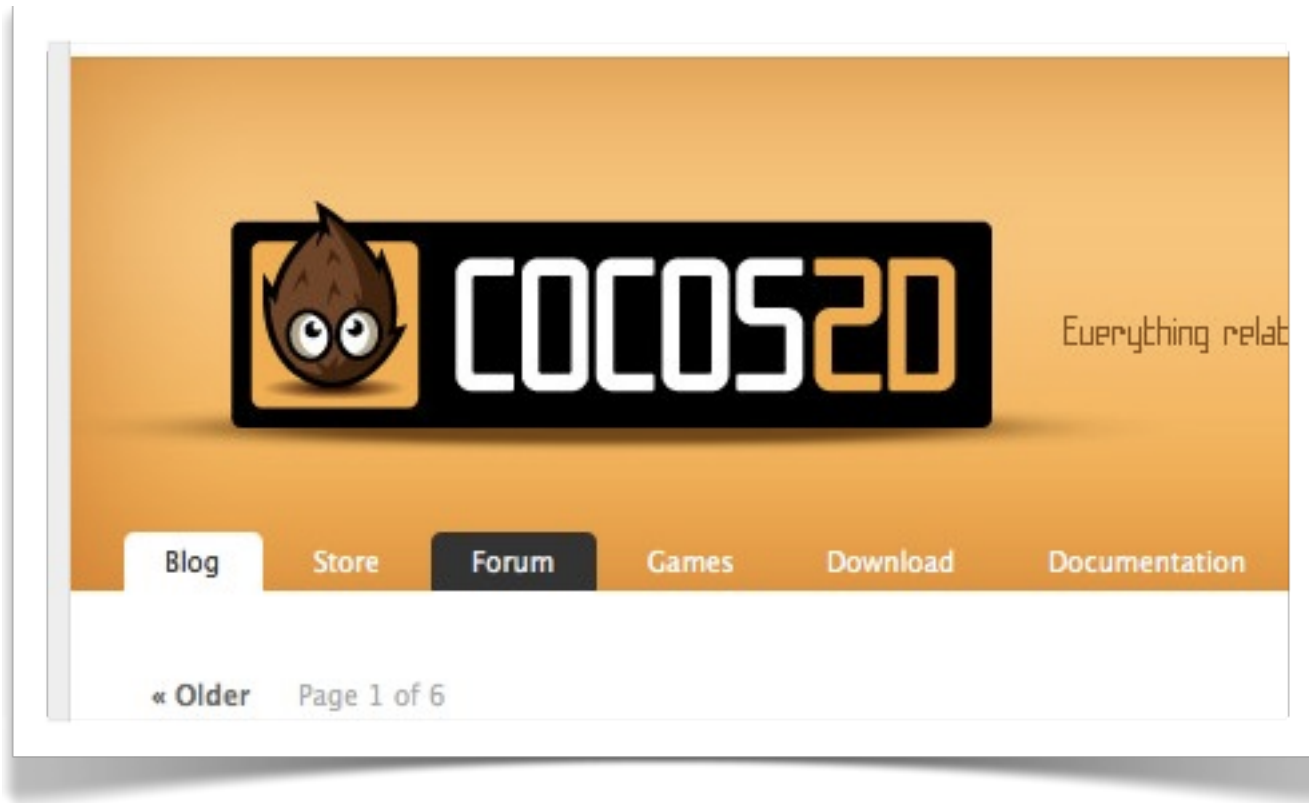
AtlasSprite

Sprite vs. AtlasSprite

- In general, don't use Sprites
- AtlasSprites way faster
- It's all about the OpenGL ES

Samples and Tests

Resources



<http://www.cocos2d-iphone.org/>

Resources

General documentation

- cocos2d [FAQ](#)
- cocos2d [License](#)
- cocos2d [Roadmap](#)

Developers documentation

- cocos2d [Best practices](#)
- cocos2d [Programming Guide](#)
- cocos2d [API reference](#)
- cocos2d [Tips and Tricks](#)
 - [Generic Tips and Tricks](#)
 - [Integrating cocos2d and UIKitLayer](#)
 - [cocos2d for Flash Developers](#)
- resources:
 - [cocos2d sample games](#)
 - [iPhone Recommended reading](#)
 - [free and commercial sound, music and graphics resources](#)

Wiki: <http://www.cocos2d-iphone.org/wiki/doku.php/>

Resources

Forums: <http://www.cocos2d-iphone.org/forum/>

iPhoneGameJam.com

Thanks!