Openframeworks
x iPad Game Design (3)

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Today's Topic

- Addons in OF
- Three examples
  - Show unicode fonts
  - Play sounds
  - Touch polygon

ofxAddons

A directory of extensions and libraries for the OpenFrameworks creative coding toolkit. Compiled fresh from Github daily.

Animation / Bridges / Computer Vision / Graphics / GUI / Hardware Interface / iOS / Physics / Sound / Typography / Utilities / Video/Camera / Web/Networking /
Contribute your own! / See freshest addons!

Animation (24)

ofxAnimatable
by armadillu
Set of classes that to set up very simple animations, with curves, repeat modes and scheduling. [view on Github]

ofxAnimationKit
by yuichi1004
openFrameworks animation framework add-on. [view on Github]

ofxAssimpNISync
by alinakipoglu
Openframeworks addon to pose Assimp skinned meshes with OpenNI [view on Github]

ofxAssimpOpenNISkeletonSync
by alinakipoglu
Openframeworks addon to pose Assimp skinned meshes with OpenNI [view on Github]

ofxBoids
by after12am
An openframeworks addon that allow you to control animal motion such as bird flock and fish school in C++. [view on Github]

ofxCompositeMotion
by diasbruno
[view on Github]

ofxDisplayStackObject
by paulobarcelos
OpenFrameworks addon that allow dealing with "DisplayObjects" in a similar way Flash does. Each DisplayStackObject has its own translation, rotation, and color coordinates and can have as childs other DisplayStackObject that will inherit it's parents transformations. [view on Github]

ofxEasingFunc
by satoruhiga
super simple easing function collection [view on Github]

ofxFlash
by julapy
ofxFlash is a addon for openFrameworks which enables the loading of Flash XFL files into openFrameworks [view on Github]

ofxFlock
by mummey
An implementation of Flocking based on the work of Steven Woodcock and Craig

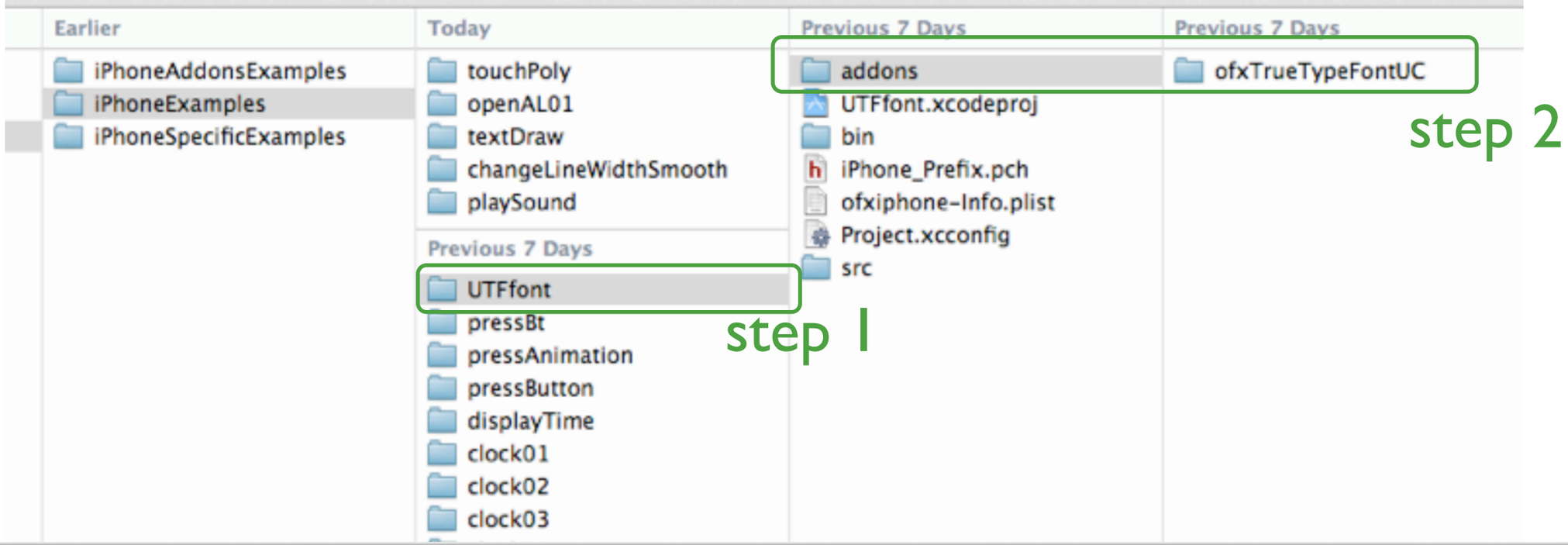
ofxOpenSteer
by underdoeg
openframeworks wrapper for openSteer [view on Github]

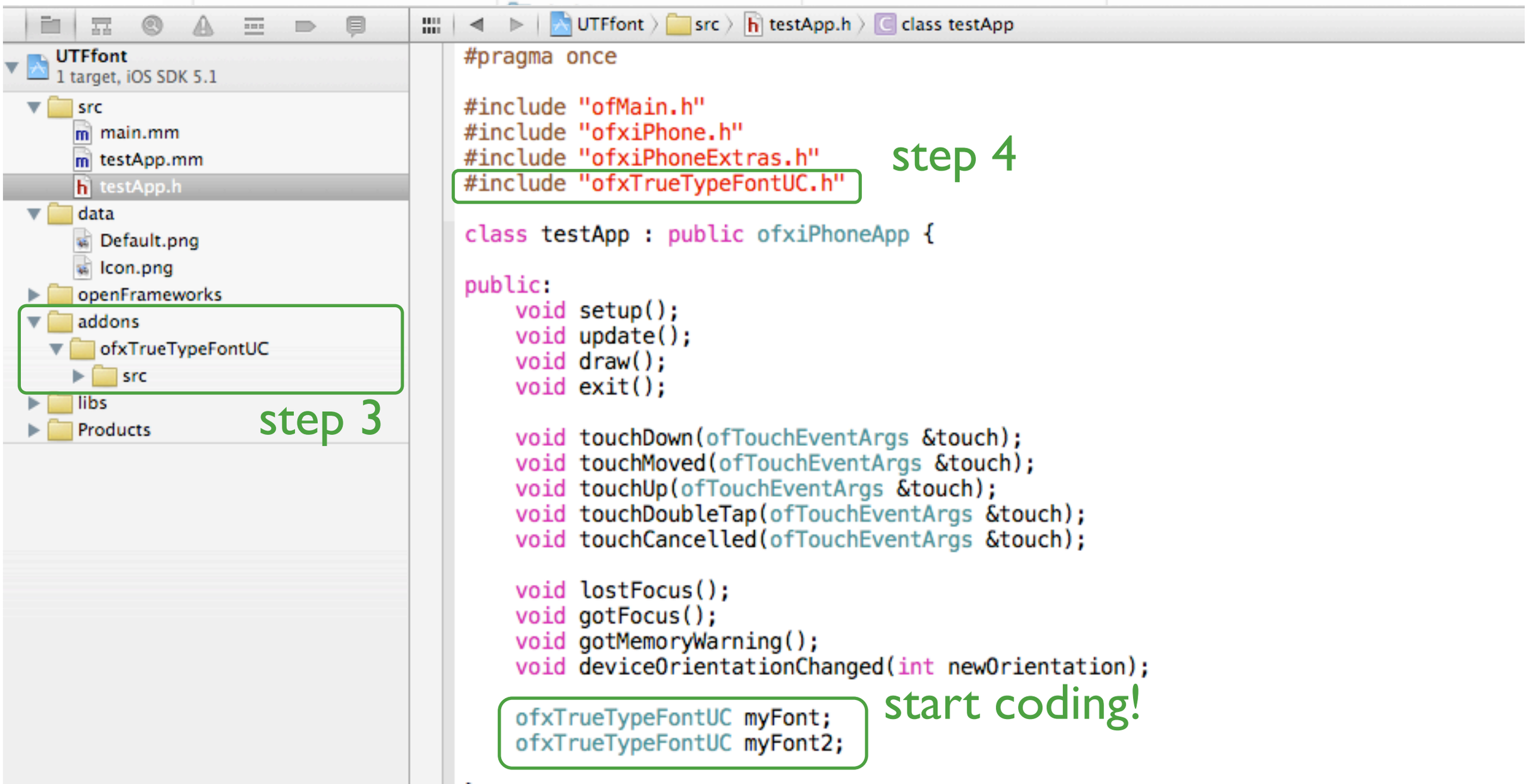
ofxParticleEmitter
by sroske
A port of a particle renderer for openframeworks and Particle Designer

http://ofxaddons.com/

How to use addons into OF?

Step 1: Create a basic OF application
Step 2: Create a folder named "addons" inside project folder
and put addons "ofxTrueTypeFontUC" into it
Step 3: Open your project.xcodeproj and add files in addons
and only keep src folder
Step 4: Include the header file in testApp.h


Earlier
iPhoneAddonsExamples
iPhoneExamples
iPhoneSpecificExamples
Today
touchPoly
openAL01
textDraw
changeLineWidthSmooth
playSound
Previous 7 Days
UTFfont
pressBt
pressAnimation
pressButton
displayTime
clock01
clock02
clock03
Previous 7 Days
addons
UTFfont.xcodeproj
bin
iPhone_Prefix.pch
ofxiphone-Info.plist
Project.xcconfig
src
Previous 7 Days
ofxTrueTypeFontUC
step 1
step 2


UTFfont
1 target, iOS SDK 5.1
src
main.mm
testApp.mm
testApp.h
data
Default.png
Icon.png
openFrameworks
addons
ofxTrueTypeFontUC
src
libs
Products
step 3
UTFfont
src
testApp.h
class testApp
#pragma once
#include "ofMain.h"
#include "ofxiPhone.h"
#include "ofxiPhoneExtras.h"
#include "ofxTrueTypeFontUC.h"
step 4
class testApp : public ofxiPhoneApp {
public:
void setup();
void update();
void draw();
void exit();
void touchDown(ofTouchEventArgs &touch);
void touchMoved(ofTouchEventArgs &touch);
void touchUp(ofTouchEventArgs &touch);
void touchDoubleTap(ofTouchEventArgs &touch);
void touchCancelled(ofTouchEventArgs &touch);
void lostFocus();
void gotFocus();
void gotMemoryWarning();
void deviceOrientationChanged(int newOrientation);
ofxTrueTypeFontUC myFont;
ofxTrueTypeFontUC myFont2;
start coding!

Show unicode fonts

- you can’t display Japanese, Chinese...etc directly
- you should use addons “ofxTrueTypeFontUC”

Fonts

- font type
  - TrueType fonts (*.ttf)
  - OpenType fonts (*.oft)
- put them into “project/bin/data/”

Show unicode fonts

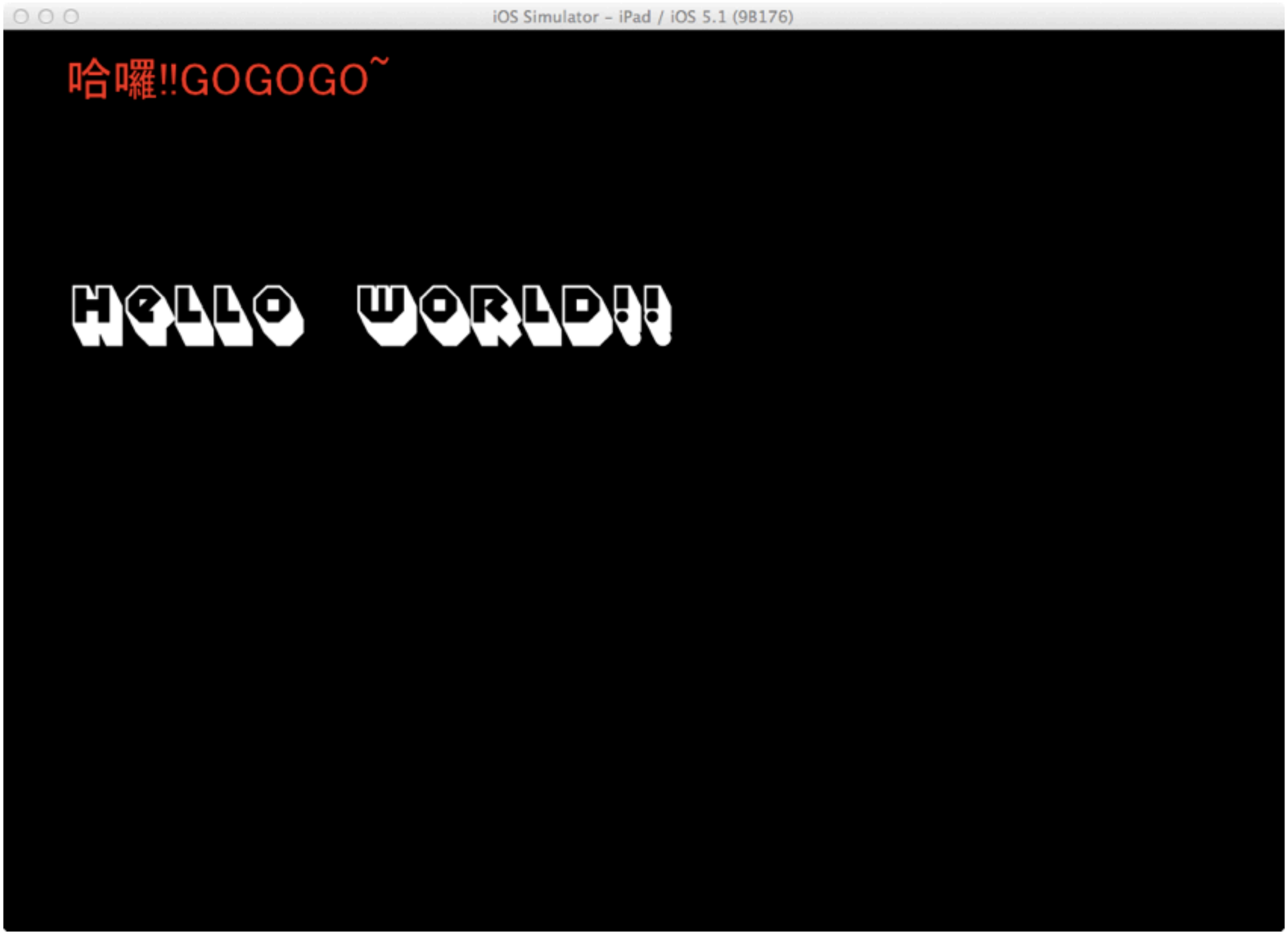
```
#pragma once

#include "ofMain.h"
#include "ofxiPhone.h"
#include "ofxiPhoneExtras.h"
#include "ofxTrueTypeFontUC.h"

class testApp : public ofxiPhoneApp {

public:
    void setup();
    void update();
    void draw();
    void exit();

    void touchDown(ofTouchEventArgs &touch);
    void touchMoved(ofTouchEventArgs &touch);
    void touchUp(ofTouchEventArgs &touch);
    void touchDoubleTap(ofTouchEventArgs &touch);
    void touchCancelled(ofTouchEventArgs &touch);

    void lostFocus();
    void gotFocus();
    void gotMemoryWarning();
    void deviceOrientationChanged(int newOrientation);

     ofxTrueTypeFontUC myFont;
     ofxTrueTypeFontUC myFont2;
};
```

testApp.h

Show unicode fonts

```
#include "testApp.h"


void testApp::setup(){
    // register touch events
    ofRegisterTouchEvents(this);

    // initialize the accelerometer
    ofxAccelerometer.setup();

    //iPhoneAlerts will be sent to this.
    ofxiPhoneAlerts.addListener(this);

    //If you want a landscape oreintation
    iPhoneSetOrientation(OFXIPHONE_ORIENTATION_LANDSCAPE_RIGHT);

     ofBackground(0,0,0);
     myFont.loadFont("MSPGothic.ttf", 28);
     myFont2.loadFont("Sudbury_Basin_3D.ttf", 28);
}

void testApp::draw(){
     ofSetColor(255, 0, 0);
     myFont.drawString("哈囉!!", 50, 100);
     ofSetHexColor(0xffffff);
     myFont2.drawString("HELLO!!", 50, 200);
}
```

testApp.mm


iOS Simulator - iPad / iOS 5.1 (9B176)
哈囉!!GOGOGO~
HELLO WORLD!!

Play sounds

- sound type
  - .wav, .aif, .mp3, .mp2, .ogg or .raw format.
- .caf (Core Audio Format)


```
afconvert -f caff -d LEI16@44100 -c 1 sound.wav sound.caf
afconvert -f caff -d LEI16@22050 -c 1 sound.wav sound.caf
```

sample rate

- put them into “project/bin/data/”

Play sounds

```
#pragma once

#include "ofMain.h"
#include "ofxiPhone.h"
#include "ofxiPhoneExtras.h"

class testApp : public ofxiPhoneApp {

public:
    void setup();
    void update();
    void draw();
    void exit();

    void touchDown(ofTouchEventArgs &touch);
    void touchMoved(ofTouchEventArgs &touch);
    void touchUp(ofTouchEventArgs &touch);
    void touchDoubleTap(ofTouchEventArgs &touch);
    void touchCancelled(ofTouchEventArgs &touch);

    void lostFocus();
    void gotFocus();
    void gotMemoryWarning();
    void deviceOrientationChanged(int newOrientation);

    ofSoundPlayer mySound;
};
```

testApp.h

Play sounds

```
#include "testApp.h"


void testApp::setup(){
    // register touch events
    ofRegisterTouchEvents(this);

    // initialize the accelerometer
    ofxAccelerometer.setup();

    //iPhoneAlerts will be sent to this.
    ofxiPhoneAlerts.addListener(this);

    //If you want a landscape oreintation
    //iPhoneSetOrientation(OFXIPHONE_ORIENTATION_LANDSCAPE_RIGHT);

    ofBackground(0, 0, 0);

    mySound.loadSound("cat.wav");
    mySound.setVolume(0.75f);
    mySound.setMultiPlay(true);
}

void testApp::touchDown(ofTouchEventArgs &touch){
    mySound.play();
}
```

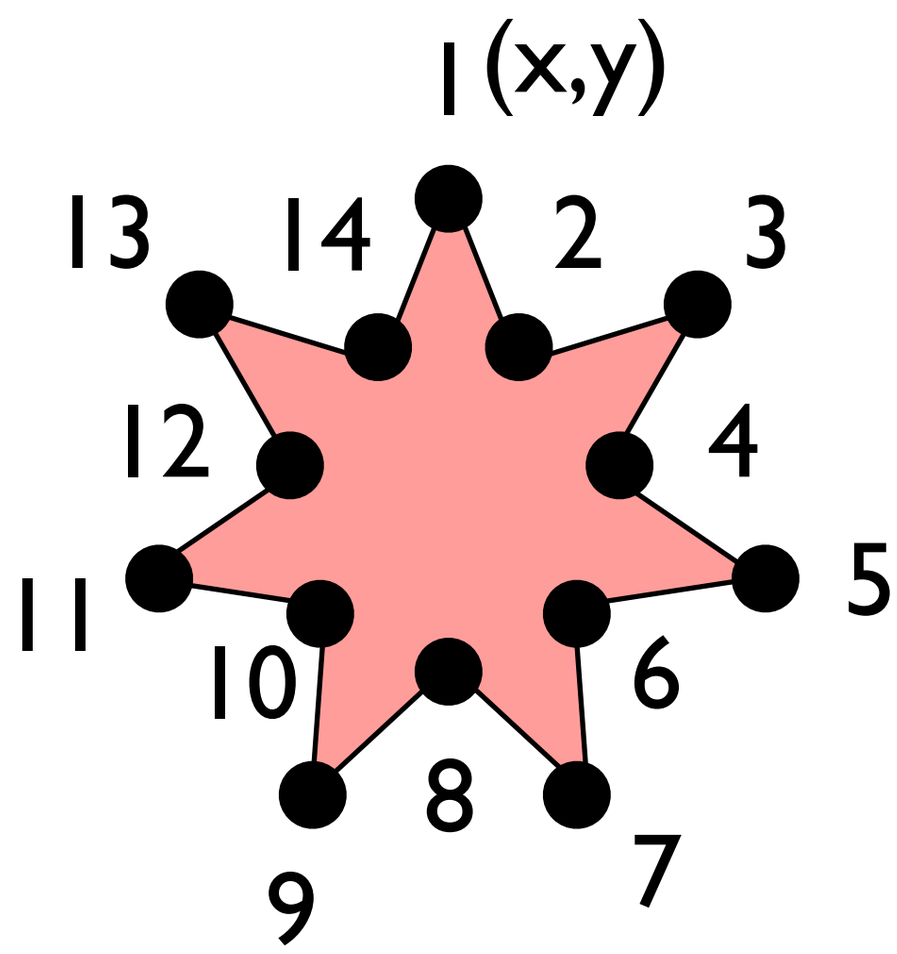
testApp.mm

Touch polygon

ofInsidePoly()

`ofInsidePoly(...)`

```
bool ofInsidePoly(float x, float y, const vector< ofPoint > &poly)
```



Touch polygon

```
#pragma once

#include "ofMain.h"
#include "ofxiPhone.h"
#include "ofxiPhoneExtras.h"

class testApp : public ofxiPhoneApp {

public:
    void setup();
    void update();
    void draw();
    void exit();

    void touchDown(ofTouchEventArgs &touch);
    void touchMoved(ofTouchEventArgs &touch);
    void touchUp(ofTouchEventArgs &touch);
    void touchDoubleTap(ofTouchEventArgs &touch);
    void touchCancelled(ofTouchEventArgs &touch);

    void lostFocus();
    void gotFocus();
    void gotMemoryWarning();
    void deviceOrientationChanged(int newOrientation);

    ofPolyline line;
};
```

testApp.h

Touch polygon

```
#include "testApp.h"

void testApp::setup(){
    ofRegisterTouchEvents(this);
    ofxAccelerometer.setup();
    ofxiPhoneAlerts.addListener(this);
    iPhoneSetOrientation(OFXIPHONE_ORIENTATION_LANDSCAPE_RIGHT);

    ofBackground(0,0,0);
    ofSetColor(255, 0, 0);

    float i = 0;
    while (i < TWO_PI) { // make a heart
        float r = (2-2*sin(i) + sin(i)*sqrt(abs(cos(i))) / (sin(i)+1.4)) * -80;
        float x = ofGetWidth()/2 + cos(i) * r;
        float y = ofGetHeight()/2 + sin(i) * r - 100;
        line.addVertex(ofVec2f(x,y));
        i+=0.005*HALF_PI*0.5;
    }
    line.close(); // close the shape
}

void testApp::draw(){
    line.draw();
}
void testApp::touchDown(ofTouchEventArgs &touch){
    if (ofInsidePoly(touch.x, touch.y, line.getVertices())) {
        ofSetColor(255, 255, 0);
    }
}
void testApp::touchUp(ofTouchEventArgs &touch){
    ofSetColor(255, 0, 0);
}
```

testApp.mm