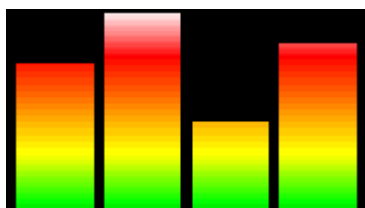


# Tutorials Listed By Subject

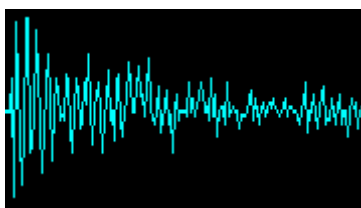
This section contains all tutorials indexed by subject for [orx](#), an opensource, portable, lightweight, data-driven & 2D-oriented game engine.

Contributions are very welcome.

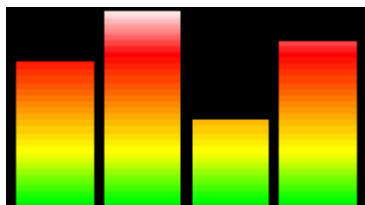
## Audio



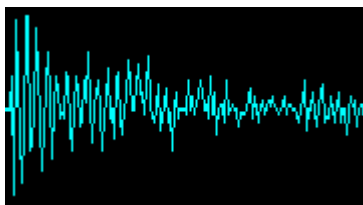
Sound & Music



Sound Recording



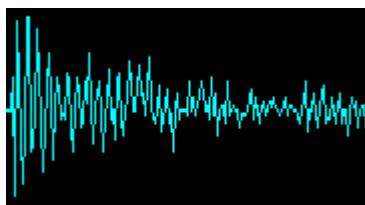
Sound Buses



Audio Filters



Audio filters, miniaudio & audio extensions Video



Sound Spatialization

## Android



Working with Android (new users start here!)



Android Studio, NDK, and Orx library



Compiling Orx Library & Demo



Project

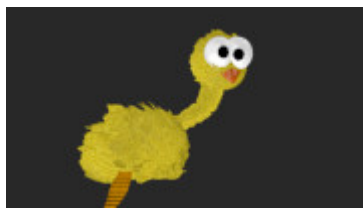
Android Demo as a template project



Using SWIG to talk to Java on Android continued deployments

Android Packaging Scripts for

### Animation



New Animation System Walkthrough



Basic

Animation



Animation and Clearing Targets



Animation Inheritance with Prefixes



Text Animation



Realistic Walk Movement



Creating Particle

Explosions



Addin for The Gimp to Extract Guides for Configuration



Mouse over effect for buttons

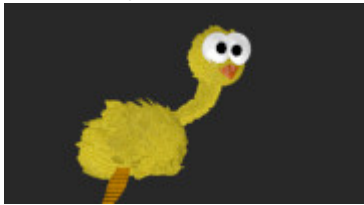


Creating an

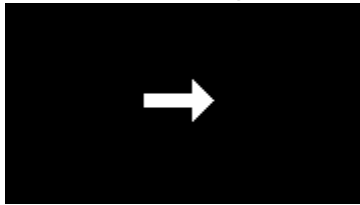


Insect Object (Animation)

Animation Synchronization



Zero Length Frames



See more Animation

Examples

### C++



Localization



Stand Alone Application



Using orxObjects in Classes with an EventHandler



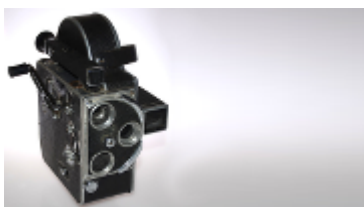
in a game

An Introduction to orx/Scroll

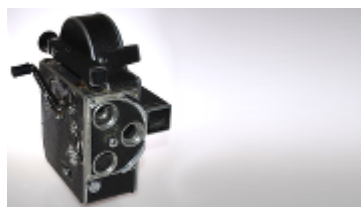


Compiling hidapi

### Cameras



Viewport and Camera

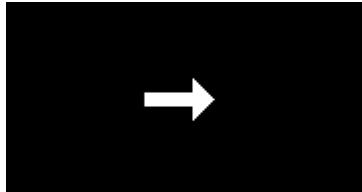


Cameras and Frustums



Camera Examples

orxScroll, Cameras and Viewports



See more

## Clocks

08:32:2447

Clock

## Code::Blocks



Getting Code::Blocks for Windows



Building the



Orx Library with Code::Blocks on Mac OS X  
Code::Blocks on Linux

Building the Orx Library with

## Codelite



Getting Codelite for Windows



Building the Orx



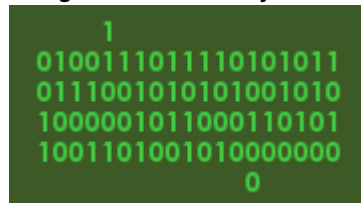
Library with Codelite on Mac OS X

Building the Orx library on Linux with

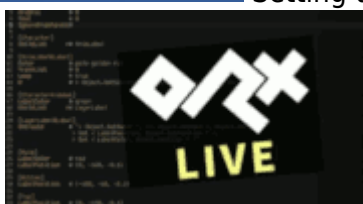


Codelite

Setting up Codelite on Linux



Stand



Alone Application

Codelite & Environment Variables Video

## Color / Colour

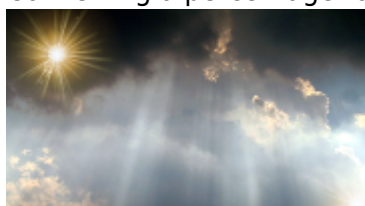


OrxCOLOR and how to colour an object

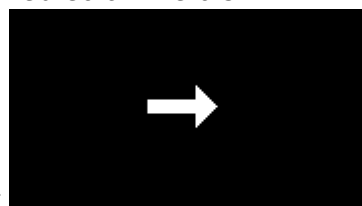


Converting a percentage to a color

Web Color Literals



A natural-looking glowing ball effect



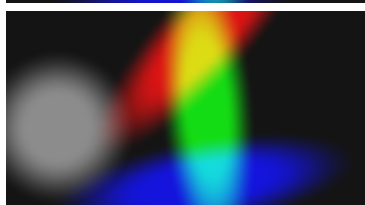
See more

Color Examples

## Compositing



Compositing (2D lighting with offscreen rendering)



Viewport Render to Texture

## Console

```
: 0xFFFFFFFFFFFFFFFF
Object.create Object
: 0x000000010000002F
Object.create Hero_
```

Guide to the Orx Console and Commands



The

```
: 0xFFFFFFFFFFFFFFFF
Object.create Object
: 0x000000010000002F
Object.create Hero_
```

Bounce Demo

Custom Console Colors

## Command Module

```

: 0xFFFFFFFFFFFFFFFF
Object.create Object
: 0x000000010000002F

Object.create Hero_

```

Command Module Syntax

```

: 0xFFFFFFFFFFFFFFFF
Object.create Object
: 0x000000010000002F

Object.create Hero_

```

Command and

Timeline Notes

## Config

```

[ShipObject@ObjectDefaults]
Graphic = ShipGraphic
Position = (400, 550, 0)
Scale = (4, 4, 0)
Body = ShipBody

```

Encrypting Config Files

```

[ShipObject@ObjectDefaults]
Graphic = ShipGraphic
Position = (400, 550, 0)
Scale = (4, 4, 0)
Body = ShipBody

```

Saving information to a

config file

```

[ShipObject@ObjectDefaults]
Graphic = ShipGraphic
Position = (400, 550, 0)
Scale = (4, 4, 0)
Body = ShipBody

```

Changing the Default Config File



Changing the Default Config File for orx/Scroll

```

[ShipObject@ObjectDefaults]
Graphic = ShipGraphic
Position = (400, 550, 0)
Scale = (4, 4, 0)
Body = ShipBody

```

Retrieving and Updating

Config Values

```

[ShipObject@ObjectDefaults]
Graphic = ShipGraphic
Position = (400, 550, 0)
Scale = (4, 4, 0)
Body = ShipBody

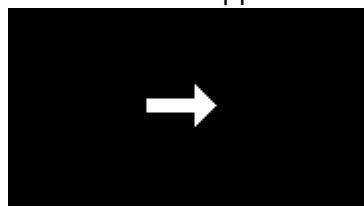
```

Stepped Random Values



Local-

only Config Overriding Video

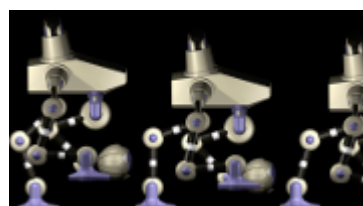


See more Config Examples

## Controls



Interaction, Control and Physics

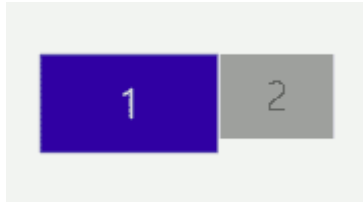


Realistic Walk

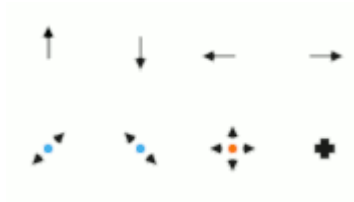


Movement [Creating Particle Explosions](#)

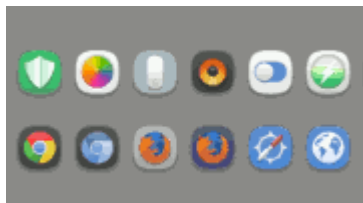
## Display



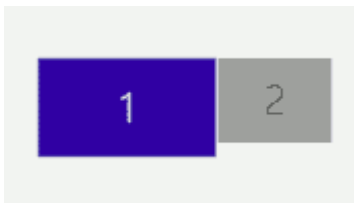
[Multiple Monitors](#)



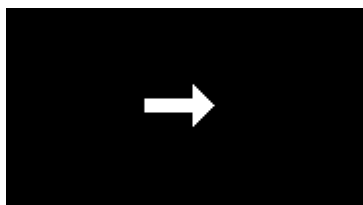
[Custom Mouse Cursors](#)



[Application Icons](#)



[Borderless Window Mode](#)



[See more Display Examples](#)

## Downloads



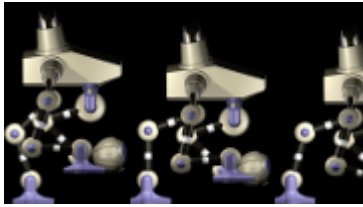
[Getting Started with Orx](#)

## Engine



[Embedding parts of Orx in other engines](#)

## Events

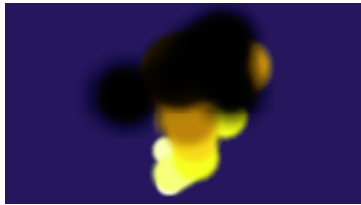


Realistic Walk Movement



Using orxObjects in

Classes with an EventHandler



Creating Particle Explosions

## Fonts



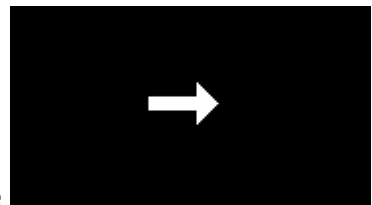
Fun with Text and Shaders



orxFontGen



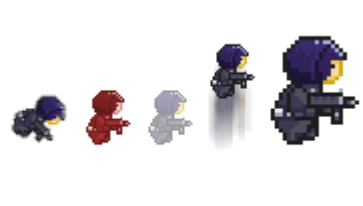
Font tool for unicode, including Chinese



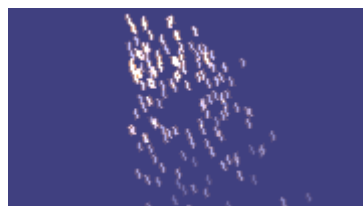
See

more Font Examples

## FX



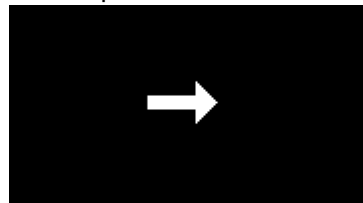
FX



Sparks with Spawners and FX



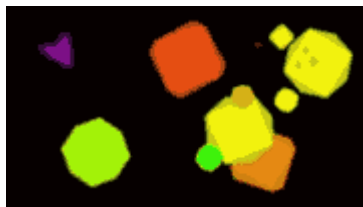
Creating an Insect Object (Speed FX)



See

more FX Examples

## Game Writing Guides



Learning Orx with Asteroids



Beginner's Guide -

Platform Game



Beginner's Guide - 2D UFO Game



Beginner's Guide - UFO Game Video Version

### iPad / iOS / iPhone



a game to the iPad

Using compressed textures on the iPad



Porting

### Input



Joystick / Gamepad Control

8 Way Joystick / Gamepad Control



Analog



Analog Stick Threshold



Overriding a Controller Mapping



Remapping

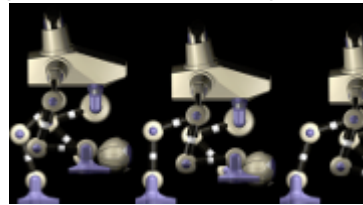


Controller Inputs

Testing Key, Joystick and Mouse Inputs



Interaction, Control and Physics



Realistic Walk



Movement

Creating Particle Explosions

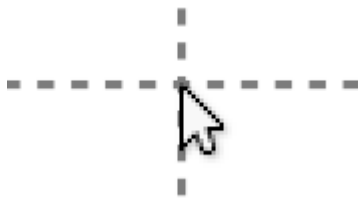


Mouse



over effect for buttons

Notes on input

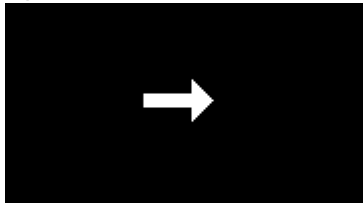


Keyboard Inputs

Mouse Grab



Compiling hidapi



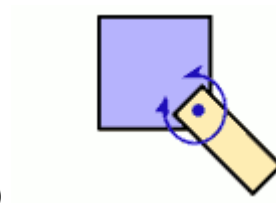
in a game

See more Input Examples

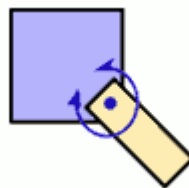
## Joints



Creating an Insect Object (Revolute Joint)



Weld



Joint on parent/child Objects with Bodies

Z-order of Objects with Joints

# Level Mapping



Semi-dynamic Objects and Level Mapping



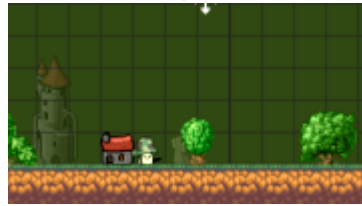
Using the Tiled to ORX Converter



Hexagon Grid Tutorial



Creating Maps in Scrolled



Pathfinding

# Linux



Setting up a Development Environment on Linux



Linux Setup (brief overview)



Building the Orx

library on Linux with Codelite



Codelite in Linux



Building the Orx Library with Code::Blocks on Linux

# Localisation



Languages

Localization



Localization and Multiple

## Mac OS X



Setting up a Development Environment for Mac OS X



Cloning and building the Orx library on Mac OS X



Building the Orx Library with Xcode on Mac OS X



Building the Orx Library with Codelite on Mac OS X

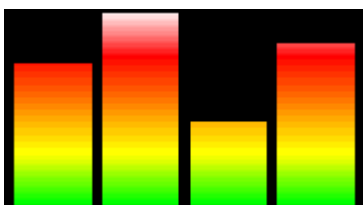


Building the Orx Library with Code::Blocks on Mac OS X

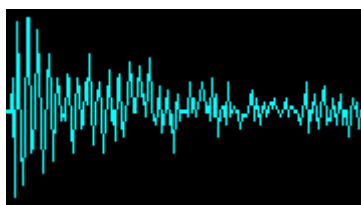


Setting up a game project on Mac OS X

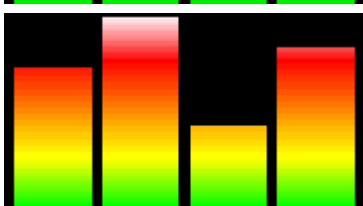
## Music



Sound & Music



Sound Recording

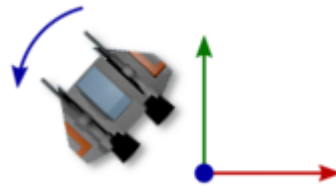


Sound Buses

# Objects



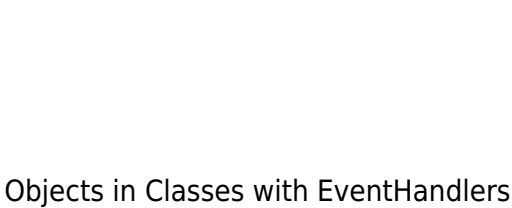
Basic Object



Object Transformation



Semi-dynamic Objects and Level Mapping



Objects in Classes with EventHandlers



The Binding of Objects



Object Traversing



Notes on Rotation



A natural-looking glowing ball effect



Creating



an Insect Object



Creating an Object made of many Parts



Passing items from one Object to another

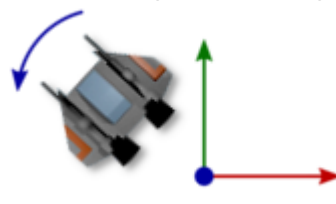


Object Lifetime



Teleporting on Screen Edges

Relative Object Positioning and Scaling

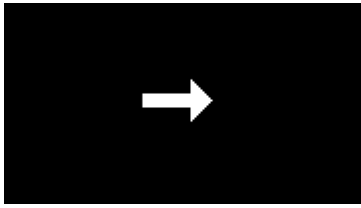


Literals for



Objects

Command Hooks for Object Events



Aged Objects

See more Object Examples

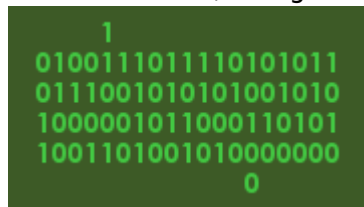
## Orx Code (General)



orxSTRINGS, strings and chars



orxCOLOR and



how to colour an object

Lists, HashTables and Trees

## Orx (Setting up)



Cloning Orx from Github



Using Premake to

create a Build Project to compile ORX from scratch



Compiling Orx with

mingw32/gmake



Download a pre-built Orx for your environment



The Bounce Demo



Getting & setting up Orx

Video

### Orx/Scroll (C++ Abstraction layer for Orx)



An Introduction to Orx/Scroll



The Binding of



Objects

Creating an orx/Scroll project using 'init'



Creating Maps in ScrollEd



Colliding



ScrollObjects with Orx Objects

Access Scroll class from ScrollObject



ScrollObject to ScrollObject Communication



Changing the Default Config File for orx/Scroll



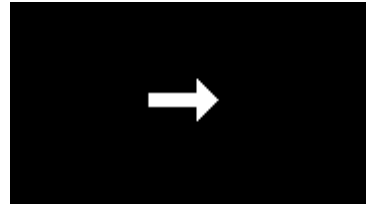
Moving a ScrollObject along

a curve



orxScroll, Cameras and Viewports





ProgressBars in orxScroll  
orx/Scroll Examples

Pathfinding

See more

## Physics



Basic Physics and Collisions



Physics



Raycasting



Interaction, Control and Physics



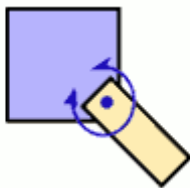
Using the Inkscape SVG to ORX Converter



Creating an Object made of many Parts

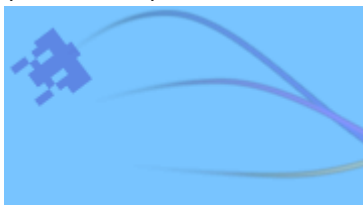


Creating an Insect Object



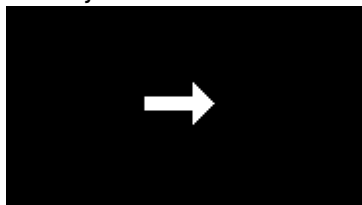
(Animation)

Weld Joint on parent/child Objects with Bodies



Physics Examples

Applying a force at a position point



See more

## Premake (deprecated)



Using Premake to create a Build Project to compile ORX from scratch

### Projects



Creating your own project using 'init'

The 'init'



command & available extensions Video

Creating an orx/Scroll project



using 'init'

How to use Premake to create a build configuration for your



own project in any IDE/OS

XCode 3 Tutorial



Working with Android

~~Native Tutorial~~ (deprecated)



Using the Android Demo as a template for your own projects



Using orxhub (deprecated)

## Publishing



Preparing for a release under Windows



Preparing for a release under MacOSX



Console-less Applications



Android Packaging Scripts for continued deployments



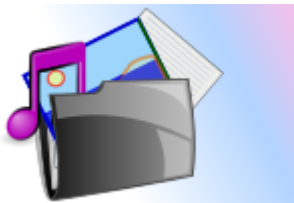
Common Release Checklist

## Scrolling

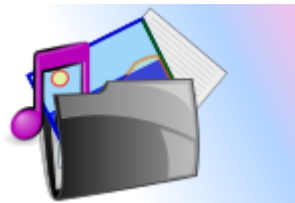


Scrolling

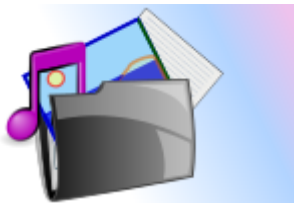
## Resources



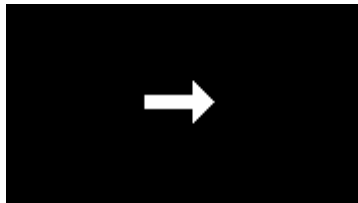
Zip Archive Resources



Resources over HTTP



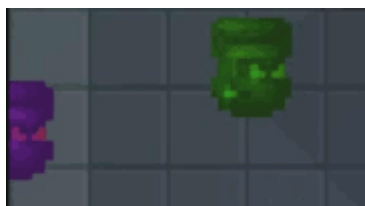
Resource Reloading



See more Resource

Examples

### Scenes



Data-Driven Scene Transitions

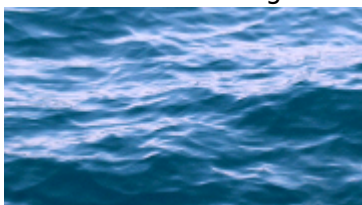
### Shaders



Getting started with Shaders in Orx

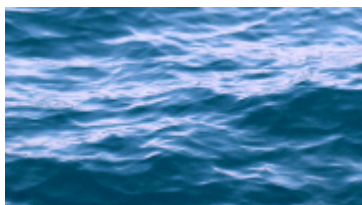


Shaders in

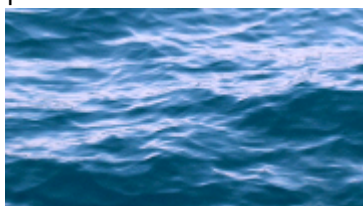


Screen Space

Spawner & Shader

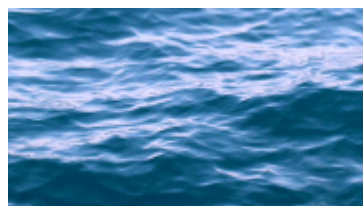


Shader &

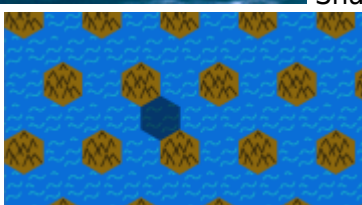


Lighting

Shader coordinates tutorial

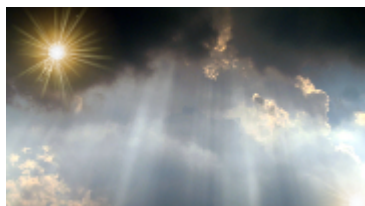


Hexagon



Grid Tutorial

Hexagon Grid Tutorial (Axial/Cubial Coordinates)



A natural-looking glowing ball effect

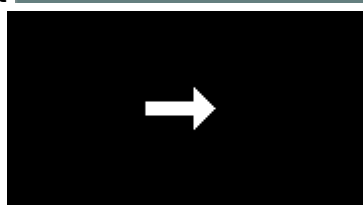


Fun with



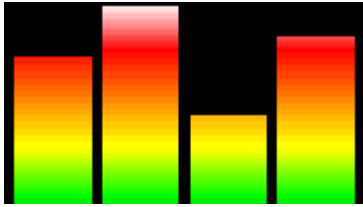
Text and Shaders  
Shader Examples

Maps in a Shader

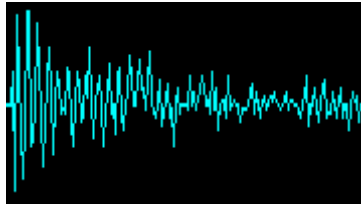


See more

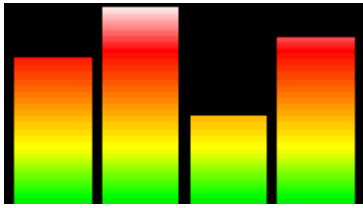
### Sound



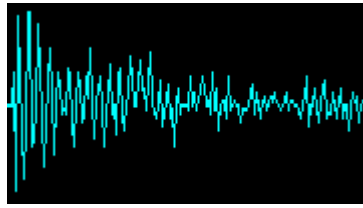
Sound & Music



Sound Recording



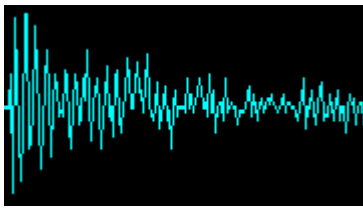
Sound Buses



Audio Filters



Audio filters, miniaudio & audio extensions Video



Sound Spatialization

## Spawners



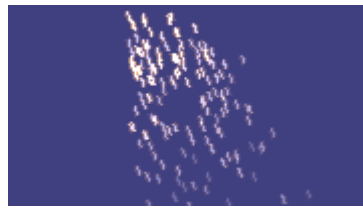
Spawner & Shader



Creating Particle Explosions



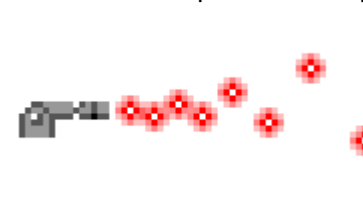
Spawning Bullets



Sparks with Spawners and

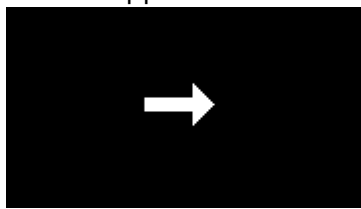


FX Futurama Appearance Effect



Spawners

using Relative Position and Scale



See more Spawner Examples

## Sprites



Using the darkFunction to ORX Converter Addin for The Gimp to Extract Guides for Configuration

## System



The Clipboard

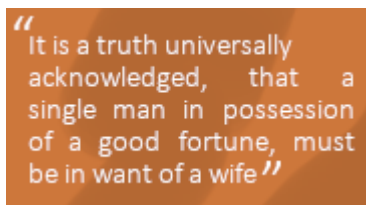


Drag and Drop



Commandline Parameters

## Text



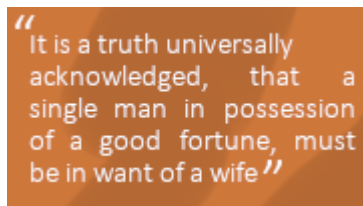
Text Boundaries



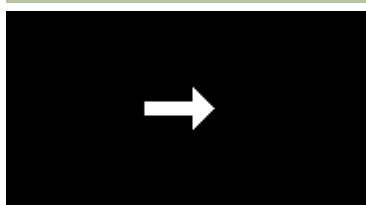
Fun with Text and Shaders



orxFontGen



Text Background



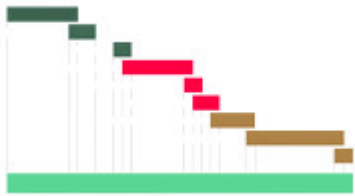
See more Text Examples

## Textures



Using compressed textures on the iPad

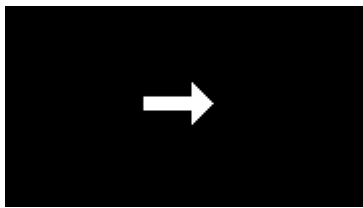
### Timelines / Tracks



Timelines / Tracks

```
: 0xFFFFFFFFFFFFFFFF
Object.create Object
: 0x0000000010000002F
Object.create Hero_
```

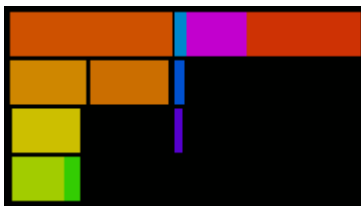
Command and Timeline



Notes

See more Track and Command Examples

### Tools



The Orx Profiler



orxFontGen



Using the Inkscape SVG to ORX Converter



Using the TMX to ORX Converter



Using the darkFunction to ORX Converter



all Structures to a Tree

Using SWIG to talk to Java on Android

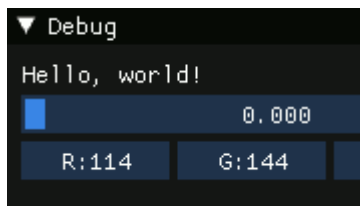


Logging

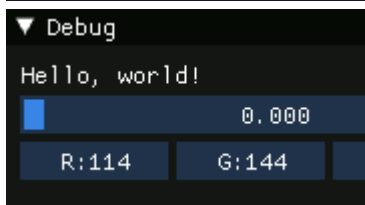
# UI / User Interface



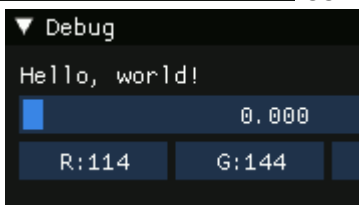
Using ImGui with Orx



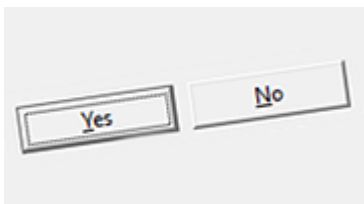
Using Nuklear with Orx



Nuklear Font Management



Notes on Nuklear

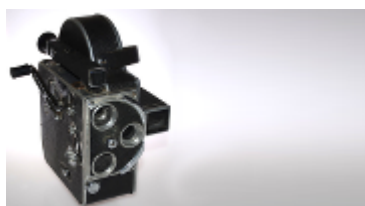


with Orx  
Mouser over effect for buttons

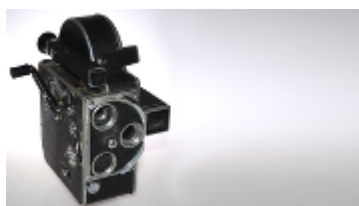
File Dialogs and Messageboxes



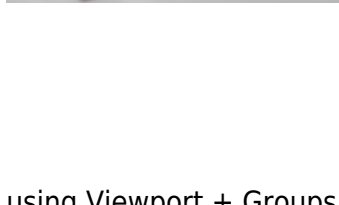
# Viewports



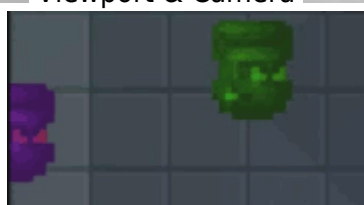
Viewport & Camera



Heads Up Display (HUD)



using Viewport + Groups



Teleporting on Screen Edges



Viewport Render to Texture

# Visual Studio



Building the Orx library with Visual Studio

Stand Alone Application



## Windows



Compiling Orx with mingw32/gmake  
the Orx library with Visual Studio



Building

## XCode



Xcode4 Scroll, Console-less, Resources  
Building the Orx Library with Xcode on Mac OS X



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