<!doctype html>

<html>

<head>

<meta name=*"Author"* content=*"flashlizi - www.riaidea.com"*>

<meta name=*"Keywords"* content=*"HTML5,canvas,casual framework"*>

<meta name=*"Description"* content=*"HTML5 canvas experiment"*>

<meta http-equiv=*"content-type"* content=*"text/html; charset=utf-8"* />

<title>Object Collision - CasualJS Framework</title>

<link type=*"text/css"* href=*"css/style.css"* media=*"screen"* rel=*"stylesheet"* />

<script type=*"text/javascript"* src=*"/webHorse/resouces/js/casual-0.1.min.js"*></script>

<script type=*"text/javascript"*>

**var** canvas, context, stage;

**var** logo, img\_pig, img\_bird1, img\_bird2, img\_bird2;

**var** pig, bird1, bird2, bird3;

**function** init()

{

//init canvas

canvas = document.getElementById("canvas");

context = canvas.getContext("2d");

//images

logo = document.getElementById("logo");

img\_pig = document.getElementById("pig");

img\_bird1 = document.getElementById("bird1");

img\_bird2 = document.getElementById("bird2");

img\_bird3 = document.getElementById("bird3");

start();

}

**function** start()

{

//create stage

stage = **new** Stage(context);

stage.setFrameRate(10);

bird1 = **new** Bitmap(img\_bird1);

bird1.x = 80;

bird1.y = 50;

stage.addChild(bird1);

**var** bound = bird1.getRect(stage);

**var** rect = **new** Shape();

rect.alpha = 0.3;

rect.graphics.lineStyle(1, "#fff").drawRect(bound.x+0.5, bound.y+0.5, bound.width, bound.height);

stage.addChild(rect);

bird2 = **new** Bitmap(img\_bird2);

bird2.x = 300;

bird2.y = 80;

stage.addChild(bird2);

bound = bird2.getRect(stage);

rect = **new** Shape();

rect.alpha = 0.3;

rect.graphics.lineStyle(1, "#fff").drawRect(bound.x+0.5, bound.y+0.5, bound.width, bound.height);

stage.addChild(rect);

bird3 = **new** Bitmap(img\_bird3);

bird3.x = 500;

bird3.y = 70;

stage.addChild(bird3);

bound = bird3.getRect(stage);

rect = **new** Shape();

rect.alpha = 0.3;

rect.graphics.lineStyle(1, "#fff").drawRect(bound.x+0.5, bound.y+0.5, bound.width, bound.height);

stage.addChild(rect);

//mouse event label

label = **new** Text();

label.x = 160;

label.y = 400;

label.color = "#fff";

label.font = "18px Arial";

label.align = "start";

label.text = "Please try to drag the pig over the birds on top";

stage.addChild(label);

**var** label2 = casual.clone(label);

label2.x = 95;

label2.y = 220;

label2.font = "12px Arial";

label2.text = "Pixel Collision";

stage.addChild(label2);

**var** label3 = casual.clone(label2);

label3.x = 310;

label3.y = 200;

label3.text = "Pixel Collision";

stage.addChild(label3);

**var** label4 = casual.clone(label2);

label4.x = 505;

label4.y = 210;

label4.text = "Rectangle Collision";

stage.addChild(label4);

pig = **new** Bitmap(img\_pig);

pig.x = 300;

pig.y = 260;

stage.addChild(pig);

//handle mouse events for the pig

pig.mouseEnabled = **true**;

pig.onMouseEvent = **function**(e)

{

**if**(e.type == "mousedown")

{

stage.startDrag(**this**);

}**else** **if**(e.type == "mouseup")

{

stage.stopDrag();

}**else** **if**(e.type == "mousemove")

{

**if**(pig.hitTestObject(bird1, **true**) || pig.hitTestObject(bird2, **true**) || pig.hitTestObject(bird3, **false**))

{

pig.alpha = 0.4;

}**else**

{

pig.alpha = 1.0;

}

}

}

//logo

**var** mylogo = **new** Bitmap(logo);

mylogo.x = stage.getStageWidth() - 200;

mylogo.y = stage.getStageHeight() - 60;

mylogo.scaleX = mylogo.scaleY = 0.6;

mylogo.alpha = 0.5;

stage.addChild(mylogo);

}

</script>

</head>

<body onLoad="init();">

<div class=*"main"*>

<div class=*"canvasContainer"*>

<canvas id=*"canvas"* width=*"700"* height=*"500"*>Sorry, your browser doesn't support Canvas.</canvas>

</div>

<div class=*"intro"*>

<h2>Object Collision</h2>

On the left canvas, It illustrates how display object collision works in CasualJS Framework.

<h3>Collision Approach</h3>

Firstly, each display object has a bound rectangle, you can get it with DisplayObject.getRect(). We compute the intersection of the two rectangles of comparing objects, if so, we check the bitmap pixels within the intersection rectangle to see if they are collision.<br><br>

Methods to use:<br>

<span class=*"code"*>

DisplayObject.getRect(target);<br>

DisplayObject.hitTestObject(object, usePixelCollision, tolerance);

</span><br><br>

The second parameter "usePixelCollision" determines whether to use pixel collision or simple rectangle collision.<br><br>

For example:<br>

<span class=*"code"*>

var bmp1 = new Bitmap(img1);<br>

stage.addChild(bmp1);<br>

var bmp2 = new Bitmap(img2);<br>

stage.addChild(bmp2);<br><br>

trace(bmp1.hitTestObject(bmp2, false));<br>

trace(bmp1.hitTestObject(bmp2, true));

</span>

</div>

</div>

<!-- test images -->

<img id=*"logo"* src=*"logo.png"* style="display:*none*;" />

<img id=*"pig"* src=*"pig.png"* style="display:*none*;" />

<img id=*"bird1"* src=*"bird1.png"* style="display:*none*;" />

<img id=*"bird2"* src=*"bird2.png"* style="display:*none*;" />

<img id=*"bird3"* src=*"bird3.png"* style="display:*none*;" />

<div id=*"footer"*>

<div id=*"footer-content"*>

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</div>

</div>

</body>

</html>

Bird1.png



Bird2.png



Bird3.png



Logo.png



Pig.png

