

3D GAME STUDIO – TUTORIAL EXERCISE #3 SPRITES, CAMERAS, SHADOWS, SOUNDTRACK, TEXT PANELS



In this exercise we will learn how to use WED to:

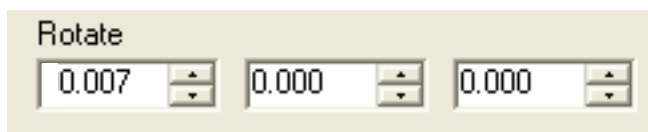
- Add sprites (2-dimensional images)
- Add a 3rd person camera and a free camera
- Show character shadows
- Add an MP3 soundtrack
- Insert fullscreen panels for game startup credits, etc

SPRITES

Sprites are 2-dimensional flat images in .PCX, .BMP, or .TGA format. They are sometimes called “billboards” or “decals” (like in Counter Strike). Animated sprites can be inserted into the game and are used for such things as flames, blood spatters, and explosions. The manual has a good description of the types of model used in 3DGS and how they are used.

To add a 2d sprite to a surface:

1. Create an image in .pcx, .bmp, or .tga format.
2. Copy the image to your working directory.
3. Go to Object > Add Sprite. Navigate to your sprite and select.
4. Scale, drag and rotate the sprite in WED until it is a good size and it is against a surface (wall, floor, ceiling, etc).
5. Save, build  (do full build or “update entities” if all you’ve done is add the sprite), run .
6. Take a look at your sprite. Notice that as you move the sprite turns to face you. This is the default. To make it stationary right click on the sprite and select “position”, and change the left hand rotate box to something slightly greater than either 0.000 degrees, e.g. 0.007.



Now when you build and run the image should remain stationary as you move around.

7. Create a transparent sprite. If an objects “transparent” flag is set, all pure black in the object will be transparent.

Insert into 3DGS a sprite with some pure black.

Right click on the sprite, and select “properties”. Check the “transparent” box.

Build and run the level. Notice that the black areas of the image are now transparent.

8. [OPTIONAL BUT A LOT OF FUN!] If you want to have a go at an animated sprite, in Photoshop construct an image that has all the sprites side by side and end the file name with +’n’ where ‘n’ is the number of frames. This is explo+7.bmp from the c:\Program Files\Gstudio\work folder:



For more details on animated sprites refer to the manual and the forum.

Note that it’s best to use an animated sprite rather than a 3D object wherever possible because the computational power needed is much, much less than for a 3D animated object.

CAMERAS

We already have a first person camera whose attributes are contained in the camerafirstPerson01.wdl script. You can also add 3rd person and free cameras.

Add a 3rd Person Camera

To add a 3rd person camera go to File > Project Manager

Select the “CAMERA” Class then the “3rd Person Camera (01) Script, and click “Add Script”.

Now after building and running, when you press F7 you can toggle between the first and third person cameras.

Note that unless your character model has built-in animation (not all the stock figures do), it will simply glide along the floor rather than walk.

Add a Free Camera

A “free” camera must be attached to an entity:

1. go to File > Project Manager. Class: CAMERAS, Script: FREE CAMERA, then click on "Add Script".

2. Insert a model into the game from your working directory, (e.g. copy ball.mdl from Gstudio6\template_6\models).

[Side Note: it is possible to add models directly from the GStudio6 directory without copying them to your working directory. During compilation 3DGS first looks for files in your working directory, then in the GStudio6 directory which is defined in your main script. However, if you move your files to another computer and 3DGS is another drive it won't find them. I ALWAYS copy any models, images and sounds required into my working directory.]

3. Right click on the model, select "Behavior", select "cameraFree01", and click OK.

4. Build and run. Press F7 until you get the free camera. Move the camera around using the I, J, K, L, U, and O keys. Enjoy the flight!

CHARACTER SHADOWS

Character shadows are off by default. To give your model character shadow, right click on it, select properties and check the shadow box.

Experiment with what happens when you check some of the other boxes such as Metal.

I normally set the player character to "invisible" to avoid the glitchiness that results from looking at yourself from close range.

SOUNDTRACK

To insert a looping mp3 soundtrack:

Go to the Resource tab, right click on your main script file and open it. Type the code in **bold** below the list of include <.....> statements. DO NOT TYPE IN ANYTHING THAT IS NOT IN BOLD. Anything followed by // is a comment your guidance. Comments are ignored by the compiler.

```
//music handle this is a variable that points to the music file  
var musicHandle;
```

Then the music is played within the main function, using the code in bold below:

```
function main()
```

```
{  
  
//start the music  
//loop it at 100% volume  
musicHandle = media_loop("my_soundtrack.mp3",null,100);  
  
}
```

Replace "my_soundtrack" with the name of your mp3 file. To play just once, use media_play(). Build and run.

PANELS

Panels are used to display text and numeric information on the screen. For example, instructions and credits at the start and end of games, and health, lives, or other information during the game. Unfortunately there is no way to add panels apart from adding code to the main script. Fortunately this is not too difficult. In this exercise we will add a single panel at the start of your game.

Create a panel to start your game at the resolution in which the game will start. Let's assume this is 1024x768. We will set this later in the main function. Create the image in .pcx format and save to your working directory.

The coding is best illustrated by example. The bold code is what you add. Text following // are comments to you from me. For more information on panels refer to the help system in WED.

The following goes after the list of included scripts, before or after the musicHandle.

```
//this defines the image you will use for your startup panel and goes after the include  
//statements. start_image_1 should be changed to the name of your image  
bmap start_image_1 = <start_image_1.pcx>;
```

```
//immediately after this define the panel where the image will be displayed
```

```
//Startup panel  
    panel pan_start_1 {  
        bmap = start_image_1; //panel background image  
        flags = refresh, d3d; }
```

```
//set the startup resolution. See manual for list of resolutions and associated //numbers  
var video_mode = 8; //1024x768
```

```
//start in fullscreen mode  
var video_screen=1;
```

```
//ONLY INSERT THE BOLD TEXT!  
////////////////////////////////////  
// Desc: The main() function is started at game start  
function main()  
{
```

```
    //music code goes here
```

```
    //display startup panel
```

```
    freeze_mode = 1;  
    pan_start_1.visible=on;  
    sleep(10);  
    pan_start_1.visible=off;
```

```
    //freezemode = 1 – this freezes the game  
    //sleep(10) pauses the game for 10 secs. Put in any time you want.
```