2D/3D SOUNDS

Exercise Files

Starter – "Kit/gpgt/server/scripts/gpgt/chapter3/exercise004.cs"
Answers – "Kit/gpgt/server/scripts/gpgt/chapter3/answers/exercise004_f.cs"

Exercise Mission

Chapter 3: "004_GameConnection: Sound"

Synopsis

In this exercise, we will write some simple scripts to play both 2D and 3D sounds.

Prerequisites

1. *ch1_001.pdf "Using The Kit"*
2. *ch3_001.pdf "Named Connections"*

Exercises

1. *Playing 2D Sounds (pg 2)*
2. *Playing 3D Sounds (near player) (pg 3)*
3. *Playing 3D Sounds (in front of the player) (pg 5)*

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1 Playing 2D Sounds

Goal: Use some supplied sound datablock definitions to play a 2D sound.

Starter Code: You are provided with the following:

1. One completed AudioDescription, HOW2D
2. One completed AudioProfile, TestSound2D, and
3. One empty function body, play2DSound().

```
datablock AudioDescription(HOW2D)
{
   volume      = 1.0;
   isLooping   = false;
   is3D        = false;
   type        = $SimAudioType;
};

datablock AudioProfile(TestSound2D)
{
filename       = "~/data/sound/explosion_mono_01.ogg";
description    = HOW2D;
preload        = true;
};

function play2DSound()
{
   //?????
}
```

Steps:

1. Please supply the necessary code (in the spot marked with "?????") to play the AudioProfile TestSound2D.

Output Goal:

When you have completed this code, you can test it as follows.

1. Run the mission associated with this exercise.
2. Open the console (~).
3. Type: "play2DSound();" and press return. Assuming that your speakers are turned on, and that you have the proper sound drivers, you should hear an explosion sound.

Questions:

1. What effect does walking around the scene and re-running play2DSound() have?

2 Playing 3D Sounds (near player)

Goal: Use some supplied sound datablock definitions to play a 3D sound very close to the player.

Starter Code: You are provided with the following:

1. One completed AudioDescription, HOW3D
2. One completed AudioProfile, TestSound3D, AND
3. One partially filled in function body, play3DSoundNearPlayer().

```
datablock AudioDescription(HOW3D)
{
   volume            = 1.0;
   isLooping         = false;
   is3D              = true;
   ReferenceDistance = 5.0;
   MaxDistance       = 90.0;
   type              = $SimAudioType;
};

datablock AudioProfile(TestSound3D)
{
filename       = "~/data/sound/explosion_mono_01.ogg";
description    = HOW3D;
preload        = true;
};

function play3DSoundNearPlayer()
{
   %player    = localClientConnection.player;
   %transform = %player.getTransform();

   echo(%transform);

   //?????
}
```

Steps:

1. Please supply the necessary code (in the spot marked with "?????") to play the AudioProfile TestSound3D.

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Output Goal:

When you have completed this code, you can test it as follows.

1. Run the mission associated with this exercise.
2. Open the console (~).
3. Type: "play3DSoundNearPlayer();" and press return. Assuming that your speakers are turned on, and that you have the proper sound drivers, you should hear an explosion sound. Additionally, this sound should be clearly audible.

Questions:

1. What effect does walking around the scene and re-running play3DSoundNearPlayer() have?

3 Playing 3D Sounds (in front of the player)

Goal: Use some supplied sound datablock definitions to play a 3D sound very close to the player.

Starter Code: You are provided with the following:

1. One completed AudioDescription, HOW3D
2. One completed AudioProfile, TestSound3D, AND
3. One partially filled in function body, play3DSoundInFrontOfPlayer().

```
datablock AudioDescription(HOW3D)
{
   volume            = 1.0;
   isLooping         = false;
   is3D              = true;
   ReferenceDistance = 5.0;
   MaxDistance       = 90.0;
   type              = $SimAudioType;
};

datablock AudioProfile(TestSound3D)
{
filename       = "~/data/sound/explosion_mono_01.ogg";
description    = HOW3D;
preload        = true;
};

function play3DSoundInFrontOfPlayer()
{
   %player    = localClientConnection.player;
   %transform = %player.getTransform();

   %newTransform = vectorAdd( %transform , "0 35 0" );
   %newTransform = %newTransform SPC getWords( %transform , 3 , 6 );

   echo(%newTransform);

   //?????
}
```

Steps:

1. Please supply the necessary code (in the spot marked with "?????") to play the AudioProfile TestSound3D.

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Output Goal:

When you have completed this code, you can test it as follows.

1. Run the mission associated with this exercise.
2. Open the console (~).
3. Type: "play3DSoundInFrontOfPlayer();" and press return. Assuming that your speakers are turned on, and that you have the proper sound drivers, you should hear an explosion sound. However it will be quite faint and you may need to turn up the volume on your speakers to hear it.

Questions:

1. Why is the volume faint for this function and loud for the last function (play3DSoundNearPlayer())?
2. What do you think would happen if we made the following change?

```
%newTransform = vectorAdd( %transform , "0 5 0" );
```

