

CSCU9N5 Tutorial: Sound

Question 1

The designer of a website for an orchestra wants to put a sample symphony movement on to their website. The movement they have selected is 3 minutes 46 seconds long. The recording is a digital stereo recording, sampled at 88200 samples per second, 20 bits linear.

1. How large is the raw sound data (assuming no compression)?
2. What advice would you give the designer?
 - a. For example, would you recommend adjusting the sampling rate, reducing the sample size, or adopting some form of compression?
 - b. What file format would be best?
 - c. What would be the implications of your suggestions?
3. Would your advice be any different if the sound was the most recent track from a pop / rock band, and why?

Question 2

A computer game has the player (in first person) acting out the part of a gladiator fighting lions in an arena. The player has to detect the lion coming out of the jungle towards him, and turn in that direction (using the mouse), then attempt to shoot the lion with a stun gun by holding down the left mouse button before the lion leaps on to the player.

1. How might one use sound in such a game?
2. How might one use sound facilities so that the direction of sound is clearly perceived?
3. How does sound get used in other games?
4. How might one use sound in other games?

Please turn over...

Question 3

How could one use sound to help improve the user interface in an Integrated Development Environment (IDE), such as BlueJ or Eclipse or Visual Studio ... ?

A. For example, one might use sound as output:

1. How might one use *earcons* or everyday sounds?

(To find out about *earcons*, take a look at the Multimedia Interaction Group website at Glasgow: <http://www.dcs.gla.ac.uk/~stephen/demos.shtml>)

2. Which everyday sounds might be appropriate for:

- a syntax (compilation) error
- a program crash
- ...and would you use different sounds for different errors?
- a correct compilation
- a compiler error message
- a compiler warning message

3. Do you think sound could increase the usability of this type of software product? Do you think it would enhance its popularity?

B. Could one use sound or speech as input? What might this be useful for?