DECO1013 Assignment 2: Data Sonification - Report

Purpose
To provide a new perspective of our physical surroundings via the conversion of visual data into sound. Presented as an interactive system.

Function
Data sets can be used in Max/MSP, in conjunction with the FTM add-on to create many different sounds, using a variety of synthesis patches. The data set used for this assignment is birth and death rates in Australia since 1998 published online by Indexmundi. I have used this data set because the years go up by one, the rate of newborn babies and how many people die over the years. Thus I have chosen this because I’m interested in the population of Australia and our future. Take note: The years are only for display.

Patch resources
The patch “CD sales data” modulated by vinyl sales data was used as the basis patch for my project. After experimenting with the different MAX/MSP objects provided in the basis patch, I decided to add more objects, to cover the three columns of the data set, which were year, number of births, and number of deaths.

The second patch that I used is the “metro.maxhelp” patch. This is used with all 3 columns and if my observations are correct, the number of beats is made per millisecond, using the numbers from the all 3 column of the data set. I left the values as they are in this patch. When it was tested, speed of the data beats faster when slide toward the left of the slider bar. From the slider inspector, range is set to 100 and the multiplier is set to 2.

The third patch was used in this assignment is from “function.maxhelp” patch. The metro is connected to the button and the button is connected to the graphical breakpoint function editor. Right click to add the breakpoint and shift+right click onto the break point remove a point on the graph. Each breakpoint modulates the volume of the bang message.
“Scope~.maxhelp” and “Multislider.maxhelp” patches were used to graphically represent the data in form of visualisation. Scope~ is simply a signal-oscilloscope that allows you to monitor the visual progression of an input signal’s waveform (Fig A). Unlike a physical oscilloscope, it is resizeable. The Multislider (scrolling display) creates one “track” for each element in the input list and display it into display indicates by broken dotted lines (Fig B).

![Fig A](image1.png)

![Fig B](image2.png)

**Prediction**
My prediction for this patch is that there will be different melodies played, and as the years pass by, the pitch should go up and down according to the birth and death rate changes.

**Evaluation**
The sonification satisfies its goal. It provides an interesting audio perception of a physical space which we are accustomed to visualising as opposed to sonifying, even allowing for simple navigation after familiarisation with the system and environment.

It seems like the birth rate dominates the death rate every year. I found that it is easier and even quicker to absorb the data through sonification than visualisation. It is astonishing that our ears can be effectively used to read data as our eyes via data sonification as this assignment has clearly demonstrated.

**Conclusion**
It is interesting to see the patches that can be used to distort, modulating volume, modulating frequency, make or create new sounds from original ones, just by simply using a data set from a survey or graph from the internet. Max/MSP is a powerful and most advance program in market; however it’s also one of the most trivial to master.

**Reference**
[1] Jitter, Max, MSP Tutorials, from the program MaxMSP, Version 5.0.6, Cycling '74
[3] A. Benson, Jitter Recipes: Books 1, 2, 3, cycling74.com/section/tutorials

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