

.WAV File Analysis

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Abstract

Electronic music has been steadily expanding over the past years. Many file formats have come into use, including WAVE, MP3, Ogg Vorbis, and many others. This project hopes to examine the structure of WAV files and read/modify the key information. So far, the program can read in a WAV file and print out important information about it. It has not yet achieved the level of being able to modify the data of the music file directly, but that should be forthcoming 2nd quarter.

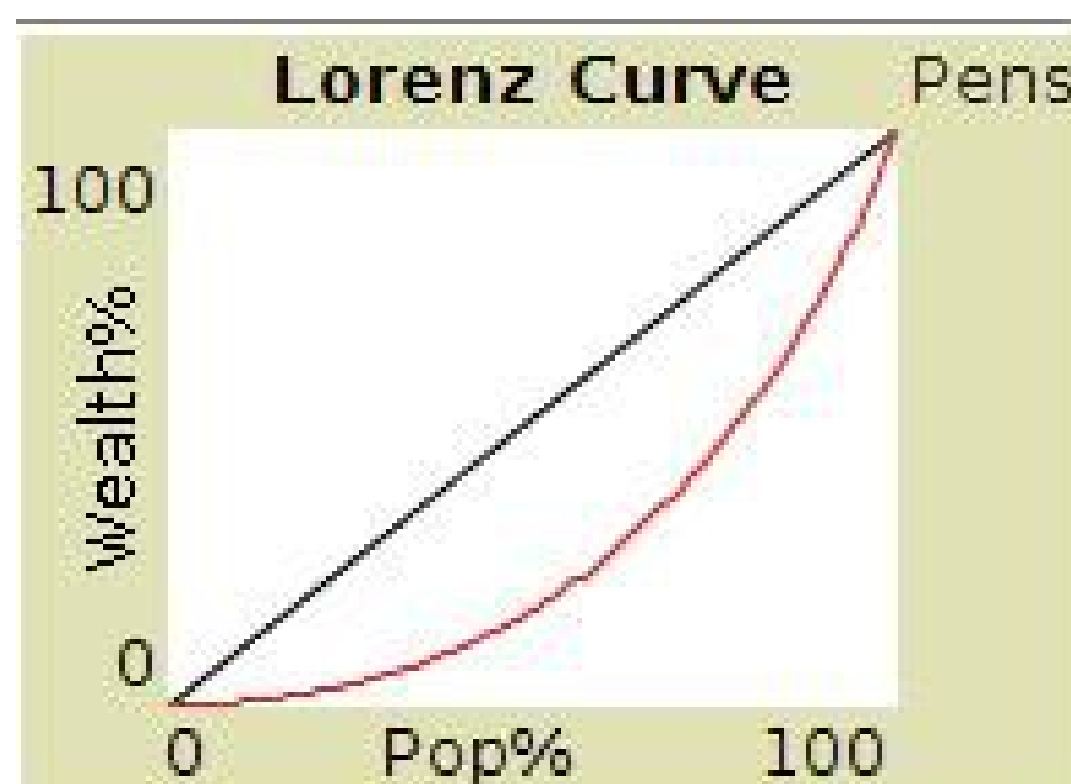
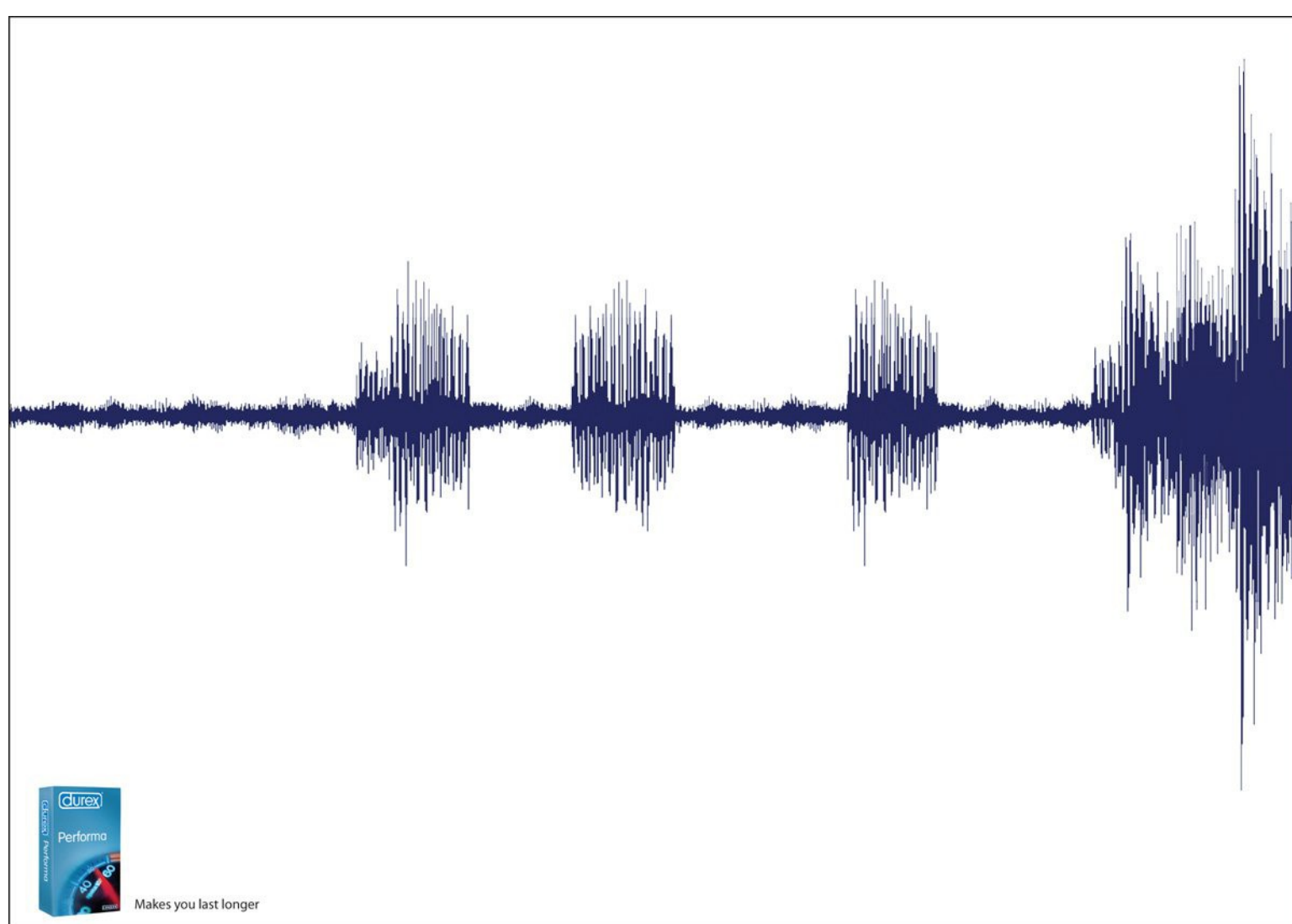


Fig 1: label the figures

Background and Introduction

I need to have a good understanding of how C++ works. Also, I need to know musical composition, and how virtual music files are put together. The reason for knowing these things is so I can perform the operations stated above in the fastest time. With bigger music files, the analysis portion of this project could take a long time, so I need to be able to optimize the process. I know some previous research has been done in this area, by some TJ students and other researchers.



<http://img148.imageshack.us/img148/6467/durexperformab9e4fdti5.jpg>

A sound wave.

Discussion

Offset	Size	Description	Value
0	4	Chunk ID	RIFF
4	4	Chunk data size	8
8	4	RIFF type	WAVE

Offset	Size	Description	Value
12	4	Chunk ID	"fmt"
16	4	Chunk Data Size	16 + *
20	2	Compression code	Int
22	2	Number of channels	Int
24	4	Sample rate	Hex
28	2	Block align	Hex
32	2	Significant bits per sample	Int
34	2	Extra format bytes	Int

Offset	Length	Description	Value
36	4	Chunk ID	"data"
40	4	Chunk size	Depends on file
44	*	*	*