



Final Project

Hearing Age Test

Class ECA+ECI – 2013/2

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1 – Objectives:

Life in the big cities of the second decade of XXI's century has proved too dynamic and constantly aggressive to the hearing health of citizens, who hardly have time to consult a doctor.

Thinking about it, Hearing Age Test (or simply HAT) has aimed to estimate the age and, analogously, the hearing health of the user by tests using varying frequencies. It's, in sum, a multiplatform software, for academic purpose, GUI technology-based, programmed in C++ language, using as pillars the Open-Source Libraries QT and SDL.

2 – Features:

The H.A.T. must have an interactive window, initially with two options:

- a) Start Test - Self-explanatory;
- b) About - Gives the user information about the project itself;

The test, itself, is based on reproduce certain frequencies for the user evaluate if he can hear it. For this, it is highly recommended that he's using a headset in a quiet environment. Each frequency is played only once, at the user's click. It should, then, be informed if the frequency was heard.

The process repeats until all frequencies have been tested, being informed, at the end, user's health/age hearing.

The statistical basis* used is such that:

Frequency (KHz)	Age (years)	Health
12	>50	Go see the doctor right now
15	>40	Average
16	>30	Very good
17	>24	Amazing
18	>24	Excelent
19	>20	Perfect
20	Can only be heard by children	Extremely Healthy
22		Ideal

**Note that Health only makes sense if the user's age is not the indicated. In that case, his Health is given as normal.*

3 – Libraries/Platforms:

- i. QT;
- ii. SDL;

*Fontes:
<http://asapscience.tumblr.com/>
<http://cool-lab.com/>

```

if stream readFile;
deque < HearData > hearDataContainer;
HearData hd;
// loop to read entire table
while (true) {
    readFile >> hd;
    if (readFile.eof()) break;
    hearDataContainer.
    push_back(hd);
}

```

Go see the doctor right now	15
Very soon	16
Amused	17
Exciting	18
Content	19
Extremely healthy	20
Ideal	21

3 - Libretto Platform

OT
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