

SingingBattle

A software engineer's perspective

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SingingBattle is...

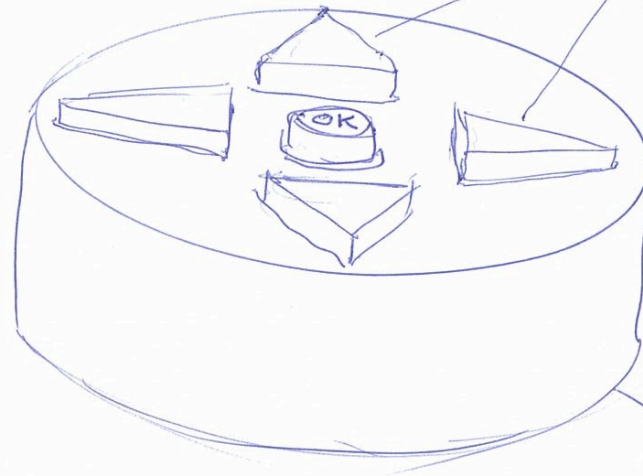
- *an interactive software application for the Educational Service at Casa da Música = an edutainment installation for singing, with:*
 - a) real-time visual response to sound
 - b) voice type discovery
 - c) singing exercises
 - d) karaoke
- Distinctive feature: combination of b with c/d:
pitch tracking adjusted to voice type

SingingBattle Credits

- Software engineer: Mário A. Alves
- Includes code by: Tiago Campos, SingingStudio...
- Incidental coding help by: Sérgio Lopes, Vítor Almeida, stackexchange...
- Software libraries: Qt, RtAudio, FMOD, OpenGL...
- Design contributions by: Casa da Música
- Physical structure: designed by Alves and Acústica, built by Acústica
- Research project leader: Aníbal J. Ferreira

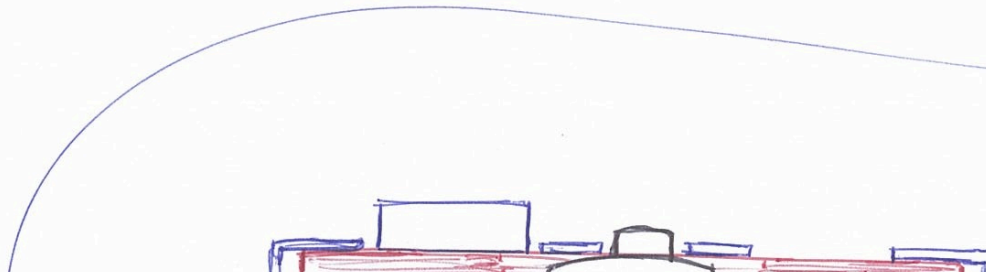
A few missing parts...

aspecto geral:



"queijos"
botões direcionais
madeira
pintada
(branco)

Construção:



Caixa.
metal
pintado.
(preto)

A few lessons learnt.

Project characteristics => impact on software development difficulty level:

- A. Real-time => hard to program
 - B. Multitasking => hard to design, very hard to debug
 - C. Graphics with OpenGL => hard to program
 - D. Multiscreen => with Qt, a joke
 - E. Many libraries => black arts
 - F. Poor software development environment
- SingingBattle = A+B+C+D+E+F => *transcendental*

Lessons learnt / questions

- Don't try to beat the industry
 - millions of eurodollars => teams, eXtreme programming, agile methods, tests
 - open source => many people => Performous, Ultrastar
 - what have we created?
- *Don't just hack it up* (Brooks)
 - Resist the temptation of “quick and dirt” coding

Now let's sing!