On The Design of Csound5

LAC2005

John ffitch
Introduction
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A large (?) and growing, diverse, user community, supported by a small group of programmers.

end
Problems over Time I: Legal

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Problems over Time II: Use
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- Demands for embedding Csound in other programs and/or other programs in Csound

end
Towards The Big Freeze

Csound was written in K&R C, and converted to ANSI in the 1990s. The code style is 1970’s, with *ad hoc* parsing processes and few comments. Eventually MIT’s lawyers agreed to a licence change to LGPL, and all authors agreed to the new licence.
Architecture of Csound4

- Orchestra Reader
- Musmon
- Opcodes
The Big Freeze

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- A small plugin system was made available for Csound for users to create new operations as they must.

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- Cross platform and ALL OLD PIECES MUST RUN UNCHANGED

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Architecture of Csound5

- Orchestra Reader
- Engine
- Loadable Library
- Input/Output
- Base Opcodes
- Messages
- External Libraries
Implementation
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  - Audio files (libsndfile)
  - Realtime audio I/O (portaudio)
  - MIDI (portMIDI)
  - Graphics (FLTK)
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- A Static and Global hunt continues, but most now encapsulated in a single struct that maintains the instances’ state.
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Implementation (continued)

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- And still no parser.....
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Extended to allow plugin untilities.......(as of Monday)

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- Much code cleaning has been done, but lost localisation.

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Conclusions

This was an exercise in evolution not revolution. We are close to release, and already have users. I also wish to acknowledge the significant efforts of the community in saying what they want; and in particular Michael Gogins for the API, and Windows development. The influence of Richard Boulanger is always with me to encourage when things go badly.

And especially Istvan Varga, who has done so much in the last 3 months, especially while I was disabled with RSI.