# On The Design of Csound5

**LAC2005** 

John ffitch

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

end

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- So, assuming creating music is research, download sites were in effect a monopoly, and actually granted to just two of us.
- Conflicts with other innovations, and isolated the Csound software from other developments.

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- Demands for embedding Csound in other programs and/or other programs in Csound

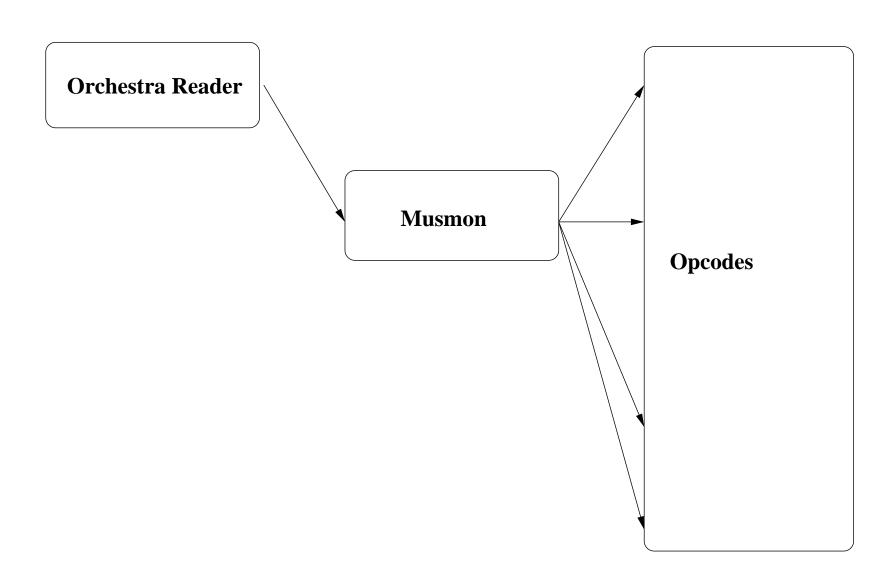
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## **Towards The Big Freeze**

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**



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

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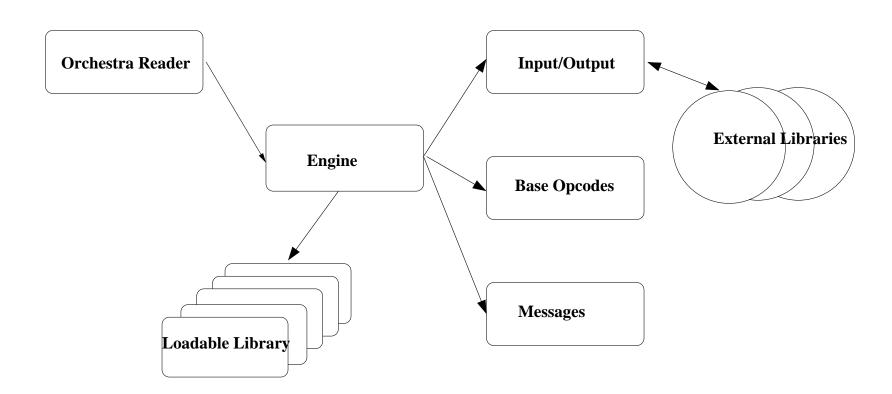
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- Cross platform and ALL OLD PIECES MUST RUN UNCHANGED

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### **Architecture of Csound5**



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  - Audio files (libsndfile)
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  - Graphics (FLTK)
- A Static and Global hunt continues, but most now encapsulated in a single struct that maintains the instances' state.

### 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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- PortMIDI is OK, but does not do as much as hoped.
- 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.