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Theater und Medien Hannover
HANOVER UNIVERSITY OF MUSIC, DRAMA AND MEDIA

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Institut für neue Musik

Joachim Heintz

Using Csound as a Real-time Application

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Outline

- Live Csound?!?
  - Csound's basic (non-real-time) paradigm
  - Csound's way of thinking
  - Non-real-time vs real-time
- Real-time Csound in PD
  - Examples and a typical problem
- Real-time Csound in CsoundQt
  - Software channels, Presets etc
- Conclusion

Live Csound?!?

Csound Instruments

- Main building blocks
- Called at any time („i-event“)
- For a certain duration
- With initialization and performance state

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What you may need for non-real-time

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- Simple timeline
- Extensive control over details
- Being able to extend features
- Large set of modules / tools
- Best rendering quality

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What you may need for real-time

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- Flexibility; change parameters on the fly
- See what's happening
- Speed, performance, stability
- Good overview over a small set of frequently used tools
- Trigger events at any time
- Use external devices

Live Csound in PD

Live Csound in CsoundQt

CsoundQt
User Questions

- How can I dynamically change control values?
- How can I work with presets / cues?
- How can I trigger events?
- How can I route and mix different audio streams and add effects?
- How can I see the audio input and output signals?

Wish list

- Csound
  - Named parameters
  - Arrays
- Csound in PD
  - Allow named instruments
- CsoundQt
  - More widgets: audio meter, table viewer/ editor, virtual keyboard
  - More than one widget panel