silica - a musical modeling language

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Inspiration | Professor Craig Graci's Clay/MxM
A Guided Tour | What is silica?
End | What is siren?

Professor Craig Graci's Clay/MxM

- A software package used to develop musical intuitions
- A programming language to model music
- Used in Professor Graci's Cog 316/CSC 490 - Cognitive Musicology

Inspiration
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Professor Craig Graci's Clay/MxM
What is silica?
What is siren?

What is silica?

- "Clay++"
- A superset of Clay, adding some new features
  - User-defined scales and modes
  - Functions
  - Scripting
  - Open source

Inspiration
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Professor Craig Graci's Clay/MxM
What is silica?
What is siren?

What is siren?

- **SI**lica **R**endering **EN**gine
- A sonic and graphical renderer for silica

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The Note
Primitives
The rest of the good stuff

The Note

- A global object, operated upon by primitives
- Consists of various parameters:
    - scale degree
    - octave (register, location)
    - scale stack
    - duration
    - volume
    - tempo
    - instrument

Primitives

- Act upon the note directly, manipulating one or more parameters
- A sampling:

play	Plays the note
rest	Rests the note
rp and lp	Raise the pitch and lower the pitch
x2, x3, x5, x7	E**x**pand the duration by a factor
s2, s3, s5, s7	**S**hrink the duration by a factor
inctempo	Increase the tempo by 10 BPM
decvol	Decrease the volume by 100 (MIDI value)
agogo	Change the instrument to agogo
d-minor	Change the scale to Dm.

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The Note
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Meta Commands Interact with silica at a level higher than the note.
Ex. *-state* or *-exit*

Macros Simple rewrite rules.
Ex. *asc3 » 3play+rp 3lp*

Commands Macros with embedded structure.

Functions Macros with replacement rules.
Ex. *hat(x) := x rp x lp x*

Transforms Manipulations on a Macro / Function / Command.

Inspiration
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Demo time?
Any questions?
Where to get it

Demo time?

- I'm sure you're probably confused at this point.
- One second while I set things up...

Inspiration
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End

Demo time?
Any questions?
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Any questions?

- Feel free to ask.

Inspiration
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End

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Where to get it

http://silica.suspended-chord.info/
and
https://github.com/gatesphere/silica