

# **ABJAD: AN OPEN-SOURCE SOFTWARE SYSTEM FOR FORMALIZED SCORE CONTROL**

## Introductory Workshop

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Study Day on Computer Simulation of Musical Creativity  
(Saturday 27 June 2015)

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1. An example: rhythmic construction
2. Abjad?
3. Music
4. Companion projects
5. Conclusion

The Abjad API for Formalized Score Control extends the Python programming language with an open-source, object-oriented model of common-practice music notation that enables composers to build scores through the aggregation of elemental notation objects.

## AN EXAMPLE: RHYTHMIC CONSTRUCTION

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ABJAD?

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- C into Finale via MIDI (1997)
- Mathematica into Sibelius via MIDI (2001)
- Mathematica into SCORE (2003)
- Mathematica into LilyPond (2004)
- Python into Adobe Illustrator (2004)
- Python into LilyPond (2005)
- Max/MSP into MS Access into Adobe Illustrator (2008)<sup>1</sup>
- Public release on GoogleCode (2008)
- Migration to GitHub (2011)
- Abjad 2.16 released (2015)

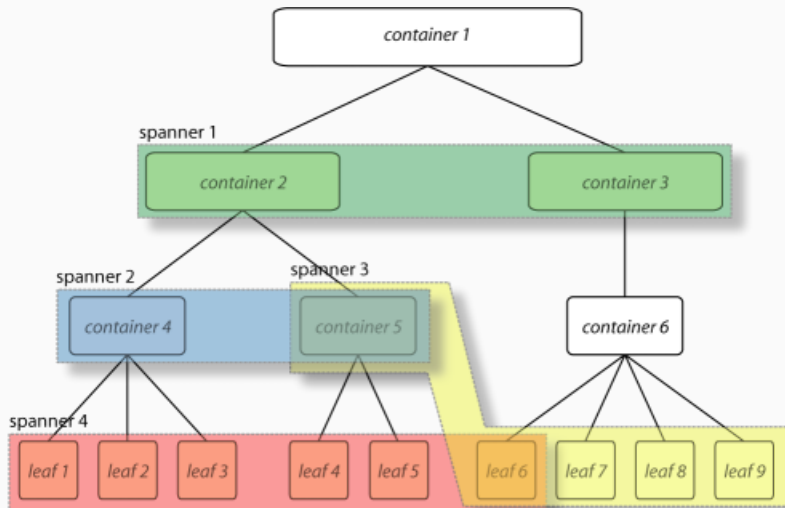
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<sup>1</sup>An attempt by Josiah before discovering Abjad.

Table 1: Abjad Software Stack

Python				
Abjad				
<del>SCORE</del>	LilyPond	Steinberg?	...	...

# CONTAINERS, LEAVES & SPANNERS





- 496 public classes
- 387 public functions
- 186,963 lines of code
- 9399 unit tests
- 10190 documentation tests

## MUSIC

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2015 **Invisible Cities (iii): Ersilia**

for chamber orchestra

2015 **Invisible Cities (ii): Armilla**

for viola duet

2014 **Invisible Cities (i): Zaira**

for eight players

2014 **Plague Water**

for bari sax, e-guitar, piano and percussion

2011 **Aurora**

for string orchestra

2010 **Lagartija**

for mixed quartet



**2015 On the Behavior of Climbing Plants**

for chamber orchestra

**2013 The World All Around**

for Eb clarinet, prepared piano, and harp

**2013 +/-**

for twenty french horns

**2013 Enfilade, Moses All, and Future Calendars**

for carillon

**2011 Being Pollen**

for solo percussion

USAGE STATISTICS HERE

Mike Solomon

Fredrik Wallberg

Oscar Dub

???

## COMPANION PROJECTS

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- george k.'s info - show ipython notebooks online



- josiah's info - eliot's info - website info

## CONCLUSION

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The Abjad API for Formalized Score Control extends the Python programming language with an open-source, object-oriented model of common-practice music notation that enables composers to build scores through the aggregation of elemental notation objects.

## Documentation

<http://projectabjad.org>

## GitHub Repository

<http://github.com/Abjad/abjad>

## User Mailing List

<http://groups.google.com/group/abjad-user>

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