FontTools/TTX
The Power of Open Source for OpenType

Part 1: Just van Rossum
Part 2: Behdad Esfahbod
Part 3: Q&A

github.com/behdad/fonttools
Background: 2003

- FarsiWeb days
Background: 2013

- July: Subsetter is born
Background: 2013

- July: 'COLR'/'CPAL' table
- August: Google color fonts
- August: 'SVG' table from Read Roberts
- August: Cosimo shows up
- August: Remove numpy dependency
- September: 'sbix' table form Jens Kutilek
- October: ATypI 2013 Amsterdam
- November: Port to Python 2/3
- ...
2014

- Optimized the subsetter
- Implemented merger
- Hooked up the test suite
- Released 2.5
- ATypI 2014 Barcelona
2015

- Sascha joiners
- gvar/fvar/avar
- Noto pipeline starts
- Released 3.0
- ATypI 2015 Saõ Paulo
- Continuous integration
Noto pipeline

- glyphs2ufo
- robofab vs extractor
2015-01

https://github.com/robofab-developers/robofab/pull/29

@letterror: Does this pull make robofab dependent on a specific fork of FontTools?
Subject: test Coverage object if it has a Format attr

@typemytype:
a small patch to make compositor work with the github fontTools version

@typesupply:
Is there a change list somewhere of all the things that you've done since forking from the original FontTools? We're running into lots of things so it would be good to have something to review.
"These Dutch people..."

"Google forked us..."
Noto pipeline

- glyphs2ufo
- robofab
- ufo2fdk
Noto pipeline: feaLib

- glyphs2ufo
- robofab
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
Noto pipeline: mtiLib

- glyphs2ufo
- robofab
- ufo2fdk → ufo2ft
- fontToolsfeaLib / fontTools.mtiLib
- booleanOperations
Noto pipeline: MutatorMath

- glyphs2ufo
- robofab
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
Noto pipeline: cu2qu

- glyphs2ufo
- robofab
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu
Noto pipeline: defcon

- glyphs2ufo
- ufoLib
- robofab → defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu
OpenType 2.0 / GX / São Paulo
Hi Erik,

I'm planning to visit The Hague in January, mostly to meet Bahman, and hopefully to work with you. We can discuss / hack on interpolation, OpenType GX, or really anything fonts & Python. Would you be interested in that? I'm thinking some time the week of January 18th.
2015-11-27

From: Erik van Blokland
To: Behdad Esfahbod

Hi Behdad,

That's unexpected :) I have time that week and we can meet earlier in the week. I do have some academic obligations on Thursday and Friday and the Type and Media open day that Saturday.

Would that work for you?
Hi Behdad,

I hope to see you next week! It’s above freezing but a lot of rain.

Just is at the academy on Wednesday and would like to meet you. Frederik Berlaen lives in Gent, Belgium and can come up on Friday or Thursday.
2016-01-20

Tabs or spaces?
Noto pipeline

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- fontToolsfeaLib
- booleanOperations
- cu2qu
Noto pipeline: compreffor

- glyphs2ufo
- ufoLib
- defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontToolsfeaLib
- booleanOperations
- cu2qu
- compreffor
Noto pipeline: fontmake

- glyphs2ufo
- ufoLib
- defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu
- compreffor
- fontmake
Noto pipeline: noto-source

- glyphs2ufo
- ufoLib
- defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu
- compreффor
- fontmake
- noto-source
Noto pipeline: TODO

- fontTools.varLib
- CFF operator specializer
- ttfautohint
- FDK hinter
Noto pipeline: challenges

- Dependency hell (see pen hell?!)  
- Stability  
- Speed 
- Flexibility
Eng time!
from fontTools.misc.py23 import *
glyph: slash
Area: 0.0631374
Correlation: 0.964027
Covariance: 0.0190825
MeanX: 0.196996
MeanY: 0.324567
Moment1X: 0.0124378
Moment1Y: 0.0204923
Moment2XX: 0.00294835
Moment2XY: 0.00524173
Moment2YY: 0.00978664
Perimeter: 1.81758
Slant: 0.38425
StdDevX: 0.0888251
StdDevY: 0.222849
VarianceX: 0.0078899
VarianceY: 0.0496617
compreffor
Links

github.com/googlei18n/noto-source
github.com/googlei18n/fontmake
github.com/googlei18n/glyphsLib
github.com/unified-font-object/ufoLib
github.com/typesupply/defcon
github.com/LettError/MutatorMath
github.com/typesupply/fontMath
github.com/googlei18n/ufo2ft
github.com/typemytype/booleanOperations
github.com/googlei18n/cu2qu
github.com/googlei18n/compreffor
github.com/behdad/fonttools
Q&A