

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 from 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 São Paulo
- Continuous integration

Noto pipeline

- glyphs2ufo
- robofab vs extractor

2015-01

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

@letteror:

Does this pull make robofab dependent on a specific fork of FontTools?

2015-04

<https://github.com/typesupply/compositor/issues/7>

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
- fontTools.feaLib / 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
- ~~robFab~~ → defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu

OpenType 2.0 / GX / São Paulo

2015-11-26

From: Behdad Esfahbod

To: Erik van Blokland

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?

2016-01-16

From: Erik van Blokland

To: Behdad Esfahbod

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

- glyphs2ufo
- ufoLib
- defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- booleanOperations
- cu2qu

Noto pipeline: compreffor

- glyphs2ufo
- ufoLib
- defcon
- MutatorMath
- ufo2fdk → ufo2ft
- fontTools.feaLib
- 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
- compreffor
- 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 *
```


Snippets/symfont.py roboto.ttf

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

cu2qu

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