

Runebender

1

A new open-source font editor written in Rust

07.11.19

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<https://elih.blog>



An outline drawing of the word "Runebender" in a stylized, blocky font. The letters are thin-lined and have a decorative, jagged appearance.

<https://github.com/linebender/runebender>



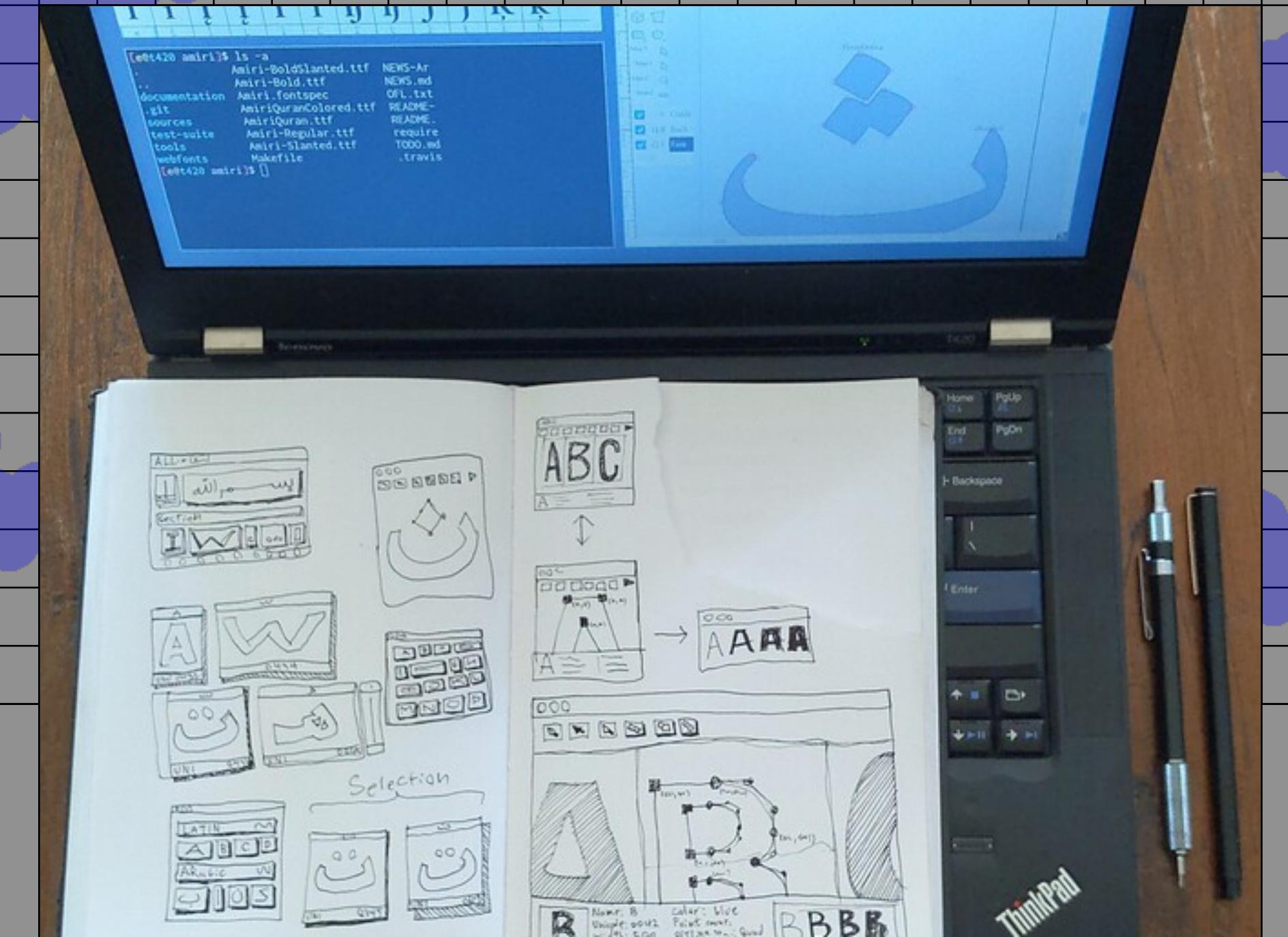
Saarbrücken

Libre
Graphics
Meeting 2019



Berlin Hack Week

3



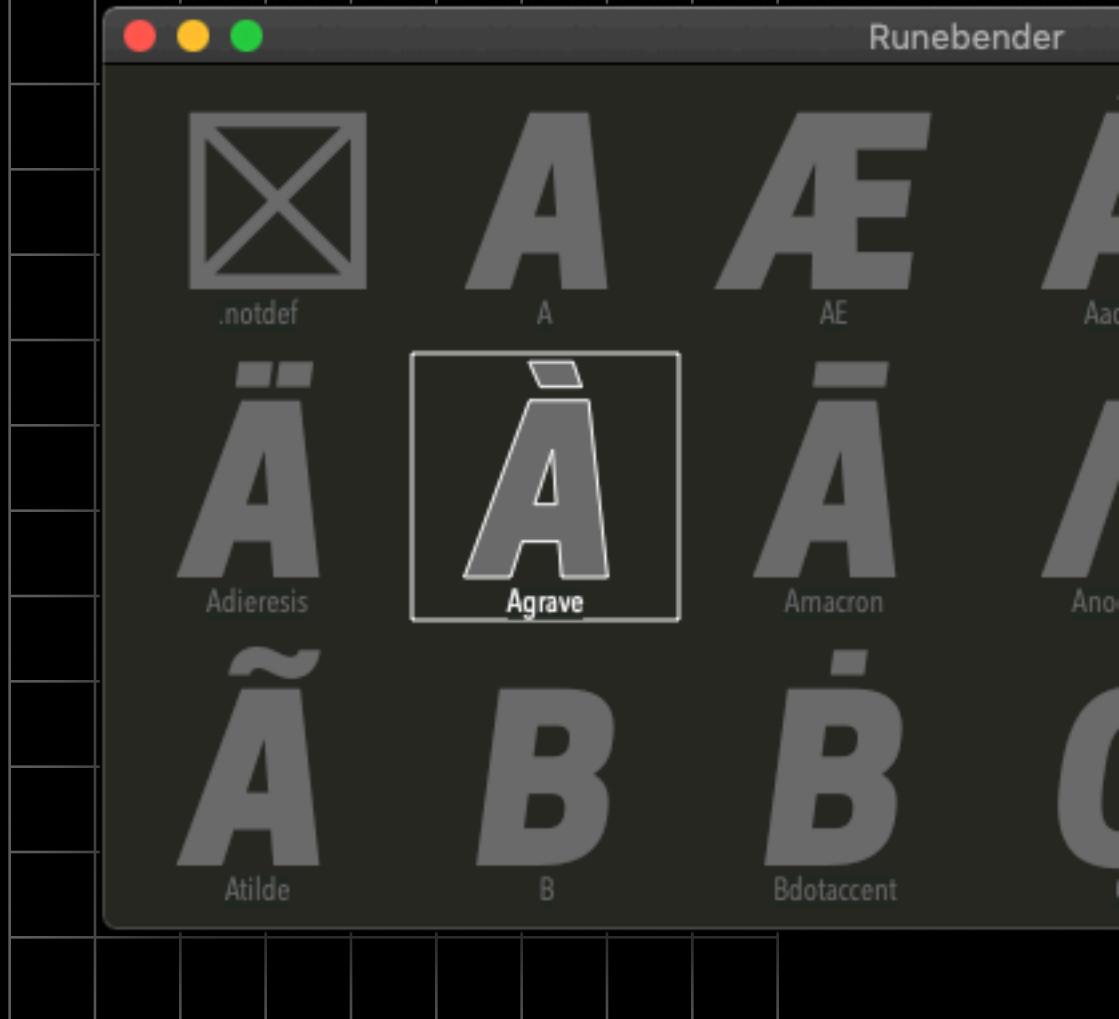
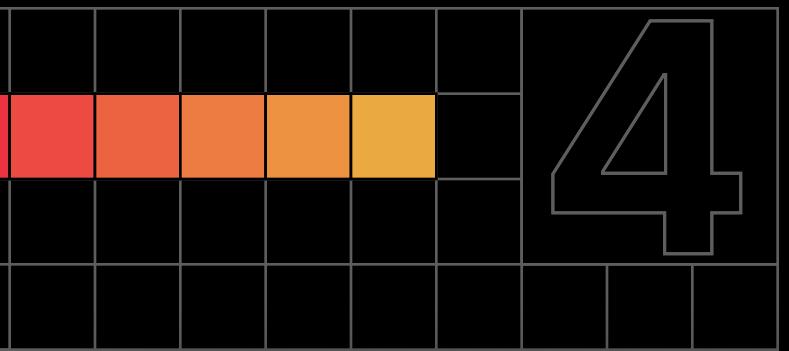
Project Goals

2019

A working editor
Rust core
Python scripting
UFO support (Norad)
Variation first tools and UI
Metal GPU rendering
RBF interpolation
Native macOS application
New Rust GUI crates
Quadratic bézier editing

2020+

Full GNU+Linux support
GNU+Linux DrawBot port
Spiro curves
Higher order interpolation
First class Arabic support
First class CJK support
Raspberry Pi 4 support
Forks!



Rust Programming

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Why Rust?

Rust is FUN!

c/c++ level performance

Cargo is awesome

Beginner friendly

User-friendly compiler

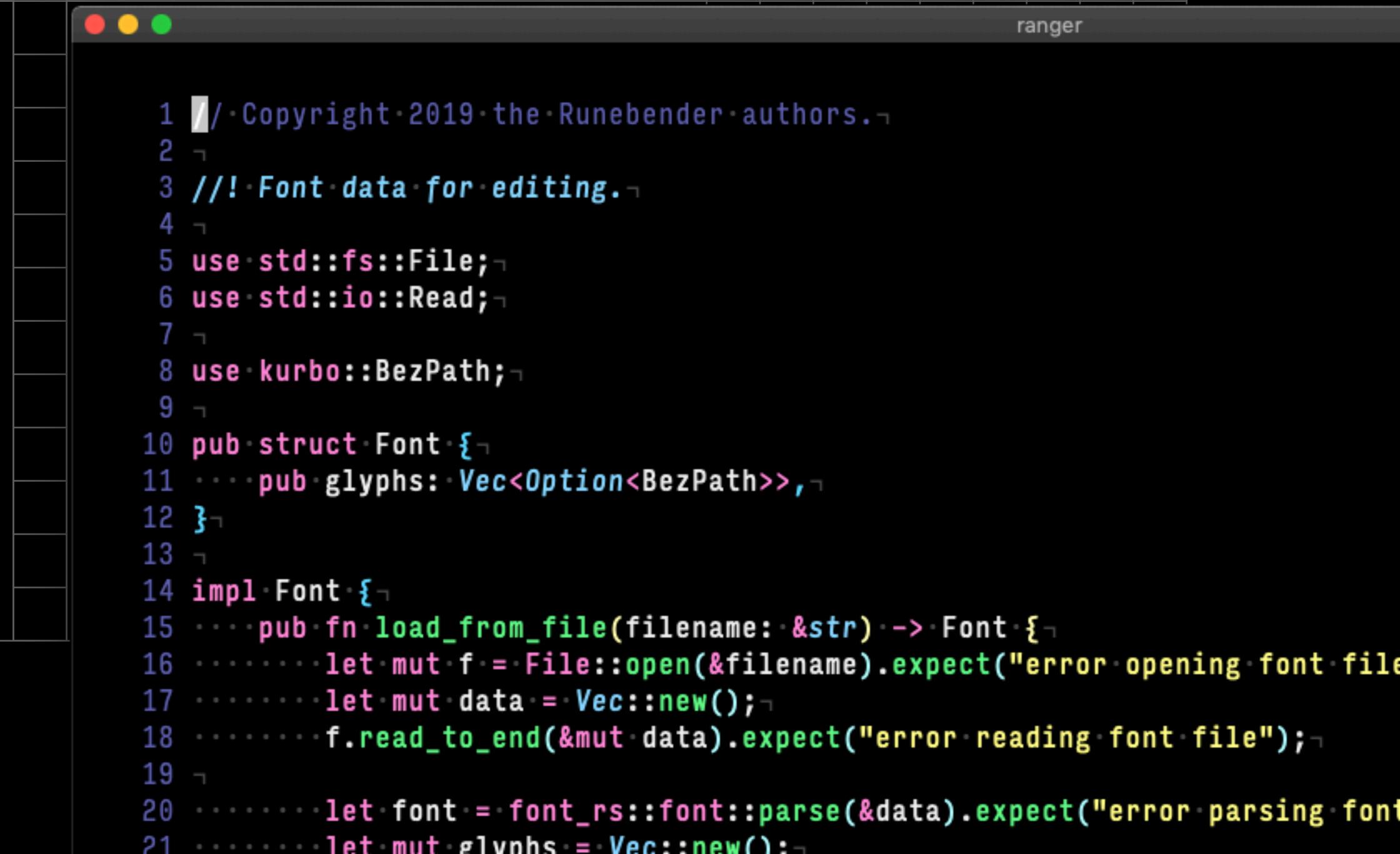
Quality TUI design

Text rendering

No BDFL

Multi-paradigm

Most loved language



A screenshot of a terminal window titled "ranger". The window displays a block of Rust code. The code defines a `Font` struct with a `Vec` of `Option` for glyphs. It includes a `load_from_file` method that opens a file, reads its contents into a vector, parses the font data, and then creates a new vector of `Option` for the glyphs.

```
1 // Copyright 2019 the Runebender authors.
2
3 //! Font data for editing.
4
5 use std::fs::File;
6 use std::io::Read;
7
8 use kurbo::BezPath;
9
10 pub struct Font {
11     pub glyphs: Vec<Option<BezPath>>,
12 }
13
14 impl Font {
15     pub fn load_from_file(filename: &str) -> Font {
16         let mut f = File::open(&filename).expect("error opening font file");
17         let mut data = Vec::new();
18         f.read_to_end(&mut data).expect("error reading font file");
19
20         let font = font_rs::font::parse(&data).expect("error parsing font");
21         let mut glyphs = Vec::new();
```

Open Source

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Apache 2.0 license:

Permissive license
GPLv3 compatibility
Rust ecosystem standard

Education:

Good for students
Free for everyone
Used at Type@Cooper?

Code can be:

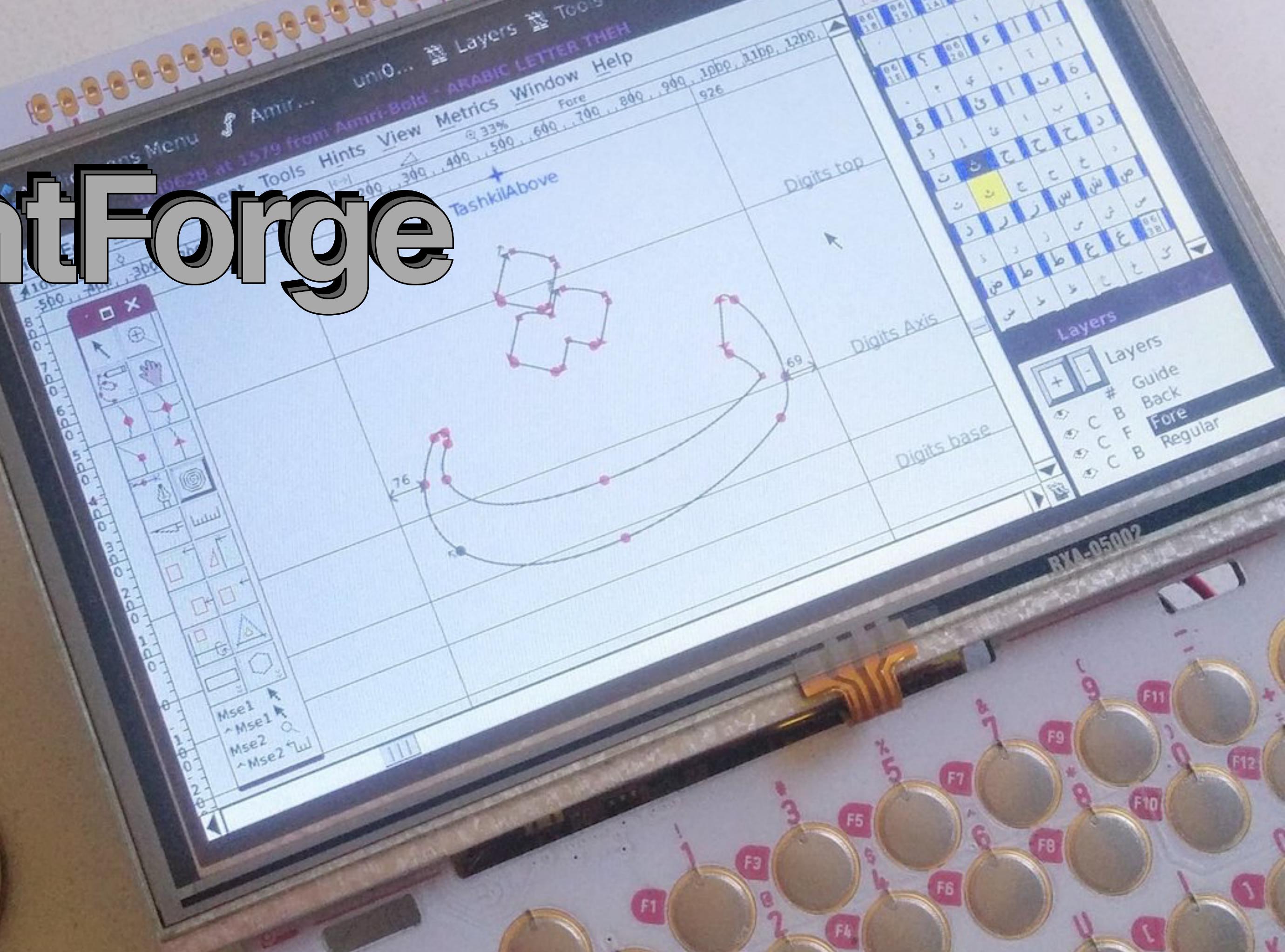
Used
Studied
Shared
Improved
Sold
Made proprietary

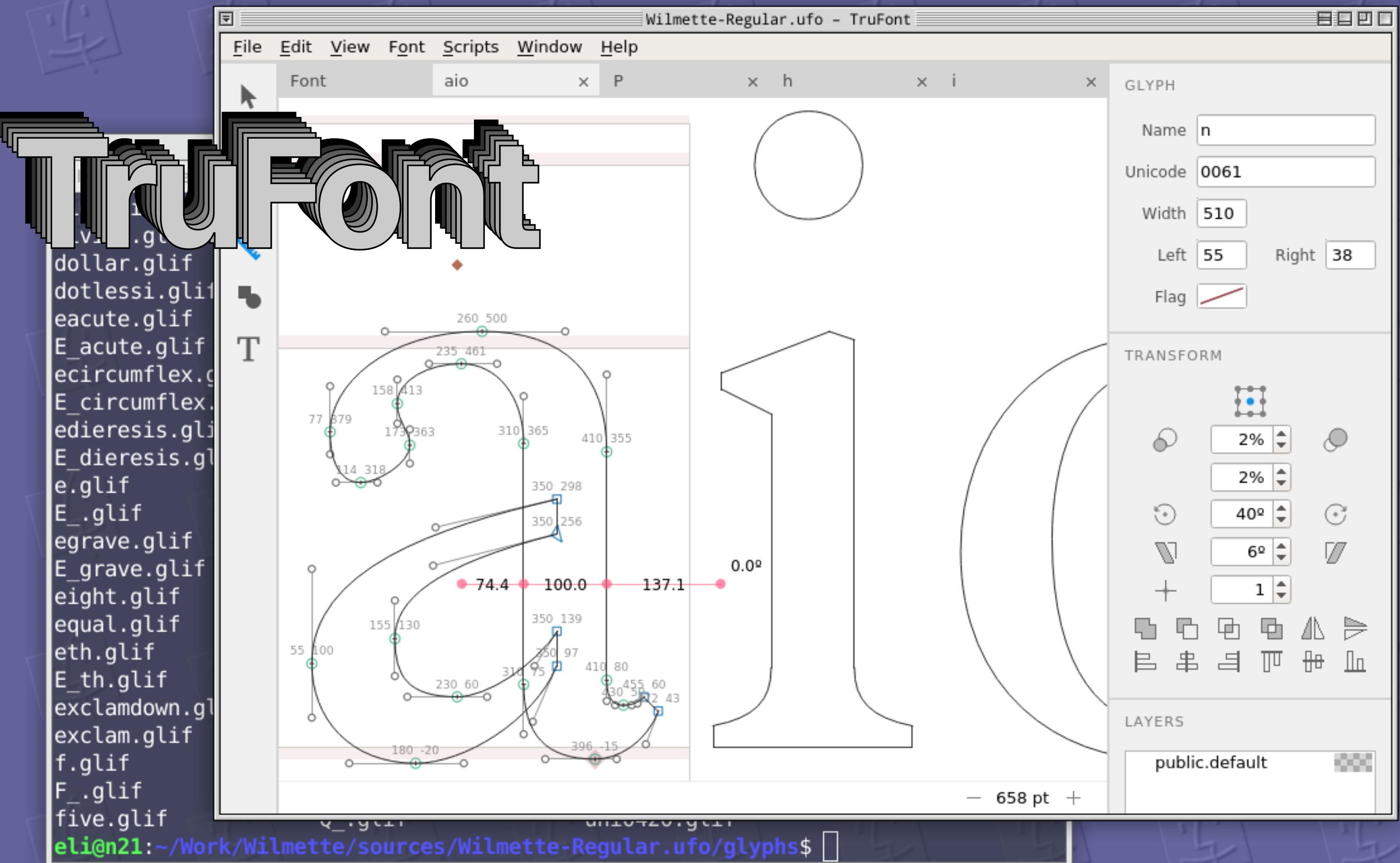
“How can you
own numbers?
Numbers belong
to the world.”

—Donald Knuth

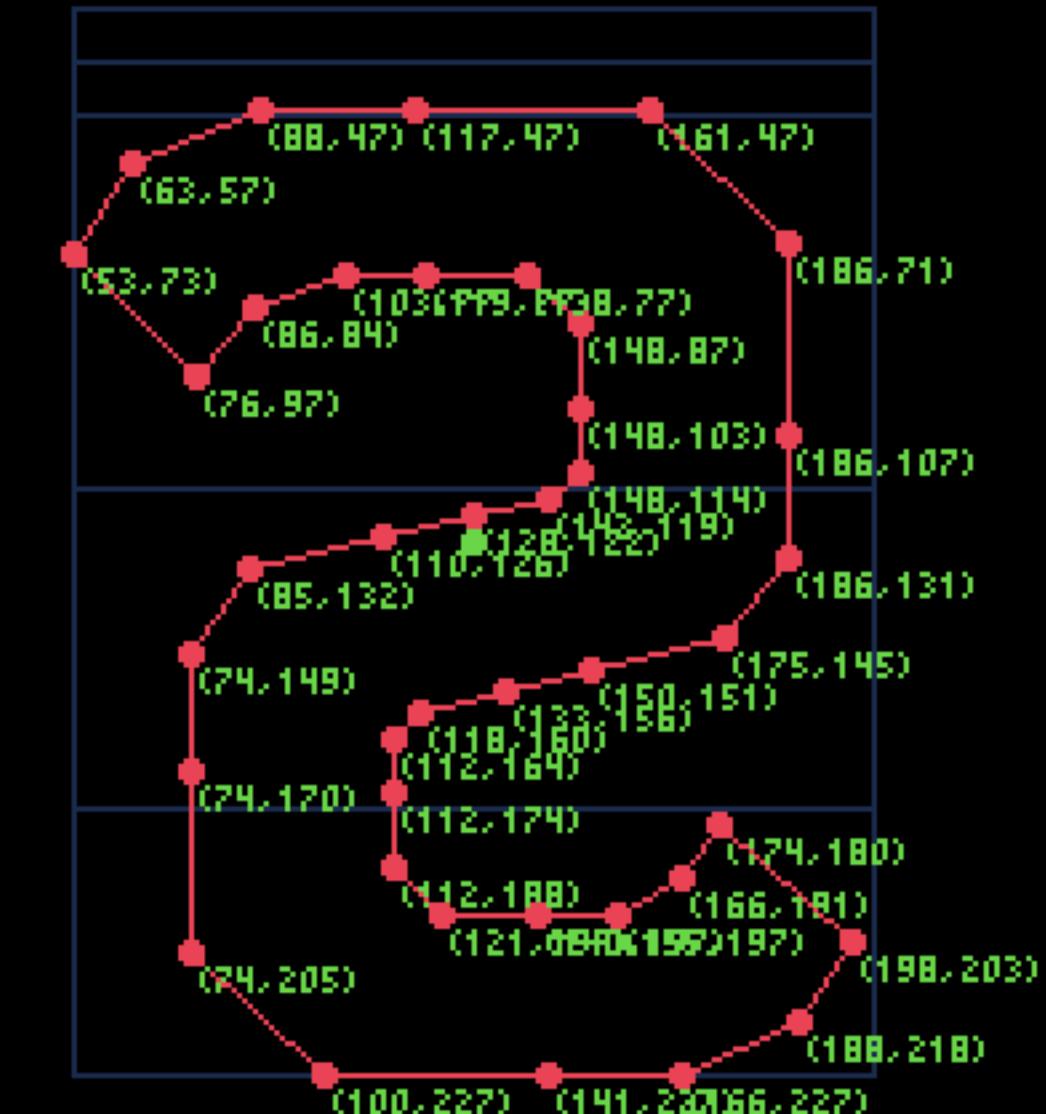
Lil UFO &
TruFont &
FontForge &
RuneBender.

FontForge

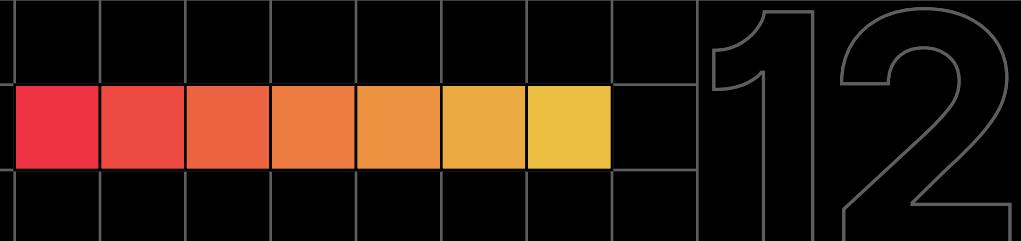




```
1 # Library and module imports
2 import argparse
3 import pyxel
4 import xmltodict
5 from random import randint
6
7
8 COL_BAC
9 COL_INF
10 WIDTH = 256
11 HEIGHT = 255
12
13
14 # Quadratic control point
15 class Point:
16     __slots__ = ['x', 'y', 't']
17     def __init__(self, x, y, t):
18         self.x = x
19         self.y = y
20         self.t = t
21
22 # Application
23 class Bez:
24
25     # Initialization
26     def __init__(self):
27         pyxel.init(WIDTH, HEIGHT, caption="Bez", fps=60)
28         pyxel.image(0).load(0, 0, "assets/pencil_16x16.png")
```



Get Involved



We need:

Early users
Bug reports
UI concepts
Documentation
Rust programmers
Python programmers
New programmers
Your ideas and feedback
Tool requests
Help with Arabic support

You will learn:

How a font editor works
Unix command line skills
Rust programming
Software engineering
Git
GitHub
GNU+Linux
Math
Vim
Cargo



Recurse Center @reursecenter · Jul 8
We're funding Fellowships of up to \$10,000 for women, trans, and non-binary people to work on programming projects, research, and art at RC this fall.
Apply by July 22nd and start August 12th or September 23rd.
reurse.com/blog/149-10000...

Please help spread the word!

\$10,000 Fellowships for women, trans, and non-bin...
Funding to work on ambitious projects at RC this fall.
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Thank You!

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Slides made with DrawBot: github.com/eliheuer/type-thursday-talk-2019

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Runebender

<https://github.com/linebender/runebender>

