Using Rust to write Python modules

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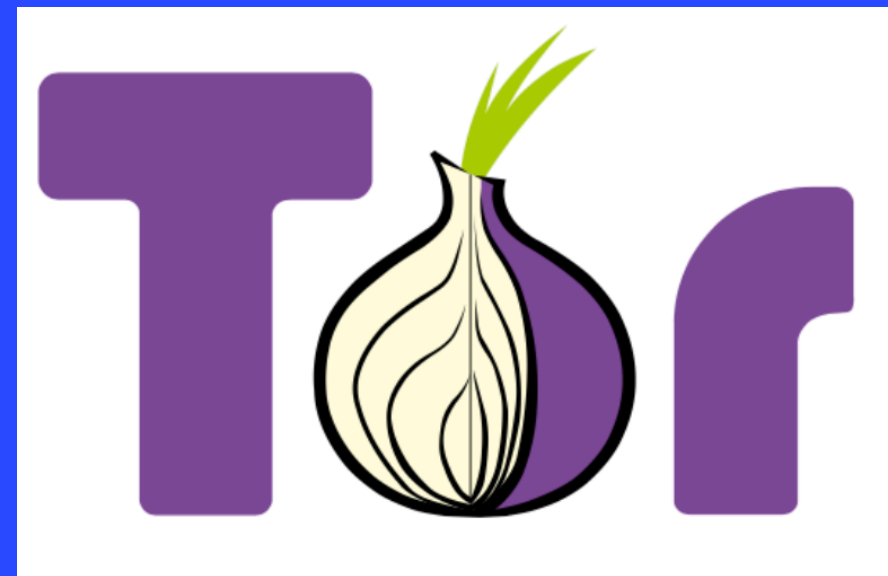RustNL 2023

Who am I?

https://sunet.se

https://www.torproject.org

https://kushaldas.in

https://python.org

2009-2010

Performance

```c
static PyObject *
spam_system(PyObject *self, PyObject *args)
{
    const char *command;
    int sts;

    if (!PyArg_ParseTuple(args, "s", &command))
        return NULL;
    sts = system(command);
    return PyLong_FromLong(sts);
}
```

But why bother about Python?

TIOBE ‹ the software quality company ›

Schedule a demo

May 2023	May 2022	Change	Programming Language	Ratings	Change
1	1		Python	13.45%	+0.71%
2	2		C	13.35%	+1.76%
3	3		Java	12.22%	+1.22%
4	4		C++	11.96%	+3.13%
5	5		C#	7.43%	+1.04%
6	6		Visual Basic	3.84%	-2.02%
7	7		JavaScript	2.44%	+0.32%
8	10	⌃	PHP	1.59%	+0.07%

Rust

A language empowering everyone
to build reliable and efficient software.

You already know this

Learning Rust

2016-11-28T10:36:14+05:30 on rust

Other than fighting with dust allergies, <u>Rust</u> took some of my time in the past few weeks. I kept it in the *to learn list* for a long time, and finally thought of looking at it due to a blog post by Armin. I do follow his personal blog, and my previous <u>notions</u> about the language came from his blog posts. But in this <u>blog post</u> on official Sentry site, Armin talked about how they fixed a Python performance issue with Rust (rather than writing in C).

https://pyo3.rs

PyO3

cryptography is a package which provides cryptographic recipes and primitives to Python developers. Our goal is for it to be your "cryptographic standard library".

tiran commented on Feb 8, 2021   Contributor ···

> It is also impossible to build on ANY alpine linux version/architecture.

Update to most recent Alpine with Rust >= 1.45. Alpine latest has rust (1.47.0-r2).

> Please remove this dependency as soon as possible.

Not going to happen. Rust dependency will stay to replace C code with an actual safe language.

You can disable Rust integration in 3.4.x (see FAQ). Starting with 3.5 cryptography will have mandatory Rust code.
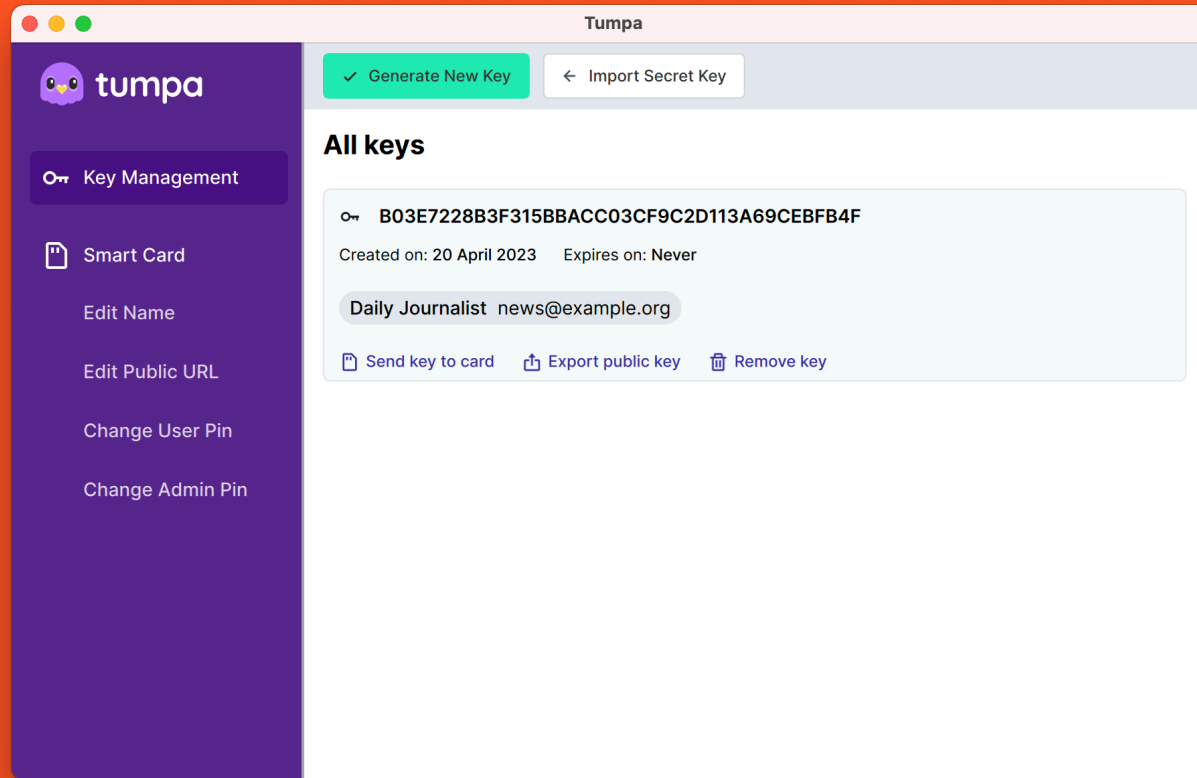
👍 118   👎 38   😐 5   ❤️ 41

https://johnnycanencrypt.rtfd.io

I thought Rust is difficult

Now I am trying to learn Swedish

Tumpa

✓ Generate New Key   ← Import Secret Key

All keys

⊶ B03E7228B3F315BBACC03CF9C2D113A69CEBFB4F

Created on: **20 April 2023**   Expires on: **Never**

Daily Journalist news@example.org

⎙ Send key to card   ⬆ Export public key   🗑 Remove key

tumpa

⊶ Key Management

▢ Smart Card

Edit Name

Edit Public URL

Change User Pin

Change Admin Pin

https://tumpa.rocks

Tugpgp

Your Yubikey is now ready.

Done

More Examples

I don't want to write any new C code unless it's for CPython at this point thanks to having Rust as an alternative. -- Dr Brett Cannon

https://toots.dgplug.org/@kushal
https://kushaldas.in