Command Line Application Design (in Python)

who am i

- CS Undergrad

- Two time GSoCer (MetaBrainz Foundation)

- First international trip (& talk)

- Don't like the new Doraemon! 😫

#meta

(how the talk came to be)

Why write a command line app?

Why write a good command line app?

"There's no such thing as a one-off script."

- Gandalf

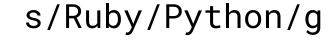# Curious incident of the script at the runtime

```
> ./awesome_script.sh
-bash: /home/dufferzafar/sleep: not found

> ./awesome_script.sh help
-bash: help: command not found

> ./awesome_script.sh --help
done.
```

Characteristics of a good command line app.

Build Awesome
Command-Line
Applications
in Ruby 2

Control Your Computer,
Simplify Your Life

David Bryant Copeland

s/Ruby/Python/g

How do I write a good command line app?

python powered

```python
print("Hello, world!")
```

"With Python come responsibilities."

- Zen of Python, #20

argparse

&

docopt

argparse

```python
from argparse import ArgumentParser         # 1

def main():
    parser = ArgumentParser()               # 2
    parser.add_argument('name')             # 3
    args = parser.parse_args()              # 4
    name = (args.name or "FOSSASIA!")       # 5
    print("Hello " + name)
```

```
> ./say_hello.py
Hello FOSSASIA

> ./say_hello.py "from the other side"
Hello from the other side
```

```
> ./say_hello.py --help

usage: say_hello.py [-h] [name]

positional arguments:
  name

optional arguments:
  -h, --help   show this help message and exit
```

docopt

```python
"""Usage: say_hello.py [-h|--help] [<name>]"""      # 1


from docopt import docopt                             # 2


def main():
    args = docopt(__doc__)                            # 3
    name = (args["<name>"] or "FOSSASIA")             # 4
    print("Hello " + name + "!")
```

```
> ./say_hello.py
Hello FOSSASIA

> ./say_hello.py "from the other side"
Hello from the other side
```

Why docopt?

- Docstrings 💕

- Simple entrypoint: `docopt.docopt()`

- Easily create complex command line logic

- Works in other languages too!

Argument Parsing

stdlib

- getopt
- optparse
- argparse

3rd party

- docopt
- clint
- click
- cliff
- plac
- begins
- compago

Contents (of a future talk)

- Argument Parsing
- Input
  - Interactive
  - Stream based
- Output
  - `stdout/stderr`
  - Colors
  - Progressbar
- Documentation
  - Manpage

fin.