

A Jr. Developer's Software Engineering Tutorial August 2019

- Now: Jr. Developer, Pythonista/Djangonaut
- Then: Accountant & uni instructor w/ an MBA

Who Else Am I?

- DjangoCon US Organizer
- DEFNA North American Ambassador
- @DEFNADO for more info

The Issue

- Career changers seek internships or "Jr. Developer" jobs
- Jr. Developer == ???
- “When am I ready?”

Kojo Idrissa

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The Issue

MOAR Programming!

Two Ends of a Coding Continuum

Programming

- Individuals
- Author
- Output
- Less robust

Software Engineering

- Teams
- Others
- Code
- More robust

What I'll Talk About

- Version Control
- Documentation
- Testing
- Dependency Management/Deployment
- Development Environment

Sample Project Introduction

- Simple spreadsheet transformation
- Intended as a practical starting point
- Timesheet data (how common are time sheets and time tracking in different parts of Africa?)

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Python Fundamentals

Let's Write Some Python!

Version Control: Why?

- Protect yourself from mistakes
- Enable yourself to try new things
- Learn to work on a team

Version Control: How?

- Solo usage
- Basic feature branch/merge workflow
- Git != Github

Version Control: How?

- Reference
 - Pro Git Chapters 1-3
 - Free!

Documentation

- Refine your thinking
- Help your future self
- Help your teammates help you

(!) Self-Documenting Code

- Kinda, not really
- Naming is hard
- Start to think about it now

Documentation: When?

- Writing code using a new technique
- Writing functions, especially if they call other functions

Documentation: How

- Docstrings for functions (minimums)
 - What the function does
 - What's the input? (include data type)
 - What's the output? (include data type)

Why Testing: The Big Picture

- Tests -> Automated tests
- Automated Tests -> CI
- CI -> CD (Continuous Delivery)
- CD -> CD (Continuous Deployment)

Why should YOU write tests?

- Protection from future changes breaking things
- Assurance past fixes still work

Testing: When?

- As soon as possible
- Art + Science: experience helps

Testing: How?

- doctest & unittest: builtin
- pytest: *pip install pytest*

Dependency Mgmt & Deployment

- Virtual Env(*ironments*)
- Containers
- Virtual Machines (VMs)

Questions/Comments?

- @Transition on Twitter
- kojoidrissa.com
- github.com/kojoidrissa/pyconafrika_tutorial/