### 500 Lines or Less

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### What is AOSA?

- Architecture of Open Source Applications
- Founded by Greg Wilson and Amy Brown
- Architects study thousands of buildings
- Read critiques written by expert architects

#### AOSA I and II

- Free-form writeups of well-known FOSS projects
- History, evolution, high-level architecture
- Focus was determined by the author

# Projects in I & II

- BASH
- LLVM
- GHC (Glasgow Haskell Compiler)
- PyPy
- Sendmail

### AOSA III: POSA

- Performance of Open Source Applications
- Edited and produced by Tavish Armstrong

### Some numbers

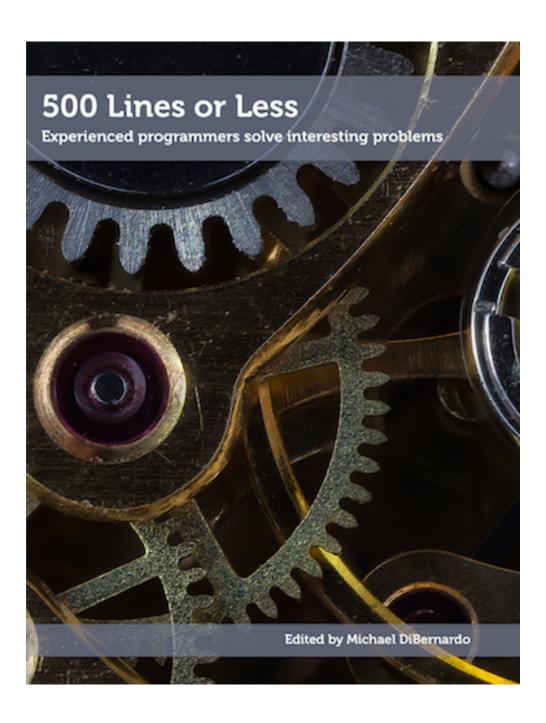
- aosabook.org ~17k uniques a month
- 10000+ copies sold across all 3 books
- 60k+ raised for Amnesty International

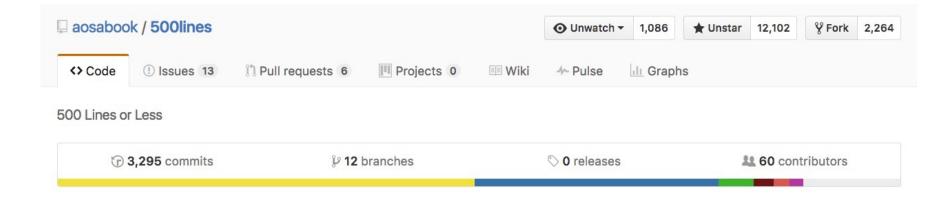
### 500 Lines?

- Not 500 Lines or Fewer
- Scope of existing books too large for audience
- If your comfort level is 1000-10000sloc...

### Goal of 500Lines

- Present readers with low-to-medium level design decisions that go into a project kernel
- Describe past experience used to manage this
- Explain what would be needed to expand it





# Projects

- A Web Crawler With asyncio Coroutines
  A. Jesse Jiryu Davis and Guido van Rossum
- A Rejection Sampler Jessica B. Hamrick
- Contingent: A Fully Dynamic Build System
  Daniel Rocco and Brandon Rhodes

## Projects

- A Python Interpreter Written in Python Allison Kaptur
- Dagoba: An extensible in-memory graph database
  Dann Toliver
- A Continuous Integration System Malini Das

### Process

- Code review and chapter review
- Each review done by at least one relatively new and one relatively experienced programmer

### This meant...

- ~30 proposed chapters
- 60+ code reviews
- 40+ chapter reviews
- ... and I read them all

### A lesson learned

How many of us try to write "clean code"?

### A lesson learned

- How many of us try to write "clean code"?
- How many of us can precisely define that?

### Observation

- Discomfort with a system is proportional to how much it differs from what one expected to see
- E.g. someone with CG background

### Observation

 Depending on how much we've researched the techniques we use, we may have a more visceral or more studied explanation as to why we use them

### Audience

- Who is the reader?
- In 500Lines, it was "a relatively new programmer without much experience in the domain."
- We can do better than this on most projects

### A lesson learned

- Focus more on "recognizable architecture" and less on "clean code"
- Think hard about our probable reader