





TL;DR

automatically generate interactive How to documents, slides and computational notebooks from a single markdown source.

Abstract

Academic trade requires juggling multiple variants of the same content published in different formats presentations, manuscripts, posters and computational notebooks. The need to track versions to accommodate for the write-reviewrebut-revise life-cycle adds another layer of complexity. We propose to significantly reduce this burden by maintaining a single source document in a version-controlled environment (such as git), adding functionality to generate a collection of output formats popular in academia. To this end, we utilise various open-source tools from the Jupyter scientific computing ecosystem and operationalise selected software engineering concepts. We offer a proof-of-concept workflow that composes Jupyter Book (an online document), Jupyter Notebook (a computational narrative) and reveal.js slides from a single markdown source file. Hosted on GitHub, our approach supports change tracking and versioning, as well as a transparent review process based on the underlying code issue management infrastructure.

Authoring

Multiple Entry Points – Singl

MyST Markdown \rightarrow

- Jupyter Notebook computational narrative
 - Google Colab
 - MyBinder
- **Reveal.JS** interactive slides
- Jupyter Book interactive report/document/book



Version-controlled Environment

- Source versioning and history tracking •
- E.g., git or mercurial

You Only Write Thrice

Creating Documents, Computational Notebooks and Presentations From a Single Source

Kacper Sokol and Peter Flach

Rev	lev	ving

- Akin to source code review, e.g., through Issues and Pull Requests infrastructure
- **Permanently attached** to the document source
 - Provenance record
 - Resubmission history
- **Conversational** review with inline comments and discussions

Jupyter Notebook (computation)	7

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Publishing

- **Tag** a version
- **Release** to an archiving platform
- **Bibliometrics**
 - **DOI** minting (e.g., Zenodo) to support citations
 - **Google Analytics**-like dissemination tracking

- Improved accessibility
 - install stuff
 - technologies

Source **Preview**

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Presenting

Three formats: documents, slides and computational notebooks Native interactivity support • Execute directly in the browser – no need to Support for web-enabled assistive Web technologies are the limit

Exhibit

https://github.com/so-cool/you-only-write-thrice/

https://so-cool.github.io/you-only-write-thrice/

Contact

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