TAILOR

Foundations of Trustworthy AI – Integrating Reasoning, Learning and Optimization
TAILOR
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Training Platform Beta Report

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Short description	The availability of training material is indispensable for knowledge transfer, developing a shared vision and nurturing the next generation of researchers. It is also an important driver of collaboration. To maximise impact, we are working towards a universal and flexible publishing platform, where diverse input formats – LaTeX, Markdown, tables, figures, code, etc. – can be collated into a large range of output formats such as (interactive) web documents, PDFs, (computational) notebooks, slide decks and the like. While useful on its own, this platform will also contribute to the creation of TAILOR-themed MOOCs, allowing the network partners to author diverse high-impact training material covering the latest developments in Trustworthy AI, Learning, Optimisation and Reasoning.

History			
Revision	**Date**	**Modification**	**Author**
1.0	31/08/2021	-	KS, PF

Document Review		
Reviewer	**Partner ID / Acronym**	**Date of report approval**
Joaquin Vanschoren	#12, TUE	31/08/2021
Barry O'Sullivan	#4, UCC	31/08/2021

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Summary of the report

Academic trade requires juggling multiple variants of the same content published in different formats: manuscripts, presentations, posters and computational notebooks. The need to track versions to accommodate for the write–review–rebut–revise life-cycle adds yet another
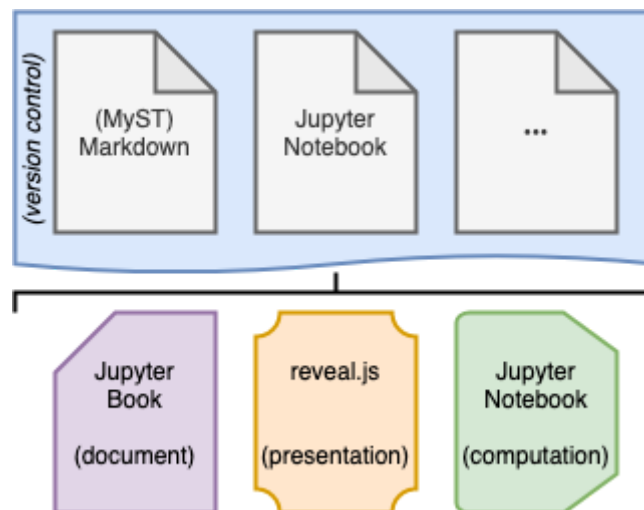
layer of complexity. With this deliverable we aim to reduce this burden by allowing authors to maintain a single source document in a version-controlled environment (such as *git*) that can be used to generate a collection of output formats popular in academia. To this end, we utilise various open source 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. An exhibit of our workflow can be previewed at https://so-cool.github.io/you-only-write-thrice.

The deliverable

This deliverable is a first step towards a flexible and coherent publishing workflow supporting diverse input and output formats. Given its practical nature, the deliverable is published as a template and an automated workflow, both of which are hosted on GitHub: https://github.com/So-Cool/you-only-write-thrice. This repository holds the source of an online (interactive) document and a presentation that are built automatically

(https://github.com/So-Cool/you-only-write-thrice/runs/3078064455) upon detecting any edits or changes, and which can be previewed at: https://so-cool.github.io/you-only-write-thrice. While the centerpiece of this deliverable is based exclusively on Python code examples, we publish additional documents built with this workflow that make use of non-mainstream programming languages such as *SWI Prolog*[1], *cplint*[2] and *ProbLog*[3], highlighting flexibility of the proposed framework.

Part of this deliverable has been published by Kacper Sokol and Peter Flach as a workshop paper at ICLR 2021 – *Beyond static papers: Rethinking how we share scientific understanding in ML* – under the "You Only Write Thrice: Creating Documents, Computational Notebooks and Presentations From a Single Source" title. A PDF preprint of this paper is available on arXiv: https://arxiv.org/abs/2107.06639.

Organisation

The following people have been involved in the Deliverable:

Partner ID / Acronym	Name	Role
ID #16, UNIBRIS	Kacper Sokol	Researcher
ID #16, UNIBRIS	Peter Flach	WP Lead

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[1] https://book-template.simply-logical.space/src/text/sphinx_prolog_swish.html
[2] http://cplint-template.simply-logical.space/src/text/sphinx_prolog_swish.html
[3] https://problog-template.simply-logical.space/src/text/bayesian_networks-sp-mnb.html