

A Markdown-based Open Toolchain for Writing, Processing, and Publishing Bebras Tasks



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Gabriel Parriaux¹, and



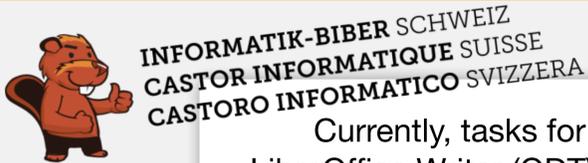
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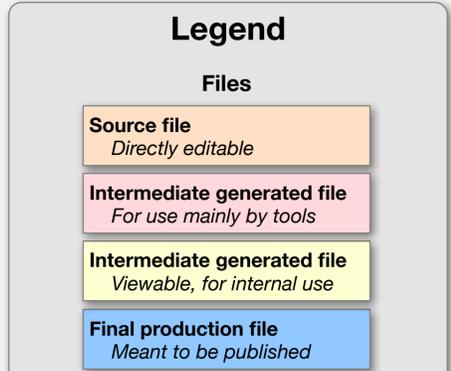
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Currently, tasks for the **Bebras contest** are prepared in one of two formats: LibreOffice Writer (ODT) or plain HTML. Most of the post-processing and conversion work we do is **manual**. This poster depicts a **set of tools** we are developing for the Swiss Bebras contest to more easily and automatically write, process, and publish tasks, based around a **Markdown/YAML representation** of the task. The tools feature **query, conversion, and verification** of (properties of) task files.



Edition

Example of a task written in Markdown with YAML metadata at the start. Here, the editor is Microsoft's cross-platform Visual Studio Code (VS Code) with live custom preview. Our plugin takes care of the custom formatting and rendering of the metadata, as well as warnings and errors underlined in the source file.

```

1 ---
2 id: 2020-CH-04c
3 title: Tree Sudoku
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5 ages:
6   6-8: --
7   9-10: --
8   11-12: --
9   13-14: hard
10  15-16: easy
11  16-19: easy
12
13 answer_type: interactive (click-on-object)
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15 categories:
16   - algorithms and programming data
17   - sudoku - https://en.wikipedia.org/wiki/Sudoku
18   - sequences and growing sub-sequences
19   - reconstruction of objects from partial information
20   - verifying correctness of data representation
21   - error correction
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996 keywords:
997   - algorithms and programming data
998   - algorithms and programming data
999   - communication and networking
1000  - data structures and representations
1001  - interactions, systems and society

```

Metadata: YAML

Metadata is hard to parse consistently and reliably in ODT or HTML as the community uses them now. We use YAML (human-readable) in the task file.

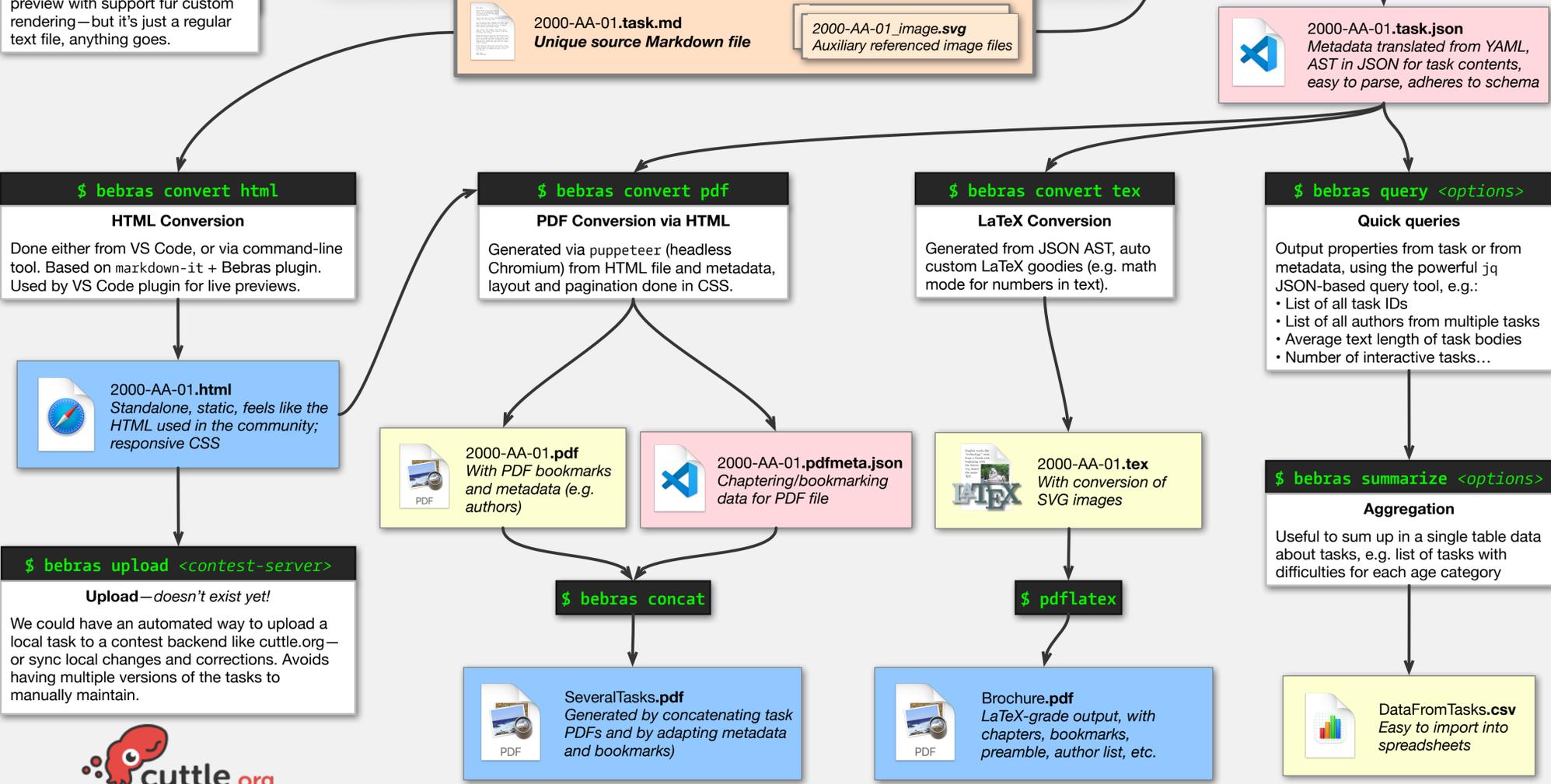
Content: Markdown

Simple, human-readable syntax. Based on CommonMark; extended Markdown syntax for image placement, LaTeX formula, tables.

Text format!

Text-only format all the way.

- Easy to store, view, diff, etc. in source-control systems. Text files are better suited than binary files.
- Free choice of editor (and rest of toolchain). VS Code has live preview with support for custom rendering—but it's just a regular text file, anything goes.



Downsides and tradeoffs • Not as visual as traditional word-processing app • Not as flexible as HTML (no interactivity or script embedding) • New tools in established community

References

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