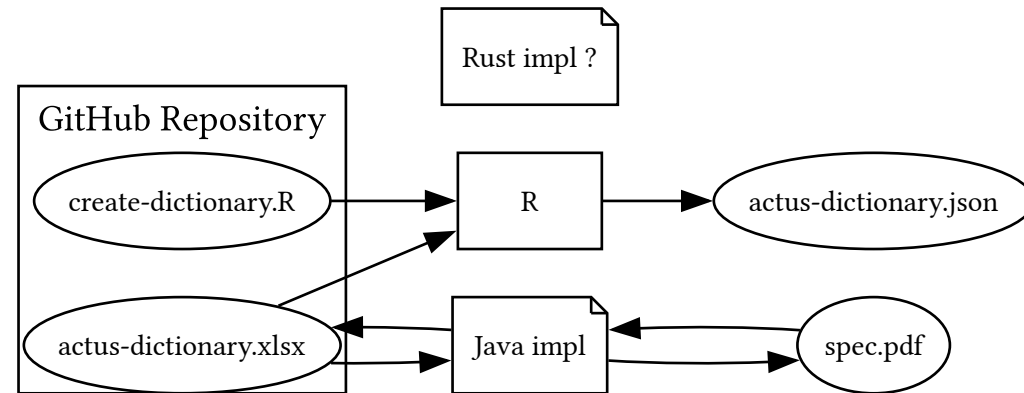# Towards an ACTUS Specification 2.0

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2024-01-17

Why am I talking about this?
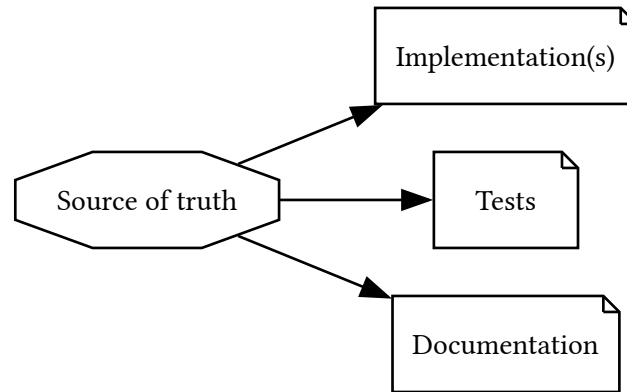
Current situation

Our proposals

1. Have a single-source of truth
2. Fix important issues in the specification
3. Maintain machine-readable tests
4. Make the specification with typst
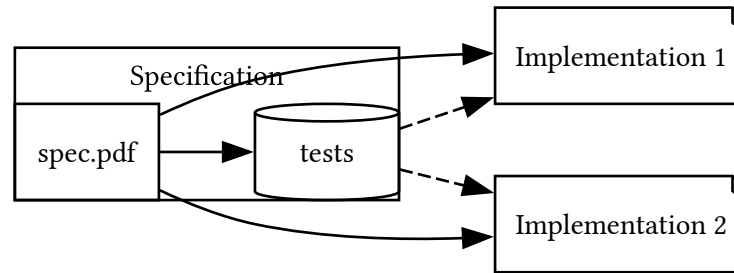5. Get rid of the excel entirely

Single source of truth

Fix important issues in the spec

- Specify exactly which types are expected to be used:
  - Real numbers don't exist.
  - Time is complicated.
  - Money **must not** be represented with floating-point numbers.
- Fix missing or inconsistent parts of the dictionary

Specify machine-readable tests

Make the specification with typst

- Free & Open-source
- Modern alternative to LaTeX
- Fast incremental compilation
- Excellent error messages

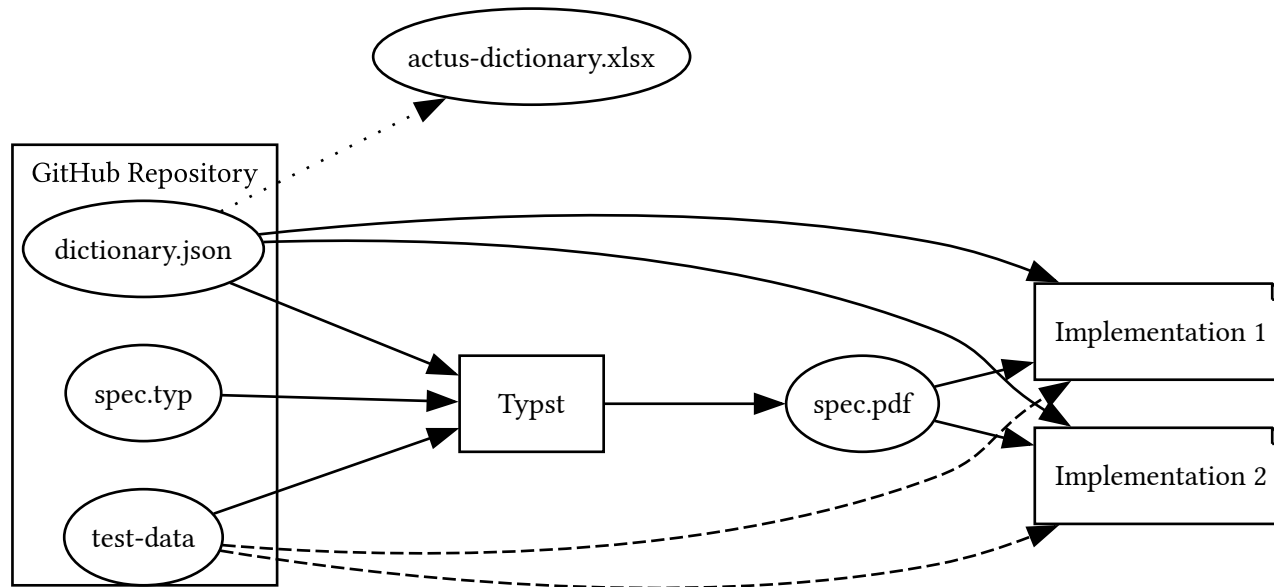This presentation is written in Typst!

Typst example

```
sum_(i = 0)^n frac(i^(1 + i), sqrt(i))
```

$$\sum_{i=0}^{n} \frac{i^{1+i}}{\sqrt{i}}$$

Get rid of the Excel sheet

Alternatively: generate the sheet from the specification

Proposed situation

Current situation

- Draft specification 2.0 ready for this presentation
- Need a big "OK, let's do it"

Future work

- Describe what tests look like
- Continue specification
  - If we choose typst: Write formulas in typst
  - If we choose LaTeX, redo typst work in LaTeX
- Later: Test generator
- Later: Documentation generator

References

- https://github.com/cspr-rad/actus-spec

- https://cs-syd.eu/posts/2022-08-22-how-to-deal-with-money-in-software