Bookmaster 2 $\LaTeX$

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Agenda

- About
- Why
- How it works
- Next steps

What is Bookmaster?

The BookMaster program provides a document-markup language for text processing.

The BookMaster program processes text files that include Generalized Markup Language (GML) tags.

BookMaster code interprets these tags and formats the file with chapters, headings, paragraphs, lists, tables, figures, footnotes, and all the other elements of a published document as specified by these tags. The user can output the formatted document on a display terminal or on a page printer.

Another definition

A powerful text-processing program that uses DCF's General
Markup Language (GML) tags, the SCRIPT/VS text formatter, plus
additional tags, attributes, and predesigned style files, all
designed to create complex documents.

Generalized Markup Language (1969)
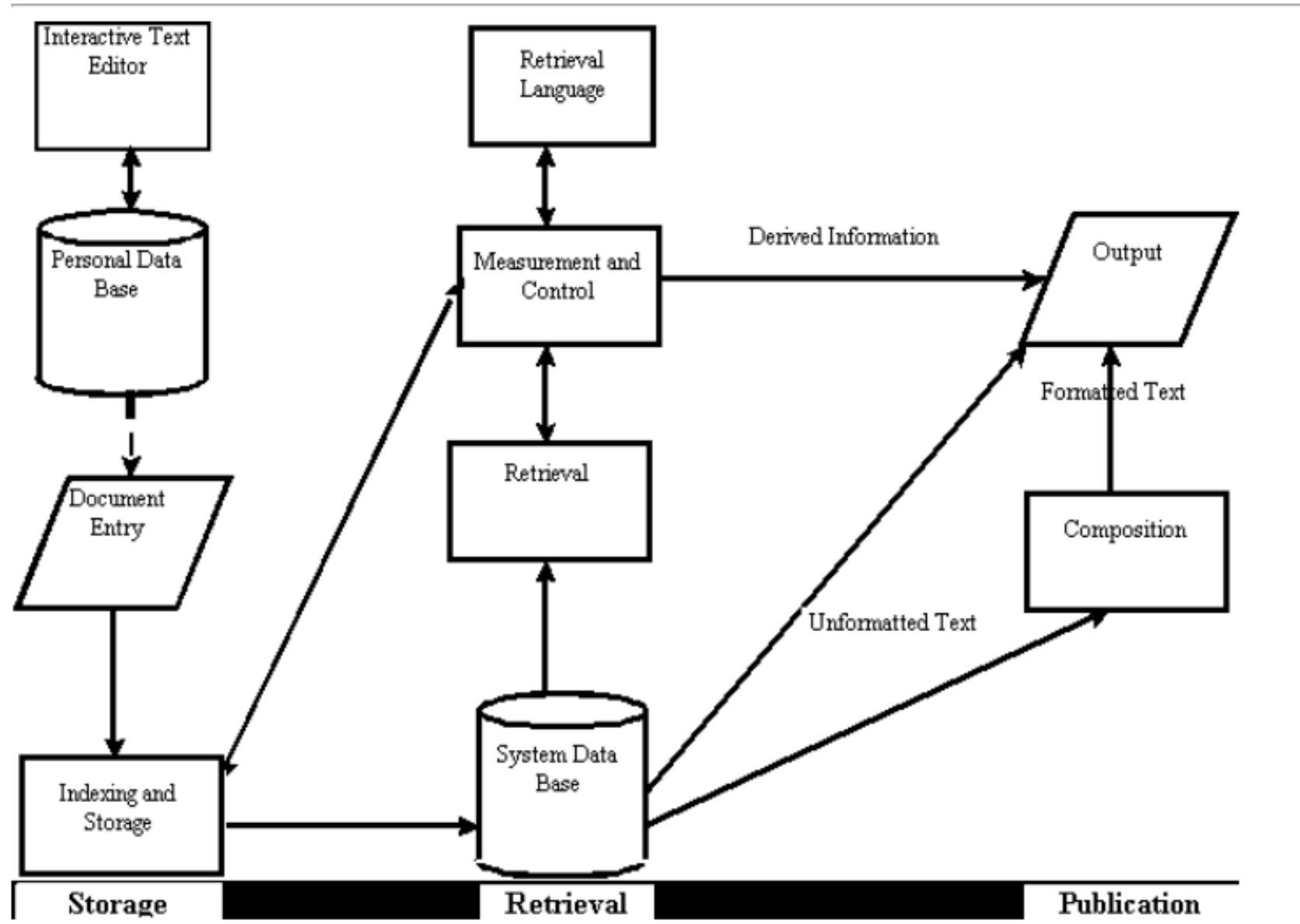
Charles   Goldfarb

Edward   Mosher

Raymond Lorie

Integrated Text Processing

IBM as a Publisher

CMS Script eventually evolved, with the addition of GML,
to become IBM's hugely successful **Document Composition Facility***.*

In addition to serving some 4000 mainframe customers,
it also supported IBM's own publishing operation,
producing over 11 million master pages
for what was then reputed to be the world's second largest publisher
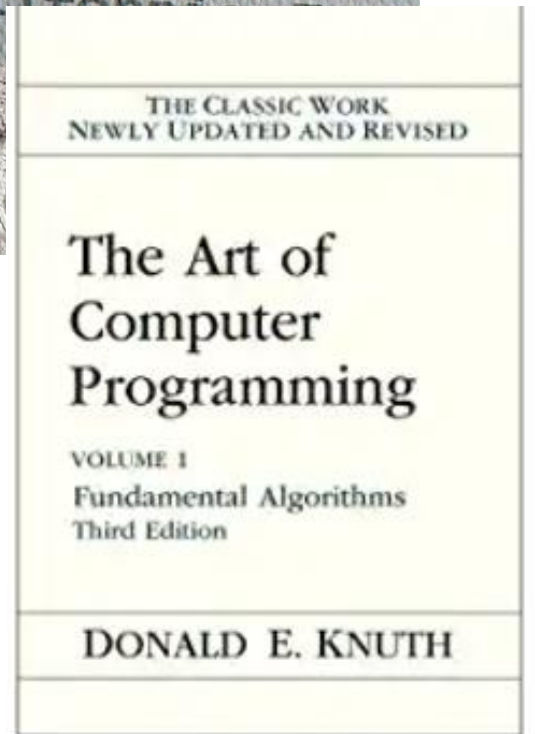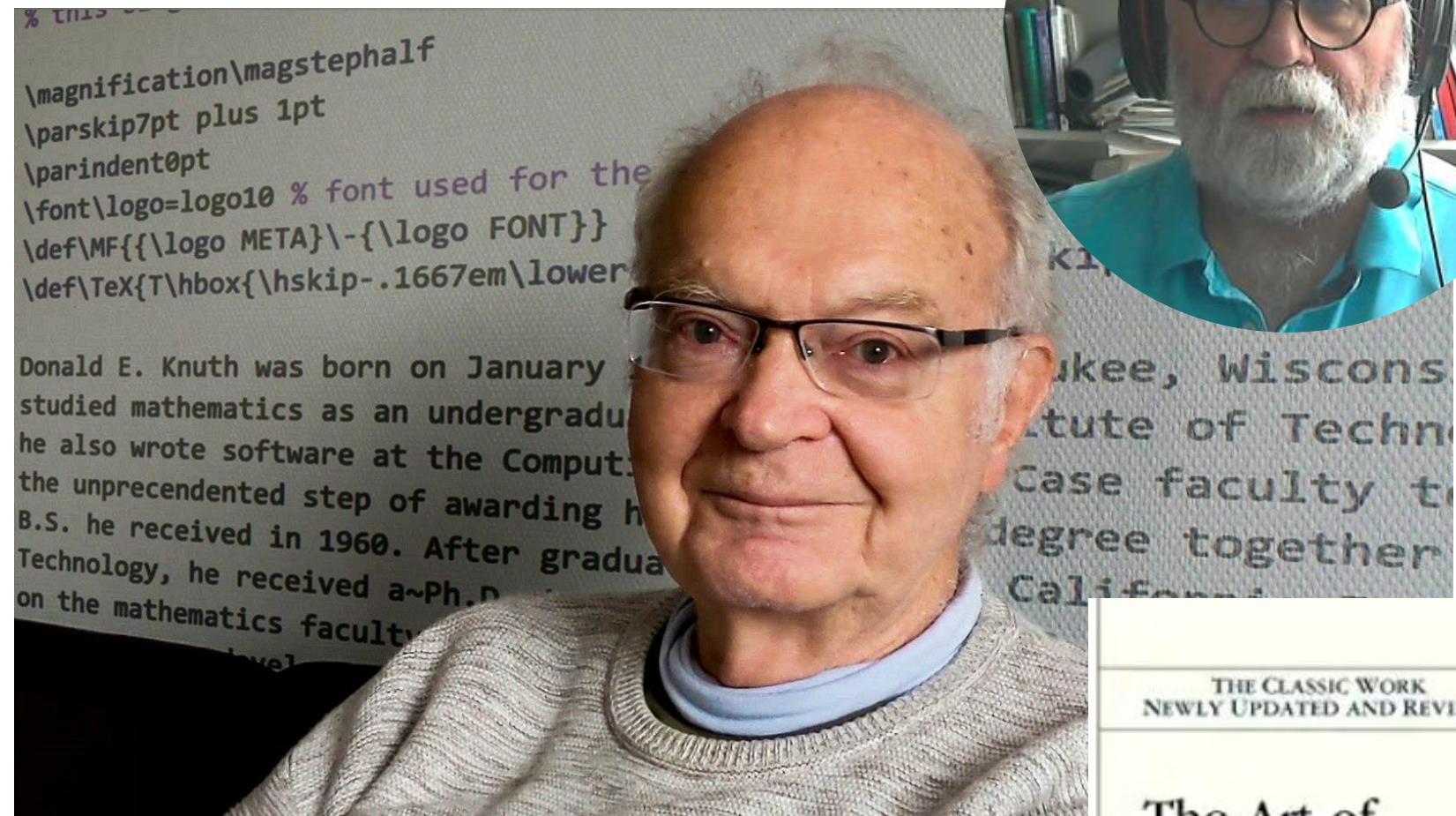*(after the U.S. government).*

About TeX

The TeX language described in this book is similar to the author's first attempt at a document formatting language, but the new system differs from the old one in literally thousands of details. Both languages have been called TeX; but henceforth the old language should be called TeX78, and its use should rapidly fade away. Let's keep the name TeX for the language described here, since it is so much better, and since it is not going to change any more.

I wish to thank the hundreds of people who have helped me to formulate this "definitive edition" of the TeX language, based on their experiences with preliminary versions of the system. My work at Stanford has been generously supported by the National Science Foundation, the Office of Naval Research, the IBM Corporation, and the System Development Foundation. I also wish to thank the American Mathematical Society for its encouragement, for establishing the TeX Users Group, and for publishing the *TUGboat* newsletter (see Appendix J).

Stanford, California — D. E. K.
June 1983

```
% this
\magnification\magstephalf
\parskip7pt plus 1pt
\parindent0pt
\font\logo=logo10 % font used for the
\def\MF{{\logo META}\-{\logo FONT}}
\def\TeX{T\hbox{\hskip-.1667em\lower
```

Donald E. Knuth was born on January ... kee, Wisconsin ... studied mathematics as an undergradu... tute of Techno... he also wrote software at the Comput... Case faculty t... the unprecedented step of awarding h... degree together... B.S. he received in 1960. After gradua... Californi... Technology, he received a~Ph.D... on the mathematics faculty...

THE CLASSIC WORK
NEWLY UPDATED AND REVISED

The Art of Computer Programming

VOLUME 1
Fundamental Algorithms
Third Edition

DONALD E. KNUTH

Why?

Productivity

- Focus on contents

- instead of changing user interface

- where is this function NOW?

- Automatically create table contents

- Structure document into files

- Easy use of keywords

- …

On The Wysiwyg debate

- Cottrell, Adrian (1999): Word Processors: Stupid and Inefficient
  - http://users.wfu.edu/cottrell/wp.html
- Taylor, Conrad (1996): What has Wysiwyg done to us?
  - https://www.conradiator.com/resources/pdf/WhatHasWYSIWYG_done2us.pdf

Why not TeX or LaTeX directly?

Productivity

- Reuse of existing SCRIPT or BOOKMASTER texts

- Readability

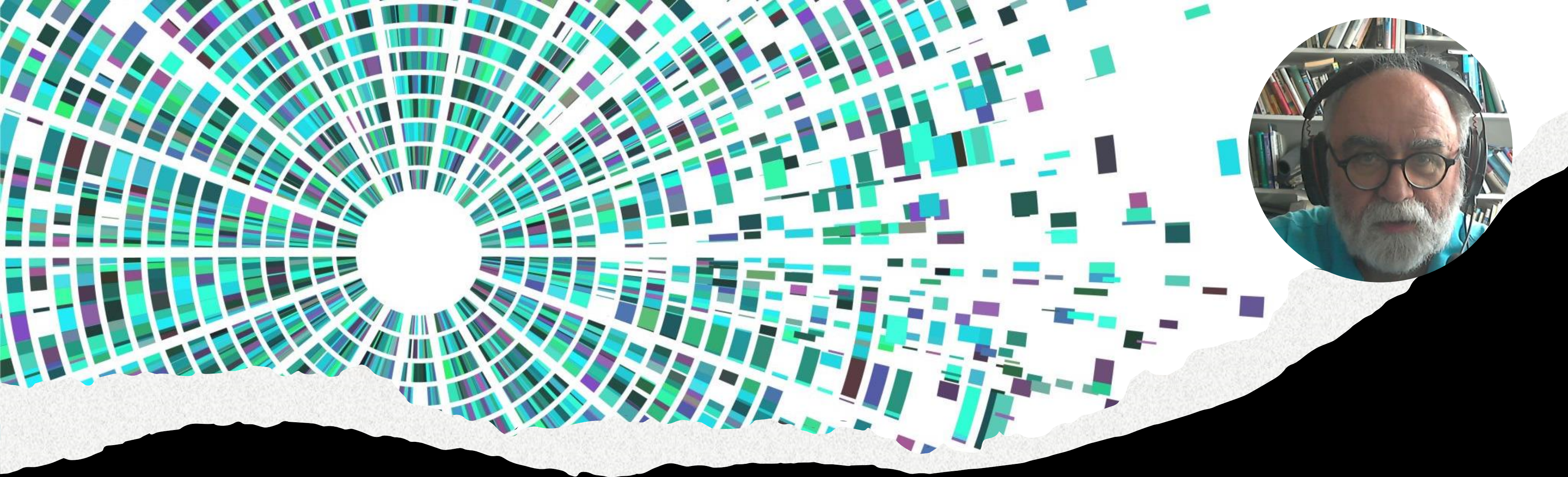- Different output targets (e.g. HTML)

Daniel Allington

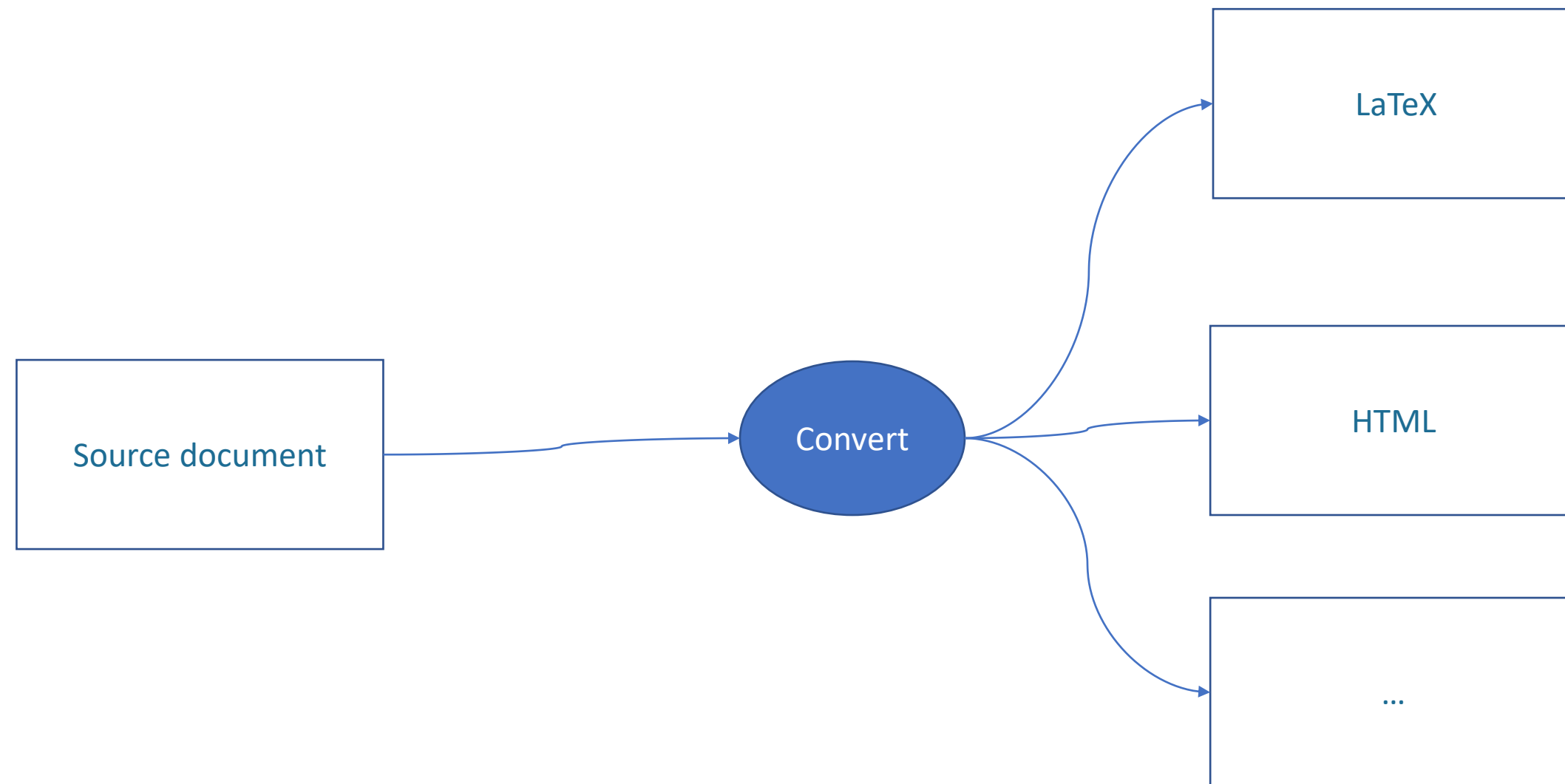**The LaTeX fetish (Or: Don't write in LaTeX! It's just for typesetting)**

http://www.danielallington.net/2016/09/the-latex-fetish/

How does it work?

Generic Flow

```
                            ┌──────────────┐
                         ┌─▶│    LaTeX     │
                         │  └──────────────┘
┌─────────────────┐   ╭───────╮  ┌──────────────┐
│ Source document │──▶│ Convert │─▶│     HTML     │
└─────────────────┘   ╰───────╯  └──────────────┘
                         │  ┌──────────────┐
                         └─▶│     ...      │
                            └──────────────┘
```
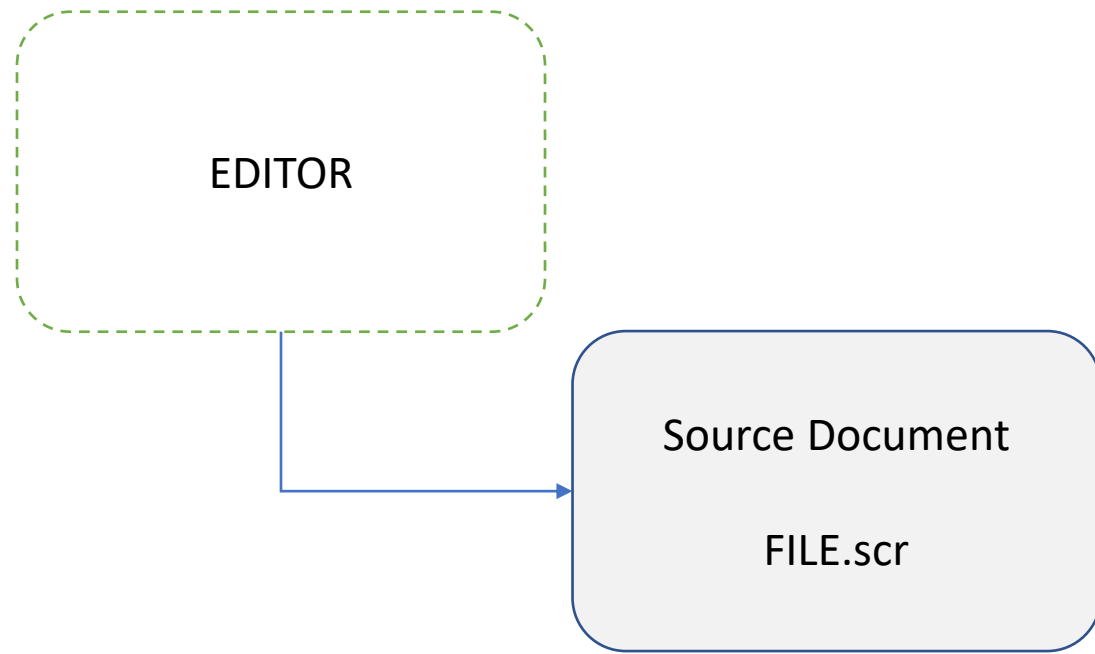
Phases

1. Create source document(s) with editor (KEDIT, THE,....)
2. Convert source into Latex
3. Convert Latex into PDF

Phase 1

EDITOR

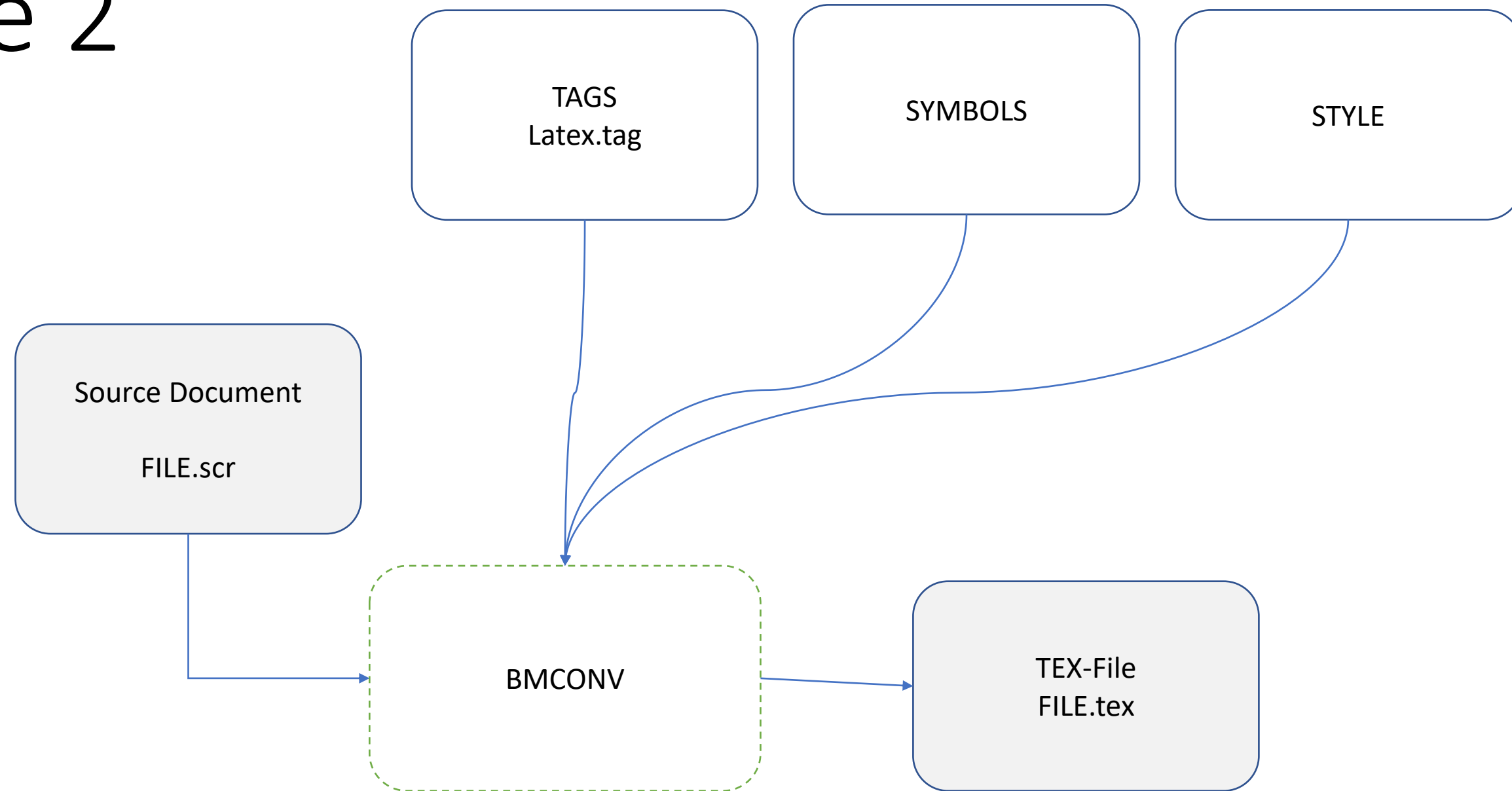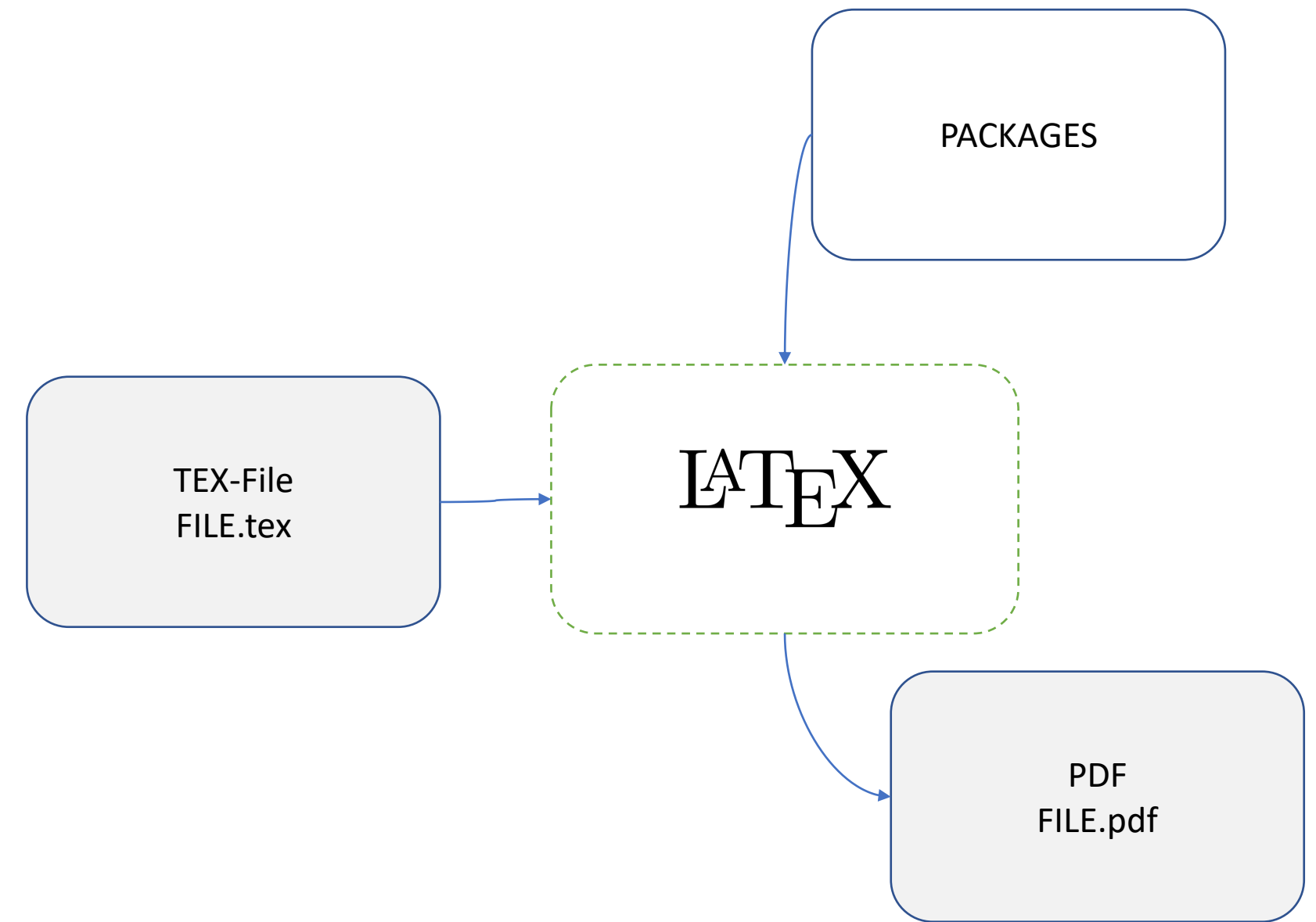Source Document

FILE.scr

Phase 2

TAGS
Latex.tag

SYMBOLS

STYLE

Source Document

FILE.scr

BMCONV

TEX-File
FILE.tex

Phase 3

PACKAGES

LATEX

TEX-File
FILE.tex

PDF
FILE.pdf

Overview

EDITOR

Source Document

FILE.scr

TAGS
Latex.tag

SYMBOLS

STYLE

PACKAGES

BMCONV

TEX-File
FILE.tex

$\LaTeX$

PDF
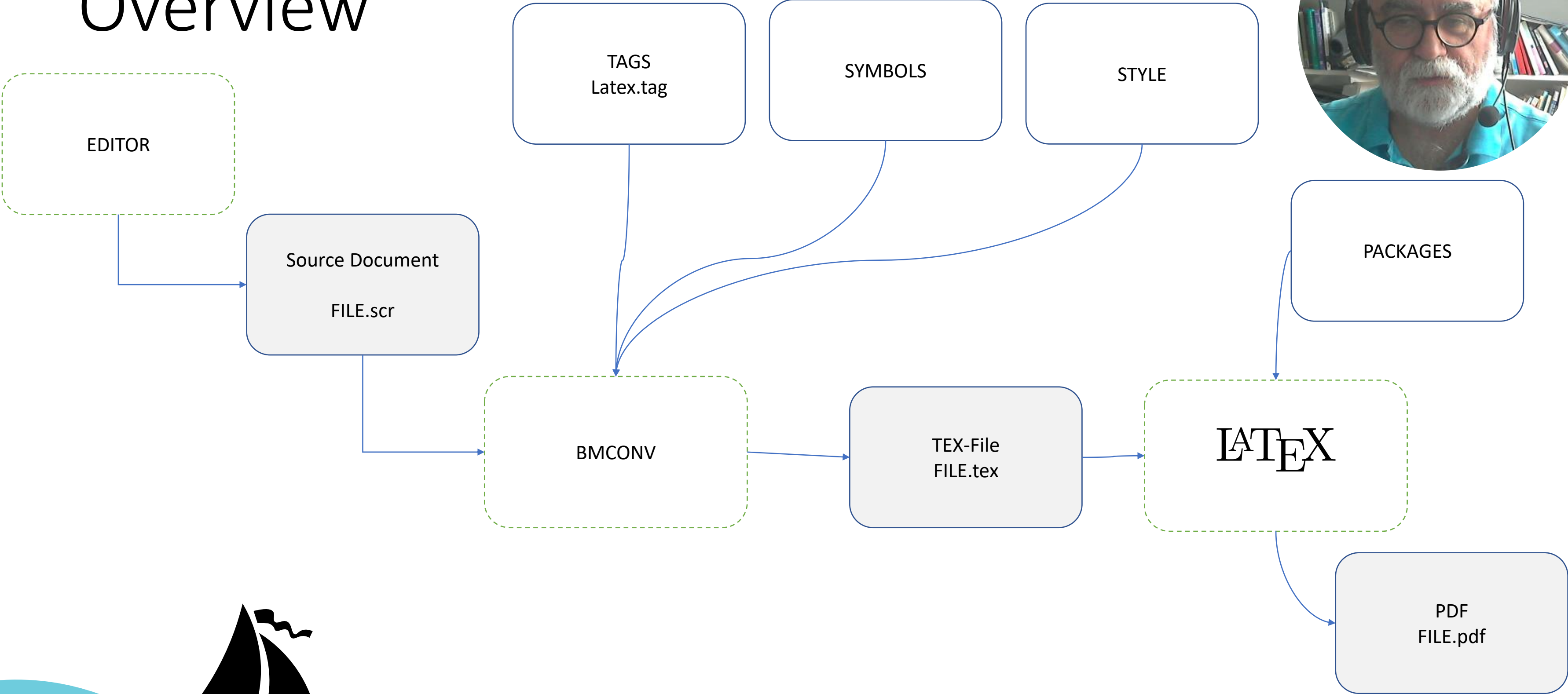FILE.pdf

BM.BAT

rem generate BOOKMASTER

regina bmconv "FILE=%1.scr&FORMAT=none&TYPE=LATEX&LANGUAGE=GERMAN"

rem file source directories for latex

set TEXINPUTS=.;c:\dissimg;

pdflatex %1.tex -interaction=nonstopmode

makeindex %1.idx

pdflatex %1.tex -interaction=nonstopmode

start %1.pdf

Bookmaster User Guide p.16

tag guide

Here's how we marked up our unordered list:

```
:ul.
:li.This is an item in an unordered list.
To separate it from other items
in the list, BookMaster
puts a bullet beside it.
:p.This item consists of two paragraphs.
This paragraph does not get a bullet,
because it is not a separate list item.
:li.This is a separate list item
in our unordered list.
:eul.
```

Notice that the second paragraph in the first item is marked with our old friend, the P tag. BookMaster knows what to do with it, because it's within a list item.

- This is an item in an unordered list. To separate it from other items in the list, BookMaster puts a bullet beside it.

  This item consists of two paragraphs. This paragraph does not get a bullet, because it is not a separate list item.

- This is a separate list item in our unordered list.

STYLE File

\documentclass[a4paper,12pt,oneside]{book}

\usepackage{makeidx}

\usepackage{epsfig}

\usepackage{longtable}

\pagestyle{plain}

\makeindex

\usepackage[german]{babel}

Usage:

```
:gdoc STYLE=file.



.

.

.

:egdoc.
```

SYMBOLS

nbsp \hspace{1em}

latex \LaTeX

amp \&

colon \colon

ellipsis [\ldots]

percent \%
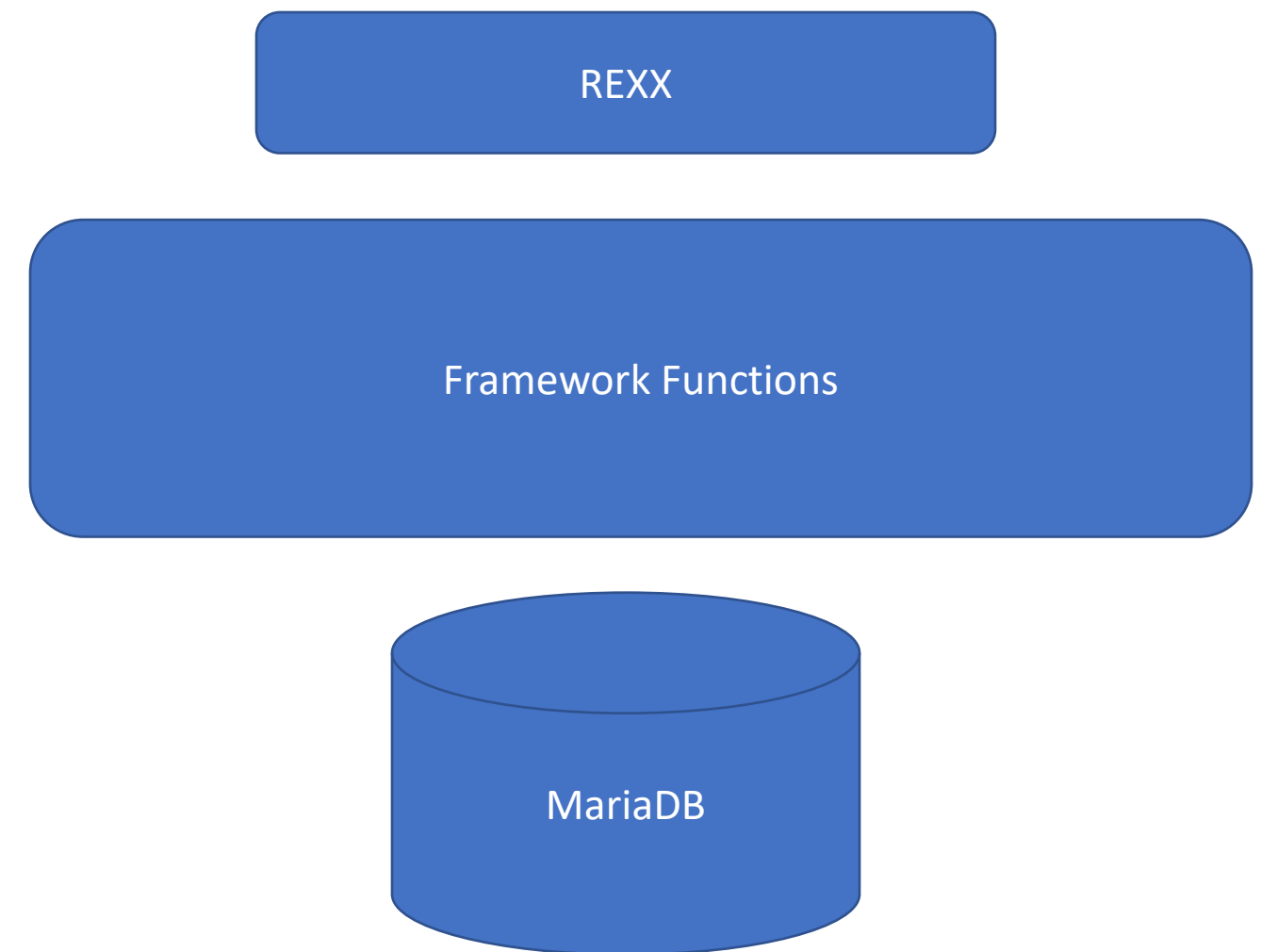
TAG FILE

- tag ; output ; closing_command; rest_of_line

- fn;"\footnote{";;
- efn;"}";;

REXX

Framework Functions

MariaDB

Sample: Ordered List

ol;"\begin{enumerate} ";;

    OR

ol;"\begin{enumerate}"||iff(pos("COMPACT",translate(parms))>0,"[itemsep=1mm]","");;

eol;"\end{enumerate} ";;

Source file

```
00000 * * * Top of File * * *
00001 :gdoc.
00002
00003
00004 :map sep=inline compact.Step nesting example
00005 :step.
00006 :qt.the first question
00007 :estep.
00008 :step.
00009 :qt.the No response to the first question,
00010 which comprises the second question
00011 :estep.
00012 :step.
00013 :st.the No response to the second question
00014 :estep.
00015 :step.
00016 :st.the Yes response to the second question
00017 :estep.
00018 :step.
00019 :st.the Yes response to the first question
00020 :estep.
00021 :emap.
00022
00023
00024
00025 :egdoc.
00026 * * * End of File * * *
```

Intermediate LaTeX

```
00000 * * * Top of File * * *
00001 %
00002 % default.sty
00003 %
00004 \documentclass[a4paper,10pt,oneside]{book}
00005 \usepackage{makeidx}
00006 \usepackage{epsfig}
00007 \usepackage{longtable}
00008 \usepackage{alltt}
00009 \pagestyle{plain}
00010 \usepackage{graphicx}
00011 \usepackage[export]{adjustbox}
00012 \usepackage{multicol}
00013 \usepackage{enumitem}
00014 \makeindex
00015 \usepackage{framed}
00016 \usepackage[english]{babel}
00017 \begin{document}
00018 \frontmatter
00019
00020 \bfseries MAP Step nesting example \mdseries \newline\newline
00021
00022 \noindent   \bfseries\fbox{001} \mdseries\newline  the first question \newline  Yes\hspace{5mm}No\newline \textbar\hspace{1cm}\textbar
00023
00024 \noindent \textbar\hspace{1cm}  \bfseries\fbox{002} \mdseries\newline \textbar\hspace*{1cm} the No response to the first question, \mdseries\newline \textbar\hspace*{1c
00025
00026 \noindent \textbar\hspace{1cm}\textbar\hspace{1cm}  \bfseries\fbox{003} \mdseries\newline \textbar\hspace*{1cm}\textbar\hspace*{1cm} the No response to the second quest
00027
00028 \noindent \textbar\hspace{1cm}  \bfseries\fbox{004} \mdseries\newline \textbar\hspace*{1cm} the Yes response to the second question \newline\textbar\hspace{1cm}
00029
00030 \noindent   \bfseries\fbox{005} \mdseries\newline  the Yes response to the first question \newline
00031
00032
00033 \end{document}
00034
00035 * * * End of File * * *
```

Output

MAP Step nesting example

```
┌─────┐
│ 001 │
└─────┘
the first question
Yes     No
 │       │
 │       ┌─────┐
 │       │ 002 │
 │       └─────┘
 │       the No response to the first question,
 │       which comprises the second question
 │       Yes     No
 │        │       │
 │        │       ┌─────┐
 │        │       │ 003 │
 │        │       └─────┘
 │        │       the No response to the second question
 │        │
 │       ┌─────┐
 │       │ 004 │
 │       └─────┘
 │       the Yes response to the second question
 │
┌─────┐
│ 005 │
└─────┘
the Yes response to the first question
```
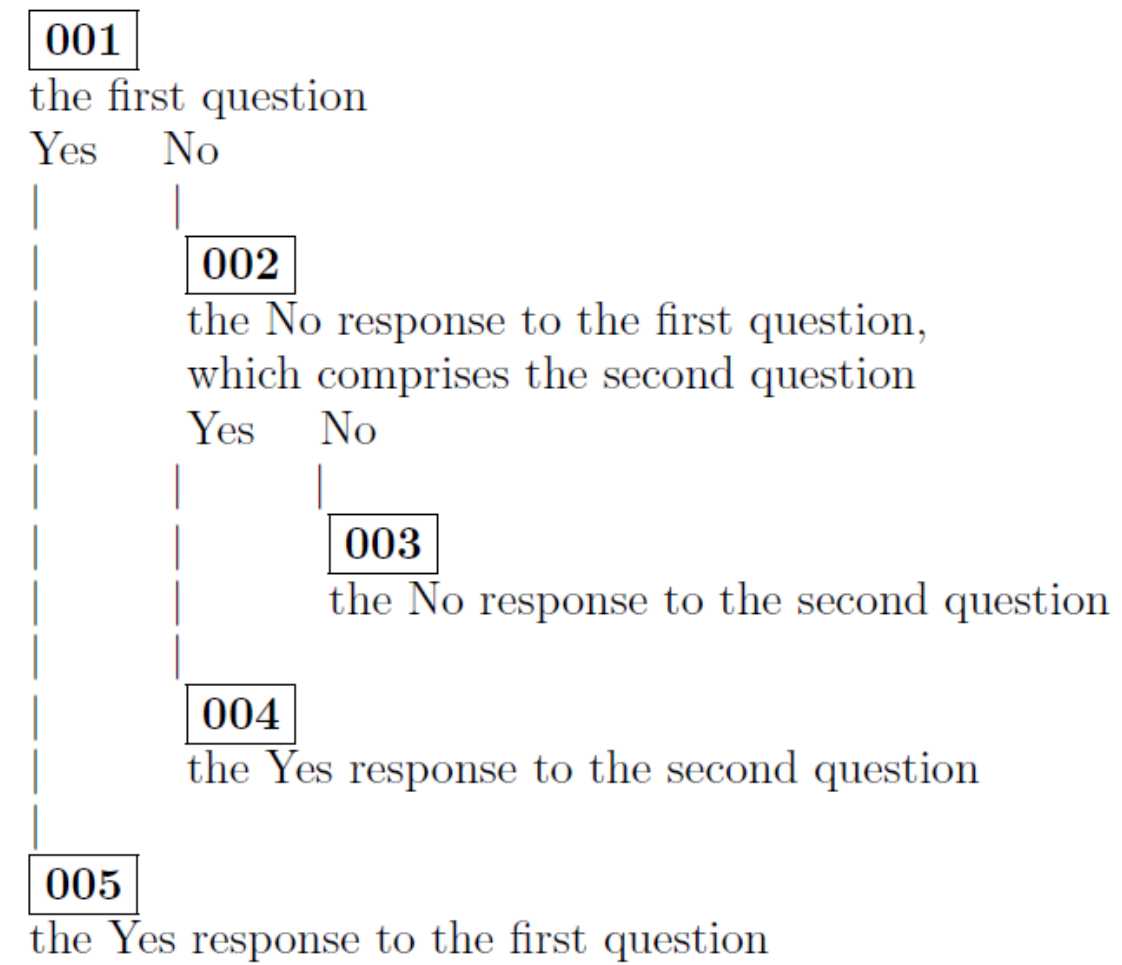
What next? Please help!

Questions
- Which tags should be supported?

- Languages

- Online-Service?

- Sample files?

Survey

https://forms.office.com/e/1qeVvnS5vV

Development Environment

- Windows 7 (now 10)
- Regina
- MikTex https://miktex.org/
- Several LaTeX packages
- Functions of the own framework
- MariaDB (could be replaced by files)

Thank you
for your interest!

Mike