RMarkdown, Bookdown or ClavertonDown?

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An introduction

- Requirements
- Formats and transforms
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1 Requirements

- Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations requires at least one of:
  - Web: WCAG 2.1 AA + MathJax!
  - Word 365: Accessibility checker + Equation editor
  - PowerPoint 365: Accessibility checker + Equation editor
  - EPub3 with MathML
- Equality Act 2010
  - Authors may need to provide additional formats to meet the needs of a specific student

2 Formats and transforms

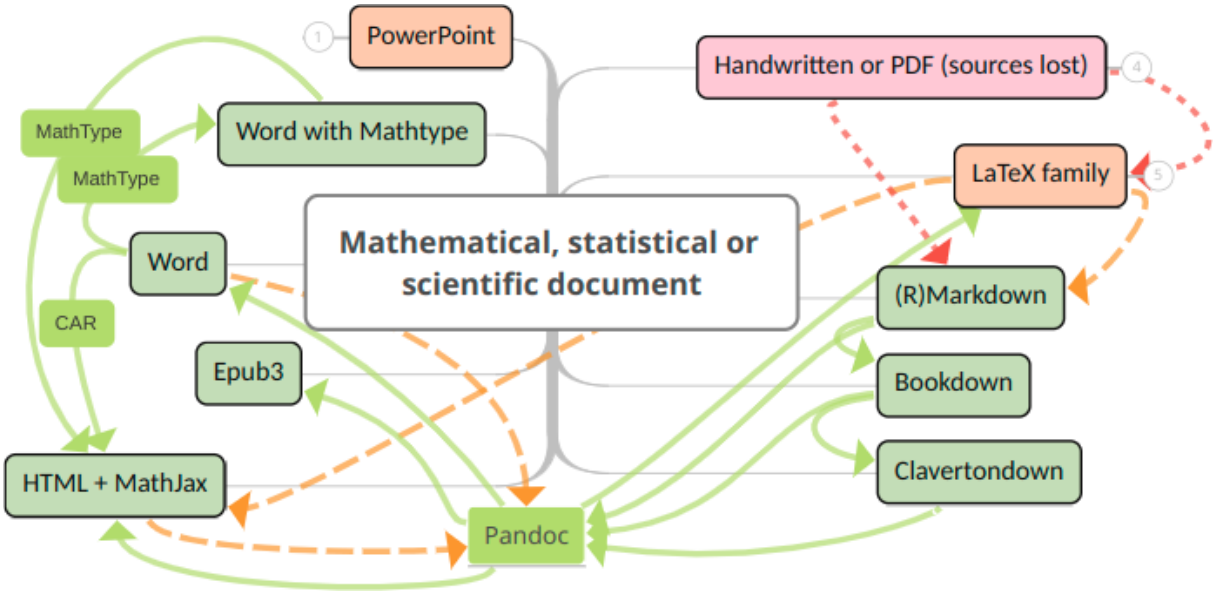

Figure 1: Accessible and interactive map at https://www.mindomo.com/mindmap/document-transforms-2d8186b662758e26ccf50ef82a3828b2

3 RMarkdown

- Simple one page documents
  - Accessible: HTML, Word
  - Accessible if no mathematical content: ODT, RTF
  - Inaccessible: LaTeX/PDF
- Slides
  - Possibly accessible: PowerPoint, HTML using

ioslides, reveal.js, Slidy
  - Inaccessible: LaTeX/Beamer

4 Bookdown

- Designed to enable authors of **books** or longer structured documents
- Needed for:
  - Parts and appendices
  - Finer control of figures
  - Automatic numbering and cross-referencing of figures, tables with captions
  - Cross referencing of pieces of text
  - Equation numbering and referencing
  - Theorem and proof environments with numbering and referencing
  - Definition of custom environments
  - Citation management via Pandoc, biblatex or natbib
  - Embedding of web pages and HTML widgets
- Output to HTML book, LaTeX/PDF and EPub3 only

5 ClavertonDown

- Designed to enable authors of **lecture notes** to meet the diverse needs of students by production of a coherent **set** of formats
- Needed for:
  - Bookdown features but with transformation to Word
  - Flexible theorem-like environments akin to newtheorem in LaTeX including styling, numbering and classification of type to enable structured colour
    - Numbering system of inbuilt Bookdown theorems can be changed
    - It is possible to reference other environments within theorem names
    - Unnumbered theorem environments
    - Shared numbering e.g. between theorem and proposition
    - Newtheorem-type definition of theorem-like environments
    - Repeating theorem-like environments

  - Inclusion of figures in knitr engine based custom blocks including all theorem-like
  - Supplied limited controls over visual presentation to enable a coherent set of notes with
    * Known accessibility features
    * Clear visual markers of structure
- Output as a mini-linked site of a set of formats which can include HTML book, HTML page, Word, EPub3, standard PDF, clear print PDF and large print PDF

6 More information

- ClavertonDown
- MASH Accessible Maths project