

# E-Book Use Cases

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# E-Books as basic documents

- Standard elements
  - text, figures/diagrams, graphs, tables
- Some elements may be interactive
  - Visualisations
  - Select different parameters to graph
  - Sorting of table columns
  - (like embedding Excel graph in Word)

# E-Books as complex documents

- Can consist of many other things
  - Datasets, templates, models, code
- They many not be immediately visible but you can find them under the surface

# E-Books as active documents

- There's something going on behind the scenes
  - responding to reader input
  - updating itself
- Some intent or purpose to the document

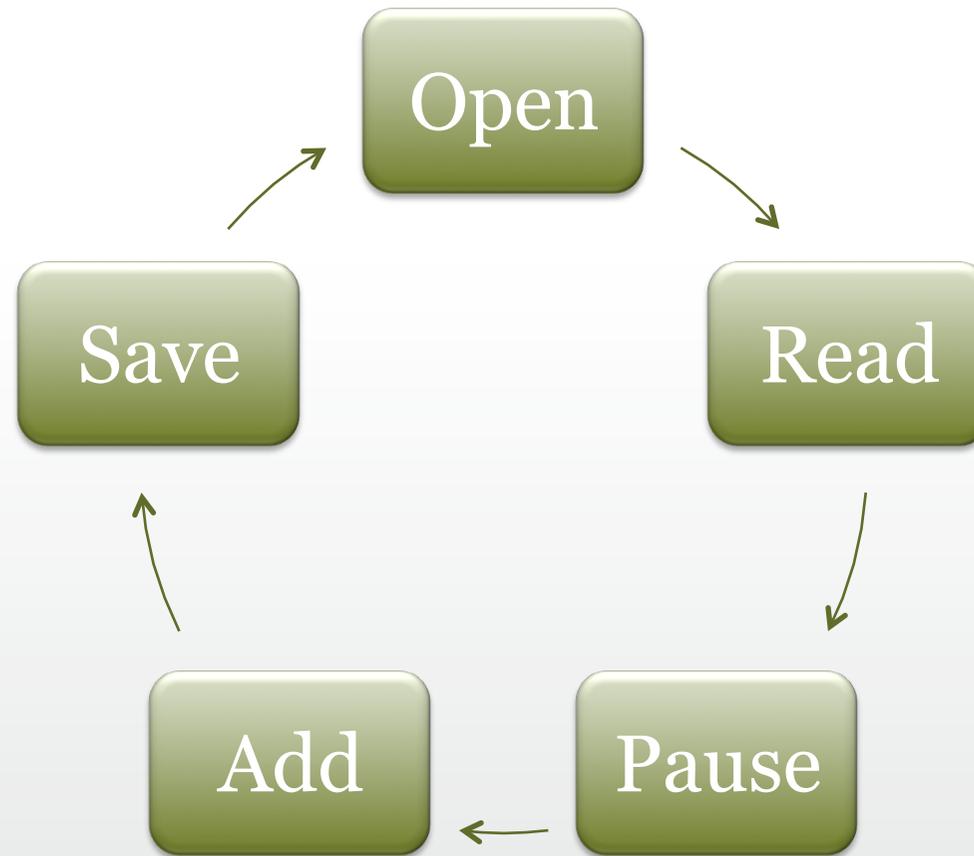
# E-Books as different types of document

- Fixed narrative, entirely pre-generated
  - Bill's MCMC Estimation manual (in its current form!)
- Some choices, all options pre-generated
  - Tutorial including some long model fits
- Fixed narrative,
  - Worksheet to fit a model
- Open ended
  - Electronic logbook leading to writing a paper

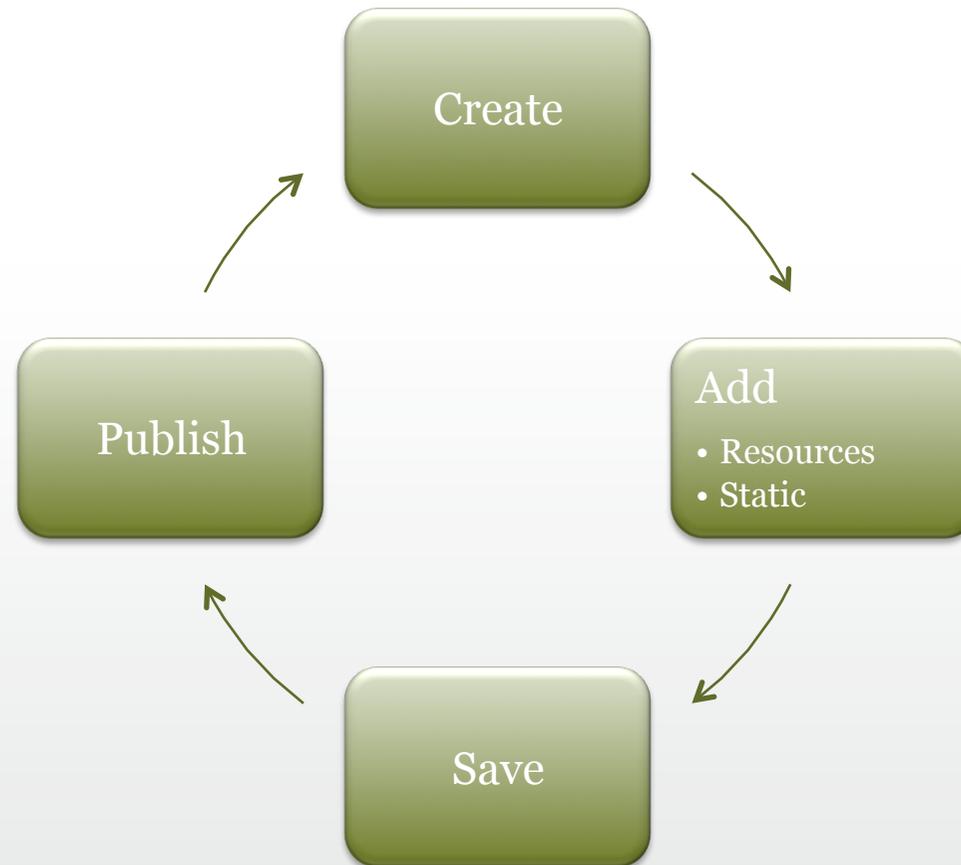
# State of an E-Book

- Fully incomplete
- to
- Fully complete
- Something about the saved state/bookmark file

# Reading life cycle of an E-Book



# Authoring life cycle of an E-Book



# Use Cases

# Use cases for Readers

1. Read an E-Book with default data set + no preloaded result
2. Read model information
3. Pause an E-Book reading session
4. Resume a saved E-Book reading session
5. Read an E-Book with a new data set
6. Export model execution results and save as a new E-Book
7. Read an E-Book with default data set + preloaded result

# 1. Read an E-Book with included data set + no preloaded execution results

- The reader opens an E-Book and begins reading
- At a point in the document the reader is asked to answer some questions
- The Stat-JR software executes the statistical template against the data set, both embedded in the E-Book
- The results are displayed in the document by unfolding a new section, showing a summary table along side some additional text

## 2. Read model/template information

- Whilst reading the E-Book, the Reader would like to examine more details relating to the recently fitted model, such as equations and model code
- The E-Book shows icons within the document for this additional information
- The E-Book Reader can click on these icons to reveal the extra information – it is displayed in the document by unfolding a new box
- Clicking again will hide the extra details

### 3. Pause an E-Book reading session

- The reader is in the middle of reading an E-Book but needs to stop reading and return to the E-Book at a later time
- The reader asks the Reading software to save the current session
- If there is an ongoing template execution, the E-Book Reader will have to specify whether he/she wants to save the execution status or to terminate the execution and re-execute later;

## 4. Resume a saved E-Book reading session

- The reader returns to the E-Book and wants to resume at the point they left off
- The reader selects the relevant E-Book and session from a list of saved sessions
- The E-Book reading software loads the corresponding E-Book and returns to the point the reader had reached previously. The E-Book looks identical to before including showing the results of the model fit
- Template execution is resumed

## 5. Read an E-Book with new data set

- The reader opens an E-Book that has no data set attached to it and is written in such a way that it guides the reader through a model fitting process
- The reader is invited to select their own data set
- The E-Book software loads the data set and reading proceeds as before
- Different parts of the document appear depending on how the analysis goes (eg if the model didn't fit)

## 6. Export model execution results and save as a new E-Book

- The reader wants to save the results of their analysis and incorporate them in a paper they are writing
- The reader selects the type of information to export and the format
- The reader also saves their work as a new E-Book (incorporating their own data set) and passes it onto a colleague to review

## 7. Read an E-Book with default data set and preloaded result

- An extended use case for an E-Book Reader to read an E-Book with pre-loaded results.
- The E-Book has default data set which was loaded by the E-Book Author;
- The E-Book has pre-loaded template execution results, the E-book Reader does not need execute the template contained.
- The results will be shown based on the parameter selection of the E-Book Reader.

# Use cases for Authors

8. Write a new E-Book
9. Save an E-Book

## 8. Write a new E-Book

- An E-Book author chooses to write a new E-Book
- The author creates an empty E-Book
- The author can write text, add templates, data sets and other materials
- The author can set template inputs to be fixed or leave them for the reader to select
- The author can select which template outputs are displayed

## 8. Write a new E-Book (cont)

- The author can define rules for E-Book reading, such as displaying different text depending on the template execution results
- The author can define advanced assemblies of templates, such as putting templates in loops or connecting the output of one template to the input of another template;
- The author can test the E-Book by using the E-Book reading interface

## 9. Save an E-Book

- The author can save their new E-Book at any point
- Intermediate execution results can be included to create a more 'complete' E-Book
- A complete E-Book will require all possible paths to be explored and results stored

*Any* Comments?