Efficient writing by choosing and personalizing open-source tools

February 3, 2022

John Nash for Virtual Meeting of Linux-Ottawa

2022-2-3

Why?

- *IF* you write (most of us do!)
 - Want to focus on *content*, not formatting
 - But formatting should be easy for the type of document that is the target
 - Allow changes to be monitored
 - Secure the source material and output
- This presentation uses my personal choices
 - Likely NOT everybody's approach

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Roll your own, taking away some of the ideas

Origins of choices

In prehistoric times (~1980 North Star Horizon)

- Few choices beyond rather simple text editors
 - SEE (De Smet C editor)
 - Formatter using text markup. Anderson Word Processor ... 1979 onwards
 - Evolved to Nash Page Lister. Basic then Pascal,
 - Paid Woody Suwalski for rights to use WED/NED editor which fed NPL
 - Used for typesetting Nash & Walker-Smith book on Nonlinear Parameter Estimation that was published in 1987

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More traditional word processors

- Wordstar under CP/M 1980s (I never used it)
- Word Perfect (actually from 1970s, but gained prominence from late 1980s)
 - Used in 1997-1999 for typesetting Nash and Nash, Practical Forecasting for Managers (WP 8)
 - Can use LibreOffice to load 300 page file only 1 graphic seems to be distorted.
 - Details can be messy
 - Corel dropped the ball!

Word Processors since Y2K

- Word has dominated
- WordPerfect has declined
- Star Office --> LibreOffice
 - Main choice for Linux
 - Generally capable. *Word* seems more capable for generating documents with special features, but LO can read and edit them.
- Abiword offers a lighter-weight option for simple documents
- Word Pro (IBM) seems to be in decline

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Google Docs – web offering

Meanwhile – markup processing

- Troff and similar tools from 1970s
 - DocBook and others
- $T_E X$ Knuth in late 1970s.
 - Lamport's LAT_EX made it more usable
 - Adopted as standard for leading math / stat journals

I Avoid Word Processors!

- I work in multiple languages and with math and science topics
 - Spell and grammar checkers are annoying!
- Images NEVER stay put where you want them

2010 – a defining issue



Figure 6.3: The MG131 shell casing that hit Herry

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Choice to use LaTeX

- Every word processor I tried (Word, WP, WordPro, AbiWord, Star Office, LibreOffice, ...) failed to allow this triple picture to be laid out reasonably at the time of writing in 2010
- LaTeX worked, and I was using it for journal articles
 - VERY heavy learning curve. NOT RECOMMENDED FOR STARTERS
 - If you work at it, you can do anything!

Follow on (creative) writing

- Biography "worked" well (to pdf)
- Later wrote a novel to try to fill in blanks
 - Simplify the LaTeX preamble (front matter) and structure
 - Use an integrated editor/viewer/processor. I use *Texmaker*, but *Texworks* and *Texstudio* are similar
 - Macros/commands to simplify some common entries
 - \dialog
 - Some special characters

Is this LaTeX?

Now leaves most of the formatting "hidden"

- Produces decent PDF
- Some work to get epub. I use *pandoc*, but there are glitches from time to time.
 - Use Sigil to tweak the epub. 202201: £ symbol in epub!!!
- UNSUITABLE for scientific work (too much work), but Nash 2014 book written 2012-2014 used it.
- I've combined with Subversion repo on private server to have backup and tracking

Markup since Y2K

- 2002: Asciidoc
- 2004: Markdown ==> Rstudio::Rmarkdown
 - Rstudio (2011 J J Allaire) --> Sweave (TeX); later Rmarkdown/knitr
 - Extremely capable document production
 - Allows program code to be included, executed, and output included

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- Removes much of the bother of LAT_EX, but the .tex file is available for tweaking. HTML, PDF or Word output. Also static web sites.
- I use this for most "documents" except creative writing, including software documents for my own use.
- Possibly Bookdown would work for creative works. NOT investigated.
- Good support for GIT and SVN

My authoring ecosystem

- Texmaker / svn / pandoc (? sigil) for creative writing based on a standardized templates for "novels" and "collections"
- Rstudio / Rmarkdown for software documentation and scientific articles – mostly to PDF
 - Sometimes tweak the .tex file
- Libreoffice to edit work by other people from Word or Google Docs, or occasionally for special cases
 - Editing Gramps descendant tree output to .odt file

Recommendations

- Choices need to fit a large chunk of work
- Choices need to fit what you already are familiar with using and with work practices
- Worth watching for special tools that *could* be helpful. *Scrivener* is popular among some creative writers.
- I tend to use web to check spellings (but *Texmaker* does have a checker). Others may want spelling and grammar checkers.

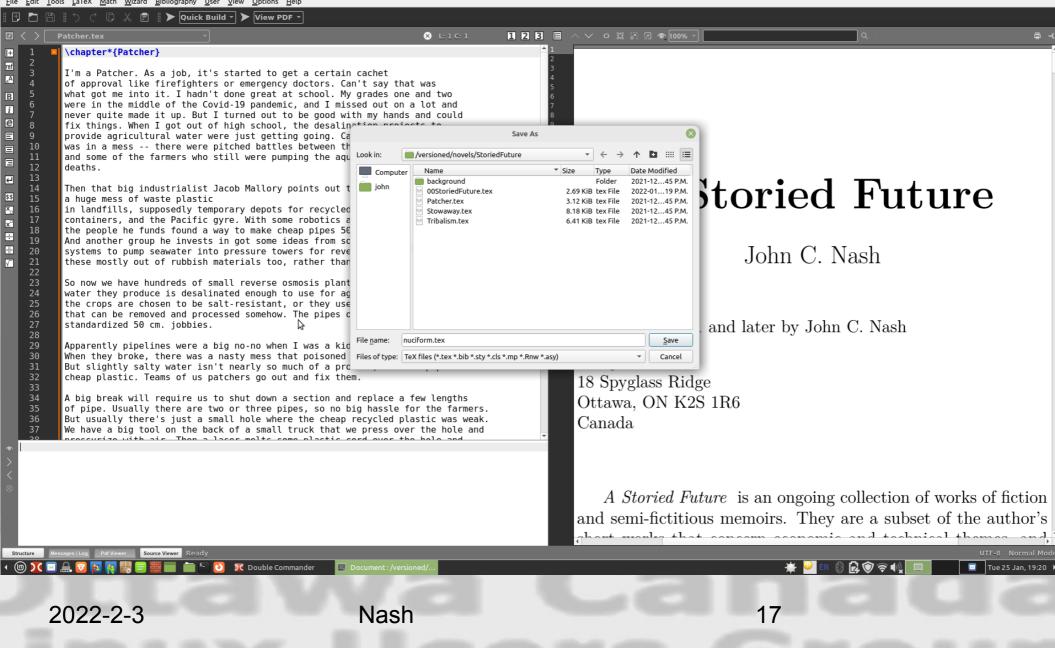
Texmaker example

- Base framework *Storied Futures*
- Open single story child document
- Rename and Save_As
- Put an \input{child.tex}
- Start writing
- F1 to get PDF

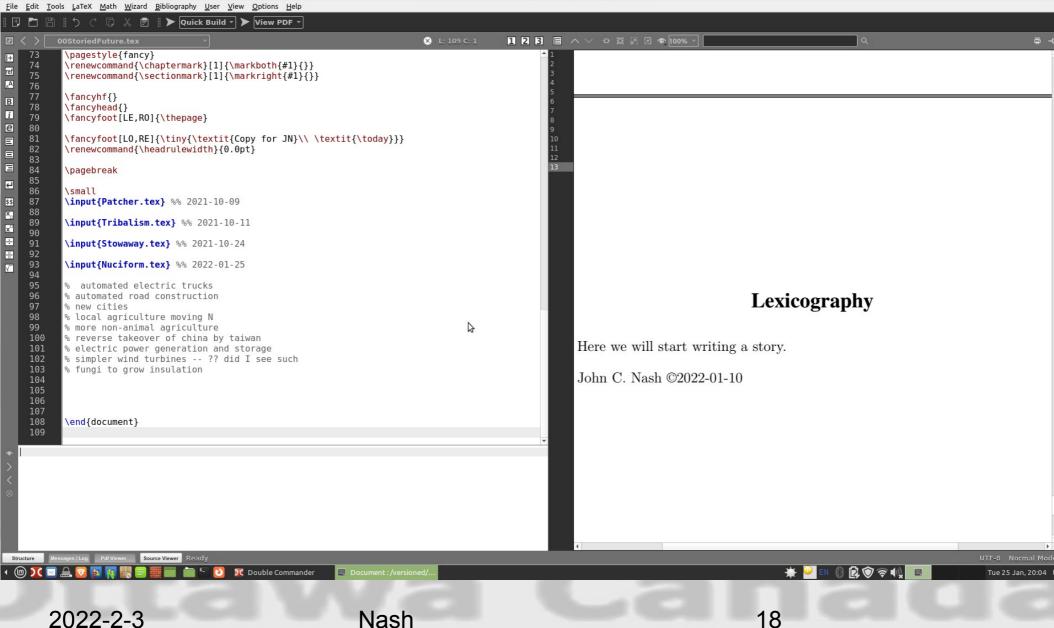
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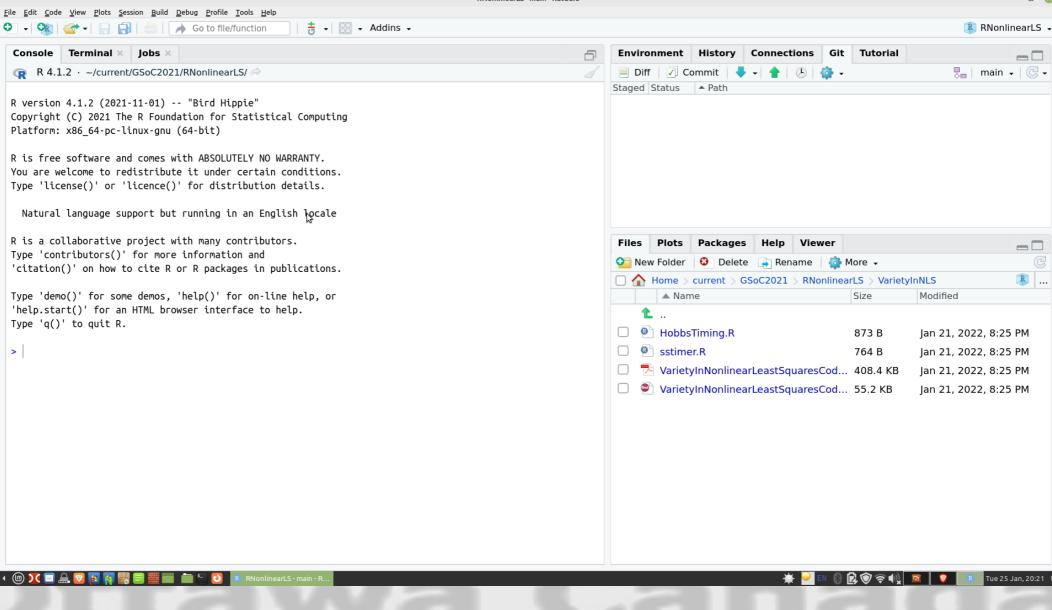
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- Git/Subversion
- Special features code, graphics, bibliography

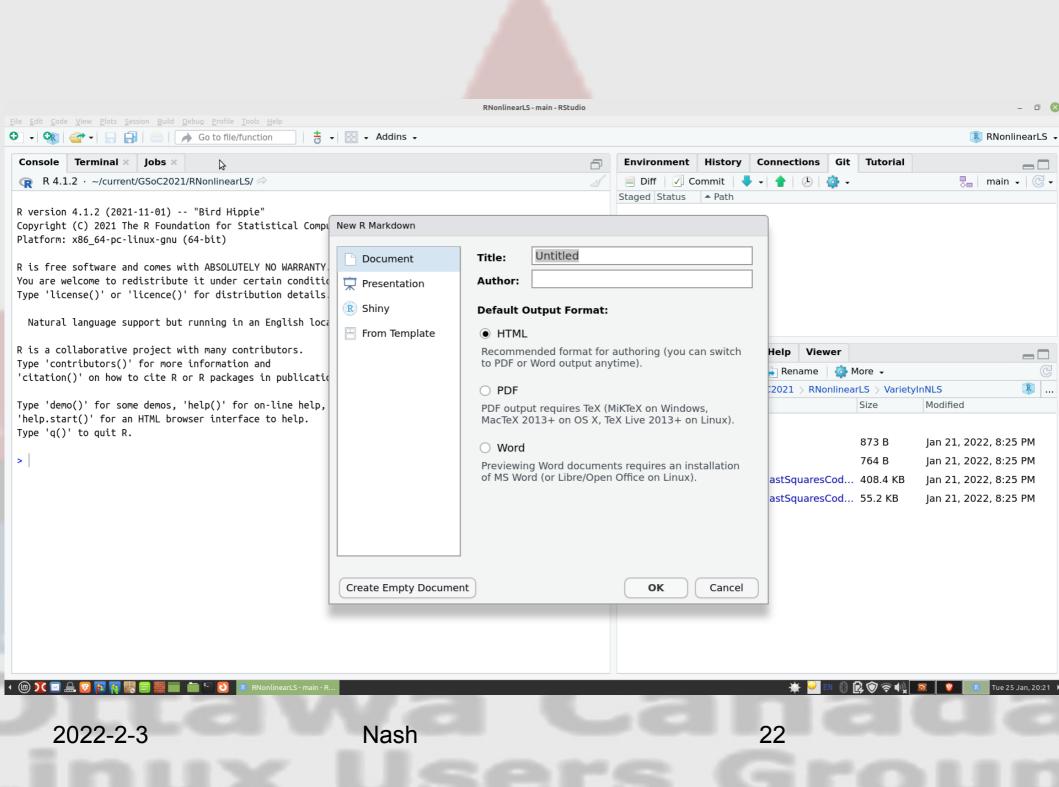


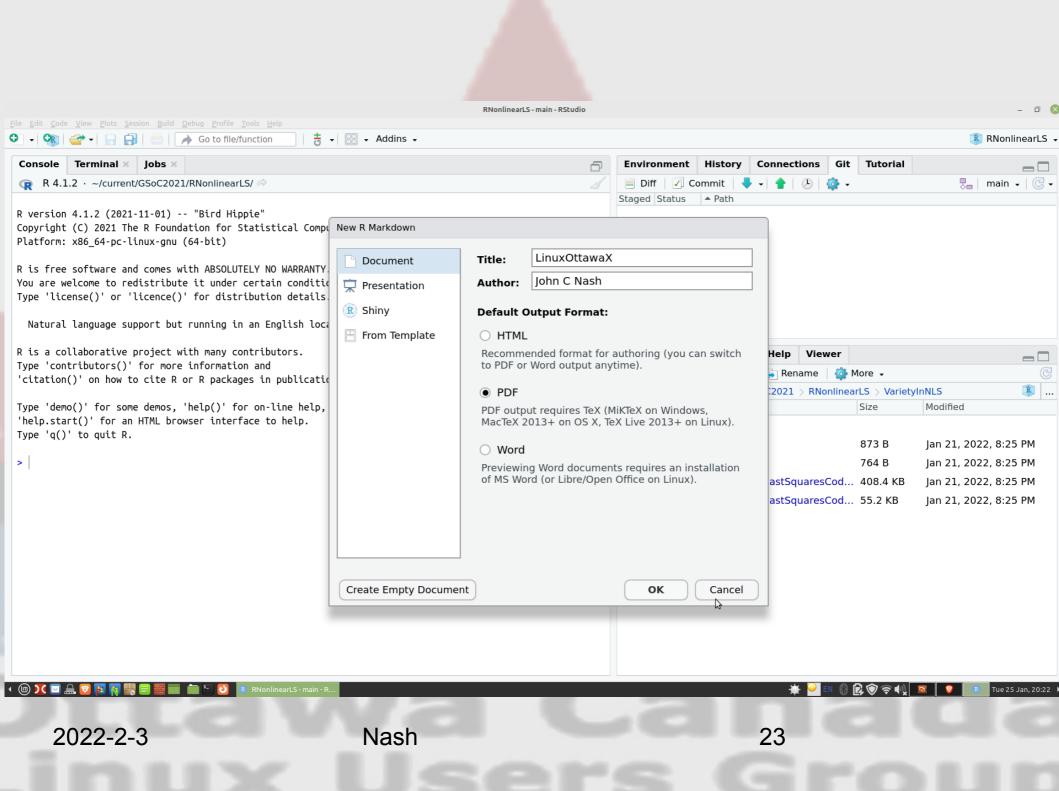
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Usage

Arguments

dnorm(x, mean = 0, sd = 1, log = FALSE)

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rnorm(n, mean = 0, sd = 1)

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Tue 25 Jan. 21:08

R version 4.1.2 (2021-11-01) -- "Bird Hippie" Copyright (C) 2021 The R Foundation for Statistical Computing Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY. You are welcome to redistribute it under certain conditions. Type 'license()' or 'licence()' for distribution details.

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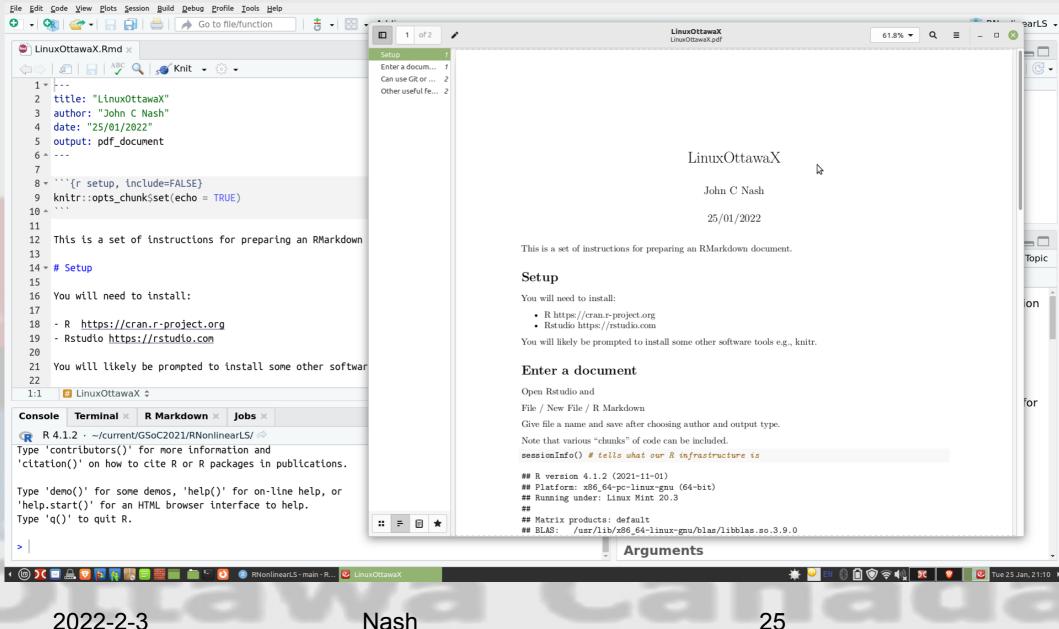
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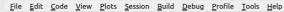
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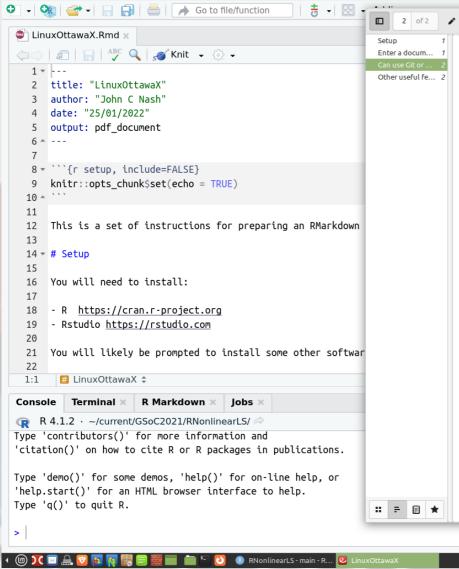
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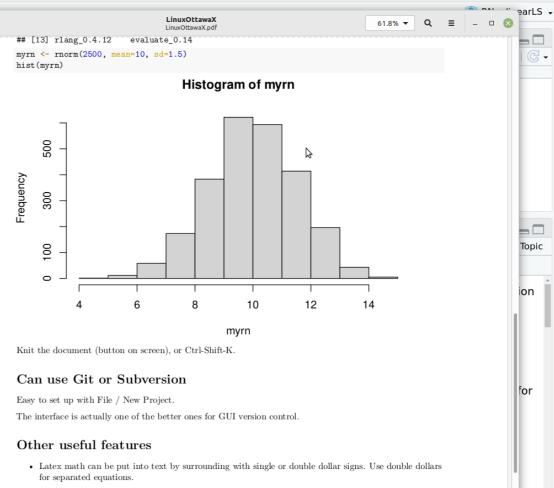
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• Bibtex references can be included. Put bibliography line in yaml header to give bibtex file name. Citations entered via @name.

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Arguments

Tue 25 Jan, 21:11