

# CAMERA

Centre for the Analysis of Motion,  
Entertainment Research and Applications

## Using L<sup>A</sup>T<sub>E</sub>X for Open Science

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# What we'll cover

- 1  $\text{\LaTeX}$  for Document Preparation
- 2 Reference Preparation: Hello  $\text{\BibTeX}$
- 3 Collaborative Document Preparation
- 4 Reference Management
- 5 Concluding remarks

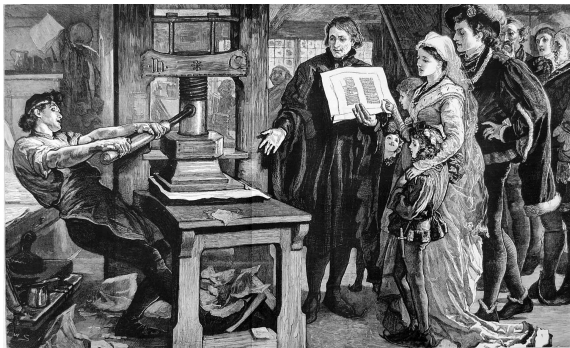


# What is L<sup>A</sup>T<sub>E</sub>X?

- A document preparation system?
- A programming language?
- A massive headache....?



# What is $\text{\LaTeX}$ ?



$\text{\LaTeX}$  does this for your documents. Image source:  
[https://en.wikipedia.org/wiki/Printing\\_press](https://en.wikipedia.org/wiki/Printing_press)



## Why should I use it?

### The Pros

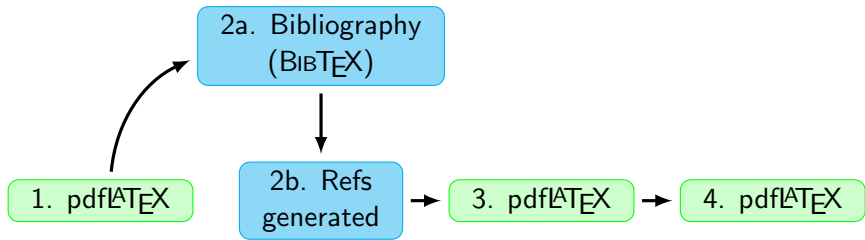
- Possibly the most beautiful typesetting you can get these days
- Modular Design
- Separates form from factor
- Extensible

### The Cons

- A steep learning curve
- Requires a compilation step
- Command driven (not a WYSIWYG)
- No single solution across platforms



## An example T<sub>E</sub>X process



Compiling a pdf with pdfL<sup>A</sup>T<sub>E</sub>X





# The basics

```
\documentclass[a4paper,12pt]{article}  
  
\usepackage{booktabs}  
  
\author{Researcher Megan}  
\title{My Awesome Paper}  
  
\begin{document}  
  
\maketitle  
  
\end{document}
```

## My Awesome Paper

Researcher Megan

May 25, 2018



## Integrating into other languages

- As  $\text{\LaTeX}$  is just a language, it can be represented as a string in any other programming language
- This makes it very flexible: it can be used as ‘data’ and input into another system.
- Parsing  $\text{\LaTeX}$  can then result in some dynamic documents which update automatically with respect to some external program.



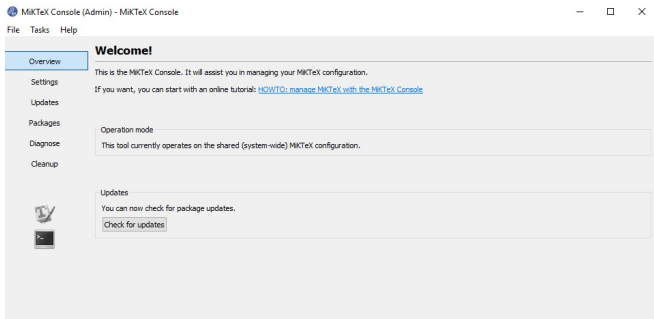




Demo time



# Where can I get it?



MikTeX homepage: <https://miktex.org/>



# What is BibT<sub>E</sub>X?

- A reference preparation system for T<sub>E</sub>X
- Outputs a .bb1 file that T<sub>E</sub>X can use
- Stores meta data for bib entry such as journal, author list . . .





## output .bbl file

### input .bib file

```
@inproceedings{
  finnegan2016compensating ,

  title={Compensating for distance
    compression in audiovisual
    virtual environments using
    incongruence},

  author={Finnegan , Daniel J and O'
    Neill , Eamonn and Proulx ,
    Michael J},

  booktitle={Proceedings of the 2016
    CHI Conference on Human
    Factors in Computing Systems},

  organization={ACM}

  \bibitem[\protect\citeauthoryear{
    Finnegan , O' Neill , and Proulx}{
    Finnegan
    et~al\mbox{.}}{2016}]{
    finnegan2016compensating}

  \bibfield{author}{\bibinfo{person}{
    Daniel~J Finnegan}, \bibinfo{
    person}{Eamonn
    O' Neill}, {and} \bibinfo{person}{
    Michael~J Proulx}.}

  \bibinfo{year}{2016}\natexlab{}.

  \newblock \showarticletitle{Compensating
    for distance compression in
    audiovisual virtual environments using
    incongruence}. In

  \bibinfo{booktitle}{\emph{Proceedings of
    the 2016 CHI Conference on Human
    Factors in Computing Systems}}. ACM,
```





Demo time



# Collaborative Document Creation

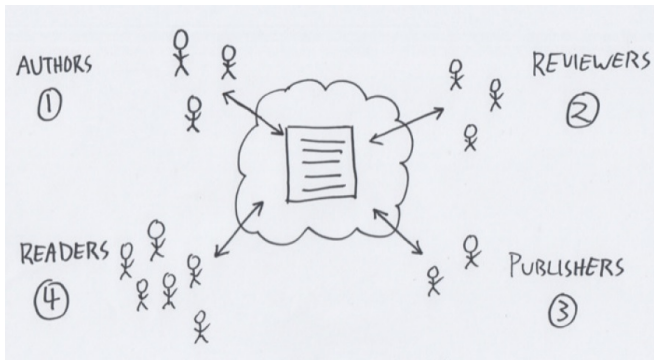


Image source: Overleaf beamer template



# Collaborative Document Creation

Try out Overleaf v2! My Projects Daniel J. Finnegan ▾

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Overleaf interface preview showing document editing, preview, and a document with a graph.

Overleaf home page: <http://overleaf.com>



## How does Overleaf work?

- Type directly into the editor
- Overleaf compiles in the cloud
- Uses git in the background for version control

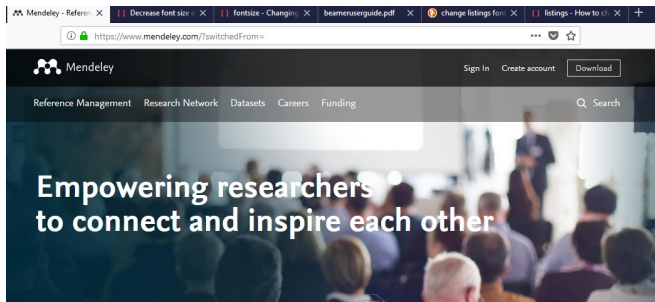
No software installation required! Demo later 😊







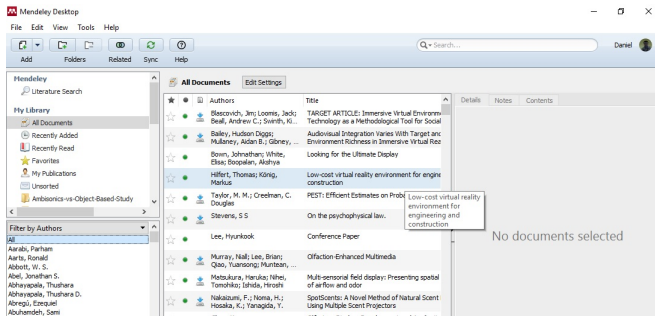
# Mendeley



Mendeley home page: <https://www.mendeley.com/>



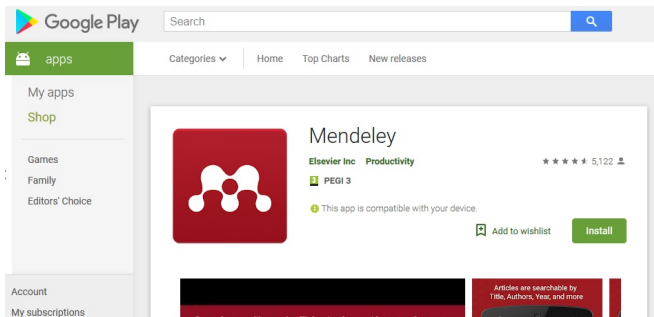
# Mendeley example



How it looks



# On the go





## Does it have to be Mendeley?

- There are others e.g. Zotero
- Find a tool you like and use it; as long as it can export a .bib file, you're golden





## Conclusion

- $\text{\LaTeX}$  is flexible, cross platform, and can be used for collaborative document preparation
- Remember Uncle Ben's wise words: "With great power comes great responsibility"
- Tools exist to ease the learning curve





Thanks for listening 🤖  
@Lancophone  
<https://people.bath.ac.uk/djf32>