

LyX: The WYSIWYM Document Processor

Robert Thetford, Jr.

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Outline

1 What is LyX?

2 Article

- Sections, Titles, and Lists
- Tables
- Figures
- Math

3 Letter

- Template

4 Beamer

- Example

5 Conclusion

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What Is LYX?

LYX is document processor that works as a front end to L^AT_EX. It allows for instant previewing of the document from the input side of the process, creating a near WYSIWYG version of L^AT_EX, coined by LYX users as WYSIWYM.

We'll overview three of the common document classes:

- ① Article
- ② Letter
- ③ Beamer

What Is LYX?

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We'll overview three of the common document classes:

- ① Article
- ② Letter
- ③ Beamer

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Article

Article is the default document class when LyX is first opened. The structure of sections, titles, and lists within the document works the same as in L^AT_EX, but are entered differently. This will be explained in the next slide. These “paragraph styles” are referred to, in LyX, as environments. Article allows for other typical scientific document environments such as tables, figures, math expressions, etc.

Article

Sections, Titles, and Lists

Sections are very straightforward.

- Click the cursor to the desired line in the document
- Click the Environment dropdown (the leftmost element on the buttonbar)
- Select Section, Subsection, Subsubsection, Paragraph, or Subparagraph

This automatically makes the selected line into the desired environment. Using this same method, a selected line can be made into an unnumbered section (Section*), Title, Author, Enumerate list, Itemize list, etc. All these environments are selectable in the dropdown.

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Article

Sections, Titles, and Lists

The screenshot shows the LyX 2.0.5 interface with the following details:

- Title Bar:** LyX - My Documents\newfile3.lyx (changed)
- Menu Bar:** File, Edit, View, Insert, Navigate, Document, Tools, Help
- Toolbar:** Standard, LyX-Code, Quote, Verse, Separator, Itemize, Enumerate, Description List, Part, Section, Subsection, Subsubsection, Paragraph, Subparagraph, Unnumbered, Page, Section*, Subsection*, Subsubsection*, Paragraph*, Subparagraph*, PrintHeader, Title, Author, Date, Abstract, Address, Right Address, BackHeader, Bibliography.
- Document Area:**
 - Title:** Using LyX for the First Time
 - Author:** Robert Thetford, Jr.
 - Date:** 8 July 2010
 - Abstract:** This is my first LyX document and I am using it to demonstrate how to perform simple LaTeX typesetting tasks with the LyX interface.
 - Section:** 1 Introduction
 - Text:** This is an introduction to my first LyX document.
 - Section:** 2 Math
 - Text:** How to show arithmetic and equations, or "math formulae"
- Status Bar:** Font: Default
- Navigation:** Back, Forward, Home, Find, Replace, Search, etc.

Article

Tables

Tables are very straightforward.

- Click the cursor to the desired line in the document
- Create a new table with **Insert ▷ Table**
- Specify how many columns and rows
- Click each and edit each individual cell
- Use the Table Toolbar (shows at bottom of screen when inserted table is left-clicked) to toggle borderlines and designate multicolumns (multirows not supported by LyX)

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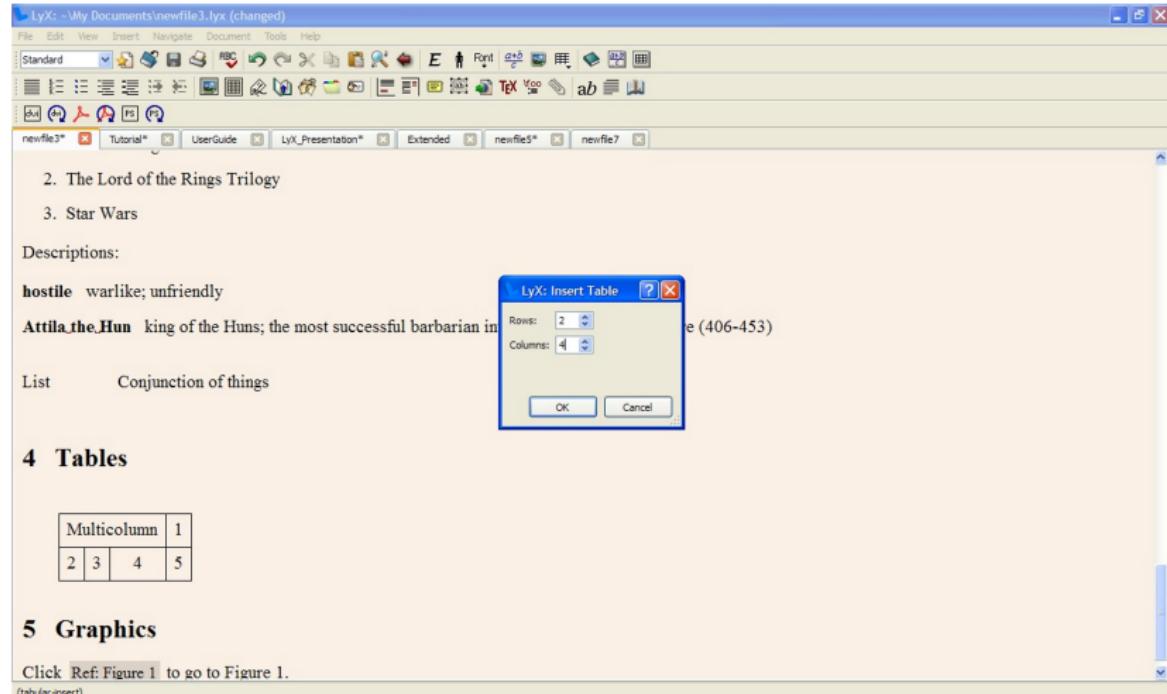
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Article

Tables



Multicolumn	1		
2	3	4	5

5 Graphics

Click Ref: Figure 1 to go to Figure 1.
(tabular-insert)

Article

Figures

Figures are very straightforward. In LyX, they are referred to as graphics.

- Click the cursor to the desired line in the document
- Create a new graphic with **Insert** ▶ **Graphics**
- Specify an image to insert (all known image formats will work)
- Optional: Specify a scale percentage, scale by width, or scale by height value

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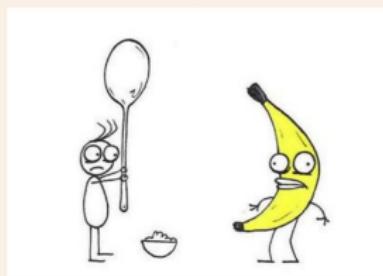
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Article

Figures

While in the standard text environment, math shows up just like any other. To enter an inline LaTeX typeset equation

1. Select where in the document you would like the equation
2. Click the Insert Math button
3. Enter LaTeX math commands or LyX shorthand commands
4. Hit Esc to end the equation



float: Figure Figure 1

LyX: Graphics

File: myspoonisbig.png

Output Size:

Scale Graphics (%): 100

Set width: 61 cm

Set height: auto cm

Maintain aspect ratio

Rotate Graphics

Angle (Degrees): 0 Origin: Default

Rotate after scaling

Restore OK Apply Cancel

Font: Default

Article

Math

Math is very straightforward.

① Inline Equations

- Click the cursor to the desired line in the document
- Create a new math formula with **Insert**▷**Math**▷**Inline Formula**
- Enter **LATEX** math commands or **LyX** shorthand commands
- Hit **Esc** to end the equation

Displayed Equations are quite similar:

② Displayed Equations

- Create a new math formula with **Insert**▷**Math**▷**Display Formula**
- Give the equation a number label with **Edit**▷**Math**▷**Number Whole Formula** (for a single line equation)

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- Enter L^AT_EX math commands or LyX shorthand commands
- Hit Esc to end the equation

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- Click the cursor to the desired line in the document
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Article

Math

The screenshot shows the LyX 2.0.5 interface. The title bar reads "LyX - My Documents\newfile3.lyx (changed)". The menu bar includes File, Edit, View, Insert, Navigate, Document, Tools, and Help. The toolbar has various icons for file operations, text styling, and mathematical symbols. A sub-toolbar for "Math" contains icons for different mathematical structures like sets, relations, and functions. The main workspace displays a LaTeX example: "E=mc^2 becomes $E = mc^2$ " and "\|y-Ax\|^2 + \alpha \|Lx\|^2 becomes $\|y - Ax\|^2 + \alpha \|Lx\|^2$ ". Below this, a note says "To enter a displayed LaTeX typeset equation". A numbered list provides steps to do this: 1. Select location in document with cursor, 2. Click Insert Math button, 3. Click Display button in the Math Toolbar, 4. Enter LaTeX math commands or LyX shorthand commands, 5. Hit Esc to end the equation. A note at the bottom states: "• Note: To number a displayed equation, select equation and click Toggle Numbering of Line under the Math menu. Similarly, to label the equation, select it, and click Label under the Insert menu." At the bottom, a "Type: simple" dropdown is shown, along with a large array of mathematical symbols in the "Math" toolbar.

Example: $E=mc^2$ becomes $E = mc^2$
 $\|y-Ax\|^2 + \alpha \|Lx\|^2$ becomes $\|y - Ax\|^2 + \alpha \|Lx\|^2$

To enter a displayed LaTeX typeset equation

1. Select location in document with cursor
2. Click Insert Math button
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1 + 1 = 2 (#)

2.2 Subsection description

Type: simple

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Letter

LyX allows for a simple but professional looking **Letter** document. **Letter** can be written from scratch just like **Article**, except that there are different environments available. However, an advantage to using LyX is that there are some templates available to make creating documents even easier. One template included with LyX is a **Letter** template.

Letter Template

The screenshot shows the LyX application interface with a document titled "newfile7.lyx". The document contains the following text:

```
<Send To Name> ↵
<Send To Street> ↵
<Send To Town>

|My Name> ↵
<My Street> ↵
<My Town>
```

A yellow note box is present with the text: "Red fields are mandatory, green ones optional."

Text labels and their corresponding placeholder text are listed below:

- Signature:** <Your signature Note>
- Opening:** <Dear ...>
- Closing:** <Yours sincerely,>
- cc:** <cc>
- encl:** <encl>
- Telephone:** <number>

Figure: Letter Template

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Beamer

Beamer is the slide presentation document class. From a L^AT_EX user standpoint, the input process in LyX for a Beamer document is a little odd at first, but simple after repeated use. Like Article and Letter, all the document class specific environments can be found in the Environment dropdown. The following screenshot is for the second frame of this presentation.

Beamer Example

The screenshot shows the LyX 2.0.5 interface with a Beamer presentation document open. The title bar reads "LyX: .../LyX_Presentation.lyx (changed)". The menu bar includes File, Edit, View, Insert, Navigate, Document, Tools, and Help. The toolbar contains various icons for document manipulation, including "EndFrame", "Insert", "Document", "Tools", "Help", and "File". Below the toolbar is a palette with icons for "Text", "Equation", "Figure", "Table", "List", "Image", and "Page". The main workspace displays the document structure:

Section 1 What is LyX?

Frame What Is LyX?

```
\setbeamercovered{dynamic}
```

LyX is document processor that works as a front end to LaTeX. It allows for instant previewing of the document from the input side of the process, creating a near WYSIWYG version of LaTeX, coined by LyX users as WYSIWYM.

We'll overview three of the common document classes:

1. Article
2. Letter
3. Beamer

Font: Default

Navigation icons at the bottom include back, forward, search, and other document-related symbols.

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Conclusion

In conclusion, LyX is simple and hard?

- Creating documents that work within the default parameters is *very* simple.
- Creating documents that require much fine tuning or more complex elements is difficult.

Questions?