NEPTUNE — a proofing framework for LaTeX authors

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Abstract

NEPTUNE is a web-based proofing framework for LaTeX authors. It is part of TEXFolio, the complete journal production system in the cloud.

NEPTUNE accepts author-submitted LaTeX documents (with or without enrichment and restructuring) as well as machine-generated LaTeX documents from XML sources. Authors can edit LaTeX sources as in any standard editor with additional features.

Starting from the end of November 2018 when NEPTUNE was first released, the framework has been used for author proofing of more than 2,500 articles in more than 100 journals, through August 31, 2019.

1 Introduction

In academic publishing, LaTeX authors may be considered difficult, since they insist on better typography, adherence to conventions (particularly in math equations), and use of their finely crafted LaTeX sources for final output by utilizing myriad benefits offered by LaTeX. In recent times, galley proofs are provided to authors as editable sources as a web page in XML or HTML format. Authors who have submitted their articles in LaTeX format often dislike viewing and editing their output on a web page since the original LaTeX sources for math is not provided. Further, embedded Ti*k*Z graphics, XY-pic and commutative diagrams, `prooftree` math, and the like are replaced with their respective graphics, denying any opportunity to edit in case of mistakes. Source code with packages like `listings` suffers a similar fate ... the woes are many. Hence, LaTeX authors are not without cause when they complain of publishers' lack of typographic and semantic sensibilities.

Neptune is an answer for all these problems, wherein a LaTeX author can be provided with copy-edited LaTeX sources and corresponding PDF output in the final print format side by side with enough facilities to navigate between source and PDF, a navigable list of track changes showing copy edits that can be accepted or rejected, a navigable list of author edits made during the proofing session, comparison of pre- and post-proof LaTeX sources side by side with the ability to discard any edit, comparison of pre- and post-edit PDF versions, navigable query lists, multiple sessions for proofing, standard editor features, etc.

2 Where to start?

The typesetter uploads the author's proof to Neptune and sends the link to the author. Clicking the link will take the author to the opening page of Neptune where instructions are given. A [Proceed] button enables the author to access the LaTeX source and PDF output of the proof. The general interface is shown in Fig. 1.

The author can edit the LaTeX source and confirm changes in the PDF after recompiling (the menu bar has a [Compile] button).

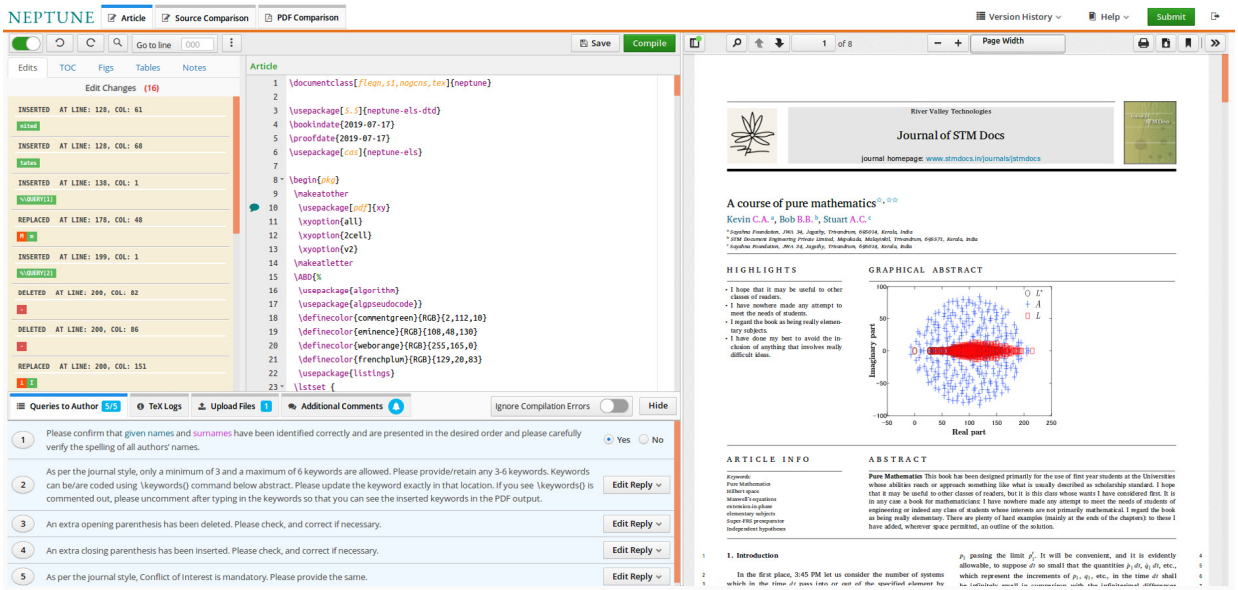

Figure 1: Neptune — Main page.

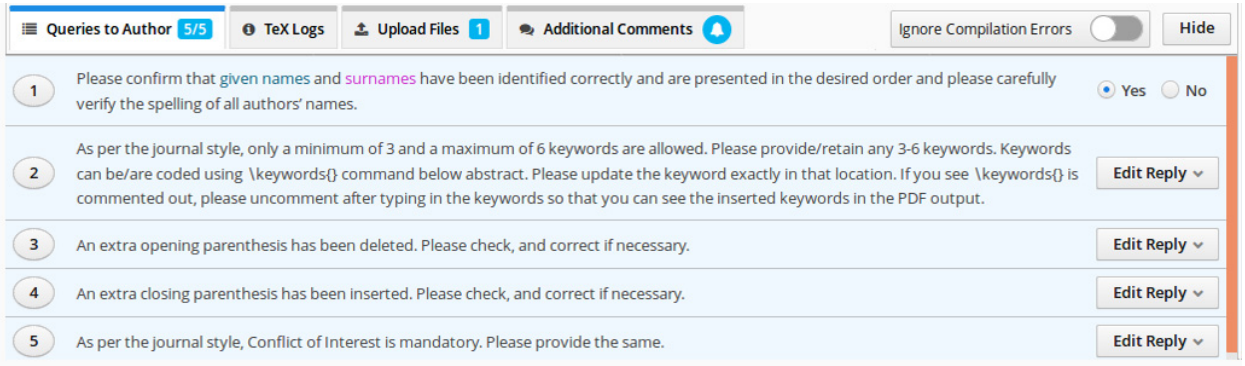

Figure 2: Query window and Ignore compilation error feature.

3 The process

As a web application, Neptune provides facilities to edit LaTeX documents as with any desktop text editor. While keeping the native LaTeX experience, several other additional features have been provided to make the job easier.

Neptune allows editing text in any area of the document and adding or removing any object (section level headings, figures, tables, math, list items, cross references, citations, bibliography items, ...). If the editing results in any counter changes, all objects will be re-numbered and cross-references and citations will be fixed automatically.

The PDF output can be generated any time and can be downloaded if needed.

4 General editing

There is nothing special to say about general editing of text. The usual text attributes: bold (`\textbf`), italics (`\emph`, `\textit`); font attributes like sans serif (`\textsf`), fixed width font (`\texttt`), small caps (`\textsc`); size changing commands (`\large`, `\small`, `\footnotesize`); and so forth all work as one would expect.

Moreover, you may insert sections, paragraphs, floats such as figures, tables, etc., inline or display math equations, theorems and similar environments, bibliographic items, cross-references, etc.

In short, all standard commands in general text manipulations work fine without any surprises.

5 Main features

In addition to the general editing features, other main features are listed below:

5.1 Article, Source Comparison and PDF Comparison tabs

The three main tabs are Article, Source Comparison, and PDF Comparison. The Article tab contains mainly features for editing, compiling, functional tracker, resolving queries, seeing TeX logs, upload files, PDF viewer, versioning control, etc. See Figs. 1 and 2.

The Source Comparison tab is for comparing the copy-edited source (provided to the author as the source of a galley proof) with the author-edited source. Using this facility, authors can compare the two TeX sources and verify the changes. Synchronised movement of both TeX files is available, with a scroll button to move both TeX files simultaneously, which helps make the comparison easier.

Similar to the Source Comparison tab, the PDF Comparison tab is for comparing copy-edited PDF file (again provided to the author as a galley proof) with author-edited PDF file. Synchronised movement of both PDFs is enabled in this tab also.

5.2 Synchronized pre/post-edited sources

Pre- and post-edited document sources, along with a tracker window with hyperlinked list of edit changes, are available. Authors can make last minute checks and confirm all edits or discard any change at will.

5.3 Source–PDF navigation

One-to-one links between the source TeX file to PDF and back are available, making it easier to navigate from source to the corresponding location in the PDF and vice-versa. The user needs to compile the sources once for this feature to take effect.

5.4 Notes, requests, comments

Any number of notes, requests, comments, etc., can be added to the document sources by clicking at line number. In addition to this, an [Additional Comments] tab is provided to provide a general comment.

5.5 Error-stop/non-stop modes

PDF generation can optionally be stopped at an error or continued until the end of the job, without

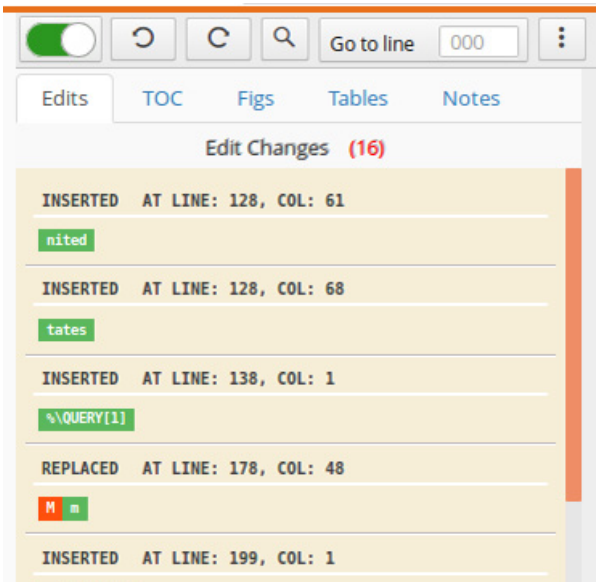

Figure 3: Functional tracker.

stopping at errors, to facilitate an author's preferred style of debugging.

5.6 Functional tracker

A convenient tracker of changes made by a copy editor is available. The line/column numbers of the insertion or deletion are provided. When you click any text in the tracker window, a pop-up with the corresponding item will appear with [Reject] and [Accept] buttons. You can click a button according to your choice. By default, Accept will be applied. See Fig. 3.

5.7 PDF output

At the end of the editing job or at any other time, authors can generate a PDF from their edited sources which is exactly like the one that will be ultimately printed in the journal.

5.8 No need for another proof

Since authors edit directly on the LaTeX sources and view/save the final output as a PDF, there is no need to request (and wait for) a revised proof from the typesetter. This saves considerable production time.

5.9 Version history

Version control systems allow authors to compare files, identify differences, and merge changes if needed prior to committing anything. Neptune's version history facility gives authors full confidence to edit without any fear of losing anything from the source. They are free to save as many versions they want and retrieve any specific version as needed. See Fig. 4.

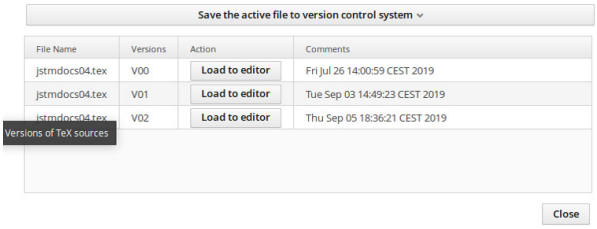

Figure 4: Version control.

5.10 Miscellaneous features

- The PDF output has active hyperlinks and bookmarks.
- Unlimited Undo/Redo is supported.
- Search/replace and regular expressions are supported.
- Neptune works well with Raspberry Pi, thus saving energy, consistent with our environment-friendly production technologies.

6 Supported browsers

Neptune supports the following browsers with version numbers noted against their names or later:

- Firefox: 54+
- Google: Chrome 55+
- Safari: 11.02+
- Internet Explorer: 11+
- Edge 41.16+

7 Success story

Finally the success story.

One of the world's major scientific, technical, and medical publishers recently adopted NEPTUNE as their LaTeX proofing tool. Beginning in November 2018, up through August 31, more than 2500 articles have been proofed through NEPTUNE. The first three months were a pilot period, with only four journals. Continuing to roll out more journals in batches, NEPTUNE now supports more than 100 journals. Before submitting an article, authors can take an optional survey. From this survey, the customer satisfaction score was 95%, showing NEPTUNE as an efficient and user-friendly web proofing framework.

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