NEPTUNE — a proofing framework for LATEX authors

Aravind Rajendran, Rishikesan Nair T., Rajagopal C.V.

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, IATEX authors may be considered difficult, since they insist on better typography, adherence to conventions (particularly in math equations), and use of their finely crafted IATEX sources for final output by utilizing myriad benefits offered by IATEX. 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 IATEX format often dislike viewing and editing their output on a web page since the original IATEX sources for math is not provided. Further, embedded TikZ 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 copyedited 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 IATEX 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).

 a construct out use to set to formate (sets of or 1/1) b (set to formate (sets of or 1/1) b (sets to formate (sets of or 1/1)) b (sets to formate (sets of	〇 つ C Q Go to line 000 :		Save Compile	Ľ	P 🛧 🖡 1 of	s - + Page Width 🖨 🖸 J
Low Larging (n) 	its TOC Figs Tables Notes	Article				
And a first solution of an anatom of kywords are allowed. Please provider teata any 36 kywords for the point of the point	SERTED AT LINE: 128, COL: 61 SERTED AT LINE: 128, COL: 68 SERTED AT LINE: 128, COL: 68	2 3 /usepackage[5:5][neptume-qls-dtd] 4 /bookindate(2019-07-17) 5 /uproofdate(2019-07-17) 6 /usepackage[css][neptume-els] 7			×	Journal of STM Docs
Arrow Ar Luke: 200, Gu: 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MARYINI LACED AT LINE: 178, COL: 48	<pre>9 \makestother 9 \usepackape[nd/](xy) 11 \usepackape[nd/](xy) 12 \usepackape[nd/](xy) 12 \usepackape[nd/](xy) 13 \usepackape[nd/](xy) 14 \usepackape[nd/](xy) 15 \usepackape[nd/](xy) 16 \usepackape[nd/](xy) 17 \usepackape[nd/](xy) 18 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 10 \usepackape[nd/](xy) 11 \usepackape[nd/](xy) 12 \usepackape[nd/](xy) 13 \usepackape[nd/](xy) 14 \usepackape[nd/](xy) 15 \usepackape[nd/](xy) 16 \usepackape[nd/](xy) 17 \usepackape[nd/](xy) 18 \usepackape[nd/](xy) 18 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 19 \usepackape[nd/](xy) 10 \usepackape[nd/](xy) 11 \usepackape[nd/](xy) 12 \usepackape[nd/](xy) 12 \usepackape[nd/](xy) 13 \usepackape[nd/](xy) 14 \usepackape[nd/](xy) 15 \usepackape[nd/](xy) 15 \usepackape[nd/](xy) 16 \usepackape[nd/](xy) 17 \usepackape[nd/](xy) 17 \usepackape[nd/](xy) 17 \usepackape[nd/](xy) 18 \usepackape[nd/](xy) 1</pre>			Kevin C.A. ^a , Bob B.B. ^b , Stuart ^a Soyahna Foundation, JWU 34, Agathy, Trivandin ^b STM Document Explorenting Private Littenia, Maya	t A. C. ^c hun, 66004, Kovils, India uslash, Malgalarki, Tromohan, 696377, Kirala, India
Consisting of all additional comments Comparison of an ad a maximum of 6 keywords are allowed. Please provide/retain may 36 keywords commented out, please uncomment due trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the unclease and the trying in the keywords on the PDF output. Comment of unclease and the unclease and the unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the trying in the keywords on the PDF output. Comment of unclease and the unclease and the unclease and the unclease andit the trying in the keywords on the trying in the keywords on th	XXX777 ETED AT LINE: 200, COL: 62 ETED AT LINE: 200, COL: 66	14 (valuatletter 15 Va0(; 16 (vaspackage(algarother)) 17 (vaspackage(algarother)) 18 (vdfinecolar(commutgreen)(868)(2,112,16) 19 (vdfinecolar(commutgreen)(868)(25,16,6) 20 (vdfinecolar(commutgreen)(868)(25,16,6)			HIGHLIGHTS - I hose that it may be useful to other classe of readers. - I have nowhere made any attempt to meet the needs of statem. - I regard the book as being really elemen- tary subjects. - I have done my bent to avoid the in- chasing of anything that impower stably	GRAPHICAL ABSTRACT
Plase confirm that given names and summers have been identified correctly and are presented in the desired order and plases carefully vers vers vers vers vers vers vers vers	3	23 * \lstset {	rrors Hide			
As per the journal style, only a minimum of 3 and a maximum of 6 keywords are allowed. Please provide/retain any 3.6 keywords. Can befare coded using (keywords) (so mand below abstrat. Please update the keyword exactly in that location. If you see (keywords) (s commented out, please uncomment after typing in the keywords so that you can see the inserted keywords in the PDF output.		ve been identified correctly and are presented in the desired order and please carefu	lly 💿 Yes 🔵 No			30 0 50 150 200 250 Real part
	can be/are coded using \keywords() command be commented out, please uncomment after typing i	low abstract. Please update the keyword exactly in that location. If you see \keywor the keywords so that you can see the inserted keywords in the PDF output.			Kryword: Fure Mathematica HEIDert space Mazovell's cogations extension in phase elementary subjects	Fure Mathematics This book has been designed primarily for the use of fut year students at the Universities whose abilities reads or approach somehing like what is usually described as schedurably standard. I have that it may be used to other classes or attain have a standard to a schedurably standard. I have that year is the standard to a standard to a standard to a schedurably standard to a schedurably sequencing or indeed any class of schedura whose increases are as plansform interhearked. I special the book as being resployed memory. There are any or of band camping download to a schedurably and the description of the schedurable download. The schedurable download to a schedurable download to a schedurable download to a schedurable download to a schedurable as being resployed and schedurable download to a sch
					Independent hypotheses	have added, whenever space permitted, an outline of the solution. p_1 passing the limit p'_i . It will be convenient, and it is evidently

Figure 1: Neptune — Main page.

i≣ Qu	eries to Author 5/5	TeX Logs	🕹 Upload Files 🚺	🙊 Additional Comments 🚺	Ignore Compilation Errors	Hide
1	Please confirm that g verify the spelling of			identified correctly and are presented i	in the desired order and please carefully	💿 Yes 🔵 No
2	can be/are coded usi	ng	command below abst		rovide/retain any 3-6 keywords. Keywords y in that location. If you see is l keywords in the PDF output.	Edit Reply 🗸
3	An extra opening par	enthesis has bee	en deleted. Please cheo	ck, and correct if necessary.		Edit Reply 🗸
4	An extra closing pare	nthesis has beer	n inserted. Please chec	k, and correct if necessary.		Edit Reply 🗸
5	As per the journal sty	le, Conflict of In	terest is mandatory. Pl	ease provide the same.		Edit Reply 🗸

Figure 2: Query window and Ignore compilation error feature.

3 The process

As a web application, Neptune provides facilities to edit IATEX documents as with any desktop text editor. While keeping the native IATEX 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 T_EX sources and verify the changes. Synchronised movement of both T_EX files is available, with a scroll button to move both T_EX 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 T_{EX} 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

	c o	c Q	Go to line	000	:
Edits	тос	Figs	Tables	Notes	
	1	Edit Chang	(es (16)		
INSERTED	AT LINE	: 128, COL	: 61		
nited					
INSERTED	AT LINE	: 128, COL	: 68		
tates					_
		: 138, COL	: 1		
%\QUERY[1]	•				-
REPLACED	AT LINE	: 178, COL	: 48		-
	AT I THE	: 199, COL	- 1		
ANJENTED	AT LINE	. 199, 000			

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 IATEX 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.

File Name	Versions	Action	Comments
jstmdocs04.tex	V00	Load to editor	Fri Jul 26 14:00:59 CEST 2019
jstmdocs04.tex	V01	Load to editor	Tue Sep 03 14:49:23 CEST 2019
jstmdocs04.tex	V02	Load to editor	Thu Sep 05 18:36:21 CEST 2019
ns of TeX sources			

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.

> ♦ Aravind Rajendran, Rishikesan Nair T., Rajagopal C.V.

STM Document Engineering Pvt. Ltd., River Valley Campus, Mepukada, Malayinkil, Trivandrum 695571, India aravind (at) stmdocs.in http://stmdocs.com