

The `trkchg` package*

Joseph W. May
jwmay@uw.edu

July 10, 2013

Abstract

This package provides a set of document editing commands for tracking changes including inserting, removing, and changing text in a \LaTeX document such that these changes appear in the compiled document. Comment commands are also provided for inserting easy to identify in-text comments.

Contents

1	Introduction	1
2	Using the <code>trkchg</code> Package	2
2.1	Loading the Package	2
2.2	Package Commands	2
2.3	Package Options	2
3	Implementation	3
3.1	Identification and Option Setup	3
3.2	Track Changes Output Control	4
3.3	Macro Definitions	4
4	Compatibility and Known Issues	6
5	Change History	6
6	Index	6

1 Introduction

Document editing between multiple authors can be difficult in \LaTeX due to an inability to track changes between two versions. This package provides a set of

*This document corresponds to `trkchg` v1.2, dated 2013/07/10.

document editing commands to be used for highlighting changes made to a L^AT_EX document. Commands are created for inserting, removing, and changing text as well as for adding comments. These changes are emphasized in the compiled form of the document using colored, underlined, and strikethrough text for easy readability. Options to display the original and final forms of the document quickly remove these editing marks and comments to display the original form of the document without any edits or to display the final form of the document accepting all changes made.

2 Using the trkchg Package

2.1 Loading the Package

The `trkchg` package is loaded in the usual way

```
\usepackage[<options>]{trkchg}
```

where the *<options>* are described in Section 2.3.

2.2 Package Commands

The package commands are described before the package options in an attempt to make the discussion of the options more clear. All of the editing commands are to be used in the L^AT_EX source code; when the document is compiled, the commands will highlight the changes made to the document.

\ins	For document editing purposes the following commands are provided:		
\rem	Table 1: L ^A T _E X document editing commands provided by the <code>trkchg</code> package.		
\ch			
\rp	Edit Type	Command	Format
\co	Insert	\ins{ <i><text></i> }	<u>Insert this text</u>
\todo	Remove	\rem{ <i><text></i> }	Delete this text
	Change	\ch{ <i><old text></i> }{ <i><new text></i> }	Change this to → <u>this</u>
	Rephrase	\rp{ <i><text></i> }	<u>Rephrase this text</u>
	User Comment	\co{ <i><text></i> }	NA ► add a comment ◀
	General Comment	\todo{ <i><text></i> }	TO DO ► add a comment ◀

2.3 Package Options

`user` The `user` option sets the initials of the individual editing the document. These initials will appear alongside any comments made in the document using the `\co` comment command. If no user is specified, the letters NA will appear alongside

`color` any comments. The `color` option is used to set the color edits and comments are displayed in; the default is orange. The `trkchg` package uses the `xcolor` package with the `dvipsnames` option allowing users to specify, by name, **one of 68 standard color choices known to dvips**. The implementation will thus generally appear as

```
\usepackage[user=<initials>,color=<color>]{trkchg} .
```

By default, the `trkchg` package shows the compiled document with all track changes markup and user comments. The markup can be hidden and the original document shown using the `original` option. Alternatively, the final document, accepting all changes, can be displayed using the `final` option.

A few other commands are provided to control what type of markup is displayed. User comments can be hidden by specifying `hidecomments`. The todo comments can be hidden by specifying `hidetodo`.

3 Implementation

3.1 Identification and Option Setup

Package identification.

```
1 \NeedsTeXFormat{LaTeX2e}
2 \ProvidesPackage{trkchg}[2013/07/10 v1.2 Track changes]
```

The required packages for typesetting the track changes output are loaded. The `kvoptions` package allows user-specified options to be processed. The `ifthen` package is used to control track changes output based on user-specified options. The `amsmath` and `amssymb` packages are required for formatting the change, comment, and todo commands. The `xcolor` package is used to allow users to input, by name, one of 68 color choices for the track changes output. The `ulem` package allows for various text underline and strikethrough styles for track changes output.

```
3 \RequirePackage{kvoptions}
4 \RequirePackage{ifthen}
5 \RequirePackage{amsmath}
6 \RequirePackage{amssymb}
7 \RequirePackage[dvipsnames]{xcolor}
8 \RequirePackage[normalem]{ulem}
```

Boolean variables, as part of the `kvoptions` package, are defined to allow the user to control the track changes output.

```
9 \SetupKeyvalOptions{%
10 family=trkchg,%
11 prefix=trkchg@}
12 \DeclareBoolOption{original}
13 \DeclareBoolOption{final}
14 \DeclareBoolOption{hidecomments}
15 \DeclareBoolOption{hidetodo}
16 \DeclareStringOption[NA]{user}
17 \DeclareStringOption[orange]{color}
18 \ProcessKeyvalOptions{trkchg}
```

Boolean variables, as part of the `ifthen` package, are defined to control display of track changes output; default values are set.

```
19 \newboolean{showcomments}
```

```

20 \newboolean{showtodo}
21 \newboolean{showoriginal}
22 \newboolean{showfinal}
23 \setboolean{showcomments}{true}
24 \setboolean{showtodo}{true}
25 \setboolean{showoriginal}{false}
26 \setboolean{showfinal}{false}

```

3.2 Track Changes Output Control

The if-then-else block is setup to control the track changes output based on user-specified options. The commands are defined to behave differently based on whether the original or final version of the document is to be compiled, otherwise, show the document with the track changes markup.

```

27 \iftrkchg@original
28 \setboolean{showcomments}{false}
29 \setboolean{showtodo}{false}
30 \setboolean{showoriginal}{true}
31 \setboolean{showfinal}{false}
32 \else
33 \iftrkchg@final
34 \setboolean{showcomments}{false}
35 \setboolean{showtodo}{false}
36 \setboolean{showoriginal}{false}
37 \setboolean{showfinal}{true}
38 \else
39 \setboolean{showcomments}{true}
40 \setboolean{showtodo}{true}
41 \setboolean{showoriginal}{false}
42 \setboolean{showfinal}{false}
43 \fi
44 \fi

```

If statements to control the output of user and todo comments.

```

45 \iftrkchg@hidecomments
46 \setboolean{showcomments}{false}
47 \fi
48 \iftrkchg@hidetodo
49 \setboolean{showtodo}{false}
50 \fi

```

3.3 Macro Definitions

`\usrcolor` The `\usrcolor` macro is an internal command for applying the user-specified color to the output of the track changes editing commands.

```

51 \newcommand{\usrcolor}[1]{\color{\trkchg@color}#1}

```

`\showbx` The `\showbx` macro is an internal command for creating the label and triangular enclosure for the comment and todo commands.¹

```

52 \newcommand{\showbx}[3]{\colorbox{#3}{\bfseries\sffamily\scriptsize%
53 \textcolor{white}{#1}}{\textcolor{#3}{\sf\small$\blacktriangleright$%
54 \textit{#2}$\blacktriangleleft$}}}

```

`\co` The comment command is defined using the `showbx` and `usrcolor` commands based on whether or not comments are to be shown.

```

55 \ifthenelse{\boolean{showcomments}}{
56 \newcommand{\co}[1]{\showbx{\trkchg@user}{#1}{\trkchg@color}}
57 }{
58 \newcommand{\co}[1]{\ignorespaces}
59 }

```

`\todo` The todo command is defined using the `showbx` command based on whether or not todo comments are to be shown.

```

60 \ifthenelse{\boolean{showtodo}}{
61 \newcommand{\todo}[1]{\showbx{TO DO}{#1}{blue}}
62 }{
63 \newcommand{\todo}[1]{\ignorespaces}
64 }

```

`\rp` The track changes commands are defined based on whether the original or final document is to be shown. Otherwise, the track changes markup is shown.²

`\ins`

`\rem`

`\ch`

```

65 \ifthenelse{\boolean{showoriginal}}{
66 \newcommand{\rp}[1]{#1}
67 \newcommand{\ins}[1]{\ignorespaces}
68 \newcommand{\rem}[1]{#1}
69 \newcommand{\ch}[2]{#1}
70 }{
71 \ifthenelse{\boolean{showfinal}}{
72 \newcommand{\rp}[1]{#1}
73 \newcommand{\ins}[1]{#1}
74 \newcommand{\rem}[1]{\ignorespaces}
75 \newcommand{\ch}[2]{#2}
76 }{
77 \newcommand{\rp}[1]{\usrcolor{uwave{#1}}}{
78 \newcommand{\ins}[1]{\usrcolor{uline{#1}}}{
79 \newcommand{\rem}[1]{\usrcolor{sout{#1}}}{
80 \newcommand{\ch}[2]{\textcolor{red}{%
81 {\sout{#1}}{\boldsymbol{\rightarrow}}~$}\usrcolor{uline{#2}}}}
82 }
83 }

```

¹Code for the `showbx` command taken from [the SCG Wiki](#).

²Inspiration for these commands came from [the SCG Wiki](#).

4 Compatibility and Known Issues

The track changes commands do not work in any mathematics environment (i.e., equation, eqnarray, etc.). The track changes command have been successfully tested for editing table and figure captions using the `caption` and `subcaption` packages.

`\rem` Use of the `\rem` command around the `\cref` command may produce a few errors during compiling. Just press enter to ignore these errors and the document should compile correctly. All track changes commands work without error with the standard L^AT_EX `\ref` command.

The options currently supported by the `trkchg` package only allow for the original document or final document, accepting all changes, to be displayed. For selective display of changes made to a document, the user will have to manually remove/modify the edits directly in the L^AT_EX source code. Currently underway is development on a script to analyze the source code for the `trkchg` commands, allowing a user to quickly accept or reject changes made to the document.

5 Change History

v1.0		v1.2
General: Initial version	1	<code>\ins</code> : command changed from <code>\in</code> for compatibility with the <code>amssymb</code> package
v1.1		5
General: added info on <code>\todo</code> command in the documentation . . .	1	<code>\rem</code> : command changed from <code>\rm</code> to avoid conflict with L ^A T _E X command
<code>\rp</code> : command changed from <code>\uh</code> .	5	5

6 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

B	D	I
<code>\bfseries</code>	<code>\DeclareBoolOption</code>	<code>\iftrkchg@final</code> . . .
<code>\blacktriangleleft</code> .	12, 13, 14, 15	<code>\iftrkchg@hidecomments</code>
<code>\blacktriangleright</code> .	<code>\DeclareStringOption</code>	45
<code>\boldsymbol</code>	16, 17	<code>\iftrkchg@hidetodo</code> .
<code>\boolean</code> . 55, 60, 65, 71		<code>\iftrkchg@original</code> .
	F	<code>\ins</code>
	<code>\final</code>	2, 65
C		O
<code>\ch</code>		<code>\original</code>
<code>\co</code>	H	3
<code>\color</code>	<code>\hidecomments</code>	P
<code>\colorbox</code>	<code>\hidetodo</code>	<code>\ProcessKeyvalOptions</code>
		3

..... 18	S	\todo 2, 60
\ProvidesPackage ... 2	\SetupKeyvalOptions . 9	\trkchg@color ... 51, 56
	\sf 53	\trkchg@user 56
R	\sffamily 52	
\rem 2, 6, 65	\showbx 52, 56, 61	U
\RequirePackage ...	\sout 79, 81	\uline 78, 81
..... 3, 4, 5, 6, 7, 8		\user 2
\rightarrow 81	T	\usrcolor
\rp 2, 65	\textcolor 53, 80	. 51, 77, 78, 79, 81
	\textit 54	\uwave 77