The Ticking Digital Clock `tdclock` package v2.2

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1   The package

The `tdclock` package is a LaTeX2e package that allows the users to insert into a LaTeX generated pdf document a ticking digital clock showing the date and/or time at the moment in which the document is being read, for example the one next: .

The package is loaded by `\usepackage[``options'']{tdclock}`

Options:

- timeinterval=n

  n can be any positive integer. The clock will update its internal status every n seconds. Thus, if we load the package with [`timeinterval=120`], the clock will update its display every 2 minutes. The default time interval is set to 29 seconds.

  Note that for low values of n the memory used by Adobe increases during the time the document remains opened and can become very high. Then, values of n below 10 are not recommended.

- font="adobe font"

  "adobe font" is one of the following 9 adobe name fonts:

Helv	HelvI	HelvBI	Times	TimesI	TimesBI
Cour	CourI	CourBI			

  At the moment no other fonts, like TeX ones, can be used. This restriction comes from the fact that the "dynamic" clock is based on javascript code embedded into the pdf document.

- timeduration="time (in mimutes)"

"time" can be any integer or decimal number. This option is intended to be used in presentations (beamer for example). Its value specifies the time the presentation should last. This option has sense in conjunction with the next options.

- timewarningfirst= n

  n can be any integer between 1 and 100. With this option set, after $n\%$ of the time specified in timeduration, the color and background of the tdclock time will change, according to the next options. This can be used as a first warning that you are running out time for the presentation. The default is set to 90.

- timewarningsecond= n

  n can be any integer between 1 and 100 (usually greater than timewarningfirst). With this option set, after $n\%$ of the time specified in timeduration, the color and background of the tdclock time will change, according to the next options. This can be used as a second warning that you have little time to finish the presentation. The default is set to 95.

- colorwarningfirst= "color"

  This option specifies the color for the tdclock time after the time specified by timeduration and timewarningfirst options. The default is orange.

- fillcolorwarningfirst= "color"

  This option specifies the color background for the tdclock time after the time specified by timeduration and timewarningfirst options. The default is "transparent". This has only effect on time specified by \crono, \tdclock and \tdtime time orders.

- colorwarningsecond= "color"

  This option specifies the color for the tdclock time after the time specified by timeduration and timewarningsecond options. The default is red.

- fillcolorwarningsecond= "color"

  This option specifies the color background for the tdclock time after the time specified by timeduration and timewarningsecond options. The default is "transparent". This has only effect on time specified by \crono, \tdclock and \tdtime time orders.

- timedeath= 0 or 1

  If this option is set to 1, after 110% of the time specified in timeduration, the pdf document will be closed. The default is set to 0 (the document is not closed).

Some examples of using the options

- **\usepackage[font=Times, timeinterval=59]{tdclock}**

  Only the font (Times) and the time (59 seconds) for updating the clock is specified. No warning indicating that the time for the presentation is finishing will be given.

- **\usepackage[font=Times, timeinterval=30, timeduration=20, timewarningfirst=85, timewarningsecond=90, fillcolorwarningsecond=white!60!yellow]{tdclock}**

  In addition to the font (Times) and the time (30 seconds) for updating the clock, a duration of the presentation of 20 minutes is specified. The color of the clock font will be set to orange after 17 minutes (85% of 20). This color will be changed to red, and the background to white!60!yellow after 18 minutes(90% of 20).

- **\usepackage[timeduration=60, timewarningfirst=90, timewarningsecond=95, colorwarningfirst=blue, fillcolorwarningfirst=white!60!yellow, fillcolorwarningsecond=white!10!yellow, timedeath=1]{tdclock}**

  A duration of the presentation of 60 minutes is specified. The color of the clock font will be set to blue after 54 minutes (90% of 60) with a background white!60!yellow. The font color will be changed to red after 57 minutes and the background to white!10!yellow. The document will close automatically after 66 minutes (110% of 60).

2   Restrictions–requirements

The package requires hyperref, xkeyval and xcolor packages. It works with PDFLATEX as well as with LATEX→DviPs→Ps2pdf sequence. In documents generated by Dvipdfm, the clock does not work properly.

Since it uses javascript code, and not all pdf readers can interpret javascript, only some of them will display the documents properly. We have tested the package with Adobe reader and Adobe acrobat under windows and Linux.

3   Installation

Copy the package file tdclock.sty to a directory where LATEX can find it.

4   Getting the package

The package can be downloaded at http://pcmap.unizar.es/numerico/software

5 Macros

The clock must be initialized with `\initclock`, usually at the beginning of the document, after `\begin{document}`.

The following macros display dynamically the current date and/or time:

command	action
`\tdclock`	displays a complete clock
`\tdtime`	displays the current time
`\tddate`	displays the current date
`\tdday`	displays the current day
`\tdmonth`	displays the current month
`\tdyear`	displays the current year
`\tdhours`	displays the current hour
`\tdminutes`	displays the current minute
`\tdseconds`	displays the current second

The package also provides macros to display a stopwatch. This can be done by means of the following macros:

command	action
`\crono`	displays a stopwatch
`\cronohours`	displays a crono (only hours)
`\cronominutes`	displays a crono (only minutes)
`\cronoseconds`	displays a crono (only seconds)

In addition, the package includes two macros that display buttons. With one of them, by pressing it, you reset the stopwatch to zero values. The form of the command is `\resetcrono{''button''}`. For example, `\resetcrono{\fbox{reset}}` `\crono` produces (press the button to see what happens): ⌐reset⌐

The other lets you toggle from current time to stopwatch. For example, `\toggleclock{\fbox{toggleclock}} \tdtime` produces (press the button to see what happens): ⌐toggle⌐ .

Note that `\toggleclock` only has effect on `\tdtime` command, and not on `\crono`.

5.1 Formatting the output

5.1.1 Size and color

The size and color of the characters forming the time or date are the LaTeX current font size and color. Thus, for example
 `\centerline{\textcolor{blue}{\Huge \tdclock}}` gives:

There is another macro, \factorclockfont{``factor''}, that increases the size of the clock by a desired factor. To set the size of the clock to its original size, use \factorclockfont{1}

5.1.2 Formatting the display

There are two commands that change the effect of \time and \crono.

- \hhmmss redefine the commands to show the hours,minutes and seconds (this is the default),

- \hhmm redefine them so that they will only show hours and minutes.

Hours, minutes and seconds are separated by the character defined in the macro \timeseparator. Therefore, the time separator can be set by redefining this macro. For example,

$$\renewcommand\{\timeseparator\}\{;\}\tdtime$$

gives

; ;

Different types of formats for time can be achieved by means of the macros \tdhours, \tdminutes and\seconds. For example,
\minutes.\seconds produces: .

Different types of formats for the stopwatch can be achieved by means of the macros \cronohours, \cronominutes and\cronoseconds. For example,
\cronominutes.\cronoseconds produces: .

In fact, \tdtime and \crono are defined by default to
\tdhours\timeseparator\tdminutes\timeseparator\tdseconds
and
\cronohours\timeseparator\cronominutes\timeseparator\cronoseconds
respectively.

Regarding the date, there are two commands that change the effect of \tddate.

- \ddmmyyyy redefine the command to show the day,month and year (this is the default),

- \mmddyyyy redefine it to show month, day and year.

Day, month and year are separated by the character defined in the macro \dateseparator. Therefore, the date separator can be set by redefining this macro. For example,

$$\renewcommand\{\dateseparator\}\{;\}\tddate$$

gives

; ;

Different types of formats for date can be achieved by means of the macros \tdday, \tdmonth and\tdyear. For example,
\day–\month produces: –

By default, `\tddate` is defined by default to
`\tdday\dateseparator\tdmonth\dateseparator\tdyear`.

Since the font used to display the dynamic date and time is one of the adobe fonts, we have included two commands `\pdfslash` and `\pdfcolon` to provide the charactrers "slash" and "colon" so that defining `\renewcommand{\timeseparator}{\pdfcolon}` the command `\tdtime` will have all their characters in the same font. The same for `\tddate` if we use `\pdfslash` as separator.

6   Summary of macros

Time-Date macros

macro	result	action
\initclock		initialize clock
\tdclock		complete clock
\tdtime		current time
\tddate		current date
\tdday		current day
\tdmonth		current month
\tdyear		current year
\tdhours		current hours
\tdminutes		current minutes
\tdseconds		current seconds
\crono		stopwatch
\cronohours		crono hours
\cronominutes		crono minutes
\tdwarningbox{\cronominutes}		warning boxed crono minutes
\cronoseconds		crono seconds
\resetcrono{"button"}	reset	sets crono time to zero
\toggleclock{"button"}	toggle	toggle time-crono

Formatting macros

\hhmm\tdtime	
\hhmmss\tdtime	
\mmddyy\tddate	
\ddmmyy\tddate	
\renewcommand{\dateseparator}{--}\tddate	− −
\renewcommand{\timeseparator}{.}\tdtime	. .
\pdfslash	
\pdfcolon	
\factorclockfont{2.0}\tdtime	