

AcroTeX.Net

The cntdwn Package Countdown to the New Year

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The demo file for this AcroTeX AeB Blog is attached to this PDF, and can be saved by clicking [newyear.pdf](#). Note that the \LaTeX source for `newyear.pdf` is attached to `newyear.pdf`. Access the source file by opening the attachments panel. $\mathcal{D}\mathcal{S}$

1. Introduction

This article presents and discusses a countdown to the New Year. The example presented here is an extension of a basic example distributed with the `cntdwn` package.¹

In the `lncntdwn.tst.pdf` example, the year 2011 was hardwired into the timer. After 2011 begins, the timer is no longer counting down to the new year. In this article, we show how to dynamically change the countdown so that it is always counting down to the next New Year.

2. New Year Countdown

We begin by showing you the counter, which is attached to this AeB Blog. On the first page of this article, you can click a link, download, and save the example. The example itself is a PDF with its source file attached to it, so you can save the source file, and try to compile and build the counter yourself.

Launch the counter: [newyear.pdf](#)

By clicking on the red `newyear.pdf` link above, you launch the counter, do so now!

As with all these counters, they are defined in the preamble:

```
\setLongCntDwn{NewYearsLocal}%
{date=2010/01/01,time=00:00:01}
```

The value of the `date` key is the year 2010, the current year. The date does not matter, it will be changed dynamically to the year of the next new year. I've set the new year to begin at one second after midnight on the first day of the new year.

In the body of the document, we lay out the timer field, as well as special message text field:

```
\begin{center}
\lcntdwnDisplay[\BC{}Q{1}{NewYearsLocal}{3in}{11bp}

\textField[\textSize{16}\textColor{blue}Q{1}\Ff{\FfReadOnly}
\BC{}Ff{\FfMultiline}{NewYearMsg}{2in}{4\baselineskip}
\end{center}
```

We use the `\lcntdwnDisplay` command to display the countdown, we give the field a transparent border, and center the count within the field. Here are the results of the code above.

What is not shown is dynamic re-definition of the countdown date, that is presented now.

¹The name of that file is `lncntdwn.tst.pdf` and may be found at [home page of the cntdwn package](#).


In the preamble of this document (and in the `newyear.tex` document), you find

```

1  \begin{defineJS}{\resetNewYearJS}
2  if ( typeof(_setNewYear)=="undefined") {
3      var _setNewYear=true;
4      lcntdwnPause(_oNewYearsLocal);
5      var oNow = new Date();
6      var nextYear=oNow.getFullYear()+1;
7      var oNext = new Date(nextYear,0,1,0,0,1);
8      _oNewYearsLocal.pdfdate=util.printd("D:yyyymmddHHMMss", oNext );
9      var f=this.getField("_oNewYearsLocal.lcntdwn.timeToFromEvent");
10     f.textColor=color.black;
11     if ( oNow.getMonth()==0 && oNow.getDate()==1 ) {
12         f=this.getField("NewYearMsg");
13         f.value="Happy New Year " + oNow.getFullYear() +"!";
14     }
15     lStartTimer(_oNewYearsLocal);
16 }
17 \end{defineJS}
18 \OpenAction{\JS{\resetNewYearJS}}
```

Comments: In lines (1)–(16) we define some JavaScript that is executed when the document is opened. The `defineJS` is a verbatim environment that allows you to write JS, and save the lines as a command, `\resetNewYearJS`, in this case. In line (17), the `\OpenAction` command is used (defined in the `insdljs` package) to define a JavaScript action when the document is opened. The action to be performed are the lines saved under the command `\resetNewYearJS`.

1. We want this code to be executed only once, so we use a variable `_setNewYear`. Initially, this variable is undefined and the code will be executed. In line (3), we define this variable so if the first page is opened again, the code does not execute.
2. Line (4) pauses the count.
3. Line (5) gets the date object for the date the document is opened.
4. Line (6) calculates the next year, and line (7) creates a date object for New Years Day for the next year.
5. Now comes the tricky, undocumented part. The `cntdwn` stores the date and time data in the PDF date format (see section 3.8.3 in the PDF Reference). Line (8) uses the Acrobat JavaScript method `util.printd` to write the date object in the PDF date format.² In line (8) we update the `pdfdate` property of the `_oNewYearsLocal` object.
6. In lines (9) and (10) we make sure the color of the count is black.
7. Lines (11)–(14) create a special effect. When you open this document, and it is January 1, a happy new year message is written to the text field having name `NewYearMsg`.
8. Finally, we start the counter, line (15).

That having been said, I must return to my retirement. 

²Each counter has a JavaScript object created for it, the name of the object is `ø<timer_name>`.