The chronology package*

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June 14, 2010

Abstract

A new timeline package. Allows labeling of events with per day granularity. Other features include relative positioning with unit specification, adjustable tick mark step size, and scaling to specified width.

1 Introduction

Most timeline packages and solutions for LaTeX are used to convey a lot of information and are therefore designed vertically. If you are just attempting to assign labels to dates, a more traditional timeline might be more appropriate. That's what chronology is for.

2 Usage

`chronology` Declare a `chronology` as follows:

`\begin{chronology}[`⟨*step*⟩`]{`⟨*startYear*⟩`}{`⟨*endYear*⟩`}{`⟨*unit*⟩`}{`⟨*width*⟩`}`
⟨*events*⟩
`\end{chronology}`

Where `{`⟨*width*⟩`}` is the final width of the timeline. The width can be specified as a command (e.g. `\textwidth`). `{`⟨*unit*⟩`}` specifies the distance between minor ticks. `[`⟨*step*⟩`]` (unitless) specifies how many units between major ticks, where the first starts $\equiv_{\text{mod } \langle step \rangle} 0$. The timeline runs from `{`⟨*startYear*⟩`}` to `{`⟨*endYear*⟩`}`.

`\event` Label an `\event` as follows:

`\event[`⟨*startDate*⟩`]{`⟨*endDate*⟩`}{`⟨*label*⟩`}`

An `\event` with the label `{`⟨*label*⟩`}` is created. If `[`⟨*startDate*⟩`]` is specified the `\event` should span to `{`⟨*endDate*⟩`}`, otherwise the `\event` specifies a specific

`\decimaldate` date. All dates are unitless. Specify a `\decimaldate` as follows:

`\decimaldate{`⟨*day*⟩`}{`⟨*month*⟩`}{`⟨*year*⟩`}`

*This document corresponds to chronology v1.0, dated 2010/6/12.

3 Implementation

`chronology` `chronology` creates the graphic first and then scales it to size. Using a large unit size results in a large prescaled graphic, and therefore finer postscaled details.

```
\newenvironment{chronology}[5][5]{%
  \newcounter{step}\newcounter{stepstart}\newcounter{stepstop}%
  \newcounter{yearstart}\newcounter{yearstop}\newcounter{deltayears}%
  \newlength{\xstart}\newlength{\xstop}%
  \newlength{\unit}\newlength{\timelinewidth}%
  \setcounter{step}{#1}%
  \setcounter{yearstart}{#2}\setcounter{yearstop}{#3}%
  \setcounter{deltayears}{\theyearstop-\theyearstart}%
  \setlength{\unit}{#4}%
  \setlength{\timelinewidth}{#5}%
  \pgfmathsetcounter{stepstart}%
    {\theyearstart+\thestep-mod(\theyearstart,\thestep)}%
  \pgfmathsetcounter{stepstop}{\theyearstop-mod(\theyearstop,\thestep)}%
  \addtocounter{step}{\thestepstart}%
  \newsavebox{\timelinebox}%
  \begin{lrbox}{\timelinebox}%
    \begin{tikzpicture}[baseline={(current bounding box.north)}]%
      \draw [|->] (0,0) -- (\thedeltayears*\unit+\unit, 0);%
      \foreach \x in {1,...,\thedeltayears}%
        \draw[xshift=\x*\unit] (0,-.1\unit) -- (0,.1\unit);%
      \addtocounter{deltayears}{1}%
      \foreach \x in {\thestepstart,\thestep,...,\thestepstop}{%
        \pgfmathsetlength\xstop{(\x-\theyearstart)*\unit}%
        \draw[xshift=\xstop] (0,-.3\unit) -- (0,.3\unit);%
        \node at (\xstop,0) [below=.2\unit] {\x};}}{%
    \end{tikzpicture}%
  \end{lrbox}%
  \raisebox{2ex}{\resizebox{\timelinewidth}{!}{\usebox{\timelinebox}}}}%
```

`\event`

```
\newcommand{\event}[3][e]{%
  \pgfmathsetlength\xstop{(#2-\theyearstart)*\unit}%
  \ifx #1e%
    \draw[fill=black,draw=none,opacity=0.5]%
      (\xstop, 0) circle (.2\unit)%
      node[opacity=1,rotate=45,right=.5\unit] {#3};%
  \else%
    \pgfmathsetlength\xstart{(#1-\theyearstart)*\unit}%
    \draw[fill=black,draw=none,opacity=0.5,rounded corners=.2\unit]%
      (\xstart,-.2\unit) rectangle%
      node[opacity=1,rotate=45,right=.5\unit] {#3} (\xstop,.2\unit);%
  \fi}%
```

`\decimaldate`

```
\newcommand{\decimaldate}[3]{(#1-1)/31/12+(#2-1)/12+#3}
```

4 Change History

v1.0

General: Initial version 1

5 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.