Using the animate package without Adobe

Asked 6 years, 10 months ago Active today Viewed 8k times

22

16

I'm looking to use the animate package in beamer to display animated graphics to my class, and I was wondering if it'd be possible for the animation to work on their Chromebooks. It seems Adobe isn't supported on ChromeOS, so is there any other alternative?

This question seems relevant, but I don't have any movie files or gifs, just what I've made using the animate package in LaTeX.

I understand this is quite likely not possible, but any help would be much appreciated.

beamer viewers animate Edit tags Edit tags Edit tags

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edited Dec 21 2018 at 11:56
AlexG
49.3k 8 112 184

asked Mar 26 2015 at 1:54
Platehead
363 2 6

Per the animate documentation the other viewer which can run the animation is PDF-XChange Viewer – R. Schumacher Mar 26 2015 at 2:26

pdf-xchange viewer did not run my animations inside PDF. Only Adobe PDF reader did. – Nasser Apr 24 2018 at 2:43

KDE Okular supports animations made with pkg `animate` . – AlexG 44 mins ago

1 Answer

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35

1 `beamer` class document in SVG format

Think about giving up the PDF format in favour of SVG.

Animations run in all contemporary Web browsers, while Blink-based ones (Chromium,

Chrome, Opera) have the best performance. Also run on mobile devices.

Click the image to start presentation in the Web browser and **press** F11 for full-screen. Navigate through slides with PgUp and PgDown.

Using package *animate* without Adobe

Use a Web browser and press F11

AlexG

February 15, 2022

Compile the example code with

```
latex svgbeamer
latex svgbeamer
dvisvgm --font-format=woff2 --bbox=papersize --zoom=-1 -p1,- --output=%f-%1p
svgbeamer
```

Example code `svgbeamer.tex` :

```
\documentclass[dvisvgm,hypertex,aspectratio=169]{beamer}
\usefonttheme{serif}

\usepackage{animate}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% PageDown, PageUp key event handling; navigation symbols
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\usepackage[totpages]{zref}
```

```
\usepackage{atbegshi}
\usepackage{fontawesome}
\setbeamertemplate{navigation symbols}{}
\AtBeginShipout{%
  \AtBeginShipoutAddToBox{%
    \special{dvisvgm:raw
      <defs>
      <script type="text/javascript">
      <![CDATA[
        document.addEventListener('keydown', function(e){
          if(e.key=='PageDown'){
            \ifnum\thepage<\ztotpages
              document.location.replace('\jobname-
\the\numexpr\thepage+1\relax.svg');%
            \fi
          }else if(e.key=='PageUp'){
            \ifnum\thepage>1
              document.location.replace('\jobname-\the\numexpr\thepage-
1\relax.svg');%
            \fi%
          }
        });
      ]]>
      </script>
      </defs>
    }%
  }%
  \AtBeginShipoutUpperLeftForeground{%
    \raisebox{-\dimexpr\height+0.5ex\relax}[0pt][0pt]{\makebox[\paperwidth]
[r]{%
      \normalsize\color{structure!40!}%
      \ifnum\thepage>1%
        \href{\jobname-\the\numexpr\thepage-1\relax.svg}{\faArrowLeft}%
      \else%
        \textcolor{lightgray}{\faArrowLeft}%
      \fi\hspace{0.5ex}%
      \ifnum\thepage<\ztotpages%
        \href{\jobname-\the\numexpr\thepage+1\relax.svg}{\faArrowRight}%
      \else%
        \textcolor{lightgray}{\faArrowRight}%
      \fi%
      \hspace{0.5ex}%
    }}%
  }%
}%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
%required by PSTricks example
\usepackage[dvipsnames,svgnames]{pstricks}
\usepackage{pst-node,pst-plot,pst-eucl}
\usepackage{pst-solides3d}
\usepackage{multido}
\usepackage[nomessages]{fp}

\title{Using package \emph{animate} without Adobe}
\subtitle{Use a Web browser and press \framebox{F11}}
\author{AlexG}
\date{\today}

\begin{document}

\frame{\titlepage}

\begin{frame}{Animation}
  trivial example
  \begin{center}
    \begin{animateinline}[controls]{2}
      \multiframe{10}{i=0+1}{\Huge\fbox{\i}}
    \end{animateinline}
  \end{center}
\end{frame}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%  PSTricks example by J. Gilg
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\def\R{4}            % Radius des festen Kreises (Length fixed Circle)
\def\r{1}            % Radius des abrollenden Kreises (Length rolling Circle)
\def\A{0.75}         % Abstand erzeugenden Punkt zu Mittelpunkt des
abrollenden Kreises (Length Pointer)
\def\winkel{360}     % Winkel: 1 Umlauf entspricht 360 (Angle: 1 revolution
corresponds to 360)
\FPdiv{\myDeltaA}{\winkel}{90}%

\def\psBall{\rput(0,0){\psSolid[
  object=sphere,r=0.35,
  hue=0 1,
  RotX=\ai\space,ngrid=12](0,0,0)}}

\def\myFigure{%
  \pstVerb{% erzeugender Punkt (parameterized Hypocycloide)
    /Xcoord \ai\space cos \R\space \r\space sub mul \ai\space \R\space
\r\space sub \r\space div mul cos \A\space mul add def % (R-r)cos(a)+A
cos[(R/r-1) a]
```

```
    /Ycoord \ai\space sin \R\space \r\space sub mul \ai\space \R\space
\r\space sub \r\space div mul sin \A\space mul sub def % (R-r)sin(a)-A
sin[(R/r-1) a]
  }%

  % erzeugender Punkt (generating point)
  \rput(0,0){\rput(!Xcoord Ycoord){\psBall}}%

  \rput(0,0){\psSolid[object=cube,ngrid=4,
     hue=0 1,
     hollow,
     a=0.5,
     RotZ=-\ai\space](0,0,0)%
  }
}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%


\begin{frame}[t]{PSTricks Animation}
At the end of a rainbow \dots, by Jürgen Gilg.
\begin{itemize}
  \item best viewed in Blink-based browsers, such as Chromium, Chrome, Opera
  \item frame rate printed to JavaScript console (Ctrl+Shift+I)
\end{itemize}
\begin{center}
  \raisebox{0pt}[0.65\height][0pt]{%
  \pstVerb{/clip {} def}% disable `clip' for much better SVG performance in
Firefox
  \begin{animateinline}[measure,loop,controls,height=0.8\textheight]{30}
  \multiframe{90}{i=0+1}{%
    \FPeval{ai}{myDeltaA*\i}%
    \begin{pspicture}(-5,-5)(5,5)\myFigure\end{pspicture}%
  }%
  \end{animateinline}%
}
\end{center}
\end{frame}

\begin{frame}
  \begin{center}\Huge The End\end{center}
\end{frame}

\end{document}
```

2 Animated SVG as file attachment to PDF

`animate` can export to standalone SVG animations, as outlined in https://tex.stackexchange.com/a/136919 . The SVG can be embedded as a file attachment to the PDF, and be run in a Web browser on click or touch:

```
\usepackage{attachfile} % or attachfile2
...
\textattachfile{animatedImage.svg}{Click!}
```

or without being attached:

```
\usepackage{hyperref}
...
\href{run:animatedImage.svg}{Click!}
```

In either case, the operating system/window manager must be configured to use a Web browser as default application for opening SVG files.

Chromium-based Web browsers (e. g. Chrome, Opera) should be used for viewing animated SVG, because of their extremely good rendering performance. The Lorenz attractor may serve as a test example.

3 As for PDF, ...

... there is very good news! Open-Source PDF viewers are catching up.

Okular from KDE now supports JavaScript-driven animations. See:

https://community.kde.org/GSoC/2019/StatusReports/Jo%C3%A3oNetto

Tested with Okular-1.10 (KDE-20.04.1)

We need an opensource PDF viewer with an opensource JavaScript engine added. All ingredients are there, e.g. Evince, Okular, JavaScriptCore from webkit.org (used by Apples web browser Safari), V8 (Google Chrome) or SpiderMonkey (Firefox).

MuPDF is a good starting point, but its integrated JavaScript support is quite rudimentary.

And the PDF rendering performance should be high, which is crucial for animations. MuPDF is one rendering library. The other two, Okular, Evince are based on the Poppler

library.

The faster one, either MuPDF or Poppler should be chosen.

Someone should take up the challenge and put everything together.

Share Edit Follow Flag edited 37 mins ago answered Mar 26 2015 at 9:12

AlexG
49.3k 8 112 184

Thanks for the answer. I'll have a look into whether it's possible to implement one of those on their devices :) – Platehead Mar 27 2015 at 12:41

2 To be clear, you are saying, "there is not **yet** a PDF viewer, other than Adobe, that can correctly display LaTeX animations." Is this correct? – Steven C. Howell Nov 2 2015 at 18:51

1 @stvn66: Seem to work as well: PDF-XChange, Foxit (all of them closed source though). You may need to try first all three package options `method=icon | widget | ocg` . – AlexG Nov 3 2015 at 8:05

0@stvn66 Animations most certainly don't worki in Okular, Evince or Chrome browser's integrated PDF viewer. I will give Foxit reader a go since it also has a Linux version which I can hopefully install on my Debian Jessie. – rbaleksandar Mar 22 2016 at 7:09

1 Interesting answer! I wonder why I had never seen it before! Maybe this technique could also be used for this question: tex.stackexchange.com/questions/455709/... – samcarter_is_at_topanswers.xyz Dec 21 2018 at 12:16

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