The Westlake Beamer Theme*

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Abstract

The Westlake Beamer Theme is inspired by West Lake, a famous freshwater lake in Hangzhou, China, and also inspired by Westlake University.

1 Introduction & Usage

The introduction and usage instructions for the Westlake Beamer Theme are included in `beamertheme-westlake-demo.pdf`, which is also attached in the following 3 pages.

The demo loads the theme with the following lines

```
\usetheme[logobg = westlake-logo.pdf,
          lbadge = westlake-badge.pdf,
          mainbg = westlake-paint.png,
          basebg = plain.png]{westlake}
```

The code of the theme is implemented after the demo pages.

*https://github.com/myhsia/beamertheme-westlake, https://ctan.org/pkg/beamertheme-westlake

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Westlake Beamer Theme

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INTRODUCTION

Theme Introduction

This is the Westlake Beamer Theme. Different from the basic beamer class, this theme provides

Highlights

- Decorations at the bottom of the homepage;
- Progress bar with percentage at the north east corner of every slide and section pages;
- Interfaces for modifying the logo, backgrounds, etc.

The meaning of Westlake

A freshwater lake

West Lake, also known as Xihu and by other names, is a freshwater lake in Hangzhou, China. Situated to the west of Hangzhou's former walled city, the lake has a surface area of 6.39 km^2 (2.47 mi^2),[1] stretching 3.2 km(2.0 mi) from north to south and 2.8 km(1.7 mi) from east to west.[2]

A private research university

Westlake University is a private research university in Hangzhou, Zhejiang, China.

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USAGE

User Interface

To load this package, under the beamer class, write the line

`\usetheme[`⟨*keys*⟩`]{Westlake}`

where the supported keys are

- `themergb` = ⟨*fp num, fp num, fp num*⟩ to config the rgb values (ranges between 0 to 1) of the theme color (Default: `{0.132, 0.324, 0.570}`).
- `lbadge`, `rbadge`, `logobg`, `mainbg`, `basebg` = ⟨*file*⟩ to config the graphic files for
  - logo: appears at the right side of every slide,
  - lbadge/rbadge: appears at the north west/east corner of homepage and section pages,
  - main background: appears on homepage and section pages, and
  - base background: appears on other pages, respectively.
- `logobg.op`, `mainbg.op`, `basebg.op` = ⟨*fp num*⟩ to config the opacity of the corresponding graphic (Default: `0.1`, `0.16`, `0.4`).

Reference

[1] Zhejiang Provincial Bureau of Surveying and Mapping. 2010-09-30.

[2] Overview of the West Lake. Hangzhou Chronicles. Zhonghua Book Company. 1995.

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Thanks for Listening! Any Questions?

A The Source Code

Start the optionlist package for l3docstrip.

```
⟨*package⟩
```

Declare the package information.

```
\def \westlake@date    {2026-03-04}
\def \westlake@version {v0.1B}
\ProvidesPackage{beamerthemewestlake}%
  [\westlake@date\ \westlake@version Westlake beamer theme]
```

Switch to presentation mode.

```
\mode<presentation>
```

Set up the options.

```
\DeclareOptionBeamer{themergb}  {\definecolor{westlake}{rgb}{#1}}
\DeclareOptionBeamer{lbadge}    {\gdef \westlake@lbadge     {#1}}
\DeclareOptionBeamer{rbadge}    {\gdef \westlake@rbadge     {#1}}
\DeclareOptionBeamer{logobg}    {\gdef \westlake@logobg     {#1}}
\DeclareOptionBeamer{logobg.op} {\gdef \westlake@logobg@op  {#1}}
\DeclareOptionBeamer{mainbg}    {\gdef \westlake@mainbg     {#1}}
\DeclareOptionBeamer{mainbg.op} {\gdef \westlake@mainbg@op  {#1}}
\DeclareOptionBeamer{basebg}    {\gdef \westlake@basebg     {#1}}
\DeclareOptionBeamer{basebg.op} {\gdef \westlake@basebg@op  {#1}}
\ExecuteOptionsBeamer{themergb = {.132, .324, .570},
                      logobg.op = .1, mainbg.op = .16, basebg.op = .4}
\ProcessOptionsBeamer
```

Configure the theme color and the inner theme.

```
\usecolortheme[named = westlake]{structure}
\useinnertheme{rounded}
```

Load the tikz package with the fadings library.

```
\RequirePackage{tikz}
\usetikzlibrary{fadings}
```

`\ifsection` A boolean variable to indicate whether the current page is a section page.

```
\newif \ifsection
```

(*End of definition for* `\ifsection`.)

Configure the section page.

```
\AtBeginSection[]{%
  \sectiontrue
  \begin{frame}
    \tikz [remember picture, overlay] {%
      \ifcsname westlake@lbadge\endcsname
```

```
        \node [below right, shift = {(.5ex,-1em)}]
          at (current page.north west)
          {\includegraphics
            [height = \dimeval{2\paperheight/15}]{\westlake@lbadge}};
      \fi
      \ifcsname westlake@rbadge\endcsname
        \node [below left, shift = {(-.5ex,-1em)}]
          at (current page.north east)
          {\includegraphics
            [height = \dimeval{2\paperheight/15}]{\westlake@rbadge}};
      \fi
    }
    \vfill
    \usebeamerfont{title}\bfseries \color{westlake}%
    \insertsectionhead \par
    \tikz{%
      \draw [ultra thick, line cap = round, westlake!20]
        (0,0) --++ (2\linewidth/3,0);
      \filldraw [ultra thick, line cap = round, westlake!60, path fading = west]
        (0,0) --++
        (\fpeval{\insertpagenumber/\insertdocumentendpage * 2/3}\linewidth,0);
    }
    \vfill
  \end{frame}
  \sectionfalse
}
```

Configure the background.

```
\usebackgroundtemplate{%
  \tikz [remember picture, overlay] {%
    \ifnum \insertpagenumber=1
      \ifcsname westlake@mainbg\endcsname
        \node [above, inner sep = 0pt, opacity = \westlake@mainbg@op]
          at (current page.south)
          {\includegraphics
            [width = \paperwidth, height = \paperwidth]{\westlake@mainbg}};
      \fi
      \fill [westlake!90]
        (current page.south west) --++ ({-pi/6*\paperwidth},.4)
        cos + ({(1/18+pi/12)*\paperwidth},+.4)
        sin + ({(1/18+pi/12)*\paperwidth},+.4)
        cos + ({(1/18+pi/12)*\paperwidth},-.4)
        sin + ({(1/18+pi/12)*\paperwidth},-.4)
        cos + ({(1/18+pi/12)*\paperwidth},+.4) --
        (current page.south east) -- cycle;
```

```
      \fill [westlake!90, opacity = .5]
        (current page.south east) --++ (-.75\paperwidth, 0)
        to[bend left = 6] ([yshift = 1.4cm]current page.south east) -- cycle;
    \else
      \ifsection \ifcsname westlake@mainbg\endcsname
        \node [above, inner sep = 0pt, opacity = \westlake@mainbg@op]
          at (current page.south)
          {\includegraphics
            [width = \paperwidth, height = \paperwidth]{\westlake@mainbg}};
        \fi
      \else \ifcsname westlake@basebg\endcsname
        \node [above, inner sep = 0pt, opacity = \westlake@basebg@op]
          at (current page.south)
          {\includegraphics
            [width = \paperwidth, height = \paperwidth]{\westlake@basebg}};
        \fi
        \ifcsname westlake@logobg\endcsname
          \node [inner sep = 0pt, opacity = \westlake@logobg@op, xshift = -2em]
            at (current page.east)
            {\includegraphics[height = .75\paperheight]{\westlake@logobg}};
        \fi
      \fi
    \fi
  }
}
```

Configure the badge at the north west corners.

```
\titlegraphic{%
  \tikz [remember picture, overlay] {%
    \ifcsname westlake@lbadge\endcsname
      \node [below right, shift = {(.5ex,-.5em)}] at (current page.north west)
        {\includegraphics
          [height = \dimeval{2\paperheight/15}]{\westlake@lbadge}};
    \fi
    \ifcsname westlake@rbadge\endcsname
      \node [below left, shift = {(-.5ex,-.5em)}] at (current page.north east)
        {\includegraphics
          [height = \dimeval{2\paperheight/15}]{\westlake@rbadge}};
    \fi
  }
}
```

Configure the title page, remove the footline and headline and set the title font.

```
\let \@maketitle \maketitle
\renewcommand \maketitle {\begingroup
  \setbeamertemplate{footline}{}
```

```
  \setbeamertemplate{headline}{}
  \setbeamerfont{title}{series = \bfseries \Large}
  \@maketitle \endgroup
}
```

Configure the blocks, including the colors and the opacity.

```
\setbeamercolor{block title}
  {use = structure, fg = structure.fg, bg = structure.fg!20!bg}
\setbeamercolor{block title alerted}
  {use = alerted text, fg = alerted text.fg, bg = alerted text.fg!20!bg}
\setbeamercolor{block title example}
  {use = example text,fg = example text.fg, bg = example text.fg!20!bg}
\setbeamercolor{block body}{%
  use = block title, parent = normal text,
  bg  = block title.bg!50!bg
}
\setbeamercolor{block body alerted}{%
  use = block title alerted, parent = normal text,
  bg  = block title alerted.bg!50!bg
}
\setbeamercolor{block body example}{%
  use = block title example, parent = normal text,
  bg  = block title example.bg!50!bg
}
\addtobeamertemplate{block begin}
  {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}
\addtobeamertemplate{block alerted begin}
  {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}
\addtobeamertemplate{block example begin}
  {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}
```

Configure the footer, remove navigation buttons, and set the color series.

```
\useoutertheme{infolines}
\setbeamertemplate{navigation symbols}{}
\setbeamercolor{title}{parent = author in head/foot}
\setbeamercolor*{palette primary}
  {use = structure, fg = black, bg = structure.fg!30!white}
\setbeamercolor*{palette secondary}
  {use = structure, fg = white, bg = structure.fg!60!white}
\setbeamercolor*{palette tertiary}
  {use = structure, fg = white, bg = structure.fg!90!white}
```

Configure the header, draw the progress bar.

```
\addtobeamertemplate{headline}{}{%
  \tikz [remember picture, overlay]{%
    \ifnum \inteval{2*\insertpagenumber}>\insertdocumentendpage
```

```
      \filldraw [westlake!60]
        (current page.north) --++ (0,-4ex) [rounded corners = 1ex] --++
        (\fpeval
          {\insertpagenumber/\insertdocumentendpage/2}\paperwidth,0)
        [rounded corners = 0pt] --++ (4ex,4ex)
       node [left = 2ex, midway, white, font = \bfseries \small]
        {\inteval{100*\insertpagenumber/\insertdocumentendpage}\%} -- cycle;
    \else
      \filldraw [westlake!60]
        (current page.north) --++ (0,-4ex) [rounded corners = 1ex] --++
        (\fpeval
          {\insertpagenumber/\insertdocumentendpage/2}\paperwidth,0)
        [rounded corners = 0pt] --++ (4ex,4ex)
       node [right = 2ex, midway, westlake, font = \bfseries \small]
        {\inteval{100*\insertpagenumber/\insertdocumentendpage}\%} -- cycle;
    \fi
  }
}
\RequirePackage{ragged2e}
\justifying
\let\raggedright=\justifying
```

Configure the bibliography list format.

```
\setbeamertemplate{bibliography item}[text]
```

Switch to all mode.

```
\mode<all>
```

```
\endinput
```

End the optionlist package for l3docstrip.

⟨/package⟩

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