

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

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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.



USAGE



User Interface

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

```
\usetheme[⟨keys⟩]{westlake}
```

where the supported keys are

- **themeRGB** = $\langle num, num, num \rangle$ to config the RGB values (ranges between 0 to 1) of the theme color (Default: {0, 70, 134}).
- **lbadge**, **rbadge**, **logobg**, **mainbg**, **basebg** = $\langle file \rangle$ 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** = $\langle fp\ num \rangle$ to config the opacity of the corresponding graphic (Default: 0.1, 0.16, 0.8).

Reference

- [1] Zhejiang Provincial Bureau of Surveying and Mapping. 2010-09-30.
- [2] Overview of the West Lake. Hangzhou Chronicles. Zhonghua Book Company. 1995.



Thanks for Listening! Any Questions?

A The Source Code

Start the optionlist package for l3docstrip.

```
1 \*package)
```

Declare the package information.

```
2 \def \westlake@date {2026-03-06}
3 \def \westlake@version {v0.2A}
4 \ProvidesPackage{beamerthemewestlake}%
5 [\westlake@date\ \westlake@version Westlake beamer theme]
```

Switch to presentation mode.

```
6 \mode<presentation>
```

Set up the options.

```
7 \DeclareOptionBeamer{themeRGB} {\definecolor{westlake}{RGB}{#1}}
8 \DeclareOptionBeamer{lbadge} {\gdef \westlake@lbadge {#1}}
9 \DeclareOptionBeamer{rbadge} {\gdef \westlake@rbadge {#1}}
10 \DeclareOptionBeamer{logobg} {\gdef \westlake@logobg {#1}}
11 \DeclareOptionBeamer{logobg.op} {\gdef \westlake@logobg@op {#1}}
12 \DeclareOptionBeamer{mainbg} {\gdef \westlake@mainbg {#1}}
13 \DeclareOptionBeamer{mainbg.op} {\gdef \westlake@mainbg@op {#1}}
14 \DeclareOptionBeamer{basebg} {\gdef \westlake@basebg {#1}}
15 \DeclareOptionBeamer{basebg.op} {\gdef \westlake@basebg@op {#1}}
16 \ExecuteOptionsBeamer{themeRGB = {0, 70, 134},
17 logobg.op = .1, mainbg.op = .16, basebg.op = .8}
18 \ProcessOptionsBeamer
```

Configure the theme color and the inner theme.

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

Load the tikz package with the fadings library.

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

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

```
23 \newif \ifsection
```

(End of definition for \ifsection.)

Configure the section page.

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

```

29     \node [below right, shift = {(0.5ex,-1em)}]
30     at (current page.north west)
31     {\includegraphics
32     [height = \dimeval{2\paperheight/15}]{\westlake@lbadge}};
33 \fi
34 \ifcsname westlake@rbadge\endcsname
35     \node [below left, shift = {(-.5ex,-1em)}]
36     at (current page.north east)
37     {\includegraphics
38     [height = \dimeval{2\paperheight/15}]{\westlake@rbadge}};
39 \fi
40 }
41 \vfill
42 \usebeamerfont{title}\bfseries \color{westlake}%
43 \insertsectionhead \par
44 \tikz{%
45     \draw [ultra thick, line cap = round, westlake!20]
46     (0,0) ---++ (2\linewidth/3,0);
47     \filldraw [ultra thick, line cap = round, westlake!60, path fading = west]
48     (0,0) ---++
49     (\fpeval{\insertpagenumber/\insertdocumentendpage * 2/3}\linewidth,0);
50 }
51 \vfill
52 \end{frame}
53 \sectionfalse
54 }

```

Configure the background.

```

55 \usebackgroundtemplate{%
56     \tikz [remember picture, overlay] {%
57         \ifnum \insertpagenumber=1
58             \ifcsname westlake@mainbg\endcsname
59                 \node [above, inner sep = 0pt, opacity = \westlake@mainbg@op]
60                 at (current page.south)
61                 {\includegraphics
62                 [width = \paperwidth, height = \paperwidth]{\westlake@mainbg}};
63             \fi
64             \fill [westlake!90]
65             (current page.south west) ---++ ({-pi/6*\paperwidth},.4)
66             cos + ({(1/18+pi/12)*\paperwidth},+.4)
67             sin + ({(1/18+pi/12)*\paperwidth},+.4)
68             cos + ({(1/18+pi/12)*\paperwidth},-.4)
69             sin + ({(1/18+pi/12)*\paperwidth},-.4)
70             cos + ({(1/18+pi/12)*\paperwidth},+.4) --
71             (current page.south east) -- cycle;

```

```

72     \fill [westlake!90, opacity = .5]
73         (current page.south east) --++ (-.75\paperwidth, 0)
74         to[bend left = 6] ([yshift = 1.4cm]current page.south east) -- cycle;
75 \else
76     \ifsection \ifcsname westlake@mainbg\endcsname
77         \node [above, inner sep = 0pt, opacity = \westlake@mainbg@op]
78             at (current page.south)
79             {\includegraphics
80                 [width = \paperwidth, height = \paperwidth]{\westlake@mainbg}};
81     \fi
82 \else \ifcsname westlake@basebg\endcsname
83     \node [above, inner sep = 0pt, opacity = \westlake@basebg@op]
84         at (current page.south)
85         {\includegraphics
86             [width = \paperwidth, height = \paperwidth]{\westlake@basebg}};
87     \fi
88     \ifcsname westlake@logobg\endcsname
89         \node [inner sep = 0pt, opacity = \westlake@logobg@op, xshift = -2em]
90             at (current page.east)
91             {\includegraphics[height = .75\paperheight]{\westlake@logobg}};
92     \fi
93 \fi
94 \fi
95 }
96 }

```

Configure the badge at the north west corners.

```

97 \titlegraphic{%
98     \tikz [remember picture, overlay] {%
99         \ifcsname westlake@lbadge\endcsname
100             \node [below right, shift = {(0.5ex,-.5em)}] at (current page.north west)
101                 {\includegraphics
102                     [height = \dimeval{2\paperheight/15}]{\westlake@lbadge}};
103         \fi
104         \ifcsname westlake@rbadge\endcsname
105             \node [below left, shift = {(-.5ex,-.5em)}] at (current page.north east)
106                 {\includegraphics
107                     [height = \dimeval{2\paperheight/15}]{\westlake@rbadge}};
108         \fi
109     }
110 }

```

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

```

111 \let \@maketitle \maketitle
112 \renewcommand \maketitle {\begingroup
113     \setbeamertemplate{footline}{ }

```

```

114 \setbeamertemplate{headline}{
115 \setbeamerfont{title}{series = \bfseries \Large}
116 \@maketitle \endgroup
117 }

```

Configure the blocks, including the colors and the opacity.

```

118 \setbeamercolor{block title}
119 {use = structure, fg = structure.fg, bg = structure.fg!20!bg}
120 \setbeamercolor{block title alerted}
121 {use = alerted text, fg = alerted text.fg, bg = alerted text.fg!20!bg}
122 \setbeamercolor{block title example}
123 {use = example text, fg = example text.fg, bg = example text.fg!20!bg}
124 \setbeamercolor{block body}{%
125 use = block title, parent = normal text,
126 bg = block title.bg!50!bg
127 }
128 \setbeamercolor{block body alerted}{%
129 use = block title alerted, parent = normal text,
130 bg = block title alerted.bg!50!bg
131 }
132 \setbeamercolor{block body example}{%
133 use = block title example, parent = normal text,
134 bg = block title example.bg!50!bg
135 }
136 \addtobeamertemplate{block begin}
137 {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}
138 \addtobeamertemplate{block alerted begin}
139 {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}
140 \addtobeamertemplate{block example begin}
141 {\pgfsetfillopacity{.8}}{\pgfsetfillopacity{1}}

```

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

```

142 \useoutertheme{infolines}
143 \setbeamertemplate{navigations symbols}{}
144 \setbeamercolor{title}{parent = author in head/foot}
145 \setbeamercolor*{palette primary}
146 {use = structure, fg = black, bg = structure.fg!30!white}
147 \setbeamercolor*{palette secondary}
148 {use = structure, fg = white, bg = structure.fg!60!white}
149 \setbeamercolor*{palette tertiary}
150 {use = structure, fg = white, bg = structure.fg!90!white}

```

Configure the header, draw the progress bar.

```

151 \addtobeamertemplate{headline}{}%
152 \tikz [remember picture, overlay]{%
153 \ifnum \interval{2*}\insertpagenumber>\insertdocumentendpage

```



```

154     \filldraw [westlake!60]
155       (current page.north) --++ (0,-4ex) [rounded corners = 1ex] --++
156       (\fpeval
157         {\insertpagenumber/\insertdocumentendpage/2}\paperwidth,0)
158       [rounded corners = 0pt] --++ (4ex,4ex)
159       node [left = 2ex, midway, white, font = \bfseries \small]
160       {\interval{100*\insertpagenumber/\insertdocumentendpage}\%} -- cycle;
161   \else
162     \filldraw [westlake!60]
163       (current page.north) --++ (0,-4ex) [rounded corners = 1ex] --++
164       (\fpeval
165         {\insertpagenumber/\insertdocumentendpage/2}\paperwidth,0)
166       [rounded corners = 0pt] --++ (4ex,4ex)
167       node [right = 2ex, midway, westlake, font = \bfseries \small]
168       {\interval{100*\insertpagenumber/\insertdocumentendpage}\%} -- cycle;
169   \fi
170 }
171 }

172 \RequirePackage{ragged2e}
173 \justifying
174 \let\raggedright=\justifying

Configure the bibliography list format.
175 \setbeamertemplate{bibliography item}[text]

Switch to all mode.
176 \mode<all>

177 \endinput

End the optionlist package for l3docstrip.
178 </package>

```

Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

Symbols

A

<code>\%</code>	160, 168	<code>\addtobeamertemplate</code> .	136, 138, 140, 151
<code>_</code>	5	<code>\AtBeginSection</code>	24

B		J	
<code>\begin</code>	26	<code>\justifying</code>	173, 174
<code>\begingroup</code>	112	L	
<code>\bfseries</code>	42, 115, 159, 167	<code>\Large</code>	115
C		<code>\let</code>	111, 174
<code>\color</code>	42	<code>\linewidth</code>	46, 49
D		M	
<code>\DeclareOptionBeamer</code>	7, 8, 9, 10, 11, 12, 13, 14, 15	<code>\maketitle</code>	111, 112
<code>\def</code>	2, 3	<code>\mode</code>	6, 176
<code>\definecolor</code>	7	N	
<code>\dimeval</code>	32, 38, 102, 107	<code>\newif</code>	23
<code>\draw</code>	45	<code>\node</code>	29, 35, 59, 77, 83, 89, 100, 105
E		P	
<code>\else</code>	75, 82, 161	<code>\paperheight</code>	32, 38, 91, 102, 107
<code>\end</code>	52	<code>\paperwidth</code>	62, 65, 66, 67, 68, 69, 70, 73, 80, 86, 157, 165
<code>\endcsname</code>	28, 34, 58, 76, 82, 88, 99, 104	<code>\par</code>	43
<code>\endgroup</code>	116	<code>\pgfsetfillopacity</code>	137, 139, 141
<code>\endinput</code>	177	<code>\ProcessOptionsBeamer</code>	18
<code>\ExecuteOptionsBeamer</code>	16	<code>\ProvidesPackage</code>	4
F		R	
<code>\fi</code>	33, 39, 63, 81, 87, 92, 93, 94, 103, 108, 169	<code>\raggedright</code>	174
<code>\fill</code>	64, 72	<code>\renewcommand</code>	112
<code>\filldraw</code>	47, 154, 162	<code>\RequirePackage</code>	21, 172
<code>\fpeval</code>	49, 156, 164	S	
G		<code>\sectionfalse</code>	53
<code>\gdef</code>	8, 9, 10, 11, 12, 13, 14, 15	<code>\sectiontrue</code>	25
I		<code>\setbeamercolor</code>	118, 120, 122, 124, 128, 132, 144, 145, 147, 149
<code>\ifcsname</code>	28, 34, 58, 76, 82, 88, 99, 104	<code>\setbeamerfont</code>	115
<code>\ifnum</code>	57, 153	<code>\setbeamertemplate</code>	113, 114, 143, 175
<code>\ifsection</code>	23, 76	<code>\small</code>	159, 167
<code>\includegraphics</code>	31, 37, 61, 79, 85, 91, 101, 106	T	
<code>\insertdocumentendpage</code>	49, 153, 157, 160, 165, 168	T_EX and L^AT_EX 2_ε commands:	
<code>\insertpagenumber</code>	49, 57, 153, 157, 160, 165, 168	<code>\@maketitle</code>	111, 116
<code>\insertsectionhead</code>	43	<code>\westlake@basebg</code>	14, 86
<code>\inteval</code>	153, 160, 168	<code>\westlake@basebg@op</code>	15, 83
		<code>\westlake@date</code>	2, 5
		<code>\westlake@lbadge</code>	8, 32, 102

<code>\westlake@logobg</code>	10, 91	<code>\usebeamerfont</code>	42
<code>\westlake@logobg@op</code>	11, 89	<code>\usecolortheme</code>	19
<code>\westlake@mainbg</code>	12, 62, 80	<code>\useinnertheme</code>	20
<code>\westlake@mainbg@op</code>	13, 59, 77	<code>\useoutertheme</code>	142
<code>\westlake@rbadge</code>	9, 38, 107	<code>\usetheme</code>	1
<code>\westlake@version</code>	3, 5	<code>\usetikzlibrary</code>	22
<code>\tikz</code>	27, 44, 56, 98, 152		
<code>\titlegraphic</code>	97		
U		V	
<code>\usebackgroundtemplate</code>	55	<code>\vfill</code>	41, 51