Hieroglyph Documentation

Release 0.6.5.dev

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Contents

Hieroglyph is an extension for Sphinx which builds HTML slides from ReStructured Text documents.

Whether you're already writing documentation with Sphinx, or just want to create presentations from easy to manage plain text source files, Hieroglyph can help. Check out *Getting Started with Hieroglyph* for a walk through using Hieroglyph.

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Getting Started with Hieroglyph

Hieroglyph is an extension for Sphinx which builds HTML slides from ReStructured Text documents. Hieroglyph lets you leverage Sphinx and its large collection of extensions to create rich documents that are accessible to anyone with a web browser. It also includes tools that help you, as the presenter, to share your presentation.

This document walks through creating a presentation with Hieroglyph and Sphinx. After reading this, you will be able to use Hieroglyph to create slides, and be ready to explore additional features and extensions available through Sphinx.

1.1 Install Hieroglyph and Dependencies

To get started, you need to install Hieroglyph and its dependencies. Hieroglyph is written in Python, so if you don't have that installed, you'll need to install it first.

Once Python is installed, you can install Hieroglyph (along with an dependencies it needs with easy_install or pip.

```
$ easy_install hieroglyph
```

Installing Hieroglyph will also install its dependencies, including Sphinx and docutils, if needed.

1.2 Create a Project

After you've installed Hieroglyph and Sphinx, you can create a new project. A Sphinx project defines where to look for the source files and what extensions to enable. You can start your project using the **hieroglyph-quickstart** program included with Hieroglyph.

```
$ hieroglyph-quickstart
```

hieroglyph-quickstart will ask you questions about your presentation project. Not all of these make sense if you're just creating a presentation (as opposed to a presentation and other documentation simultaneously), so you can usually just accept the defaults.

1.3 Adding Hieroglyph to an Existing Project

If you have an existing Sphinx project, or you used **sphinx-quickstart** instead of **hieroglyph-quickstart**, you'll need to enable Hieroglyph in the conf.py configuration file. Open conf.py and find the extensions definition:

```
extensions = []
```

Your definition may have items in the list if you answered "yes" to any of the Sphinx Quickstart questions. We need to add hieroglyph to this list:

```
extensions = ['hieroglyph']
```

That enables Hieroglyph for the project.

1.4 Authoring Slides

Once you've enabled Hieroglyph for your Sphinx project, you can begin authoring your slides. Hieroglyph uses ReStructured Text for slides, and by default sections in the document map to slides.

You can open up index.rst (assuming you chose the default name when you ran quickstart) and add some content.

```
Presentation Title

------

First Slide

-----

Some content on the first slide.

Second Slide

-----

* A

* Bulleted

* List
```

Here we've made three slides: a title slide (with "Presentation Title" on it), a first slide with a sentence on it, and a second slide with a bulleted list.

1.4.1 Generating Your Slides

Now that we've written some simple slides in ReStructured Text, we can generate the HTML slides from that. To do that we use of the included *Hieroglyph Builders*.

```
$ sphinx-build -b slides . ./_build/slides
```

sphinx-build will read the conf.py file, load the index.rst we've been editing, and generate the slides in the ./_build/slides directory. After running **sphinx-build**, that directory will contain an index.html file, along with all of the CSS and Javascript needed to render the slides.

1.4.2 Incremental slides

It's common to have a slide with a list of items that are shown one at a time. Hieroglpyh supports this through the use of the build class. Let's add a third slide to index.rst that incrementally displays a bulleted list.

```
- Adding the ''build'' class to a container
- To incrementally show its contents
- Remember that *Sphinx* maps the basic ''class'' directive to
    ''rst-class''
```

Here the rst-class directive causes the next element to be built incrementally.

1.4.3 Displaying Images

You can include any image in a slide using the image directive. Just drop them in the _static directory in your project.

Hieroglyph also includes some support for showing an image as the full slide using the figure directive. For example, the Hieroglyph introductory slide deck uses the following markup:

```
.. figure:: /_static/hieroglyphs.jpg
    :class: fill

CC BY-SA http://www.flickr.com/photos/tamburix/2900909093/
```

The caption (license information above) is styled as an overlay on the image.

1.4.4 The slide directive

In addition to mapping ReStructured Text sections to slides, you can create a slide at any point in your document using the slide directive. The slide directive allows you insert a slide at some place other than a heading. This can be useful when you're writing a single document that you'll present as slides as well as text. For example, if you're writing a narrative tutorial and want to include the slides in the same document, the slide directive makes this straightforward.

Let's consider how the example of an incremental slide would look using the slide directive:

```
.. slide:: Show Bullets Incrementally
    :level: 2
    .. rst-class:: build
    - Adding the '`build'` class to a container
    - To incrementally show its contents
    - Remember that *Sphinx* maps the basic '`class'` directive to
    '`rst-class'`
```

Note that here we need to specify the level option to let Sphinx know which level this slide corresponds to. In Sphinx and Hieroglyph, the document title is level 1, the next heading level is level 2, etc.

Unlike slides generated automatically from headings and content, slides defined using the slide directive will only show up when generating slides. If you generate normal HTML output or a PDF of your Sphinx project, the contents of the directive will be removed.

This example shows how to add slides with the slide directive, but sometimes you *only* want to use slide directives. In that case you can disable autoslides.

1.4.5 Slide-only and non-slide content

Another useful tool for mixing narrative documentation with slides is the ability to exclude content from slides or vice versa. Hieroglyph provides two directives for just this purpose. The ifslides directive only includes its contents

when building slides. The counterpart, ifnotslides, only includes its content when building other targets. The latter, in particular, may be used to include notes that you'd like to print with HTML or PDF output, but not include in the slides.

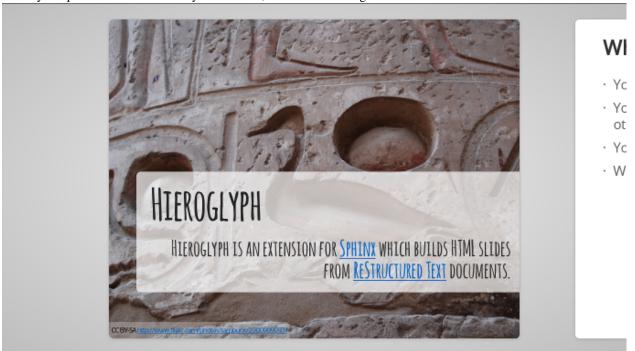
1.4.6 Presenter Notes

Use the note directive to insert "presenter notes" that are only visible on the presenter console. Full reStructuredText formatting is supported within the notes.

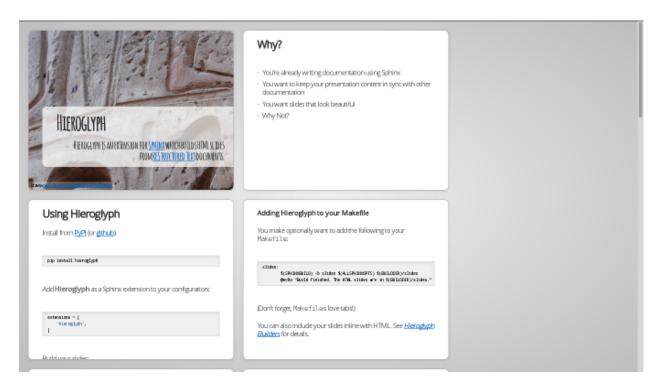
- .. note::
 - \star Make sure to mention the important background story for this slide.

1.5 Viewing Your Slides

When you open the slide HTML in your browser, it looks something like this:



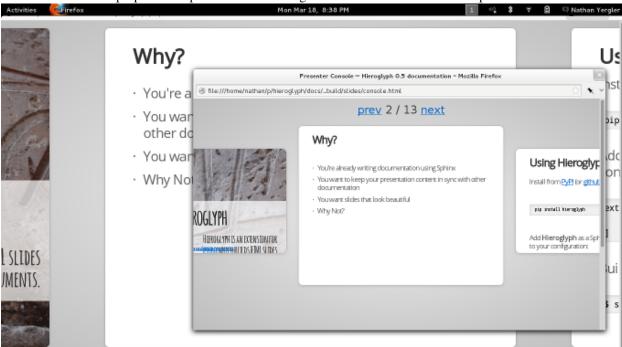
You can use the space bar to advance to the next slide, or the left and right arrows to move back and forward, respectively. Sometimes you want to skim through your slides quickly to find something, or jump ahead or back. You can use the *Slide Table* view for this. Just press t in the browser and the slides will shrink down.



You can click on a slide to jump there, or press t again to exit the slide table.

1.5.1 Presenter Console

If you're presenting your slides, it's often helpful to be able to see what's coming next. Hieroglyph includes a *Presenter's Console* for this purpose. Just press c when viewing the slides and the console will open in a new window.



Moving the slides backward or forward in either window will keep the other in sync.

1.6 Styling Your Slides

The simplest way to style your presentation is to add a custom CSS file. There are two steps to adding custom CSS: first, create the CSS file, and second, tell Hieroglyph to include it in the output.

Hieroglyph generates article tags for slides, and adds classes based on their level. That's enough to start some basic styling. Create a new file, custom.css, in the _static directory in your project. For this example, we'll change the background color of all slides to light blue, and make the title slide's text (<h1>) red.

```
article {
    background-color: light-blue;
}
article h1 {
    color: red;
}
```

The _static directory contains static assets that can be included in your output.

After you've created your CSS file, tell Sphinx about it by setting slide_theme_options in conf.py:

```
slide_theme_options = {'custom_css': 'custom.css'}
```

After you re-build your slides, you'll see the new CSS take effect.

1.7 Additional Options

Hieroglyph has several configuration options which allow you to control how it generates slides and how those slides are connected to HTML output. See *Configuration Options* for a full list.

1.8 Sphinx Extensions

Hieroglyph is built on Sphinx, which has a wide variety of extensions available. These extensions can help you create diagrams, include code snippets, render mathematical formulas, or embed maps. All of these extensions are available to Hieroglpyh, which makes it a flexible and extensible program for creating presentations.

Styling Slides

2.1 Styling

- Slides are contained in <article> elements
- Each slide has an HTML id that corresponds to the permalink ID generated by Sphinx (for example, you're currentling reading styling).
- The heading level is added as a class; ie, level-2
- Slides may be styled using a theme, or custom CSS.
- You can enable slide numbers or a slide footer with configuration settings.

2.2 Included Themes

Hieroglyph includes two themes.

slides

Two slides levels: the first level of headers become "section" headers, and the second become the real content.

```
single-level
```

Only one style of slide, every slide has a title at the top.

2.3 Setting the Theme

You can set your theme using the slide_theme configuration setting.

```
slide_theme = 'single-level'
```

If you're using a custom theme, you can also set the directory to look in for themes:

```
slide_theme_path = '...'
```

2.4 Incremental slides

It's common to have a slide with a list of items that are shown one at a time. Hieroglpyh supports this through the use of the build class. Let's add a third slide to index.rst that incrementally displays a bulleted list.

Here the rst-class directive causes the next element to be built incrementally.

2.5 Displaying Images

You can include any image in a slide using the image directive. Just drop them in the _static directory in your project.

Hieroglyph also includes some support for showing an image as the full slide using the figure directive. For example, the Hieroglyph introductory slide deck uses the following markup:

```
.. figure:: /_static/hieroglyphs.jpg
    :class: fill

CC BY-SA http://www.flickr.com/photos/tamburix/2900909093/
```

The caption (license information above) is styled as an overlay on the image.

2.6 Setting a Class on Slides

You can set the CSS class on a slide using the normal rst-class directive. (Sphinx remaps class to rst-class to avoid conflicts.) For example:

```
.. rst-class:: myclass
Slide Heading
```

The rst-class directive applies to the *next* following element (the heading Slide Heading in this example).

You can also set a default class on slides using the slide_classes option of the slideconf directive. Note that specifying an explicit class will override the slide_classes.

2.7 Included Styles

Hieroglyph includes some classes that for styling slides:

• appear

Case the slide to just appear, replacing the previous slide, instead of sliding from the right to left.

• fade-in

Causes the slide to quickly fade in and out, instead of sliding from the right to left.

2.8 Custom CSS

The standard Hieroglyph themes support adding a custom stylesheet with the slide_theme_options dict in conf.py:

```
slide_theme_options = {'custom_css': 'custom.css'}
```

The custom CSS file should be located in the html_static_path (_static by default).

2.9 Adding Javascript

In addition to a custom CSS file, it is sometimes useful to include some custom Javascript for your slides. You can put this in your static directory (_static by default), and then reference it in the slide_theme_options dict in conf.py:

```
slide_theme_options = {'custom_js': 'myslides.js'}
```

2.10 Creating Themes

Hieroglyph themes are based on Sphinx's HTML themes. Themes are either a directory or zipfile, which contains a theme.conf file, templates you wish to override, and a static/ directory which contains images, CSS, etc.

When defining a slide theme, inherit from the slides theme for basic support. For example, the single-level them has the following theme.conf:

```
[theme]
inherit = slides
stylesheet = single.css
[options]
custom_css =
```

In order to include the base slide styling, your theme's stylesheet should begin with:

```
@import url(slides.css);
slides.css will be supplied by the base theme (slides).
```

See the Sphinx documentation for themes for more information.

2.8. Custom CSS

Advanced Usage

3.1 The slide directive

Instead of (or in addition to) section headings, Hieroglyph also includes a directive that may be used to indicate a Slide should be created. The directive may have a title specified, as well as a level parameter.

For example:

```
.. slide:: The Slide Title
   :level: 2

This Slide would appear as a level two slide.
```

3.2 Splitting Sections with the nextslide directive

In addition to section headings and the slide directive, text sections may be split into multiple slides using the next slide directive.

When building slides, nextslide will split the content at the point of the directive and copy the section title.

Consider the following example:

When building slides, this will generate two slides with the name **Section Title**.

A different title may be specified as an argument to nextslide.

The increment argument will add an index to the subsequent slide titles. For example:

```
Section Title
```

```
.. nextslide::
    :increment

additional content
.. nextslide::
    :increment

conclusion
```

Will generate three slides, with the titles Section Title, Section Title (2), and Section Title (3), respectively.

3.3 Interlinking HTML Output

Hieroglyph supports linking between slides and HTML output, such as from the Sphinx HTML builders. In order to do this successfully, the slide and HTML builders used must correspond to one another. That is, the SlideBuilder must be used with the StandaloneHTMLBuilder, and the DirectorySlideBuilder must be used with the DirectoryHTMLBuilder.

For example, running:

```
$ make html slides
```

Will generate HTML and slides if interlinking is enabled. See *Interlinking HTML Output* for information on enabling interlinking in the configuration.

3.4 Per-File Configuration

When working with multi-file projects, there may be cases when it is desirable to override the theme or set configuration value for specific files. This can be accomplished using the slideconf directive:

```
.. slideconf::
   :theme: single-level
```

Values specified in a slideconf directive override defaults specified in conf.py. If more than one slideconf appears in a document, only the last one is used.

Configuration Options

Hieroglyph supports several configuration settings, which can be set in the project's Sphinx configuration file. If you used sphinx-quickstart to begin your project, this will be conf.py in the project directory.

4.1 Basic Configuration

autoslides

Default: True

When autoslides is True, Hieroglyph will generate slides from the document sections. If autoslides is set to False, only generate slides from the slide directive.

This can be overridden on a per-document basis using the slideconf directive.

slide_theme

Default: slides

The theme to use when generating slides. Hieroglyph includes two themes, slides and single-level.

This can be overridden on a per-document basis using the slideconf directive.

See Styling Slides for more information.

slide_levels

Default: 3

Number of Sphinx section levels to convert to slides; note that the document title is level 1. Heading levels greater than slide levels will simply be treated as slide content.

4.2 Slide Numbers

slide_numbers

Default: False

If set to True, slide numbers will be added to the HTML output.

4.3 Slide Footer

slide_footer

Default: None

Text that will be added to the bottom of every slide.

4.4 Themes

slide_theme_options

Default: {}

Theme specific options as a dict.

See Custom CSS for more information.

slide_theme_path

Default: [].

A list of paths to look for themes in.

For more information on styling and themes, see *Styling Slides*.

4.5 Interlinking HTML Output

Interlinking HTML Output can be enabled for slides, HTML, or both.

slide_link_to_html

Default: False

Link from slides to HTML.

slide_link_html_to_slides

Default: False

Link from HTML to slides.

slide_link_html_sections_to_slides

Default: False

Link individual HTML sections to specific slides.

Note that slide_link_html_to_slides must be enabled for this to have any effect.

4.5.1 Relative Paths

The slide/HTML interlinking needs to know how to find the slide and HTML output from the other side. There are two configuration parameters for this. They're configured to work with Sphinx and Hieroglyph's standard configuration (output in sub-directories of a common build directory) by default.

slide_relative_path

Relative path from HTML to slides; default: ../slides/

slide_html_relative_path

Relative path from slides to HTML; default: ../html/

4.5.2 Additional Parameters

slide_html_slide_link_symbol

Default: §

Text used to link between HTML sections and slides.

This text is appended to the headings, similar to the section links in HTML output.

Restructured Text Directives

.. ifslides::

Include the directive contents in the output only when building slides. That is, when one of the *Hieroglyph Builders* is used.

.. ifnotslides::

Exclude the contents of the directive from output when building slides. That is, when one of the *Hieroglyph Builders* is used.

Note: ifslides and ifnotslides were originally named slides and notslides, respectively. They were renamed prior to the addition of the slide directive, in order to be more explicit.

The old names work, but will show a warning during the build process. Expect the old names to be removed in some future version.

.. slideconf::

Configure slide-related options for the current document.

Some of the Configuration Options options can be overridden on a per document basis.

The theme option, if present, will set the theme for document. See the *theme documentation* for more information on themes.

The autoslides option, if present, must be True or False. If set to True, slides will be generated from the document headings and contents. If autoslides is False, slides will only be created with Sphinx encounters the *The slide directive*.

The slide_classes option allows you to specify classes that will be added to slides by default. This allows you, for example, to add a class that applies some styling to the slides. Note that if a slide has an explicit class set (ie, with the rst-class directive), the classes specified here *will not* be applied.

See Per-File Configuration for more information and examples.

.. slide:: title

Create a slide in the document. The directive takes the slide title as its argument, and some optional settings for the slide. For example:

```
.. slide:: Example Slide
   :level: 2
   This is an example slide.
   * Bullet 1
   * Bullet 2
```

The level option, if present, will set the level of the slide, which is used for styling slides.

By default, content contained in a slide directive will be excluded when building non-slide output. You can change this behavior by setting the inline-contents option to True. When inline-contents is set to True, the contents of the slide directive will be included in all output.

The class option, if present, will add the given class to the slide output.

The following example will set the class red-slide on the slide output, and include the slide content (the sentence and the bulleted listed, but not the title) in HTML output.

```
.. slide:: Warning!
   :level: 2
   :class: red-slide
   :inline-contents: True

This error can occur when:

   * Microwaving metal
   * Leaving the gas on
   * Using a frayed electrical cord
```

.. nextslide:: title

Splits the content at the directive when building slides. An option title may be specified as an argument. If not specified, the title of the current section will be copied.

Consider the following example:

When building slides, this will generate two slides with the name **Section Title**.

The increment argument, if present, will append an index to the slide title.

Hieroglyph Builders

In Sphinx parlance, a "builder" is an output target. Sphinx includes several of its own, including ones for HTML pages, ePub documents, and PDF.

Hieroglyph adds additional builders for generating slides. The builder's "name" must be given to the **-b** command-line option of **sphinx-build** to select a builder.

You may want to add one (or more) of the Hieroglyph builders to your Makefile to make it easier to run the Sphinx builder.

For example, to add the slides builder to your Makefile, add the following target:

```
slides:
```

```
$(SPHINXBUILD) -b slides $(ALLSPHINXOPTS) $(BUILDDIR)/slides @echo "Build finished. The HTML slides are in $(BUILDDIR)/slides."
```

(Remember, makefiles are indented using tabs, not spaces.) Available slide building classes.

```
class hieroglyph.builder.SlideBuilder(app)
```

This is the standard Slide HTML builder.

Its output is a directory with HTML, along with the needed style sheets, slide table, and presenter's console JavaScript.

Its name is slides.

```
class hieroglyph.builder.DirectorySlideBuilder(app)
```

This is the standard Directory Slide HTML builder.

Its output is a directory with HTML files, where each file is called index.html and placed in a subdirectory named like its page name. For example, the document markup/rest.rst will not result in an output file markup/rest.html, but markup/rest/index.html. When generating links between pages, the index.html is omitted, so that the URL would look like markup/rest/.

The output directry will include any needed style sheets, slide table, and presenter's console JavaScript.

Its name is dirslides.

```
class hieroglyph.builder.InlineSlideBuilder(*args, **kwargs)
```

This is the Inline Slide HTML builder.

The inline slide builder add support for the slide directive to Sphinx's StandaloneHTMLBuilder, and adds an additional stylesheet to the output for basic inline display.

When using an inline builder autoslides is disabled.

Its name is inlineslides.

New in version 0.5.

class hieroglyph.builder.DirectoryInlineSlideBuilder(*args, **kwargs)

This is the Inline Slide Directory HTML builder.

The inline slide builder add support for the slide directive to Sphinx's DirectoryHTMLBuilder, and adds an additional stylesheet to the output for basic inline display.

When using an inline builder autoslides is disabled.

Its name is dirinlineslides.

New in version 0.5.

6.1 Abstract Builders

Hieroglyph also defines two abstract builders. These classes are not capable of building slides on their own, but encapsulate most of the slide-specific functionality.

class hieroglyph.builder.AbstractSlideBuilder

```
apply_theme (themename, themeoptions)
```

Apply a new theme to the document.

This will store the existing theme configuration and apply a new one.

get_theme_config()

Return the configured theme name and options.

pop_theme()

Disable the most recent theme, and restore its predecessor.

```
post_process_images (doctree)
```

Pick the best candidate for all image URIs.

class hieroglyph.builder.AbstractInlineSlideBuilder(*args, **kwargs)

Developing Hieroglyph

Hieroglyph uses Buildout to manage dependencies and development.

1. Check out the repository:

```
$ git clone git@github.com:nyergler/hieroglyph.git
```

2. Bootstrap and run buildout:

```
$ python bootstrap.py
$ ./bin/buildout
```

After running Buildout, you can run ./bin/python to execute an interpreter with Hieroglyph and its dependencies installed.

7.1 Running Tests

The unit tests can be run via setup.py:

```
$ ./bin/python setup.py test
```

Tox can be used to run the tests with both Python 2.7 and 3.3. The Tox configuration will run the tests with Sphinx 1.1.3, Sphinx 1.2, and the development branch.

CHAPTER 8

References & Indices

- genindex
- modindex
- search

Release History

9.1 News

9.1.1 0.6.5

Release date: 1 March 2014

- Revert "Javascript loading is now deferred until the end of the document." This caused issues with content in ifnotslides blocks. (Issue #33)
- Fixed an issue with path mangling for generated images (ie, from blockdiag).
- Added support for slide_footer (Issue #44)
- Converted slide condition directive processing to use Docutils transforms. This allows section headings to appear in tables of contents correctly. (Issue #25)
- Added nextslide directive for splitting sections. (Issue #46)
- Section classes are now added to the generated slides (Issue #50).

9.1.2 0.6

Release date: 8 August 2013

- The note directive in a slide now shows up as notes in the presenter console. Thanks, Doug Hellmann!
- Javascript loading is now deferred until the end of the document.
- Allow projects to specify custom Javascript to be included with slides.
- slides.js now fires an event when the slides are resized.
- Support setting default classes on slides in a document.
- Added appear and fade-in slide classes for alternate transitions.
- Added hieroglyph-quickstart script.
- · Added testing framework, initial tests for directives
- Fixed bug where content was not removed with autoslides was disabled
- Slides created with the slide directive may omit have only a title, or only content (Issue #30)
- Slide numbering was often incorrect when dealing with multiple slide levels; this has been correct (Issue #26)

• Better page break handling when printing slides (PR #31). Thanks, tjadevries!

9.1.3 0.5.5

Release date: 19 March 2013

- Rewrote, updated, and expanded documentation, including the addition of the Getting Started guide.
- Added inline-contents option to the slide directive.
- Fixed bug with image path calculation for documents in nested trees. This primarily impacted images generated by other extensions, such as blockdiag.
- Added support for marking a section as a slide when autoslides are disabled.
- All slide-related nodes are now left intact when pruning the tree.
- Fixed bug related to changing themes between documents that resulted in Sphinx reporting Template Not Found.
- Fixed level calculation for slides created with the slide directive.
- Simplified processing of slideconf nodes: previously an attempt was made to remove them when not building slides. This was fragile, and led to breakage in the latex and texinfo builders. They're now skipped properly for all builtin Sphinx builders.
- · Updated Javascript for incremental slides to work with recent builds of Chrome

9.1.4 0.5

Release date: 24 December 2012

- Added support for slide directive
- Added autoslides config parameter to allow disabling automatic generation of slides from document text.
- · Added inline slide builder.
- Renamed slides and notslides directives to ifslides and ifnotslides, respectively. The old names will continue to work for a while, the rename just makes them more expressive.
- Changed key for toggling slide table view to t (was ESC).
- · Fixed problems with styling nested lists
- Fixed incompatibility with latex-pdf builder

9.1.5 0.4

Release date: 27 September 2012

- Print-specific styling for printing slides
- Template and javascript clean-up/reorganization
- More accurate display of scaled slides on Slide Table
- Initial implementation of Presenter Console
- Themes and docs include font files locally
- Changed interlink configuration keys to be more consistent.
- · Support for file-specific theme configuration

• Support for slide numbering

9.1.6 0.3.2

Release date: 5 June 2012

• Correctly generate relative links between HTML & Slides

9.1.7 0.3.1

Release date: 5 June 2012

- Added content, code missing from the 0.3 release.
- Updated README to reflect changes in 0.3.
- Changed docs configuration to build HTML + Slides.

9.1.8 0.3

Release date: 4 June 2012

- Provide directory and standalone based builders.
- Added slides and notslides directives.
- Fix up absolute image paths from things like blockdiag
- Preliminary support for linking between HTML to Slides
- Preliminary slide table support

Backward Incompatible Changes:

• Builders have been renamed to slides and dirslides. If your Makefile refers to html5slides or dirhtml5slides, you will need to update it.

9.1.9 0.2

Release date: 10 March 2012

- Initial implementation of Sphinx builder.
- Two themes: slides and single-level
- Basic documentation

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Hieroglyph is made available under a BSD license; see LICENSE for details.

Included slide CSS and JavaScript originally based on HTML 5 Slides licensed under the Apache Public License.

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CHAPTER 11

Related Projects

- Sphinx
- Docutils
- rst2s5
- HTML 5 Slides

h

hieroglyph.builder,??