Introduction

Herein is described the structure and layout of the instrument web pages, the scripts used to develop and automatically update instrument web documentation, maintenance and installation instructions, and the directory structures housing the above files. Below is a list of requirements that led to the development of the instrument web documentation.

The web documentation is designed to meet the following requirements:

1) Easily navigated by both staff and guest observers
2) The pages should be visible on major browsers (e.g. Firefox, IE, Netscape)
3) Easily installed and maintained
4) Present clear and concise information
5) Requires at a maximum of three clicks to get to relevant content information from the instrument home page.
6) The printed version of the pages should print in black and white and will remove the side menu, leaving the page title and content.
7) In the event the page css files may not be read, the page content should still be readable.
8) Conform to HTML 4.01 standards (see http://www.w3.org/TR/html401/)
9) All links should highlight blue while visible links are highlighted red to conform to common page link web practices
10) Contact information should be easily found on all instrument specific web docs..
11) Always be able to navigate back to the instrument’s home page in one click

Section 1: Layout

Each instrument page should have the same layout, but with the exception of link colors, the colors used are left to the instrument master. Each page will have a tabular layout with four areas defined: title, side menu, content, and contact. Please see figure 1 which shows an example page as a demonstration of the layout. The attributes of the four areas will be defined in a common css file that loaded for every instrument web page. The layout will be automatically generated by two include scripts: include_main.js and include_end.js. The following is defined for the regions in either the general css file or the include_*.js files.

1) Title area:
   a. Located at the top of the page.
   b. No taller than two lines of text of the size of the title font.
   c. Will span two columns of the primary page
d. Background color is the same as the page background color
e. Titles are written in plain text.

2) Side menu bar:
   a. Located on the left hand side of the page.
   b. The width is small relative to the page (width: 8em used)
   c. Instrument specific links appear at the top of the menu.
   d. General instrument links such as instrument home page, target visibility software, weather links, and the Keck home page will appear at the bottom of the menu.
   e. Background color should differ from the main page background color and should not be similar to colors for visited and non-visited links.
   f. Will be removed when printing pages.

3) Content area
   a. All pictures, text, graphs, tables, etc. are displayed in this area
   b. Background color should differ from the main page background color and should not be similar to colors for visited and non-visited links.

4) Contact area
   a. Displays last modified date
   b. Displays contact information for the instrument master
   c. Spans two columns
   d. Background color should differ from the main page background color and should not be similar to colors for visited and non-visited links.
Section 2: Navigational Pages

Navigational pages are used by visitors to the web documentation to click on links that bring them to their desired content page. Through use of the navigational pages, the web documentation is able to meet the requirement that content is three clicks away from the instrument home page.

There are five main navigational pages that are defined to be used with every instrument and they are organized with the various users in mind. Observers will go through three distinct phases to complete their science program: proposal and run preparation;
observing with the instrument, and the post-observing efforts of backing-up, processing, analyzing, and publishing their data. Technicians will require more technical documentation to troubleshoot and maintain the instrument. Thus, there are four main navigational pages in addition to the instrument home page: Pre-Observing, Observing, Post-Observing, and Technical. Some of the web content documentation is linked under more than one navigational page as the same information is relevant for many observing phases. As an example, it may be beneficial to locate links to sensitivities on both the pre and observing pages so that observers can plan ahead and in real time to determine how long to observe a particular target.

The home page and other navigational pages should have a similar look and feel to them across all instruments. The aim of having common looks to navigational pages should help observers quickly become more familiar with web documentation for multiple instruments and help Keck staff find the information they need to support night time operations. Below are requirements for the navigational pages:

Home page:
1) Description of the instrument
2) Links for the three phases of observing: pre-observing, observing, and post observing, and provide descriptions of what one may find in each category
3) Links for technical and troubleshooting as well as an index.

Other navigational pages:
1) Content will be divided into categories
2) Categories will be arranged on the page in a tabular format in either two or three columns
3) Links will be arranged in a bulleted list under each category
4) When necessary, short descriptions and/or sub categories may be used.

Please see the Appendix for links to the template files. Below are example of the home and navigational page.
Figure 2: Example home page using a three column format.
Section 3: Checklists and Procedures:

For long checklists and procedures, we have defined a page style that benefits two types of observers: blackbelts and novices. A long checklist or procedure is defined as step by step instructions in the page content area that spans more than what conveniently is viewed in the browser's main screen. An example of this would be an instrument afternoon startup checklist which often instructs what steps to take, options that are available, and provides details as to why the step is important and what actions to take if something appears unusual.

At the top of long procedures or checklists, there should be a quick reference summary section which highlights the basic steps to complete the task. Blackbelt observers often use the quick reference section to refamiliarize themselves with the process. The quick reference should contain internal page links that redirects the page to the corresponding details for each step. The details of the task are written in a flushed outline format. All descriptions and supporting information should be indented in the outline in order to emphasize the sub steps in the procedure. The outline format helps the novice observer understand the salient points of each step or sub-step without getting lost in the details. All steps and all relevant information should be located on the procedure. An observer should be able to view the entire procedure without needing to navigate to a second link to gain
all the information. Observers who print the checklists for ease of reference and annotation will not have to print several web docs to obtain the entire checklist. For an example of a checklist/procedure please see the “pre_observing.html” document below.

Figure 4: Example checklist. At the top is a quick reference with relative links to details for each step provided below. This figure is out of date because the date info (top left) is no longer used.

**Section 4: Directory structure**

The directory tree that contains the web documentation is displayed in Figure 2. All css, scripts, examples, and templates are located in the parent directory `web_docs` which is located in the instrument home directory (`/home/www/public/reallpublic/inst`). In the `web_docs` directory, there are subdirectories for the `CSS`, `scripts`, `SideMenues`, and web page `templates`.

All references in the web docs to the files in these directories are done using relative file locations. Relative file locations are used so that web docs look and behave the same whether they are viewed internally on the Keck intranet or externally by observers. The template html code and supporting scripts, assume that the web documentation is located in a subdirectory of `../web_docs`. Thus, in every instrument html file, there will be two
lines of code that specify the source code to be used in order to format the page as desired. The two lines of code that have to appear in every web document are the following:

```html
<script type="text/javascript" src="../web_docs/scripts/include_main.js"></script>
<script type=text/javascript src="../web_docs/scripts/include_end.js"> </script>
```

Because of these two lines and because html code is static in nature, html files located in subdirectories of a main instrument directory (e.g. `~/inst/lris/polarimeter`) will not reference the code in the `web_docs` directory tree automatically. To work around this CSS/HTML design feature, we need to create a symbolic link. This task is relatively easy because all the supporting scripts are located in the `~inst/web_docs` directory. A symbolic link may be placed in the instrument’s directory so that html files in sub directories may be formatted correctly. To create the symbolic link, it is important to use the relative path so that both the internal and external sites may access the directory.

As an example of how to appropriately create a symbolic link, let’s look at the case of the polarimeter pages which are located in the `~inst/lris/polarimeter` subdirectory for the instrument Iris. So that the pages function appropriately, a symbolic link to the `web_docs` directory must be placed in the `~inst/lris` directory.

```bash
> cd /home/www/public/realpublic/inst/lris/
> ln –s ../web_docs web_docs
```

![Figure 5: Directory tree for the web documentation supporting files. Blue, dashed lines indicate symbolic links. Yellow ovals represent directories, while others are files.](image-url)
Sub-Section 4.1: CSS sub-directory:

The instrument and general css files are located in the CSS sub-directory. The general.css file contains the layout and formatting information for all instrument web pages. The Date, Title, Menu, and Text layers and their attributes are defined in the general.css file. Font types, sizes, widths, and colors as well as background and foreground colors are all initially defined in the general.css file. Table and outline attributes and address formatting are also defined in the general.css file. There are also some other definitions that may be used in designing pages which are documented in the Examples.html web doc (see below).

Also contained in the CSS sub directory are the instrument specific css files. For all current instruments, a bare bones css was initially created. In the instrument css files, you may define new instrument specific css flags. If an instrument is defined on the html page by the variable instrument (see templates section), then the css file for the named instrument is also loaded. Any css definitions that have the same name as those in the general.css are overridden by the new instrument specific definitions. If only some attributes differ, only the instrument specific attributes of the common definitions are updated.

The default attributes provided in the instrument css files only show foreground and background colors of the attributes found in the general css. The defaults in the instrument css files allow the instrument master to personalize the color scheme for each instrument which is desired. New definitions may be added to these files to further customize the instrument pages. If a new definition would be useful to all instruments, it may be added to the general.css so that it is available to all instrument web pages.

Sub-Section 4.2: Scripts Sub-Directory

The java scripts that are used in formatting the pages are found in the scripts sub-directory. There are two java scripts which are used to format the page specifically for an instrument. The first is the include_main.js script which is used to load the header information into each html web doc and select the appropriate menu and css file for individual instruments. The Menu_Choose.js file is used to load the external or internal versions of the side menus.

For the LRIS, ADC, HIRES, NIRC, NIRC2, DEIMOS, OSIRIS, NIRSPEC, ESI, MOSFIRE, and NIRES, appropriate menus and css files will be used. If a new instrument is added to the instrument suite at Keck, the include_main.js file will need to be updated. The following lines are required in the include_main.js for all new instruments.

```javascript
if (instrument.toUpperCase() == "NEWINSTR") {
    menu_name='<script type="text/javascript"
src="../web_docs/SideMenus/Menu_NEWINSTR.js"></script>';
    css_file='<LINK REL=stylesheet
href="../web_docs/CSS/newinstr.css" type="text/css">';
}
```
Other scripts that are found in this directory are used for overlib functions, imagine zooming to conserve space on pages, date and time functions, and end of page functions. The include_end.js script is used to close the main content and add address, contact, and last modified information. For more details, please see the individual *.js files that are referenced in the appendix.

Sub-Section 4.3: SideMenus:

Information that goes into the menus at the left hand side of every page are located in the SideMenus sub-directory. In this directory, there are two types of menus that are added to the left hand side of the page. The first is the Menu_common.js file that contains links that are common to all instruments. In the Menu_common.js file, links to the instrument status, Keck and instrument home pages, weather links, and planning tools are located. There are two groups of links in this file. The first group is displayed when the pages are viewed internally, and a second group is displayed if pages are viewed externally. These are defined in the java scripts called run_menu_internal and run_menu_external which are both found in the Menu*.js files.

If an instrument is defined on the html page by the variable instrument (see templates section), the instrument specific side menu links (e.g. Menu_ADC.js) are added ahead of the general links. Figure 3 shows the two sections. For new instruments not yet dreamed, an inst_generic.css may be copied and modified.
Section 5: Template Files

Template files were developed for basic information pages and for the primary navigational pages. Included with the navigational templates are bare-bones pre and post observing checklists, an examples page, and a tbd page. These files may be copied to the appropriate directory in the directory tree developed by the instrument master. The following files are available as templates in

/home/www/public/realpublic/inst/web_docs/templates/

- template.html
- home.html
- observing.html
- post-obs_checklist.html
- post_observing.html
- pre-observing_checklist.html
- pre_observing.html
- tbd.html
- Examples.html

To create a web page using the template file,
1) Copy the template.html file to a new file
   e.g. cp web_docs/templates/template.html lris/test.html
2) Edit the Index flag.
   a. The default index flag is: <!-- index="Catagory: sub catagory" -->
   b. Multiple index flag may be defined.
   c. The index flag must be unique, and software will check the uniqueness of the index flags and provide a report to the instrument master.
3) Edit the variables on the web page template for your instrument.
   var title = "title";
   var instrument="instrument"
   var contact = "INSTRUMENT Master"
   var email = "instrument"
   var emailHost = "keck.hawaii.edu"
   where the variable are
   title = "Title of the page"
   instrument = "instrument name"
   contact = "Contact" (default: INSTRUMENT Master)
   email = "address" (default: instrument)
   emailHost = "email host" (default: keck.hawaii.edu)
4) Edit the Body of the page. Change the page contents between the lines:
   <!-- === BEGIN Main Page: Add page contents here ============= -->
   <!-- === End Main Page  ================================= -->
Section 6: Auto-content scripts

This section is still TBD

This section needs to be updated by gwirth who has developed many auto-content scripts for LRIS and DEIMOS. Below are things to include:

- Makefile
- Cron job
- Auto-indexing
- Find.references
- Make.keyword_lists
- Find.html.orphans
- Run_checkbot
- Make_contents for troubleshooting, faq, etc.
- Information on what processes are instrument specific and what processes are common to all instruments.
- Fix.indexies
- Seems like all of the scripts should be placed in the ~inst/web_doc/scripts directory
- Seems like there should be a template Makefile (are there default scripts that should be adjusted?)
Section 7: Examples

Below are screen grabs of the examples of using the various formatting flags that are defined in the general.css style file. The examples may be viewed in your browser at:

www.keck.hawaii.edu/realpublic/inst/templates/Examples.html

Examples of headings:

**Heading 1**

**Heading 2**

Heading 3

```html
<H1 class="lightOverDark">Heading 1</H1>
<H2 class="lightOverDark">Heading 2</H2>
<H3 class="darkOverLight">Heading 3</H3>
```

Example of text

In this part of the document you write text and insert as many html elements as you need. There are different examples of style you can use:

- Enhanced text
- Small fonts
- All Caps fonts
- Preformatted text

Example of alert note: *Attention!*

```html
<p class="enhanced">Enhanced text.</p>
<p class="small">Small fonts</p>
<p class="allCaps">All Caps fonts</p>
<pre class="preformatted">Preformatted text</pre>

<p>Example of alert note: <em class="alert">Attention!</em></p>
```

Example of a post-it like note:

```
<TABLE class="postit">
<tr>
<td><blockquote>Warning: It is willed there Where is power to do that Which is willed, and further do not ask.</blockquote>
</td>
</tr>
</TABLE>
```

Figure 6: Examples section 1
Examples of links:

- Ordinary pop-up text scripts
- Sticky pop-up text
- Sticky click!
- visited link
- not visited link

```html
<a href="javascript:void(0);"
  onmouseover="return overlib('This is an ordinary popup.', BORDER, 1);"
  onmouseout="return nd();">* ordinary pop-up text</a>
```

```html
<a href="javascript:void(0);"
  onmouseover="return overlib('This is what we call a sticky, since I stick around, it goes away if you move the mouse OVER and then OFF the OVERLIB popup--or mouseover another overLIB').", STICKY, MOUSEOFF;
  onmouseout="return nd();">* sticky pop-up text</a>
```

```html
<a href="javascript:void(0);"
  onclick="return overlib('This is a sticky with a caption. And it is centered under the mouse!', STICKY, CAPTION, 'Sticky!', CENTER);
  onmouseout="return nd();">* sticky click!</a>
```

```html
<a href="http://www.keck.hawaii.edu/">visited link</a>
<a href="file:newfile.html">not visited link</a>
```

---

Example of table headers and types:

<table>
<thead>
<tr>
<th></th>
<th>header 1</th>
<th>header 2</th>
<th>header 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>text</td>
<td>tetetet</td>
<td>tetetet</td>
</tr>
<tr>
<td>li</td>
<td>normal</td>
<td>li</td>
<td>blue</td>
</tr>
</tbody>
</table>

```html
<TABLE>
  <TR>
    <TH class=lightoverDark>header 1</TH>
    <TH class=darkoverlight>header 2</TH>
    <TH class=darkgray>header 1</TH></TR>
  <TR>
    <TD class=text>text</TD>
    <TD class=tetetet>tetetet</TD>
    <TD class=tetetet>tetetet</TD></TR>
  <TR>
    <TD class=li|red>li|red</TD>
    <TD class=cellgr|normal>normal</TD>
    <TD class=li|blue>li|blue</TD></TR>
</TABLE>
```

---

Figure 7: Examples section 2
Example of a table with a border:

<table>
<thead>
<tr>
<th>Broadband Imaging Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Header1</td>
</tr>
<tr>
<td>NIRSPEC</td>
</tr>
</tbody>
</table>

```html
<table>
  <tr>
    <th align="center" colspan="3"><a name="blue_broad">Broadband Imaging Filters</a></th>
  </tr>
  <tr>
    <th>Header1</th>
    <th>Header1</th>
    <th>Header1</th>
  </tr>
  <tr>
    <td align="center">NIRSPEC</td>
    <td align="center">LRIS</td>
    <td align="center">NIRC2</td>
  </tr>
</table>
```

Example of an image that enlarges on click:

```html
<img border="2"
    src="example.jpg"
    width="60"
    height="60"
    onclick="zoomToggle('80px', '50px', '640px', '480px', this);">
```

Example of lists:

- first item
- second item
- third
  1. one
  2. two
  3. three

Figure 8: Examples section 3.
Section 8: What to do for new instruments
TBD

Appendix

The following templates are available. The template files are located in 
~inst/web_docs/templates, but in order to view the appropriately the links are to the 
directory ~inst/templates which is a symlink to the above.

http://www.keck.hawaii.edu/realpublic/inst/templates/template.html
http://www.keck.hawaii.edu/realpublic/inst/templates/home.html
http://www.keck.hawaii.edu/realpublic/inst/templates/observing.html
http://www.keck.hawaii.edu/realpublic/inst/templates/pre-observing_checklist.html
http://www.keck.hawaii.edu/realpublic/inst/templates/pre_observing.html

The following scripts are available:
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/include_main.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/Menu_Choose.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/Menu_Choose_Common.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/clock.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/date_time.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/include_end.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/include_main.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_anchor.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_crossframe.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_cssstyle.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_exclusive.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_followscroll.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_hideform.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/overlib_shadow.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/scripts/zoom.js

The following side menus are available:
http://www.keck.hawaii.edu/realpublic/inst/web_docs/SideMenus/Menu_common.js
http://www.keck.hawaii.edu/realpublic/inst/web_docs/SideMenus/Menu_ADC.js