

Universe Adventure Web Standards for the Smart Physics Student

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ABSTRACT

You may be wondering: why are the Universe Adventure web standards so important? And why do I have to read this stupid document about them?

The old versions of our site were plagued with messy (and faulty) coding: the pages were littered with broken links, missing images, broken flash files, and all sorts of other problems which made the site highly inaccessible. When we tried to fix these errors, we found that the coding was so incredibly messy that a simple edit like changing some of the words in a paragraph or adding an image took hours rather than minutes. In fact, the coding was so horrific that we simply constructed an entirely new site rather than making the laborious attempt to fix the old one. In order to make sure that future students working on the site (i.e. you) don't have to endure what we went through, we have established strict web standards for the Universe Adventure.

If you are not doing technical work (editing page aesthetics, adding content, changing javascript/css, et cetera), you can probably get away with just reading Section 4.3.

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1. An Introduction to HTML and CSS

This guide assumes that you have at least some experience with HTML (or XHTML) and CSS. If you have not worked with HTML and CSS before, you need to go to <http://www.w3schools.com>

to take their XHTML and CSS tutorials to get an idea of how these languages work. The **official web standards for the site are XHTML 1.0 and CSS2** but this is loosely enforced.

You should also have looked through the website at least once so that you have some idea of what I'm referring to.

2. Templates

The Universe Adventure is based off of three primary templates and three subtemplates. The primary templates are called `index.dwt`, `quiz.dwt` and `slide.dwt`; all pages in the Index section of the site are based on `index.dwt` and all the slides (basically the rest of the site) are based on the `slide.dwt` template. The subtemplates are: `sidequest.dwt` for Sidequest and Down the Rabbit Hole popups; `quiz-pop.dwt` for quiz popups; `movie.dwt` for movie popups.

These templates are all Dreamweaver templates; in order to keep pages linked to the template, never ever ever *ever* edit the areas outside of the `<!-- InstanceBeginEditable -->` and `<!-- InstanceEndEditable -->` tags...*ever!!!*

3. File Names and Organization

3.1. Slides

Clear file names are important for keeping track of pages and files—they also make it a lot easier to link in new items or find the page that you need to fix. Currently the site is broken up into four main content sections: The Fundamentals of Cosmology, Evidence for the Big Bang, The Eras of the Cosmos, and The Final Frontier. Each main section is broken up into several subsections; for example, in Fundamentals the subsections are: Cosmology, Light, Matter, Gravity and The Model of the Universe. This organization scheme is a remnant of the old version of Universe Adventure but it's a pretty effective way for us to organize files. All slides in a subsection are named like so:

`firstsixlettersofsubsection-pagetitle.htm`

A slide about the ancient perceptions of the universe in the Cosmology subsection of Fundamentals would have a name like `cosmol-ancient.htm`. If the subsection has less than six letters, then just omit the missing letters from the file name (e.g. `light-magnitude.htm`).

All slide files should be located in the section directory: `cosmol-ancient.htm` would be located in the `fundamentals` folder, et cetera.

3.2. Popups

Popup content includes Sidequest, Down the Rabbit Hole, Movie and Quiz files. This means that all of these should be located in the **popups** subfolder of the main section in which they reside. The popups are named like so:

```
firstsixlettersofsubsection-popuptype-pagetitle.htm
```

For example: `cosmol-sq-title.htm`, `cosmol-q-quizIX.htm`, `cosmol-mov-light.htm`. The long (but descriptive) file name allows us to quickly pick out what type of file it is and where its linking from making it easy for us to go in and edit it. The popup types are as follows: `sq` for Sidequests, `dtrh` for Down the Rabbit Hole, `mov` for movies, and `q` for quizzes.

When making a new document, the first thing you should do save the file using these file name standards: this will be covered more extensively in Section 7.

3.3. Files

Like the popups and slides, files should be named according to the subsection and placed in their respective folder:

```
firstsixlettersofsubsection-filedescription.extension
```

For example: `cosmol-clock.swf` or `cosmol-clock.jpg`. Image files (JPG, GIF, PNG, TIF) should all go in the **images** subdirectory, media files (SWF, AVI, MPG, MOV, MP3, WAV) should go in the **media** subfolder, and documents (RTF, DOC, ODF, DOCX) should go in the **docs** subfolder. A JPEG file about redshift might be called `light-redshift.jpg`.

These organization schemes are critical in keeping the site clean for future developers!

4. Coding

Again, **do not** edit anything outside of the `<!-- InstanceBeginEditable -->` and `<!-- InstanceEndEditable -->` tags! This is very important for you to maintain the site! If you do need to fix/change something outside of the template area, you need to open the template file in Dreamweaver, change it, and apply the template to the site.

4.1. Technical Stuff - What is niftyCorners?

You can skip this if you don't care about the technical stuff. Just read the last sentence in this section.

The Universe Adventure uses a Javascript application called NiftyCorners which allows for the rounded corners and a bunch of other features on the site. One drawback of this is that the `niftyCorners.css` file is required for all pages of the site; additionally, since the javascript file calls `niftyCorners.css` relative to the page and not the javascript file, `niftyCorners.css` must be present in every folder where there is HTML content. This means that if you create a new folder where you plan to have HTML content, you need to copy in a `niftyCorners` file.

In short, **don't mess with the CSS and Javascript unless you know what you're doing!**

4.2. Page Header

When you make/edit a document, you should check the page head to make sure that 1. it has a proper title and 2. there is valid meta tag information. Page titles are formatted like so: `<title>The Universe Adventure - Page Title</title>`. Every page should have one, don't forget!

Meta tags are also located in the header: `<meta name="author" content="Patrick Lii" />`. Every page should have meta tags about the original author of the page, keywords (for search engines) and a description of what is on the page.

4.3. Content - The Important Section

Finally we get to actual content. You will definitely need to know these things for basic edits and changes to the site.

4.3.1. Paragraphs and Text

All text should be contained within a `<p>` tag unless it is an anchor; the default paragraph size is `p3`. Usage: `<p class="p3">Insert Paragraph</p>`. For **bold** text, use the `` tags and for *italicized* text, used the `` tags. Try to stay away from the line break (`
`) unless absolutely necessary—instead, create line breaks in text by simply forming new paragraphs.

Page headers are `<h3>` and page subheaders are `<h5>`. I have placed the header tags outside of paragraphs but where you place them doesn't really matter.

The subcontent div is that gray box you see floating around on some of the pages. The thinner gray box is a blockquote div. These boxes can be used to divide the main content from a side note or a focusing point. Refer to Appendix A.2 to see their usage.

This is important: you should never ever ever use the `` tag for anything! If you want cool fonts and different text colors on your page, edit the CSS file and apply changes that way. Font tags hurt accessibility and make it difficult to edit pages.

4.3.2. *Embedded Objects*

The content area is 630 pixels across so images should be less than 500 pixels across. All images should have an alternate (mouseover) text that is set using the `alt=""` handler in the image tag. For the most part, individual images should be placed in a `pimage` paragraph.

Flash files should always be placed in an `pembed` paragraph and should not be placed in subcontent divs. To see how to embed a flash file, refer to Appendix A.3.

5. Grammar and Spelling

As (astro)physicists, we could care less about grammar and spelling. However, as The Universe Adventure is supposed to be an educational website, we need to maintain good grammar. Here are some things to remember.

Always capitalize "The Universe Adventure" and all the subsection names! I know that the text in the header images is not capitalized but that's just because it's trendy and looks cool.

Always capitalize proper nouns! Moon, Mars, Sun, Earth (unless referring to actual earth, like dirt), Orion, Sirius, Betelgeuse, et cetera are all proper nouns. When talking about our universe, you must capitalize the Universe.

Data is plural! Datum is singular.

Further refers to time, farther refers to distance. Mars is *farther* away from the Sun than Earth. We have to travel *further* back in time to see the CMB.

Something that is homogenous is *not* the same as something that is homogeneous. In our context we wish to say that the universe is homogeneous.

If you are using acronyms (like CMB or GUT), you should use the `<acronym>` tag to denote it. Usage: `<acronym title="Cosmic Microwave Background">CMB</acronym>`

6. General Things to Look Out For

Our target audience is members of the general population with a High School level (or higher) education in Physics. When developing new pages, remember that things as simple as the inverse square law may not come so intuitively to some people. Use the Down the Rabbit Hole popups to

cater to those who already have a strong intellectual grasp of what we are trying to teach.

Keep the slides reasonably short: a single slide probably should not exceed three or four full page scrolls.

7. Creating a New Page

Here is a short guide of things to remember when creating a new slide. To make a new file open up Dreamweaver and select File -> New... -> Templates (tab) -> Site "The Universe Adventure" and double click on "slide". Once open, save the file to its directory making sure to name the file appropriately (refer to Section 3 to see how to name files).

First, go into the source code and fill in the page title and meta tag information for the page. Then, change the CSS reference to the local CSS file (`fundamentals.css`, `big_bang.css`, or whatever) to ensure consistency in the site. Fill in the links for the Next and Back buttons at the top and bottom of the page—if there is no previous or next slide, just delete the list element from the HTML.

Now you can add your content—if you are copying over code from some other file, **make sure that all the necessary tags are closed**. Sometimes an unclosed tag will break the template and you'll get an error saying that you are trying to edit an area outside of the template; if this happens you'll have to start all over as Dreamweaver will automatically revert any changes that you make.

Once your content is done, make sure to go into the two adjacent slides and change the navigation links to link to your file. You don't want your new slide to get skipped!

8. Site Maintenance

8.1. Feedback

Every once in a while you'll want to check up on the feedback we have received and answer some of the questions/comments. You can find the feedback at: <http://www.universeadventure.org/cgi-bin/feedback/read-feedback.pl> Most of the feedback will be spam. However, some of it will actually be user feedback so it's good to check up on it once in a while. Sometimes it's pretty funny what people write. I have set up a Gmail account for the Universe Adventure (`universeadventure@gmail.com`) which you can use to respond to the comments. You will have to get the password from me (`plii@ugastro.berkeley.edu`) or from one of the people who have worked on the site in the past.

A. Common Tags and Usage

A.1. Acronyms

```
<acronym title="Cosmic Microwave Background">CMB</acronym>
```

A.2. Divs: Subcontent/Blockquote

Subcontent Div:

```
<div id="subcontent">
<div>
<p class="p3">A Paragraph within subcontent</p>
</div></div>
```

Blockquote Div:

```
<div id="blockquote">
<div>
<p class="p3">A Paragraph within blockquote</p>
</div>
<div>
<p class="p3">A second paragraph in another blockquote box</p>
</div>
</div>
```

To have additional subcontent/blockquote boxes, simply add another `div` tag after the interior div.

A.3. Embedded Objects: Flash Files

```
<p class="pembed">
<object width="550" height="400">
<param name="movie" value="files/movies/universe_quarksoup3a.swf">
<embed src="files/movies/universe_quarksoup3a.swf" quality="high" pluginspage="http://
www.macromedia.com/shockwave/download/index.cgi?P1_Prod_Version=ShockwaveFlash"
type="application/x-shockwave-flash" width="550" height="400">
</embed>
</object><br />
```


This is a flash file.

```
</p>
```

You will have to adjust the width and height for the object you are embedding.

A.4. Header Tags

```
<h3>Page Title</h3>
```

```
<h5>Page Subtitle</h5>
```

A.5. Hyperlinks

External Hyperlinks:

```
<a href="http://www.google.com" target="_blank" title="Google!">Google!</a>
```

Internal Hyperlink:

```
<a href="../index.html" target="_self" title="Universe Adventure Home">Home</a>}
```

All external hyperlinks should open in a new window and all internal hyperlinks should be relative.

A.6. Images

```
<p class="pimage">
```

```
 <br />
```

```
img subtitle.
```

```
</p>
```

A.7. Lists: Ordered/Unordered

Ordered (Numbered) List

```
<ol>
```

```
<li>List Element Goes Here</li>
```

```
</ol>
```

Unordered List

```
<ul>
<li>Unordered List Element</li>
</ul>
```

A.8. Meta Tag

```
<meta name="author" content="Patrick Lii">
```

Meta tags provide information about the page. Other meta tags include: description, keyword, last update.

A.9. Paragraph Tags

```
<p class="p3">Paragraph Goes Here</p>
```

There are 4 main paragraph classes (p1, p2, p3, p4) and a bunch of paragraph classes for images and embedded objects (pop, pimage, imageleft, imageright, pembed). Imageleft and imageright simply align an image to the left or right of text; however, they don't work well if the image has a caption.

A.10. Popup Windows

```
<p class="pop">
<a href="javascript:quizpopUp('popups/cosmol-q-quiz.htm')">
</a></p>
```

For sidequests, use sidepopUp and for movies use moviepopUp. All popup logos are located in the index images folder.

A.11. Text: Bold/Italics

```
<strong>This is bold text</strong>
<em>This is italicized text</em>
```

A.12. Title Tag

```
<title>The Universe Adventure - The Ancient Universe</title>
```

All title tags should include "The Universe Adventure" at the beginning.