Defining a Website
First Step in Website Development

Process - Define
- To define a website we must ask ourselves questions and define various aspects of the site
  - What's the purpose of the website?
  - Who is the intended audience?
  - What is the primary content?
  - What kind of interaction with readers is needed?
  - Who is responsible for what?
  - What are the technical requirements?

Purpose
- Why is the website needed?
- What is the main goal of having a website?
- Are there other objectives?
- What is the primary message?

Audience
Define the audience by answering questions:
- Who is going to access the web site?
  - Is there any demographical information available?
  - What generalizations can be made about the audience?
    - Age, location, education level, types of computer, connection speeds, interests
  - What relationship do they have with the organization?
    - Employee, customer, student, fan…
  - Why will people access the site?
  - Will they be able to find the needed information?
  - What issues may come up with usability & accessibility?

Primary Content
- Define the content by answering questions
  - What information will be needed?
  - Which information already exists?
    - In what format is the information currently available?
  - What information will change and how often?
  - Will information from a database be needed?
  - Will any media be needed?
    - Images, video, sound?

Interaction with audience
- Is interaction between audience and organization needed?
- What types of interaction?
  - email
  - inquiry input forms
  - multimedia interaction
  - chat
  - discussion/forum area
Who is responsible for what

- Someone needs to be responsible
  - No one assigned quickly outdated.
- Responsibility broken down between content, structure and visual design
  - Web developer – designs and maintains the technological structure of the web site
  - Content developer – provides and maintains the content
  - Graphic artist – creates the visual appeal
- Sometimes these are the same person.
- Small websites may have one person
- Larger websites may need many people
  - Some maintain different sections

Technology Aspects

- Which server is being used?
  - In-house
    - Does current computing power meet the needs?
    - Anything new needed?
    - What costs are involved?
  - Out-sourced to an ISP or web host?
    - Which one?
    - What does it cost?
- Are domain names needed?
- What server technologies are needed
  - Is database integration needed?
  - Are server generated pages needed?
  - Can those capabilities be handled by the server?

Planning a Website

Second Step in Website Development

Process: Plan

- Establish a timeline for completion
- Outline content organization
- Determine navigational needs
- Design layout & visual appeal
- Define legal aspects
- Determine tools needed
- Collect content

Timeline

- Determine:
  - How much time is needed to develop the site?
  - When is the rollout date?
  - What needs to be accomplished when?
- Create a timeline that maps out when each step should be completed
- For class our timeline is defined by the dates of the course and due dates of the milestones

Organization of site

- Assists with determining navigation
  - Navigation often reflects organization
- Determine general categories for organization of information
- List pages needed for site.
  - For small sites, list each page needed
  - Larger sites list the major pages /categories
- Organization considerations
  - emphasis of purpose
  - Who is the primary audience & secondary audience
    - the needs of the audience
  - content
Visual Aspects

- Will a graphics artist be needed?
- Start planning visual appeal
  - Create a rough layout of the screen
- Visual elements needed
  - Banner
  - Logo
  - General visual layout
  - Images
  - Color scheme
- Visual appeal should be geared to the audience and help emphasis the main message.

Legal Aspects

- What legal issues are involved?
  - Copyright of content
  - Avoid infringing on the copyright of others
    - Royalties on graphics, photos, music, video, etc.
- Are there any legal requirements?
  - Participation of minors
    - May need parental consent
  - Notifications needed
  - Protecting any data collected
  - Legality of activities

Tools Needed

- Hardware
  - Computer
  - Scanner
  - Camera
  - Video recorder
  - Various platforms, monitors sizes to test websites
- Software
  - Web page creation
    - High end - site management
    - Simple editing
  - Image creation & editing
  - Other media
  - File transfer
    - Often included in the high end web software
  - Various browsers

Advanced tools

- Server generated pages & database integration
  - Active Server Pages
  - PHP
  - ColdFusion
- Programming
  - Javascript
  - Java
  - Visual Basic

Content

- Content is crucial. Without it - you have no reason for a site.
- As soon as possible:
  - Pre-existing content
    - Collect
    - Edit pre-existing text for web use
    - Size, crop, edit graphics
  - New content
    - Write text
    - Create graphics and other media

Content: Hardest part

- Coming up with content is one of the hardest parts of website creation
  - Often businesses know they need a website and don’t know what content to put on it or can’t agree what to put on it.
  - For this class, content will be turned in early or request to be assigned a project & I will provide the content.
Web Development Ethics
Responsibility in creating websites

What is Ethics?
- Ethics is thinking about the effects of your actions and doing what helpful rather than hurtful.
- How do we know if something is ethical or not?
- Apply the ethical tests of
  - Universality
  - Reversibility
  - Transparency
  - As part of these, think of the consequences for everyone involved

What are those ethical tests?
- Universality - Do you think it is okay for everyone to behave like that?
  - Consequences - What if everyone did this? What would be the consequences for everyone else?
- Reversibility – If someone did this to you, would you be okay with it?
- Transparency – Would you still do this if everyone knew about it?
  - If a TV camera was pointed at you, would you still do this action?

Web Development Ethics Topics
- Copyright infringement & fair use
- Being are of laws
- Creating website responsibly
  - Responsible Search Engine Optimization (SEO)
- This is not a comprehensive list ethical topics related to website development, but it highlights of some areas to think about when developing your websites.

Copyright Infringement
- Copyright infringement is illegal.
- Copying any copyrighted element from another website without express permission from the owner is infringing on copyright.
- Elements may be
  - Text
  - Graphics
  - Animation
  - Music in any form
  - Videos
  - Design
  - Any other item which is copyrighted

Protecting site with copyright
- Sites can be protected by adding a copyright notice. Required elements
  - Word copyright or the symbol ©
  - Year
  - Copyright owner (Can be an organization or an individual)
- Copyrights should be registered. For information about registering a copyright see the US Copyright Office
**Fair Use**
- Certain elements may be quoted under fair use under certain conditions
  - Purpose – such as non-commercial, educational, comment, criticism
  - Amount used – for text: 10% or 1000 words whichever is less
  - Also this cannot be your complete work.
- Always cite references when quoting the works of others or using images from other sources.

**Keep it Legal**
- Be aware of any laws governing web sites
  - Data collection
  - Dealing with minors
  - Privacy statement
  - Accessibility compliance
- Any other area of the law should be considered
  - Be aware of the laws in general of which activities are legal and which are not.

**Legal areas**
- Any illegal activities that break other laws not specific related to websites
- Examples
  - First amendment protects free speech, but that doesn't include the right to liable, slander, or otherwise defame another individual, company, organization or other entity.
  - Gambling is illegal in Hawaii, so sites originating in Hawaii should not contain gambling

**Create Websites Responsibly**
- Not necessarily against any laws, but good idea to be responsible.
- Use accurate information on your sites.
  - Avoid spreading rumors and hoaxes
  - Verify information
- Be considerate of others
  - Consider usability
  - Use accessibility standards
- Use responsible SEO (Search Engine Optimization)

**Responsible SEO**
- SEO (Search Engine Optimization)
- Black Hat versus White Hat SEO
  - Black Hats
    - use whatever means possible to get sites listed higher in search engine listings
    - Also called spamdexing
  - White Hats
    - use search engine optimization responsibly and don’t bend the rules to get a higher listing
- Develop websites responsibly!

**Easing Website Creation**
- Templates, library items, snippets
Web Site Tools

- When creating consistent websites use tools which will help standardize the web sites
  - Cascading Style Sheets (CSS)
    - Visual display of elements
  - Templates
    - Structural design
  - Library Items (Dreamweaver only)
    - Elements or code within a site
  - Snippets
    - Elements or code available to all of your sites

Templates

- Ease creation of multiple pages with the same basic structure and design
  - Unlike style sheets which just contain design, templates contain structural elements.
  - May also contain some CSS coding or links to CSS files
- In Expressions Web and Dreamweaver, templates need editable regions which allow entering the content for individual pages
- In coding, you may want to add comments to indicate where the content can be added. The code for comments is as shown below.
  ```html
  <!-- comments -->
  ```

Consistent Elements

- Templates contain consistent basic design, layout and elements for a site that can consist of
  - banners/logo
  - navigation
  - layout specifications
  - embedded (in document) styles
  - text portions of pages which remain the same
    - copyright notices
    - site URL
  - other items which repeat on each page

Dynamic Templates

- Both Dreamweaver and Expressions Web use dynamic templates.
  - When a template is updated, ALL of the pages created by this template can be updated
    - Saves much time.
  - When creating a page with a template, only the designated editable areas can be changed.
    - If changes are needed to the template areas, the template must be changed separately.
  - DreamweaverTemplate file MUST be in the template folder to work properly.

Coding Templates

- In coding, when changes are made to the template, all the pages based on that template must be changed individually.
  - The changes in the template do not reflect in the pages already created.
  - Coding templates help cut down on the amount of time spent coding pages, but they're not as helpful as dynamic templates.

Working with Templates

- Templates do not contain the information, graphics or other items which change with each page.
  - Templates only contain the consistent elements which appear on every page
- Using dynamic templates
  - Create a basic template with editable regions
  - Create individual pages based on the template
    - Add content for each page into the editable regions
Dreamweaver Library Items

- Library items are items which can be used over and over again on numerous pages within a site.
- Library items:
  - Simplify input and updating by storing any elements which may be used more than once.
  - Speed input by merely inserting a library item into a page instead of reentering the information and formatting.
  - Ensure when the library item is updated all occurrences of the item throughout the site are updated.

Library items may be

- Content with formatting and layout
- Links to other pages
- Logos
- Anything that is used more than once and has the possibility of changing
  If library item is changed, changes are made throughout the site.

Snippets

- Snippets are basically pieces of code that can be used over and over.
- Snippets are similar to library items in that they store items that are used over and over again.
- Difference between library items and snippets:
  - Library items:
    - Accessible to just one site.
    - When changed, will update all items within the site.
  - Snippets:
    - Accessible to any number of sites
    - Will NOT update all items within the site.
- You can create pieces of code as snippets to be reused in any program including coding - just save the code to different files and copy the snippets when needed.

Design to Template

Creating Structure from a Plan

General Idea

- Determine what the site should be like.
  - Sketch out a design on paper
  - Use a image editing program to design

Things to determine

- Site identification:
  - Where will it be placed on the page?
  - What will it look like?
- Navigation needs:
  - Do you need more than one set of navigation links?
  - Where will they be located?
- Main content:
  - Main content should be in the center of the design.
  - Do you need columns? Sidebars?
- Footer:
  - Do you need a footer with information such as copyright, last date updated, etc.
**Draw Boxes for Division**

- On design - draw boxes around the basic categories of elements within your page.
  - Draw boxes around any groupings
  - Which elements will be grouped together?
  - Will the whole page be grouped?
  - Label the boxes
- Each of these boxes should become a division <div> or other structure (HTML 5 has other structures available such as header, article, nav).

**Marked Design Sample**

![Marked Design Sample Diagram]

**Template Items**

- Determine what's on the template
  - Which elements should be on each and every page?
  - Which elements are on some pages but not other pages?
  - Which elements change with each page?
- Mark items on your design
  - Items that are on all pages should be placed on the template
  - Items which change with each page should be indicated as an editable area for the template
  - Items that are on some pages, but not others can be handled in different ways depending upon what fits your capabilities
    - A template based on a template
    - A template with library item added

**Example**

- All areas for this is editable.
  - Topic list is a library item

![Example Diagram]

**Structure from Design**

- Once you have the basic idea of what you want on your site, you can begin to construct the structure.
- Keep in mind that the structure is not styling.
- You need to give some thought to how the page should be structured.

**Think about structure**

- Think of not being able to see the site, but to have a screen reader read the site. Screen readers read in the normal flow of HTML regardless of where items are placed on the screen with CSS.
  - What information would be read first?
  - What next?
  - What is least important and should be placed last?
- Construct the basic structure to match how things should be read by a screen reader and not how they should be laid out on the page.
Create a basic page with the content that is to appear on each and every page.
- Place the content in the normal flow
- Place content in appropriate structures
- The boxes on your design become divisions
- Use the labels from the boxes to be the division ID - but be sure that no spaces are used in the ID.
- For instance a box labeled "main content" should be given the ID of "maincontent" or "main_content" or "mainContent"

Add in editable areas for areas that change
- Editable areas need to have names as well.

Recommend adding the site name in the title of the template so you don't have to add it to every page.

Be sure to save as a template!