



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
 - Employee, customer, student, fan...
 - What relationship do they have with the organization?
 - Employee, customer, student, fan...
- ❖ What issues may come up with usability & accessibility?
- ❖ Why will people access the site?
- ❖ Will they be able to find the needed information?



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?
 - Graphics, 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 - No one assigned then the site quickly becomes outdated
- ❖ Responsibility is often 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.
 - ❑ Smaller website may not need more than 1 person
 - ❑ Larger websites may need many people with some maintaining different sections

What 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 a web host?
 - Which one?
 - What does it cost?
- ❖ Which 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

Next 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
 - ❑ For our website project - all pages should be listed
 - Larger sites list the major pages and categories of other pages
- ❖ The organization should take into consideration
 - emphasis of purpose
 - who the primary audience is
 - ❑ the needs of the audience
 - secondary 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
 - Graphics
 - Color scheme
- ❖ Visual appeal should be geared to the audience and help emphasize 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

- ❖ Software
 - Web page creation
 - ❑ High end - site management
 - ❑ Simple editing
 - Graphics
 - ❑ High end - creation & editing
 - ❑ Low end - editing only
 - Other media
 - ❑ sound record/edit, video capture/edit
 - File transfer
 - ❑ Often included in the high end web software
 - Various browsers
- ❖ Hardware
 - Computer
 - Scanner
 - Camera
 - Microphones
 - Testing
 - ❑ Various platforms, monitors sizes
- ❖ Advanced tools
 - Server generated pages & database integration
 - ❑ Active Server Pages
 - ❑ PHP
 - ❑ Other server technology
 - Programming
 - ❑ Javascript
 - ❑ Java
 - ❑ Other

Content

- ❖ Content is crucial. Without it - you have no reason for a site.
 - Pre-existing content
 - ❑ Collect
 - ❑ Edit pre-existing text for web use
 - ❑ Size, crop, edit graphics
 - New Content
 - ❑ Write Text
 - ❑ Create images & other media
- ❖ One of the hardest parts
 - 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.



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 aware 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.



Applying the 3 Tests

- ❖ Applying the 3 tests to Academic Dishonesty
- ❖ **Universality** – Do you think it is okay for everyone to be dishonest in academics?
 - Consequences of everyone being academically dishonest
 - ❑ Educational degrees become worthless
 - ❑ Unemployment would rise as qualified people could not be found and economy would falter
 - If it's not okay for everyone, then it fails this ethical test.
- ❖ **Reversibility** – If someone did this to you, would you be okay with it?

How would you feel if you were a teacher and found out that a student cheated?

 - It's not a good feeling.
- ❖ If you won't want someone doing this to you, then it fails this ethical test.



Applying the 3 Tests (cont)

- ❖ **Transparency** – Would you still do this if everyone knew about it?
 - Would you cheat if your family knew?
 - Would you still cheat if TV camera was pointed at you and everyone could see you cheating?
 - If you wouldn't do this in front of everyone, then it fails this ethical test.
- ❖ Something that fails all 3 tests is definitely unethical.
- ❖ In addition to the 3 tests, know the consequences of your actions!
 - The following are possible consequences for the student
 - ❑ Bad grade on an assignment
 - ❑ Failure of the course
 - ❑ Expulsion from the college
 - ❑ Loss of job opportunities



Applying the 3 Tests (cont)

- ❖ **Other consequences**
 - Devalues the time and energy of the teacher
 - If many students cheat, then it devalues the whole school and could cause loss of accreditation.
 - ❑ Degrees from an unaccredited institution are not as valuable.



Ethical Topics

In this lesson we'll cover these topics related to website development:

- ❖ Copyright infringement & fair use
- ❖ Being aware of laws
- ❖ Creating websites responsibly
 - Responsible search engine optimization

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 a 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, critic
 - 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 libel, 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



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 Web Site 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
- ❖ Snippets
 - Elements or code available to pull into webpages

Templates

- ❖ Ease creation of multiple pages with the same basic design
- ❖ Unlike style sheets which just contain design, templates contain structural elements.
- ❖ May also contain CSS coding or links to CSS files
- ❖ In coding, add comments to indicate where the content can be added.
`<!-- comments -->` where *comments* is the actual words for your comment

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

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 templates
 - Create a basic template with editable regions
 - Create individual pages based on the template
 - ❑ Add content for each page into the editable regions

Snippets

- ❖ Snippets are pieces of code that can be used over and over again.
- ❖ 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 plan

General Idea

- ❖ Determine what the site should be like.
 - Sketch out a design on paper
 - Use an image editing program to design
- ❖ Things to determine for the design
 - 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, and other such information

Draw boxes for layout

- ❖ On the design and 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 layout structure
 - Division, header, article, nav, footer

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

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 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 Template

- ❖ 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 layout structures
 - 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 comment areas for areas that change
- ❖ Recommend adding the site name in the title of the template so you don't have to add it to every page.

