


Web Development & Design Foundations with HTML5
 Ninth Edition



Chapter 10
 Web Development

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Learning Objectives

- 10.1 Describe the skills, functions, and job roles needed for a successful web project development
- 10.2 Utilize the stages in the standard System Development Life Cycle
- 10.3 Identify other common system development methodologies
- 10.4 Apply the System Development Life Cycle to web development projects
- 10.5 Describe the activities in the Conceptualization, Analysis, Design, Production, Testing, Launch, Maintenance, and Evaluation stages of a website project. Compare the goals of the website to the results as part of the Evaluation phase
- 10.6 Find the right web host provider for your website
- 10.7 Choose a domain name for your website

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Skills and Functions Needed for a Successful Large-Scale Project

- Project Manager
- Information Architect
- User Experience Designer
- Marketing Representative
- Copy Writer & Editor
- Content Manager
- Graphic Designer
- Database Administrator
- Network Administrator
- Web Developer / Web Designer

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Skills and Functions Needed for a Successful Small Project

The skills and functions are essentially the same as on a large project

Each person may wear many “hats” and juggle their job roles

- Example: The web designer may also be the graphic designer.

Some job roles may be outsourced

- Most Common:
 An external web site provider is used so there is less (if any) need for a Network Administrator.

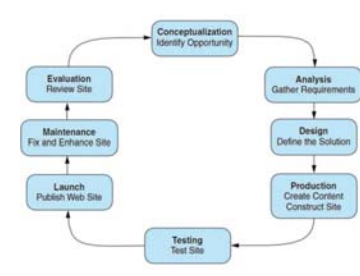
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Project Staffing Criteria

- Finding the right people to work on a project is crucial
 - Consider:
 - work experience
 - portfolio
 - formal education
 - industry certifications
- Alternative:
 Outsource all or portions of the project to a web design/development firm

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Website Development Cycle



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    graph TD
        C[Conceptualization  
Identify Opportunity] --> A[Analysis  
Gather Requirements]
        A --> D[Design  
Define the Solution]
        D --> P[Production  
Create Content  
Construct Site]
        P --> T[Testing  
Test Site]
        T --> L[Launch  
Publish Web Site]
        L --> M[Maintenance  
Fix and Enhance Site]
        M --> E[Evaluation  
Review Site]
        E --> C
    
```

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Web Development: Conceptualization

- Determine the intended audience
- Determine the goals or mission of the web site
 - Short-term goals
 - Long-term goals
 - Develop measurable objectives such as:
 - Number of visitors
 - Percent of product sales



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Web Development: Analysis

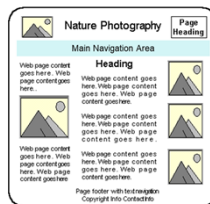
- Determine the following:
 - information topics
 - functionality requirements (high-level)
 - Determine “what” a site will do – not “how” it will do it
 - environmental requirements
 - content requirements
- If a redesign, compare the old approach with the new approach
- Review competitor’s sites
- Estimate costs
 - Cost/Benefit analysis



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Web Development: Design

- Determine the site organization
- Prototype the design
- Determine a page layout design
- Document each page



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Web Development: Production

- Choose a web authoring tool
- Organize your site files
- Develop and individually test components
- Add content



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Web Development: Testing

- Test on different web browsers and browser versions
- Test with different screen resolutions
- Test using different bandwidths
- Test from another location
- Test, Test, Test



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Web Development: Types of Testing

Automated Testing Tools and Validation

- Automated Testing (Link checkers, etc.)
- W3C HTML and CSS validation tests

Usability Testing

- Testing how actual web page visitors use a web site
- Can be done at almost any stage of development
 - Early – use paper and sketches of pages
 - Design – use prototype
 - Production & Testing – use actual pages



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Web Development: Approval & Launch

User or Client Testing

- Client will test site before giving official approval for site launch

Approval & Launch

- Obtain sign-off form or email from client
- Upload files to web server
- Create backup copies of files
- **Test the Web Site Again After Upload!**



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Web Development: Maintenance

Maintenance – the never-ending task...

- Enhancements to site
- Fixes to site
- New areas added to site

A new opportunity or issue is identified and another loop through the development process begins.



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Web Development: Evaluation

- Re-visit the goals, objectives, and mission of the website
- Determine how closely they are being met
- Develop a plan to better meet the goals, objectives and mission



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Checkpoint 10.1

1. Describe the role of the project manager.
2. Explain why so many different roles are needed on a large-scale web project.
3. List three different techniques used to test a website. Describe each technique in one or two sentences.



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Domain Names

Establishes a web presence for your business or organization

- New Business
 - choose domain name while selecting company name
- Established Business
 - choose a domain name that relates to your established business presence



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Choosing a Domain Name

- Describe your business
- Be brief, if possible
- Avoid hyphens
- TLD (top level domain name)
 - .com, .net, .biz, .us, .mobi and others
 - .org for non-profits
- Brainstorm potential keywords
- Avoid trademarked words or phrases
- Know the territory (use Google!)
- Verify Availability



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Registering a Domain Name

- There are many domain name registrars, including
 - <http://register.com>
 - <http://networksolutions.com>
 - <http://godaddy.com>
- Visit Registrar, choose name, pay
- Private registration – additional fee but personal information is kept private and out of the WHOIS database



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Web Hosting

Some organizations administer a web server in-house and host their own website.

Many companies use a web host provider.

- A good web hosting service will provide a robust, reliable home for your website.
- A poor web hosting service will be the source of problems and complaints.
- Do not use free web hosting for a commercial website.



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Types of Web Hosting (1 of 2)

Hosting Needs: Small to Medium Website

- Virtual Hosting
 - The web host provider's server is divided into a number of virtual domains and multiple websites are set up on the same computer.
- Consider:
 - Future growth and scalability of web host
 - Operating System
 - Types of server-side processing supported
 - Bandwidth of Internet connection
 - Both local and national web host providers
 - Guaranteed uptime – service level agreement (SLA)
 - Technical support



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Types of Web Hosting (2 of 2)

Hosting Needs: Large to Enterprise Website

- Dedicated web Server
- Co-located web Server
- Consider:
 - National web host providers
 - Guaranteed uptime – service level agreement (SLA)
 - Bandwidth of Internet connection
 - Technical Support



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Dedicated Web Server

Dedicated Web Server

- The exclusive use of a rented computer and connection to the Internet that is housed in the web hosting company's premises.
- The server can usually be configured and operated remotely from the client company or you can pay the web host provider to administer it for you.



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Co-Located Web Server

Co-Located Web Server

- A computer that your organization has purchased and configured.
- Your organization effectively rents space at the web host provider's location.
- Your server is kept and connected to the Internet at their location.
- Your organization administers this computer.



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Choosing a Virtual Host

See the Web Host Checklist (Table 10.1)

- Operating System
- Web Server Software
- Bandwidth
- Technical Support
- Service Agreement
- Disk Space
- E-mail
- Uploading Files
- Canned Scripts
- Scripting Support
- Database Support
- E-Commerce Packages
- Scalability
- Backups
- Site Statistics
- Domain Name
- Price

Checkpoint 10.2

1. Describe the type of web host that would meet the needs of a small company for their initial web presence.
2. Describe the difference between a dedicated web server and a co-located web server.
3. Explain why price is not the most important consideration when choosing a web host.

Summary

- This chapter introduced you to the system development life cycle and its application to web development projects.
- The job roles related to website development were also discussed.
- An introduction to selecting a domain name and a web host was provided.

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