Web Development & Design Foundations with HTML5
8th Edition

CHAPTER 10
KEY CONCEPTS

Learning Outcomes

In this chapter, you will learn how to ...

- Describe the skills, functions, and job roles needed for a successful web project development

- Utilize the stages in the standard System Development Life Cycle

- Identify other common system development methodologies

- Apply the System Development Life Cycle to web development projects

- 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

- Find the right web host provider for your website

- Choose a domain name for your website

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

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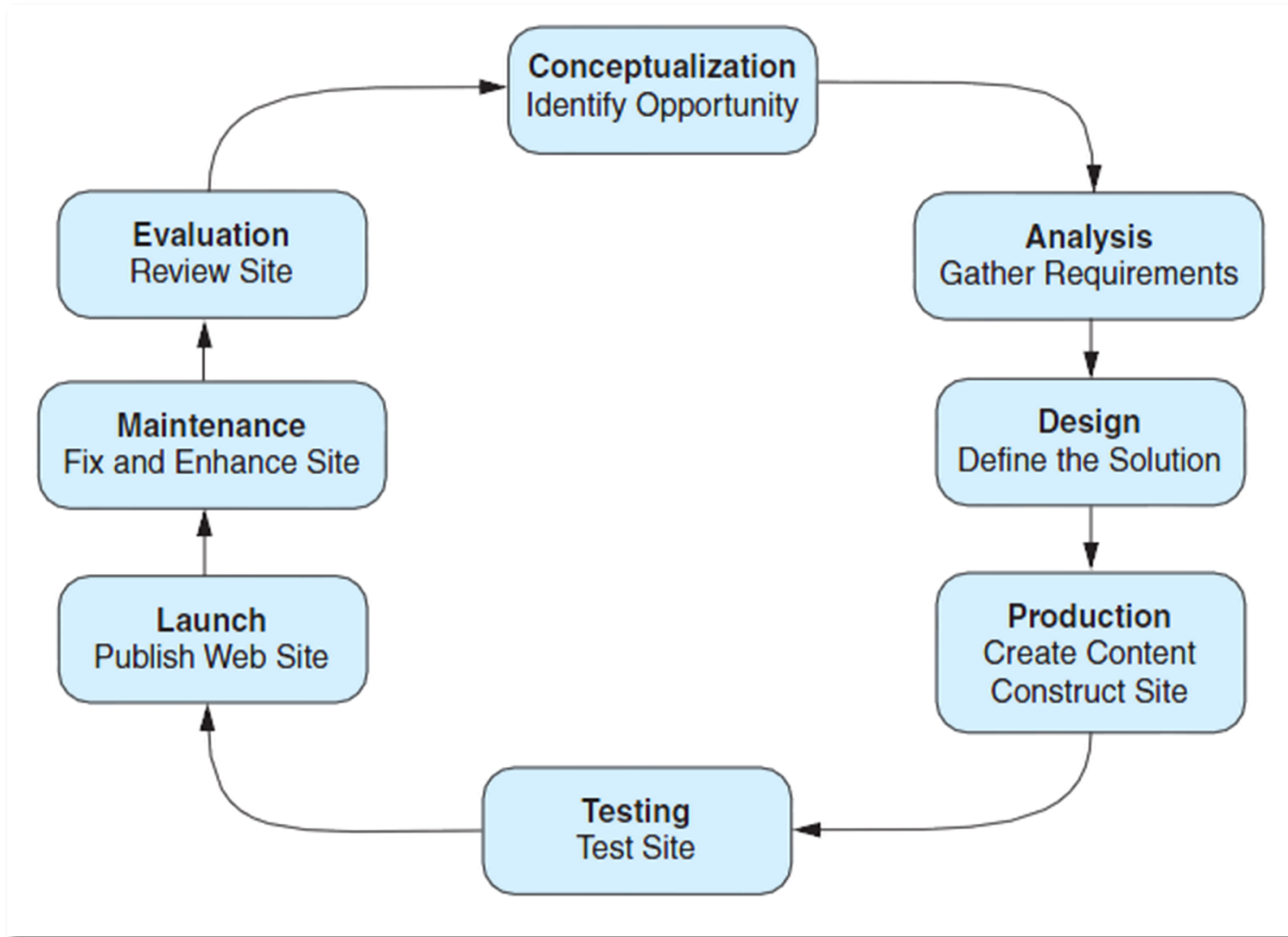
Some job roles may be outsourced
- Most Common:
  An external web site provider is used so there is less (if any) need for a Network Administrator.

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

Website Development Cycle
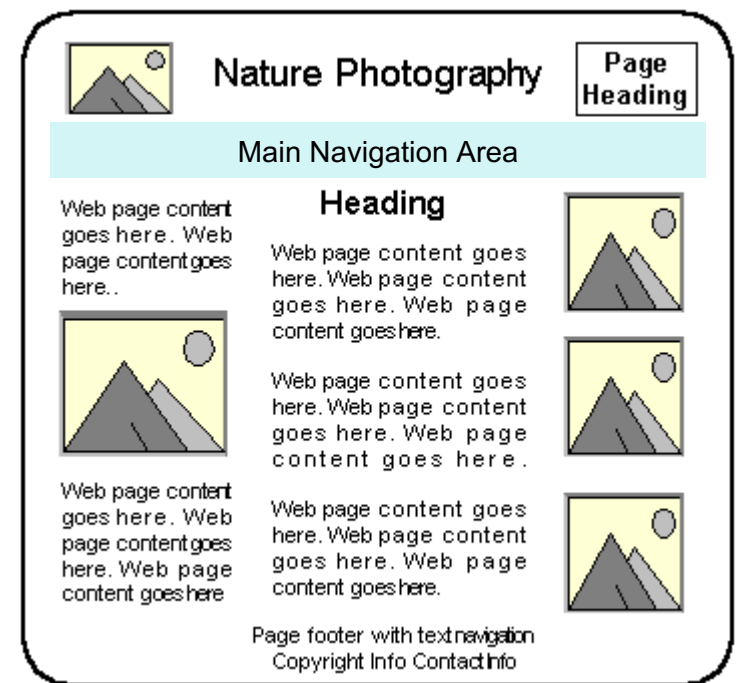
Web Development: Conceptualization

- 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

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

Web Development: Design

- Determine the site organization

- Prototype the design

- Determine a page layout design

- Document each page

Web Development: Production

- Choose a web authoring tool

- Organize your site files

- Develop and individually test components

- Add content

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

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

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!

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.

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

Checkpoint

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.*

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

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

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

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.

Types of Web Hosting(1)

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

Types of Web Hosting(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

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.

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.

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.