

AAPP009-4-2 Web Development

Fundamental of Web Development Process

Topic & Structure of The Lesson

- **Web Development Process**

- Pre-development stage
 - ✓ Conceptualization
 - ✓ Requirement Analysis
- Development stage
 - ✓ Design
 - ✓ Production and Testing
- Post-Development stage
 - ✓ Market Launch
 - ✓ Maintenance
 - ✓ Evaluation

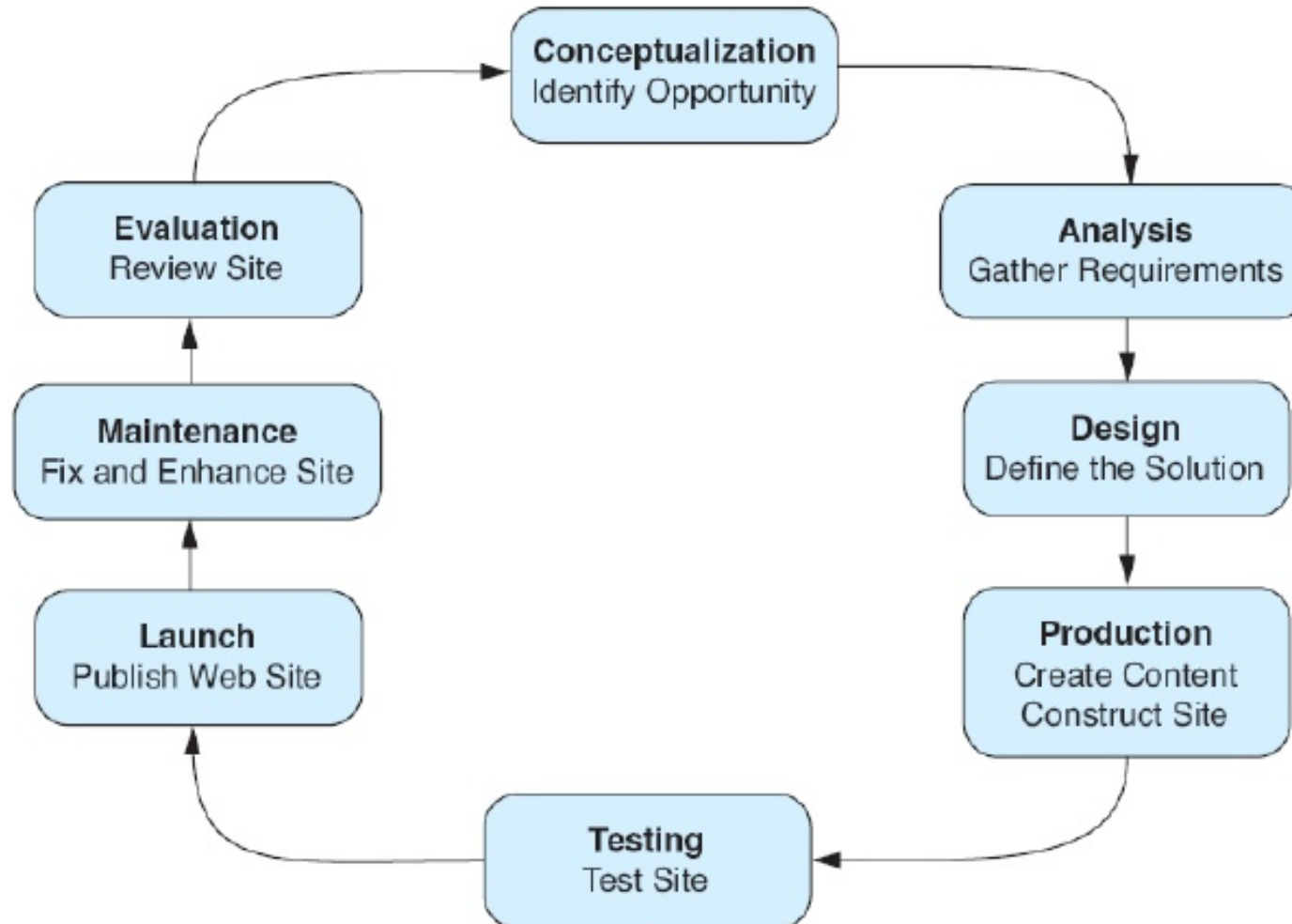
Learning Outcomes

- **At the end of this topic, You should be able to**
 - Gather and analyze the requirements for a web system
 - Understand how to build a good system design based on the requirement analysis

Key Terms You Must Be Able To Use

- If you have mastered this topic, **you should be able to use the following terms correctly in your assignments:**
 - ✓ Conceptualization
 - ✓ Analysis
 - ✓ Design
 - ✓ Production
 - ✓ Testing
 - ✓ Maintenance
 - ✓ Evaluation

Web Development Process



Conceptualization

- Determine the intended / target audience
- Determine the goals / mission of the web site
 - ✓ Short term goals
 - ✓ Long term goals
- Main Job Roles Involved:
 - ✓ Client, Project Manager; Information Architect, Marketing Representative, Senior Web Developer

Analysis

- Determine the following:
 - ✓ Information Topics
 - ✓ Functionality Requirements (high-level)
 - Determine “What” a site will do – not “how” it will do it.
 - ✓ Environment Requirements
 - ✓ Content Requirements
- Review Competitors’ Site (Competitive analysis – check what are the others do?)

Competitive Analysis

- A high-level analysis of major competitors is vital to a website's success. It is better to know the competition's strengths and weaknesses before you finalize your website strategy.
- Basic Steps:
 1. Identify the competition
 2. Decide what to analyze
 3. Develop a competition survey
 4. Answer survey for each competitor
 5. Analyze survey data
 6. Write a report of the findings and recommendations









Sample Survey

Criteria	Site 1	Site 2	Site 3	...
General Site Features				
Site Design (1-10)				
Navigation (1-10)				
Layout (1-10)				
Look and feel				
Personalization				
Email Newsletter (Y/N)				
Technology				
RSS (Y/N)				
CSS (Y/N)				
Ajax (Y/N)				
Dynamic pages (Y/N)				

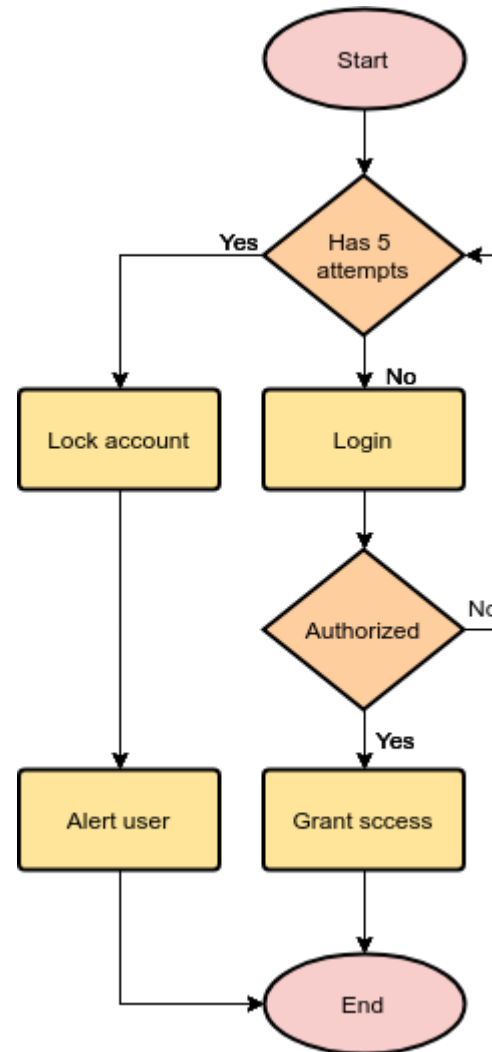
Design

- Algorithm Design
- Database Design
- UI Design:
 - Site structure and organization
 - Determine a page layout design (website wireframe)

Algorithm Design

Symbol	Purpose	Description
	Flow line	Indicates the flow of logic by connecting symbols.
	Terminal(Stop/Start)	Represents the start and the end of a flowchart.
	Input/Output	Used for input and output operation.
	Processing	Used for arithmetic operations and data-manipulations.
	Decision	Used for decision making between two or more alternatives.
	On-page Connector	Used to join different flowline
	Off-page Connector	Used to connect the flowchart portion on a different page.
	Predefined Process/Function	Represents a group of statements performing one processing task.

Sample Algorithm Design



Database Design

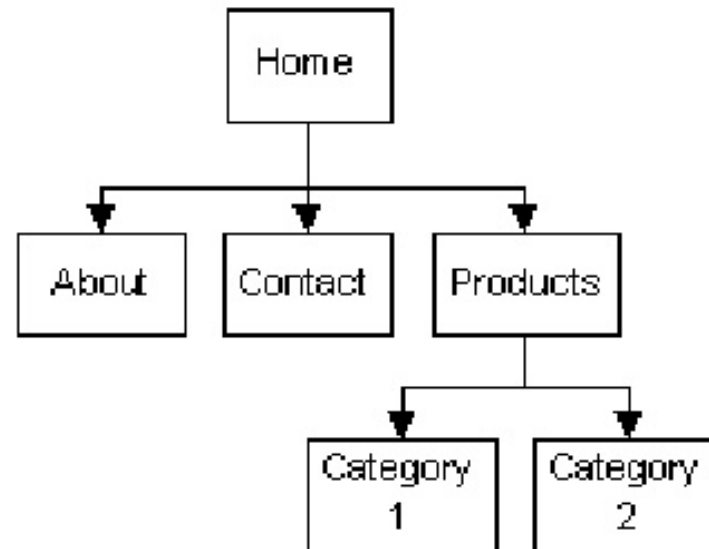
- Database design is the organization of data according to a database model.
- The designer determines what data must be stored and how the data elements interrelate.
- Database designs also include ER (entity-relationship model) diagrams. ER diagram is one of the diagram that helps to design databases in an efficient way.

Site Structure

- The site structure is like a skeleton that holds the body together.
- Use some techniques like card sorting to help building the structure of the site.
- Choose meaningful names for the grouped list that reflect the purpose of your pages.
- Use your grouped content to create which is a text-based, hierarchical map of the site (Site Organization).

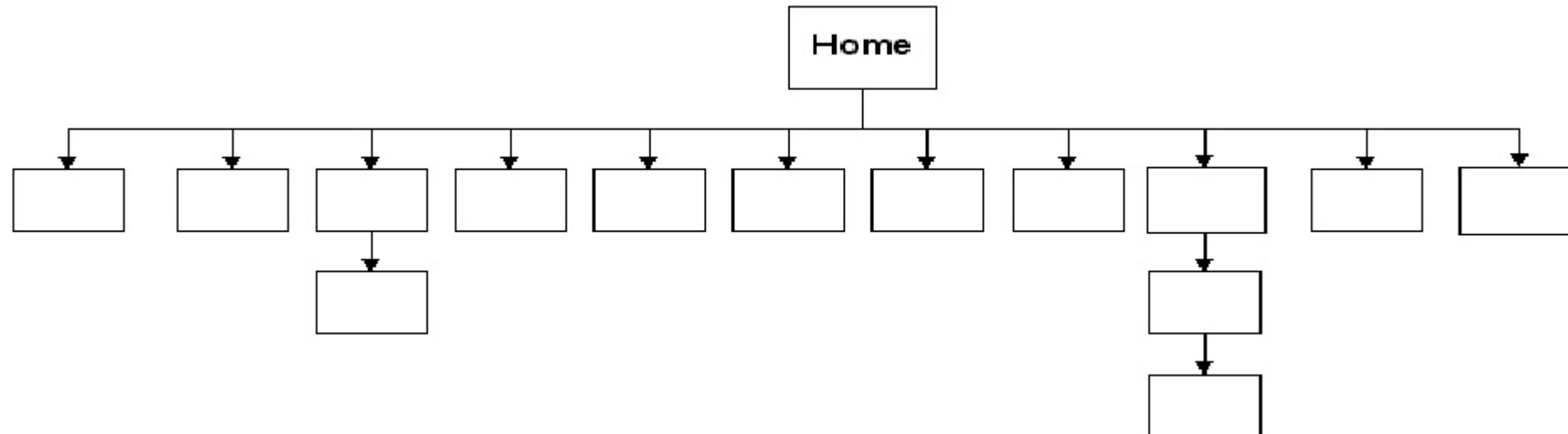
Web Site Organization

- Hierarchical Organization:
 - A clearly defined home page
 - Navigation links to major site sections
 - Often used for commercial and corporate Web Sites

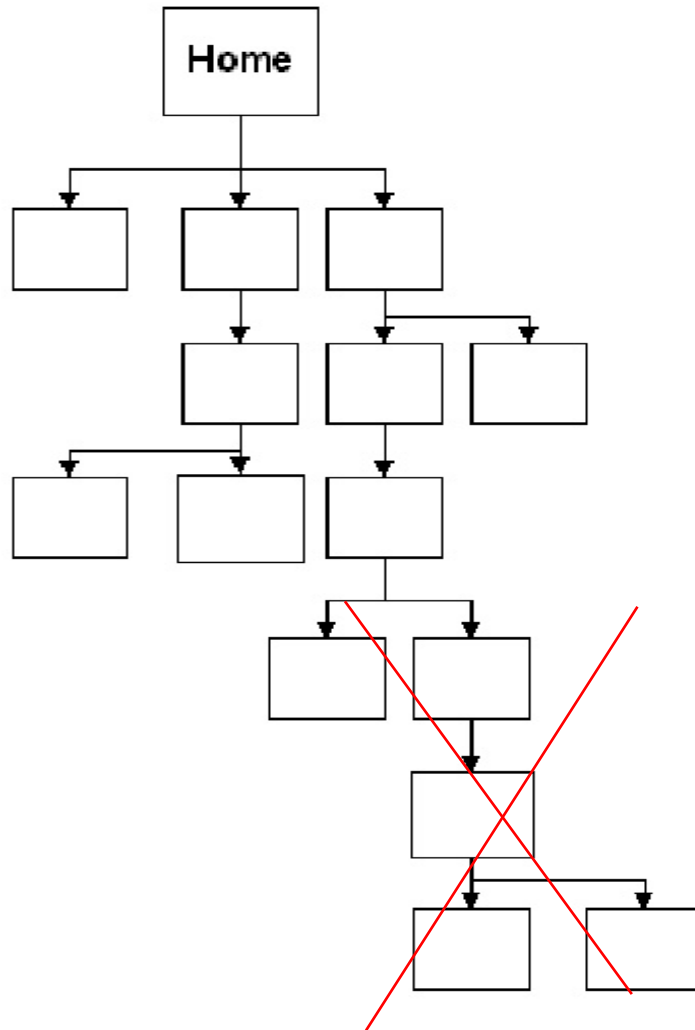


Web Site Organization

- Be-careful:
 - ✓ Don't make too many choices in the organizations
 - ✓ Many web designers try not to place more than nine major navigation links on a page or in well-defined page area. Don't follow the below diagram.



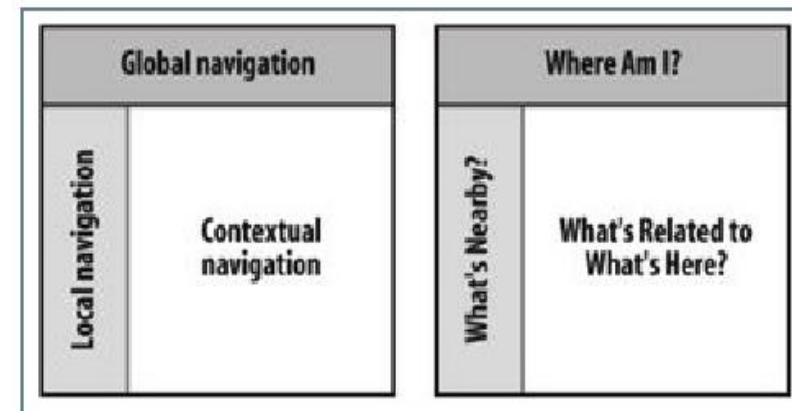
Web Site Organization



- Be-careful:
 - ✓ Don't make the organizations too **DEEP**.
 - Reason: many “clicks” needed to drill down to a needed page
 - User Interface “Three Click Rule” – maximum of 3 hyperlinks.

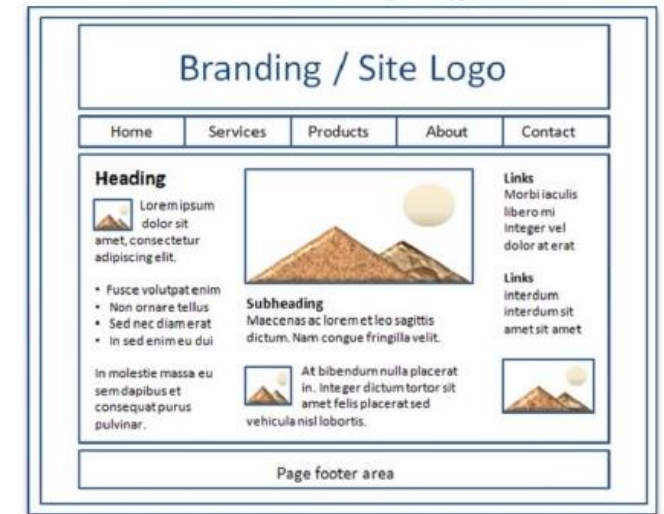
Navigation Rules

- People don't always work from the home page – they get to a page from a link or from a search
- Every page of a site should let you know:
 - ✓ Where am I
 - ✓ What's here
 - ✓ Where can I go now
- Major types of navigation:
 - ✓ Global (across the website)
 - ✓ Local (for a subsection of the website)

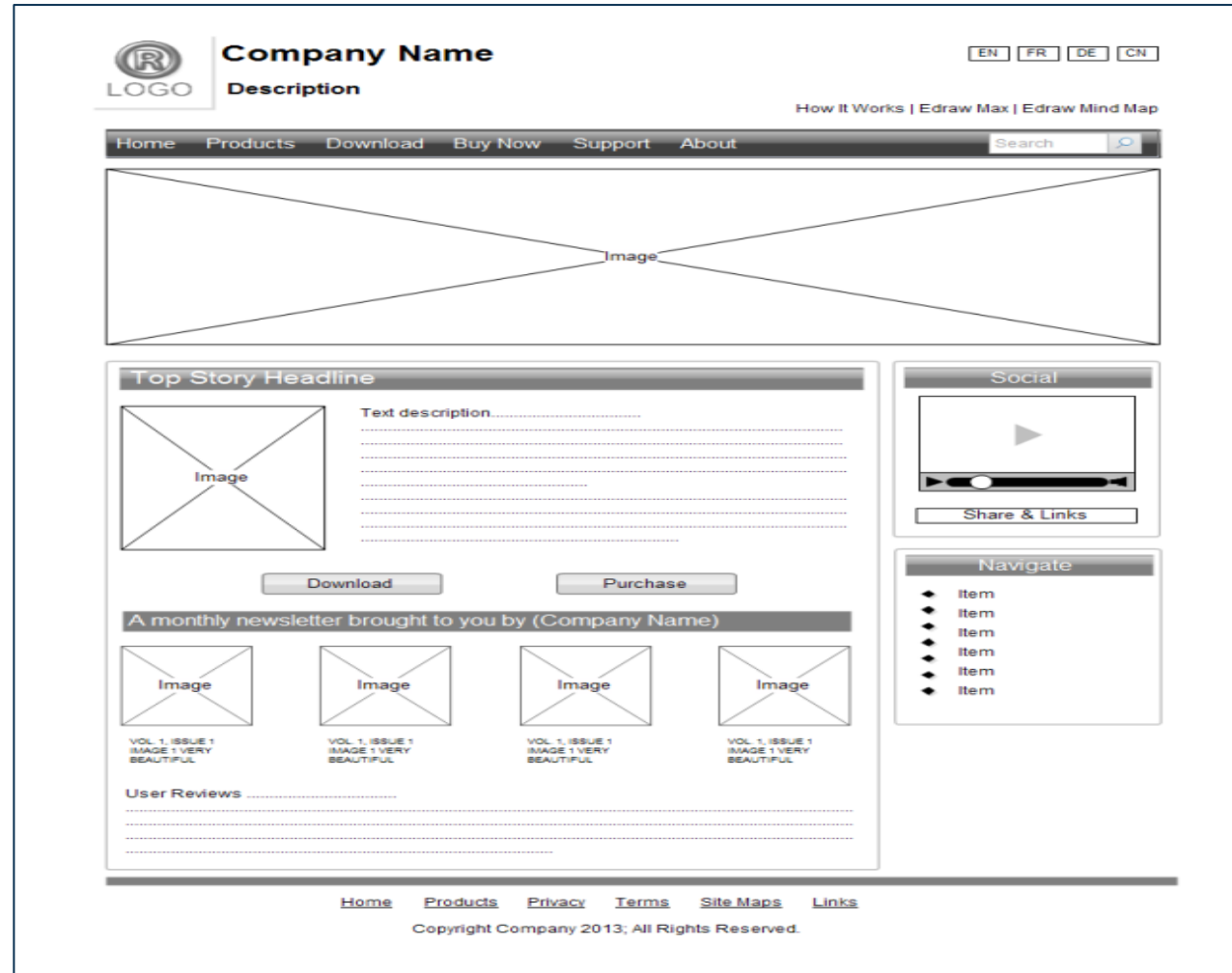


Wireframe

- A sketch of blueprint of a Web Page
- Shows the structure of the basic page elements, including:
 - ✓ Logo
 - ✓ Navigation
 - ✓ Content
 - ✓ Footer
- Wireframes do not include any reference to color, typography or visual imagery.



Another Example of Wireframe



Production

- Choose a web authoring tool
- Organize your site files
- Develop and individually test components
- Add content
- Main Job Roles Involved:
 - Project Manager; Senior Web Developer, Web Developer, Graphic Designer, Database Administrator, Content Manager.

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
- Main Job Roles Involved:
 - Project Manager; Senior Web Developer, Tester (sometimes web developer; sometimes Quality Assurance person), Client, Content Manager.

Type of Testing

- Automated Testing Tools and Validation
 - Automated Testing (Link checkers, etc.)
 - W3C XHTML 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 and Testing – use actual pages.

Approval and 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
 - Make sure you test the web sites again.

Maintenance

- Maintenance – the never-ending task...
 - Enhancement to site
 - Fixes to site
 - New areas added to the site
- A new opportunity or issue is identified and another loop through the development process begins.

Evaluation

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

Summary of Main Teaching Points

- This chapter introduced you to the system development life cycle and its application to web development projects.
- The job roles related to web site development were also discussed.
- **Information Architecture (IA)** is a very critical input for building the site map & wireframes

Q & A