

E-Business Web Site Design



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Overview



- Goals
- Biases, hardware and software
- Analysis, design, and development
- Site Considerations
- Page Considerations
- Interactive Component Considerations
- Tools
- On-line Resources

Goals

- Meet business objectives
- Provide sufficient capacity to meet peak needs and growth expectations
- Provide sufficient capability to meet expected use needs
- Be intuitive and easy for users to understand
- Be easy to navigate and manipulate
- Provide measurable and clear metrics

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A Note about Designer Biases

- The presenter has a bias to Netscape browsers and Unix servers
- Bias is a fact of life for web designers, and it needs to be accounted for and overcome
- The focus needs to be on the provision of static and dynamic content both in terms of publishing and acquisition across a variety of platforms and connections
- Any set of systems can and should be used to meet the organizations needs

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Capacity and Capability

- Users expect real time response
 - Servers must be able to respond to peak loads
 - Servers must be isolated from denial of service attacks
 - Databases links must be query optimized
- Users expect 24 x 7 x 52 operation
 - fault tolerance and backups are required
 - online transaction processing error recovery (roll back)
- Organizations will evolve the website
 - Systems must anticipate increased use over time
 - Systems should plan for more live use over time

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Hardware and Software

- Sites must interface with existing systems
- Java is attractive as a development language
 - it is “secure”
 - It is an OOPL potentially usable across components
- XML is attractive for document/data description
 - Universally understood markup (all browsers)
 - Evolving standards for linking, transformation, query, and presentation
 - extensible to data definition (EDI to SME)

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Physical factors Affecting Site Usability

- Platform of origin
 - Windows, Unix, Mac
 - Plugin availability
 - Cross platform browser support
- Type of connection
 - Low and medium speed modems, DSL, direct
 - Proxy intermediation
- Type of display
 - Size
 - color support, fonts

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Social Factors Affecting Site Usability

- Progressive disclosure vs. core dump
- Provision of approval and access information
 - Affiliations
 - phone numbers, names, and addresses
- Collection of user demographic information
 - Cookies and Forms
- Technical facilities
 - Shopping carts/wallets
 - Print and download tools

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Analysis Design and Development Overview

- Specify the purpose of the site
- Define the audience(s)
- Benchmark the site
- Assess capabilities and constraints
- Develop a plan
- Formulate an approach
- Bring the site up
- Monitor performance and satisfaction

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Specify the purpose of the site

- Identify immediate, midrange, and long range goals for the site
- Identify stakeholders
- Identify business impacts
- Identify metrics for assessing success
- Identify personnel responsible for ongoing evolution of the system

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Define the audience(s)

- Define the audience(s) – market segmentation
 - Interests
 - Capabilities
 - Facilities
- For each Audience
 - Language – tone, level (obviously nationality)
 - Approach
 - Hooks and Whistles

Benchmark the site

- Look at non-web advertising and merchandizing in the same area
- Look at competitors websites. Assess competitor sites in terms of:
 - Ease of use
 - Quality of presentation
 - Functionality
 - Interactivity
 - Size

Assess capabilities and constraints

- **Time and money**
 - To bring the site up
 - To operate, maintain, and develop the site
- **Users**
 - Platforms, browsers, connections
 - Skill levels
- **Server**
 - Tools, connection, hardware, software
- **Personnel**
 - Programming staff and operations staff skills

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Develop a plan

- **Organizational Plan**
 - Business requirements, budget, schedule, etc
- **Requirements analysis**
 - Interviews, user profiles, testing
- **Visual Design**
 - Art, site layout, page layout, design guidelines
- **Content management**
 - Copyrights, link rights, documentation, help
 - Scripts/servlets, javascript/vbscript, applets
- **Site installation and operation**
 - Hardware/software configuration, usage, debugging

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Formulate an approach

- Document forms
 - HTML versus XML
 - PDF and ASCII versions
- Page forms
 - Text versus tables versus frames
- Graphics
 - JPEG versus GIF versus PNG
 - Specialized animation

Implement the site (1)

- Define the functional content
- Define the structure
- Build the individual pages
 - Cover/splash page
 - Home page
 - Content/Display pages
 - Navigation and search pages
 - Feedback, contact, and input pages

Implement the site (2)

- **Build the content pages**
 - Visual identity
 - Continuity and consistency
 - Rhythm and flow
 - Space management
- **Build the navigational components**
 - Links
 - Imagemaps
 - Sitemaps and tables of contents

The Site

- **Structure**
- **Introduction**
- **Navigation**
- **Input**
- **Display**

The Site Overall Structure

- Non-personal forms
 - Linear
 - Hierarchical
 - Mesh
- Personal forms
 - Constructed
 - Tabbed
- Navigational cues
 - Neighborhoods

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The Site Introduction Pages

- Splash Pages
- Plug-in enhancements
- Guest book
- Alternative languages
- Alternative forms
 - Frames versus non-frames
 - Multimedia, images, or text-only

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The Site Navigation and Search Pages

- Site maps
- Image maps
- Search engines and pages
 - Internal
 - Focused
 - External
- Links

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The Site Content or Display Pages

- Standard structure
 - Headers and footers
 - Location identifiers
- Information flow
- Visual identity
- Drill down
- Multiple window
 - Temporary windows
 - Utility windows

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The Site Input Pages

- Structured and ordered forms
- Informed consent
- Local and nondestructive validation
- Cookies and persistent state
- Confirmations

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General Pages Conceptual Goals

- Quick loading
- Appropriate language
- Visual identity and flow
- Optimal use of display space
 - Browser variance
- Support for challenged users

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The Pages Structural

- HTML or XML
 - XSL, XSLT, and XLL
- Standard header
 - Logo, imagemap identifier
- Standard footer
 - Modification, author, contact, home

The Pages Practical

- Backgrounds – just that
- Color choices should enhance
- Iconography should be standard or intuitive
- Establish neighborhoods
- Provide Maps
- Highlight new material

Interactive Components

- Four choices
 - Forms and CGI/objects
 - Applets
 - Scripts
 - Applications
- Achieving persistence
- Speed of interaction
- Nature of the connection
 - Turn around time
 - Location of connection

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Agents and Virtualization

- As sites become more capable via component technology, agents and augmentation will appear.
- The role of agents play in e-commerce
 - Finding information users are looking for
 - Searching spatially and temporally for the lowest price for inputs (highest bidder for outputs)
 - Buying (selling) when triggers are met
- Virtualization refers to efforts to extend the sensory experience to accommodate consumers needs for sensory data (touch, smell, sound)
 - would you buy a stereo without listening to it?
 - would you buy a car without a test drive?

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Monitor performance and satisfaction

- Monitor hits, sessions, and paths
 - Track incoming leads
 - Track action items
 - Look for well worn paths
- Monitor status codes
 - Track bad requests
 - Track unauthorized accesses
 - Track broken links

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Tools(1)

- Web Page Creation
 - Word, WordPerfect, Composer
 - Allaire Homesite 4.0
 - Macromedia Dreamweaver
- Website Creation and Management
 - Microsoft FrontPage
 - Adobe Pagemill
 - Lotus Notes Domino
 - Net Objects Fusion
 - Cold Fusion

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Tools(2)

- Graphics/Audio/Video Development
 - Adobe Photoshop, Illustrator, etc.
 - Macromedia
 - Real Producer
- Link Checking/Site Management
 - InContext Web Analyzer
 - LinkScan
 - BladeRunner
 - JetStream
 - WebLog

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A Note about Development Languages

- Visual Basic, Visual C++
 - ODBC/SQL
- Java
 - Applets
 - Servlets
 - Enterprise Java Beans
 - JDBC
- XML

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On-line Resources



- <http://www.cast.org/bobby/>
- [http://www-3.ibm.com/
ibm/easy/eou_ext.nsf/publish/572](http://www-3.ibm.com/ibm/easy/eou_ext.nsf/publish/572)
- [http://Info.med.yale.edu/
caim/manual](http://Info.med.yale.edu/caim/manual)
- [http://www.parc.xerox.com/
istl/projects/www94/iisuwwwh.html](http://www.parc.xerox.com/istl/projects/www94/iisuwwwh.html)