CSC 213: Web Application Development

Lecture 1

Introduction

- Web application development is the creation of application programs that reside on remote servers and are delivered to the user's device over the Internet.
- A web application (web app) does not need to be downloaded and is instead accessed through a network.

- An end user can access a web application through a web browser such as:
  - Google Chrome
  - Safari or
  - Mozilla Firefox.

- A majority of web applications can be written in JavaScript, Cascading Style Sheets (CSS), and HTML5.

Client & Server side Programming

- Web application development will typically have a short development life-cycle
- Front-end development for web applications is accomplished through client-side programming.
- Client refers to a computer application such as a web browser.

- Client-side programming will typically utilize HTML, CSS and JavaScript.
- HTML programming will instruct a browser how to display the on-screen content of web pages
- CSS keeps displayed information in the correct format.
- JavaScript will run JavaScript code on a web page, making some of the content interactive.

- Server-side programming powers the client-side programming and is used to create the scripts that web applications use.
- Scripts can be written in multiple scripting languages such as Ruby, Java and Python.
- Server-side scripting will create a custom interface for the end-user and will hide the source code that makes up the interface.

- A Database such as MySQL can be used to store data in web application development.

Native and Hybrid Apps

- Web applications are sometimes contrasted with native apps and hybrid apps.
- Native apps are applications that are developed specifically for a particular platform or device and installed on that device.

Native Apps

- Native apps can use device-specific hardware, such as GPS or cameras. Native apps typically have an advantage in functionality over web or hybrid apps.

Hybrid Apps

- Hybrid apps are a combination of native and web apps.
- The workings of a hybrid application are similar to a web application but are installed similar to how a native app would be.
- Hybrid applications have access to internal APIs which can access device-specific resources similar to (but not as efficiently as) a native application.

- For example, native apps are faster and perform more efficiently because native apps are designed to be platform specific.
- Hybrid apps have the same navigational elements as web apps since hybrid apps are based on web applications.
- Additionally, there is no off-line mode for hybrid applications.

Writing for the Web

Why is writing for the web different from other writing?

- Users read information online differently than information in print.
- Online readers coming to a site after an online search often don't know if a website will meet their needs.
- If they do not quickly find the information they are looking for, they will deem the site of little value, no matter how well it is designed or how easy to use.

- Clear, usable content can be achieved by writing for readers with varying levels of interest.
- A writer’s goal should be to give all readers their desired level of information as quickly as possible.

Online reading behavior

Studies have discovered the following behaviors of online users:

- They judge websites in a fraction of a second.
- They scan content, hunting for the information they're after, as opposed to reading word-for-word.

Online reading behavior

- They read more slowly from screens than from print.
- Distractions and competition from online messaging, Facebook, and so on make it hard to keep users' attention.
- Because so much information is available online, users need to determine quickly if content is worth reading and spending time with.

Know your audience

- Your audience:
  - Once you identify your audience, determine various interest levels of your overall audience and try to write for each level (none, little, some, strong, and so on).
  - Create a user persona for each kind of user to help you determine how to get their attention.
  - Write as if you are speaking to your audience in person.
- Writing for all users:
  - Consider users of various reading levels.
  - Make sure all content is accessible.

Writing guidelines

– Guidelines for effective communication

- Use clear, simple, and familiar language.
- Avoid jargon, acronyms, & abbreviations.
- Use an active and objective voice.
- Be direct and concise, getting to the important points quickly.
- Put the conclusion first so readers know exactly what they will get from the content.

Writing guidelines cont…

- Chunk content
  - *Chunk* means a manageable bit – a small piece of information a user can easily find and understand.
  - Bold important words or phrases.
  - Use lists.
  - Keep content short and create space for scanning it easily.
  - Use fragments or phrases instead of prose style – if you can cut a word, cut it.

Organizing page content

- Titles
  - The title is the first piece of information a user scans. Make it clear, inviting, and meaningful.
- Headings and subheadings
  - Headings should be short, direct, and powerful.
  - Subheadings should be descriptive so users easily learn what each section is about. Use subheadings frequently (every few paragraphs) to keep user moving through content in easy chunks.

Organizing page content cont…

- Sentences and paragraphs – shorter is better
  - Sentences should be no longer than about 20 words.
  - Each sentence should be limited to one idea.
  - Paragraphs should have no more than about 6 sentences.
  - Each paragraph should be limited to one or two ideas.

Organizing page content

- Lists
  - Lists are easy to scan because content is vertical.
  - Content presented in lists is usually more succinct.
- Links
  - Use descriptive link text so users know where they are going.
  - Link to related information.

Organizing page content cont…

– Design elements

- Use callouts, bold, and italics to make text easier to scan.
- Use pictures and other visual elements in place of text when appropriate.

Writing for mobile devices

- Reading content on mobile devices is more difficult that reading content on a desktop computer.
- When writing for mobile users, focus their attention on the essential content.
    - Defer secondary content to secondary pages to maintain focus on the most essential content.

Writing for mobile devices..

- Writing for mobile readers requires even harsher editing than writing for the Web.
- Mobile use implies less patience for filler copy.
    - When in doubt, leave it out.

Best practices

- Analyze and emulate great web writing.
- Provide accurate descriptions and keywords for search engines.
- Use web writing guidelines when repurposing print documents for the web.
- Create a style guide.

Best practices cont…

- Test your content:
  - Make sure all links work and are relevant.
  - Make sure all titles and summaries provide information about the contents of the page.
  - Read content from the view of your defined personas and make sure all users will find information quickly and accurately.

Conclusion

- The title, summary, and major headings should give users a broad overview of the topic.
- The sentences and paragraphs should tell users a story.
- Users want to take away the main ideas without being bogged down with specifics.