

INLS 572 – Internet Applications

Course Schedule – Spring 2008

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Course Syllabus

Course Information

General

Course Prefix and Number: INLS 572

Course Title: Internet Applications

Credits: 3

Class Meetings

Time - Tuesday, 2:00pm – 4:30 pm

Place – Manning 208

Class Website – <http://blackboard.unc.edu>

Intended Participants

Students in Information and Library Science programs

Electronic support

Blackboard

This class will make use of the UNC Blackboard system for course information distribution and assignment submission. The course is located at <http://blackboard.unc.edu>

Course Listserv

You have been subscribed to the course listserv INLS572_Spring2007@listserv.unc.edu. This list will be used for course information and may be used to post questions, observations, and discuss issues.

To send messages to the class list, address e-mails as follows:
INLS572_Spring2007@listserv.unc.edu

Instructor Information:

Erik Mitchell

Contact Information:

Email preferred: mitcheet@email.unc.edu

Office Hours:

By appointment over email, phone, or chat as necessary

Course Description:

From the SILS website: “Introduction to Internet concepts, applications, and services. Introduces the TCP/IP protocol suite along with clients and servers for Internet communication, browsing, and navigation. Examines policy, management, and implementation issues.”

Course Objectives and Outcomes:

To gain an understanding of the history, functions, and current uses of the Internet

To develop skills in identifying and using tools for the creation and use of applications on the Internet

To learn about design principles, trends, and current issues in application design and use.

To learn how to evaluate applications for existing and planning information systems.

To consider theoretical issues underlying the Internet

Teaching Strategies:

Class lecture, readings, exploration, and discussion

Individual and group assignments

Student presentations, reflection, writing, class participation

Course Requirements

Evaluation and Assignments:

Class participation and reflection

- Weight: 30%
- Description

- Class participation is an important part of this course. There will be opportunities in every class to discuss readings, current events, and issues. Please ask questions and participate in the discussions – by doing so you will make the class much more interesting.
- Due Date
 - Ongoing throughout the semester

Web application assignment

- Weight: 15% - group based assessment
- Objective
 - To work with applications in personal/social web environments
 - To identify features of web applications
 - To investigate issues related to these applications
- Description
 - Groups should consist of two to three people. This group assignment includes:
 - The selection of an application that exists within a larger site context.
 - Preparation of a brief (5 minute) informal presentation about the application and its functions.
 - Class discussion of the applications presented.
- Date Assigned
 - See course calendar
- Due Date
 - See course calendar

Group technology topic overview

- Weight: 20%
- Objective

- To evaluate a current Internet technology from the perspectives of background, uses, benefits/issues, and examples.
- Description
 - Students will work in groups of 3 and investigate an Internet technology. The groups will present their technology item to the class during the day on which that technology is to be covered.
 - Presentations should be approx 20 minutes long and should cover an overview of the technology, mechanics (what technology components are involved, what technical purpose is served), an introduction to its uses (including examples), and a brief discussion of positive/negative issues.
 - These presentations will serve as overview and background knowledge on these technologies. We will spend the remainder of each class learning technical skills and working on exercises which investigate these technologies.
- Due Date
 - Due dates will vary depending on which class time is provided for group presentations. See Calendar for available topics/dates

Application portfolio assignment

- Weight: 35%
- Objective
 - To obtain experience creating applications
 - To explore application development platforms and methods
 - To apply application development and design tools.
- Description
 - This assignment will span the course of the semester and will involve the development of several web-accessible objects based on the work that is done in class. At the end of the semester, you should be prepared to turn in a website that includes three 'projects' and a summary webpage. The applications you select may be based on the work we do in class or may be selected from outside technologies.

Please consult with me prior to working with applications that are not covered in class.

- Date Assigned
 - See calendar
- Due Date
 - See calendar

Grading scale

H 100-95%, P+ 94-90%, P 89-85%, P- 84-80%, L 79-70%, F < 69%

Attendance Policy

Attendance, preparation for and participation in this class are expected and highly valued by the instructor and your peers. Students need to arrive on time, attend each class and participate actively. While attendance in class is required, I realize that an absence may be necessary. Please contact me by email or leave a message when you know you are going to be absent. If you must miss class, coordinate with a class colleague to review the session and collect handouts.

Academic Integrity Policy

Students are expected to follow the obligations of academic integrity described in the UNC Honor Code. Students should make themselves familiar with this document and realize that they will be held accountable for understanding and following these guidelines for all activities and assignments. However, collaboration, discussion, and seeking assistance from other students are encouraged and not inconsistent with the Honor Code.

Syllabus Status

This syllabus will contain up-to-date information throughout the semester. When modified, I will try to notify you. It is your responsibility however to make sure that your preparation each week is based on the current syllabus and Blackboard information.

Course Materials and Access

Course Location

The class meets in Mannin 208, 2pm – 4:30pm Tuesdays

Course materials can be accessed via the Blackboard site at <http://blackboard.unc.edu>

Required Text:

This class does not have a required text but does have a number of readings. These readings will be listed in the course packet and will be available through either Blackboard, Journal Finder (<http://eresources.lib.unc.edu/ejournal/>), or via the PAM box reserves in the SILS library.

Assignment guidelines

Assignments must be typed and turned in through Blackboard. If you have difficulty using Blackboard see the tutorial at <http://help.unc.edu/4781>

Assignments must be turned in on time.

Late work will not be accepted without the instructor's approval. If you are unable to turn the assignment in by the due date, contact me to arrange an alternative due date. Late assignments without prior approval will receive a 1 letter-grade deduction.

Please see me individually or email me if you have an emergency that warrants an exception to this rule.

Blackboard and the UNC email system will be used to provide up-to-date class information. Please check your email weekly for class information. Blackboard has links to course information and documents that may be useful.

PLEASE NOTE: Students who have any disability, which might affect their academic performance in this class, are encouraged to seek assistance from the instructor at the beginning of the semester or as soon as possible after an initial diagnosis. If you have a disability that qualifies under the American with Disabilities Act and requires special accommodations, you should contact the office of Disability Services (<http://disabilityservices.unc.edu/help/academic.html>). Documentation of the disability must be on file. Specific accommodations will be determined on an individual basis.

Course calendar and contents

	Week	Class Topic	Presentations	Class Tasks/Assignments
1	1/15/2007	Introductions and core concepts		
2	1/22/2007	The history of the Internet & technology overview		Form Technology topics and Application investigation groups
3	1/29/2007	Information Architecture & trends in web development		
4	2/5/2007	Information Organization: Data Structures and Uses	Internet Applications Groups	Present applications / discuss (assignment 1)
5	2/12/2007	Interactivity: HCI issues and trends	Guest Speaker	
6	2/19/2007	Tech Topics: XHTML Webservers	XHTML Webservice	Topic Presentations Class activity: Create a webpage, XHTML page
7	2/26/2007	Tech Topics: XML / RSS	XML RSS	Topic Presentations Class Activity: Create an RSS feed
8	3/4/2007	Tech Topics: XSL / CSS	XSL CSS	Topic Presentations Class Activity: Style our RSS feeds and XHTML pages

	3/11/2007	Spring Break		
9	3/18/2007	Tech Talks: Scripting Languages	Server Side (PHP) Client side (Javascript)	Topic Presentations Class Activity: Write aamilo: application
10	3/25/2007	Tech Talks: Ajax / APIs	Ajax APIs	Topic Presentations Class Activity: Work with an API
11	4/1/2007	Connections: Open source software		Class Activity: Install blog software
12	4/8/2007	System design	Guest Speaker	Class activity: work on portfolios
13	4/15/2007	Best Practices: Issues group discussion	Group discussions	Group presentations to class
14	4/22/2007	Wrap-up	Share Web portfolios	Assignment 3 due: Web application portfolios

Class 1: Introductions and core concepts

Overview

Class Summary

In this class we will introduce ourselves, examine the course structure, and introduce basic principles of information organization

Goals and Objectives

Introduce instructor and students

Introduce course structure and content

Discuss nature of information organization

Tasks

Introductions

Fill out information card

Student introductions

Course overview

Course discussion

Readings

Class Lecture

- Introduction
 - Introductions, information card
 - Where are we, what do we want to learn this semester?
 - Overview of syllabus
 - Group discussion – course goals
- Definition of course boundaries
 - Definition of the Internet
 - Definition of Internet Applications

- Relationship to other courses

Class Discussion

This week we will break into groups and discuss what you expect to learn from this class.

Class 2: Internet history and overview

Overview

Class Summary

In this class we will look at the history and foundations of the Internet and discuss its technological foundation.

Goals and Objectives

Discuss the history of the Internet from a variety of perspectives

Discuss the technological foundation of the Internet

Set the parameters of the course and form collaborative groups

Tasks

Form Application investigation groups

Form Technology topic groups

Readings

"History of the internet."2007.http://en.wikipedia.org/wiki/History_of_the_Internet -
Browse

Leiner *et al.* 2007. A brief history of the
internet.<http://www.isoc.org/internet/history/brief.shtml> - Browse

"A concise guide to the major internet
bodies."2007.http://www.acm.org.libproxy.lib.unc.edu/ubiquity/views/v6i5_simoneli.html - Browse

Webtropa. 2007. Intro to the web application development
environment.<http://www.extropia.com/tutorials/devenv/toc.html> - Browse

Class Lecture

- Definitions – The Internet, organizations, standards
- History of the Internet
 - Foundations

- ARPANET
 - DARPA
- A tour of the Internet through the Internet Archive
- Infrastructure
- Governance and Politics
 - The W3C
- Personal and Community roles
- The Anatomy of an ‘Internet Application’
 - Platforms
 - Servers
 - Languages
 - Supporting applications
 - Interfaces
 - Server-side
 - Types of software and functions
 - Client-side
 - The browser and extensibility
 - Single page applications
 - Functionality and Users
 - Functional levels (Webpage to Rich Internet Applications)
 - Interactivity and Accessibility
 - Data and Interoperability
 - Database driven applications
 - API driven applications
 - Metadata and Interoperability

- Choosing an approach
 - Influential factors
 - Benefits / issues
 - Balancing user needs

Class Exercise

Work with Google gadgets

Class Discussion

- Assignment one (Social Application investigation) discussion & group formation.
 - Define social/personal applications, discuss assignment
 - Form groups of two to three people select a social / personal application to investigate
 - Groups should be prepared to present/discuss on their selected application in class 4.
- Group formation and signup for technology topics.
 - Review technology topic assignment
 - Pass around signup sheet for technology topics

Class 3: Information Architecture and design

Overview

Class Summary

In this class we will look at the field of Information Architecture, the influence of the Internet on computer science, and current trends in application development

Goals and Objectives

Become familiar with the field of Information Architecture

Discuss the impact of the Internet on Computer Science and application development

Investigate trends in Internet applications

Introduce general programming concepts

Tasks

Review group application presentations for week 4.

Reminder about Widernet presentation on 2/4 -

<http://unc.facebook.com/event.php?eid=6740898935>

Readings

Morville & Rosenfeld. 2006. Information architecture for the world wide

web.<http://webcat.lib.unc.edu/record=b5116599> - Read Chapters 1 and 2

"Information architecture: An

overview."2007.<http://www.infoed.com/Open/PAPERS/overview.htm> -

Optional Readings

Louis. 2002. Information architecture: Looking ahead.53, 874-

876.<http://dx.doi.org/10.1002/asi.10098> -

Dillon. 2002. Information architecture in *jasist*: Just where did we come from?53,

821-823.<http://dx.doi.org/10.1002/asi.10090> -

Class Lecture

- Information Architecture overview
 - Data, Platforms, Users
- Computer Science and the Internet
 - Fields of inquiry
 - Areas of development
 - Foundations and shifting models
- Trends in application development
 - Web application frameworks
 - http://en.wikipedia.org/wiki/Web_application_framework
 - http://en.wikipedia.org/wiki/Comparison_of_web_application_frameworks

Class Discussion

Form into five groups. Each group should pick a website to investigate (Amazon, Google, , etsy.com, etc). Discuss the information architecture of the site and be prepared to report back to the class on these topics:

- Data architecture: How is the data organized? What relationships between the data are represented on the site?
- System architecture: What tasks does the system support? What kind of user tasks are apparent?
- Interface and usability: Accessibility, functionality, Implications of data architecture on interface design
- User needs/perspectives: Serving primary information needs
- Technology architecture: What technologies does the site appear to use? Do they rely on client-side technologies, server-side technologies? What kind of indexing/browsing software do they use?

Class Exercise

In this class we will get access to our RUBY accounts & start working with them.

- Establish web-space
- Connect to Ruby and look at the server structure
- We will be ensuring that we have our web permissions set correctly using this document - <http://sils.unc.edu/itrc/its/faq.php?id=4617>

Introduction to Unix. In this exercise we will learn some basic Unix commands that might come in handy during the course of the semester. We will be connecting to the SILS server Ruby and working with files. Prior to class, please download and install sftp (<http://sils.unc.edu/itrc/its/index.html>)

- Getting connected, shell sessions, ftp
- Basic file management
 - Cp
 - Ls
 - Mv
 - Mkdir
 - man
 - Rm
 - Chmod

Class 4: Information Organization: Data structures and uses

Overview

Class Summary

In this class, we will look at the impact of information organization on Internet applications. We will investigate both technologies and standards and discuss possible uses.

Goals and Objectives

Become familiar with information organization principles

Become familiar with technological solutions to information organization challenges

Discuss the implications and issues related to information organization in Internet applications

Present the results of our application survey

Tasks

Internet application group presentations

Readings

Kwasnik. 1999. The role of classification in knowledge representation and discovery.48, 22.<http://eresources.lib.unc.edu/ejournal/exacthandler.php?titlewords=Library+trends> -

Lagoze *et al.* 2006. Metadata aggregation and "Automated digital libraries": A retrospective on the nsdl experience.<http://doi.acm.org.libproxy.lib.unc.edu/10.1145/1141753.1141804> - Browse

Shirkey. 2006. Ontology is overrated: Categories, links, and tags 2006.http://shirky.com/writings/ontology_overnated.html -

Pidock. 2003. What are the differences between a vocabulary, a taxonomy, a thesaurus, an ontology, and a meta-model?<http://www.metamodel.com/article.php?story=20030115211223271> -

Class Lecture

- What is information Organization
 - Why is it important?
 - How is it related to Information Architecture?
- Foundational concepts
 - Terms – Warrant, aboutness, specificity, exhaustivity
 - Categorization / classification
 - Types
 - Enumerative, Hierarchical, Faceted
 - Theory
 - Prototype theory (Rosch)
 - Miscellaneous (Weinberger)
 - Controlled vocabularies
 - Thesauri, wordlists, folksonomies
 - Metadata models
 - Standards
 - Dublin Core
 - RSS
 - Encoding systems
 - XML, RDF, JSON
 - Knowledge management
 - Taxonomies, Ontologies
- How is information organization used in internet applications
 - Data structure
 - Site navigation

- User services

Class Exercise

In the first half of class we will work with Yahoo Pipes to investigate the use of data structures in Internet applications

In the second half of class groups will present their social-application survey results (Assignment 1 - assigned in class 2) and discuss.

Class 5: Interactivity: Design & Human Computer Interaction

Overview

Class Summary

In this class we will investigate the field of HCI and discuss the elements of interaction in Internet Applications. We will have a guest speaker, Jackson Fox, from Lulu.com speak with us about interactivity & design.

Goals and Objectives

Become familiar with the ideas in design and interactivity

Discuss trends in HCI in Internet Applications

Readings

US Department of Health and Human Services. 2006. Research-based web design & usability guidelines.<http://usability.gov/pdfs/guidelines.html> - Read chapter 1, browse

Becky. 2007. Enabling an accessible web 2.0.<http://doi.acm.org/10.1145/1243441.1243442> -

Harper & Bechhofer. 2007. Sadie: Structural semantics for accessibility and device independence. *14*, 10.<http://doi.acm.org/10.1145/1275511.1275516> -

Class Lecture

- Perspectives in information seeking
- What does interactivity mean?
- What is HCI?
 - Usability
 - Testing
 - User experience design
- Why is Interactivity important?

- Wireframes – design approaches

Class Discussion

More programming concepts – Using Yahoo Pipes data in local applications

Class 6: Technology Topics XHTML / Webservers

Overview

Class Summary

In this class we will hear technology topic reports, investigate these topics, and work with the technologies

Goals and Objectives

Present and discuss information on technology topics

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Begin working with XHTML and PHP, become familiar with development and debugging

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

"W3c."2007.<http://www.w3.org/> - Browse, look at the HTML, XHTML standards documents

Wikipedia. 2007. Webservers.http://en.wikipedia.org/wiki/Web_server - Review.

"W3c validator."2007.<http://validator.w3.org/> -

Class Lecture

- Group introduction presentation
- Technical Overview
 - The Document Object Model
 - XHTML (Extensible Hypertext Markup Language)
 - HTML/XHTML

- W3C
- Webservers (Apache, Internet Information Server)
 - Transmission protocols
 - Http, FTP
 - Applications
 - Apache
 - Internet Information Server
 - Statistics
 - <http://www.mrunix.net/webalizer/>
 - Google Analytics
 - Security
 - HTTPS
 - Vulnerabilities
 - <http://help.unc.edu/4705>

Class Exercise

In this class we will be creating our web-space and creating a simple XHTML page. Each student should have a ruby account. We will:

- Review the core components of an XHTML document
- Create, Validate and publish an XHTML document
- Create a simple PHP pages

Class 7: Technology Topics XML / RSS

Overview

Class Summary

In this class we will hear technology topic reports, investigate these topics, and work with the technologies

Goals and Objectives

Present and discuss information on technology topics

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

Choo *et al.* 1999. Information seeking on the web - an integrated model of browsing and searching. 3-16- Complete tutorial

W3c Tutorials. 2007. Xml tutorial.<http://www.w3schools.com/xml/default.asp> - In XML basic section read up to "Validation", this may overlap with XML in 10 points.

Cronin. 2004. Bowling alone together: Academic writing as distributed cognition.55, 557-560.<http://dx.doi.org/10.1002/asi.10406> - Browse

Class Lecture

- Group introduction presentation
- Technical Overview
 - XML (Extensible Markup Language)
 - Definitions
 - Relationship to organization standards(Dublin Core, METS, MODS, etc)

- Validation mechanisms (dtds, schemas)
- Possible uses
 - As a data storage system
 - As a transmission model
- RSS / RDF(Rich Site Summary, Resource Description Framework)
 - Definitions and uses of RSS
 - Definitions of RDF (as opposed to a DTD/Schema based standard)
 - Explanation of the RDF standard as used in RSS
 - Examples of usage
 - RSS/Podcast feeds
 - Related technologies
 - Readers
 - Transformation platforms (CSS, XSL, etc)

Class Exercise

In this class exercise, we will be creating an RSS feed and will talk briefly about different uses of these feeds.

Class 8: Technology Topics XSL / CSS

Overview

Class Summary

In this class we will hear technology topic reports, investigate these topics, and work with the technologies

Goals and Objectives

Present and discuss information on technology topics

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

"Introduction to xslt."2007.http://www.w3schools.com/xsl/xsl_intro.asp - Complete tutorial

"Introduction to css."2007.http://www.w3schools.com/css/css_intro.asp - Complete tutorial

Stamey *et al.* 2007. Client-side dynamic metadata in web 2.0.<http://doi.acm.org/10.1145/1297144.1297176> -

Class Lecture

- Group introduction presentation
- Technical Overview
 - XSL (Extensible Style Language)
 - Definition of uses
 - A brief overview of functions and limitations

- Versions and Governing organizations
- Relationship to other web-languages
- Discussion of file format
- CSS (Cascading Style Sheets levels 1, 2, and 3)
 - Definitions of CSS levels 1, 2, and 3
 - Discussion of IDs, Classes, Pseudo-classes
 - Discussion of file format and linking methods
 - Definition of benefits and limitations
- Technical exercise

Class Exercise

In this class exercise, we will transform our RSS feeds from the previous class and style them using CSS.

Class 9: Technology Topics: Scripting languages

Overview

Class Summary

In this class we will hear technology topic reports, investigate these topics, and work with the technologies

Goals and Objectives

Present and discuss information on technology topics

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Advanced programming concepts, database interactivity

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

"A simple tutorial."2007.<http://us3.php.net/tut.php> - Complete tutorial

"Javascript introduction."2007.http://www.w3schools.com/js/js_intro.asp - Browse, complete tutorial if you have time

"Google code."2007.<http://code.google.com/> - browse

Class Lecture

- Group introduction presentation
- Technical Overview
 - Development environments
 - IDE
 - Googlecode
 - Server-side scripting (PHP)

- Server-side components required
- Some other example platforms (Perl, Python, Ruby, etc)
- Uses and limitations
- Client-side scripting (Javascript)
 - Relationship to the Document Object Model (DOM)
 - Uses and limitations
 - Use in Web 2.0
- Scripting frameworks
 - Script.aculo.us

Class Exercise

In this class we work through a brief introduction to programming and will create a simple PHP script.

Class 10: Technology Topics Ajax / APIs

Overview

Class Summary

In this class we will hear technology topic reports, investigate these topics, and work with the technologies

Goals and Objectives

Present and discuss information on technology topics

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

Garrett. 2005. Ajax: A new approach to

applications.<http://adaptivepath.com/ideas/essays/archives/000385.php> -

Zaman. 2007. Getting started with ajax using

php.http://www.ajaxmatters.com/articles/php/ajax_php_tutorial_p1.aspx -

Class Lecture

- Group introduction presentation
- Technical Overview
 - Ajax (Asynchronous JavaScript and XML)
 - Definition of related applications
 - Discussion of the AJAX framework
 - APIs (Application Programming Interfaces)
 - Definitions and uses

- Exposition of a specific API (metadata standard used, interaction standard, license agreement, etc.)
- Technical exercise

Class Exercise

In this class exercise, we will begin work on our RSS reader application.

Class 11: Open Source software

Overview

Class Summary

In this class we will discuss open source software and setup blogging software on our personal computers.

Goals and Objectives

Become familiar with issues surrounding open source software

Become familiar with the cultural background of open source software

Work with open source software through the installation on local machines

Tasks

Class discussion on open source software

Work with technologies during class exercise

Readings

Tiemann. 2004. An objective definition of open

standards.28.<http://dx.doi.org.libproxy.lib.unc.edu/10.1016/j.csi.2004.12.003> -

Irvine. 2007. Open source software development.[http://www.isr.uci.edu/research-open-](http://www.isr.uci.edu/research-open-source.html)

source.html - Select an article from the selected publication section, read/summarize, and be prepared to discuss in class

Class Lecture

- Overview of open source software and its impact on web applications
- Class exercise on application implementation

Class Exercise

In this class we will be installing Apache, MySQL, and Wordpress on our machines.

1. Download the appropriate files from Apache, MySQL, and Wordpress

- a. Get Apache version 2.2
 - b. Get Wordpress current version
 - c. Get MySql version 4.0 (5.0 has compatibility issues)
 - d. Get PHP current version
2. Install the applications in the following order:
- a. Apache
 - i. Install – use defaults
 - ii. Test and configure
 1. Open a folder, interesting files:
 - a. Httpd.conf
 - b. Logs
 - c. Htdocs
 - d. Cgi-bin
 2. Edits to httpd.conf
 - a. Include index.php as a default document
 - b. PHP
 - i. Configure php.ini
 - ii. Look at apache configuration
 - iii. Test with simple php file (create this file in your htdocs folder)

```
<?php  
phpinfo();  
?>
```
 - c. MySql
 - i. Connect using MySql Client
 - ii. Edit php.ini to include Mysql dll

1. find `extensions_dir` directive and make sure that it points to `c:\php\ext`
2. find `php_mysql.dll` extension and make sure it is uncommented.

d. Wordpress

- i. Unzip Wordpress into apache htdocs directory
- ii. Launch MySQL command client, follow install instructions
- iii. Go to <http://localhost/wordpress/wp-admin> and follow setup instructions

Class 12: System Design

Overview

Class Summary

In this class we will discuss how to combine the technology topics of the previous weeks. We will also hear from a guest speaker about information system design and implementation.

Goals and Objectives

Cleanup work on technical skills

Become familiar with the trends and issues surrounding these topics

Work with these technologies

Become familiar with Search engine optimization

Become familiar with the elements of creating and running a site

Tasks

Technology Topic presentations

Work with technologies during class exercise

Readings

Bell. 2007. Is this web

3.0? <http://www.entrepreneur.com/technology/managingtechnology/web20columnistfrankbell/article184966.html> -

US Department of Health and Human Services. 2006. Research-based web design & usability guidelines. <http://usability.gov/pdfs/guidelines.html> - Read Chapter 18

Class Lecture

- Guest Speaker on system design
- Considerations in designing applications
 - Balancing data structures, platforms, transmission protocols, and users
 - Rich Internet Applications

Class Exercise

Class time to work on web portfolio project

Class 13: Best Practices: Issues group discussion

Overview

Class Summary

In this class we will discuss approaches to system design and take time to discuss the systems that we have been analyzing in class. Halfway through class, we will form new groups based on overarching themes. The first part of this class will involve group work which focuses on system investigation. The second part of the class will involve an informal presentation from each group on their issue observations.

Goals and Objectives

Analyze large-scale internet applications

Discuss their use of technology, data architecture, and implications for design

Discuss how these sites address user needs/issues

Share your group findings with class

Tasks

Group discussion on large-scale internet applications

Readings

Lynch. 2005. Where do we go from here? The next decade for digital libraries. *II*. <http://www.dlib.org/dlib/july05/lynch/07lynch.html> -

Morville. 2007. Semantic studios. <http://semanticstudios.com/> - Pick an article and read.

Be prepared to use to inform your class discussion

<http://creator.zoho.com/home.do>

Class Exercise

Overview

During this class, each group of 5-6 people will select an Internet application (such as a large website, e-commerce application, information system, or back-end application). Each member of the group should select one of six perspectives (community participation, personal information management, site accessibility, site interaction, data interoperability, and user services)

Each person will investigate their issue specifically and work with the group to discuss the information system as a whole. The group should be prepared to discuss their findings during the last half of class.

Guidelines

- Form into groups of six based on technology expertise, interest, availability etc.
- The group should select a large Internet application such as:
 - An e-commerce site like Amazon.com, etsy.com, etc
 - A search/browse application like Google, Microsoft Live search, Yahoo, etc. This group can focus on a specific type of search (Images, maps, text, etc).
 - An information sharing site like Flickr, Del.icio.us, etc
 - A social networking site such as Facebook, Second Life, Myspace, LinkedIn, etc.
- During Class 8 your group will announce your selected application.
- Each person in a group will pick one of six topics to focus on. These six topics are:
 - User model and intended uses
 - Client Platforms and Accessibility
 - Personal Information (Privacy and Management)
 - Social Information (Community building, sharing)
 - Interactivity and Functionality
 - Data models and Interoperability

Class 14: Class Wrap-up

Overview

Class Summary

In this class we will revisit the topics from the semester and take a few moments to discuss the outcomes of our web portfolio projects

Goals and Objectives

Review semester topics

Discuss experience of working with web application tools during the semester

Recap web-portfolio experience

Tasks

Quick informal reports on web projects

Readings

Class Lecture

- Group introduction presentation, Technical Overview, Technical exercise

Class Exercise

Quick presentations on web projects. During the last part of class, students will briefly share the results of their web-portfolio work.

Assignment 1: Application research

Overview

In this assignment you will investigate an ‘application’, ‘gadget’, or ‘plug-in’ from a personalizable or social networking site. Some examples of this are any of the applications available in Facebook, the gadgets available in Google, or specific services like Yahoo Pipes, Google Docs, etc. Your group will briefly present your findings in class.

Purpose

The purpose of this assignment is to become familiar with development trends in technology tools on the web. The applications that fall under the scope of this assignment are both simple to use and understand but represent an interesting trend in application development.

Guidelines

- Form into groups of two or three people.
- Select an application from an acceptable site. These applications can be defined as any user-centered application that serves to either enhance the functionality of the parent site or allow the user to embed data from that site in an external application. While the code to embed a YouTube video does not count as an example of this, an application which uses the YouTube API to combine YouTube Content with other data would. Two examples are applications developed under the Facebook platform and gadgets developed under the Google Ipage platform. Examples of site which could be presented on can be found at:
 - <http://www.neobinaries.com/>
 - <http://www.programmableweb.com>
- Any application in Facebook such as wikimono, Facebook wall, activity feeds, etc.
- Any application in Google Gadgets
- A larger scale application such as Google Docs, Yahoo Pipes, etc.
- You may select another application other than those listed but please consult with me first.
- Conduct a review of the application. The main questions you should be able to answer are:

- What is the application, who produces it?
- What are the primary functions of the application? What needs does this application fill?
- What context can the application be used in? (i.e. Facebook only, any webpage, etc.)
- Who is the intended user, what type of skills/preferences would this user have?
- What can you tell about the platform behind the application? Is there a programming language, platform, or data model that is used heavily? (You may find more information about this in the developer documentation).
- Think critically about the application, the platform, and the success with which the application meets the needs/goals you defined in question 2.
- Prepare a short presentation (no PowerPoint required) which demonstrates the features of the application, discusses uses, reactions, and implications.

Evaluation

This assignment will be evaluated by the following criteria.

- Application Selection and Evaluation
 - Did the group select and evaluate an appropriate application?
 - Was the review and critique extensive (e.g. did it answer all of the questions) and insightful?
- Prepared Review
 - Does the review contain appropriate information about the application including access links, brief user instructions, etc?
 - Does the review discuss the critique conducted by the group?
- Presentation and Demonstration
 - Does the presentation and demonstration show the application functionality and context?
 - Does the group define the expected user and functionality of the application?
 - Does the group successfully critique the application and address questions from the class?

Assignment submission

This assignment will be due on class 4 – See syllabus for dates.

Resources to consider

<http://www.facebook.com>

<http://www.google.com/ig/directory?synd=open>

<http://widgets.yahoo.com/>

<http://docs.google.com>

<http://pipes.yahoo.com>

Assignment 2: Group technology topic presentations

Overview

In this assignment, your group of three people will prepare a 15 minute presentation on a selected technology topic. These topics are related directly to class content and will be presented on a specific class (Classes 6-10). These presentations will serve as a component of the course lecture. Presentations should focus on history, uses, applications and not on the technical details.

Purpose

The purpose of this assignment is to evaluate a current Internet technology from the perspectives of background, uses, benefits/issues, and examples. These presentations do not need to focus on the technical details of these technologies. Think of it as a non-technical introduction to the material.

Guidelines

- Form into groups of three based on technology expertise, interest, availability etc.
 - The topics available are (Presented in order, see Syllabus for exact class dates):
 - XHTML (Extensible Hypertext Markup Language)
 - Webservers (Apache, Internet Information Server)
 - XML (Extensible Markup Language)
 - RSS / RDF(Rich Site Summary, Resource Description Framework)
 - XSL (Extensible Style Language)
 - CSS (Cascading Style Sheets levels 1 and 2)
 - Server-side scripting (PHP)
 - Client-side scripting (Javascript)
 - Ajax
 - APIs (Application Programming Interfaces)
 - As a group, investigate the technology. While each group will have specific topics to cover within their technology (see below), in general, you should:

- Define the origins, history, scope, and use of the technology
- Discuss any standards that govern the technology
- Discuss related technologies (both dependent and loosely-connected)
- Show examples of the technology in use
- The presentation does not need to include technical information. The instructor will follow up with a more technical presentation including links to documentation / instruction sites for basic introductions to the technology.
- As a group, present your findings to the class on your assigned class date (see syllabus). Be prepared to answer questions and discuss the technology with the class.
- Prior to the class prepare a 1-2 page handout for the class
- Specific topics to cover for each technology include history, overview and examples of uses, and specific examples.

Evaluation

This assignment will be evaluated by the following criteria.

- Technology topic exploration
 - Does the group fully explore the technology including both general definitions, relationships to other technologies, and relationships to standards or governing organizations?
 - Does the group cover the prescribed points (see guidelines above)?
- Prepared Review
 - Does the review contain appropriate information about the technology including access links, brief user instructions, etc?
- Presentation and Demonstration
 - Does the presentation and demonstration show the technology functionality and context?
 - Does the group define the functions and limits of the technology?
 - Does the group successfully address questions from the class?

Assignment submission

This assignment will be due between classes 6 and 10 – See syllabus for dates.

Submit your review in the course Wiki prior to class.

Resources to consider

[Http://www.w3c.org](http://www.w3c.org)

[Http://apache.org](http://apache.org)

<http://www.php.net>

<http://www.w3schools.net>

<http://wikipedia.en.us>

Assignment 3: Web portfolio

Overview

This assignment will span the course of the semester and will involve the development of several web-accessible objects based on the work that is done in class. At the end of the semester, you should be prepared to turn in a website that includes:

At least three ‘projects.’ These projects should be a discrete application (some examples include a webpage with embedded media, an RSS feed with a presentation style sheet, a simple PHP application, or a application developed within the context of another application (Google gadget for example). If you wish to create a single, more complex application (such as a data-driven webpage, a Facebook application, etc) please get in touch with the instructor.

A summary document that provides an overview of your portfolio and its contents. This may be a webpage, word document or other appropriate document.

The applications you select may be based on the work we do in class or may be selected from outside technologies. Please consult with me prior to working with applications that are not covered in class.

Purpose

The purpose of this assignment is to develop our technology skills by creating simple pages/applications based on web technologies. In doing this assignment we will explore different platforms, development methods, and tools.

Guidelines

- Over the course of the semester (classes 6 through 10) we will conduct in-class exercises which focus on different technologies. You should select at least 3 of these technologies and explore in more depth. This may mean the combination of two technologies (an XHTML page styled with CSS, an RSS feed filtered with XSL, etc).
- At the end of the semester, you should have a webpage created in your web-space which documents your portfolio. This portfolio should include:
 - At least three ‘projects.’ These projects should be a discrete application (some examples include a webpage with embedded media, an RSS feed with a presentation style sheet, a simple PHP application, or a application developed within the context of another application (google gadget). An application of sufficient complexity can serve the purpose of all three projects. An example of this would be a complete Facebook application, an AJAX application that interacted with server-side data, or an

application based on the APIs or development framework of another organization.

- A summary webpage presenting and discussing these applications. Your discussion should include:
 - An overview of your project
 - A discussion of the development process and issues you encountered
 - A reflective statement about the process and your future goals in web application development
- If you would like to explore a single application in more depth you may do this in lieu of three smaller applications. The scale and scope of a single project would be appropriately larger (such as a data driven web-page, a dynamic RSS feed, a configured social software application, etc). If you wish to pursue a single larger project, please discuss your idea with the instructor. Single item assignments should utilize multiple technologies or should pursue a single technology in significant depth.
- The purpose of this assignment is to provide you with a venue to explore Internet Applications. If there is a special project that you would like to work on which does not fit this assignment directly, please come speak with me about it.
- During the last class we will take approx 60 minutes to discuss and share our experience in creating our applications. Prior to class, please submit a link to your assignment to the course Wiki. You will be given the opportunity to share/demonstrate your applications if you wish

Evaluation

This assignment will be evaluated by the following criteria.

- Internet application exploration
 - Does the portfolio show directed development efforts outside of class exercises?
 - Is the portfolio summarized on a webpage?
 - Does the reflective statement on the webpage discuss the observations and experience of working with these applications?
- Web-portfolio presentation
 - Did the student participate in 5 minute madness?

Assignment submission

This assignment will be due on class 14 – See syllabus for dates. Submit your document or a link to your document in Blackboard assignments.

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