SYSC 5801T
ADVANCED TOPICS IN COMPUTER-COMMUNICATIONS: WEB 2.0 (COLLECTIVE WEB)

Winter 2010
Department of Systems and Computer Engineering
Carleton University

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This course outline is a living document. Improvements may be made as necessary during the term.

Instructor availability
The instructor is available via e-mail any time. Office hours by appointment (online/offline).

Calendar description
SYSC 5801T [0.5 credit] Advanced Topics in Computer Communications: Web 2.0
User participation (tagging), network effects (platforms, N-sided markets, collective intelligence), social media (social networks, blogs, wikis), mashups (programmable web, syndication), innovation ecosystems (recombinant innovation, mashup ecosystem), sensemaking (visualization, collaborative analytics), open APIs (REST, communication-enabled applications), and open content (control, licensing).

Prerequisites: TTMG 5001

Course objectives
This course examines how to innovate in a Web 2.0 world. Unlike the Web 1.0 that preceded it, Web 2.0 emphasizes collaboration, openness, and participation. In a Web 2.0 world, the difference between information producers and consumers has essentially disappeared, turning the Web (finally, we should add) into a read/write medium. We will explore new ways that users can collaborate through blogs and wikis, and by recombinating information into mashups. We will examine the implications of open communication between users (companies and individuals alike), and study the new business models enabled by user participation.

Problem definition, hypotheses formulation, methods to collect and examine data, and the identification of insights relevant to academics and practitioners are key components of this course.

Rationale
Many courses focus on the mechanics of Web 2.0 technologies. This course takes a broader perspective and examines what opportunities Web 2.0 presents in terms of new business models, new forms of social interaction, and new ways of sharing and reusing information. However, these opportunities also come with risks and unresolved issues. Our goal is, therefore, also to identify open issues that research on Web 2.0 needs to address.

Benefits
Students will benefit from:

• understanding the literature on Web 2.0 technologies and business models
• knowing how to apply lightweight approaches to sensemaking
• developing skills in making, assessing and communicating recommendations on how to create new business opportunities from Web 2.0 technologies
• using Web 2.0 collaboration technologies to create a product
**Class Sessions**

This course is offered in-class as well as online. Remote students can participate by logging into conference room 85801 with password “student” at [http://present.sce.carleton.ca](http://present.sce.carleton.ca). For audio call into our conference server at 613-520-7610 (Ottawa) or 1-866-520-2505 (toll-free), and enter the room number when prompted. You can also connect via the VOIP feature from within the web conferencing system by clicking on the headphones icon at the top of the window. Support for the VOIP feature is still experimental, but it requires no access to a phone.

Please see the tutorials on participating in an online classroom on the present.sce.carleton.ca site.

For the weekly sessions there will be assigned readings and tasks. I will also be inviting local Web 2.0 entrepreneurs as guest speakers to give short presentations on their vision of Web 2.0.

During the student group presentation sessions, groups will be asked to make short presentations on their assignments (max. 10 minutes; please practice so you stay on time). Each group decides who presents what and in which order. Before 5 p.m. EST the day prior to when presentations are due, each group will distribute to all members of the class the slides to be presented the next day. No exceptions.

The course material and recordings of the class sessions will be made available on the Moodle learning content management system at [http://cms.sce.carleton.ca](http://cms.sce.carleton.ca). If you don't have an account contact the instructor.

**Student Evaluation**

Course participants are required to complete two group assignments and participate actively in class (discussion and assigned tasks). To determine the course grade, these weights apply:

- **Assignment 1 (group)** 40%
  - 50% of your mark will be based on your contributions to the wiki, and 50% on peer evaluation
- **Assignment 2 (group)** 30%
  - Only the final version of the presentation will be graded and is worth 10%
- **Class participation** 30%

Assignments submitted late and presentations not made will receive a grade of zero. All students in a group receive the same grade. The mark of assignment 1 is composed of a mark given to all students and a mark based on peer evaluation. Final grade reports will follow Carleton University guidelines.

**Assignment 1**

This is a group assignment. Groups should be approximately equal in size.

Collaborate on a book on how Web 2.0 changes innovation. Groups can sign up of a chapter of the book at the beginning of the course. The assignment is first-come first-served. Ties will be broken by the instructor. Each class session will result in a chapter of the book. Students use a wiki to author chapters in three stages:

1. In the first phase, only students within the group contribute to the chapter. Students are also expected to expand on the class discussion by reviewing five additional papers and integrating the insights gained into the chapter. This phase ends one week after the class on which the chapter is based.

2. In the second phase, each group will comment on the chapters authored by the previous group using the discussion pages of the wiki (the first group reviews the chapters of the last group). Students can also edit the wiki pages of the other group directly, but only after documenting their rationale for the change in the discussion page. Check the WikiWikiWeb article on WikiGnomes for suggestions on make constructive edits ([http://c2.com/cgi/wiki?WikiGnome](http://c2.com/cgi/wiki?WikiGnome)). This phase takes one week.

3. In the third phase, groups will update their chapters by integrating the feedback into their chapter. This phase takes another week. At the end of this phase the final version of the chapter is due.

This year's students will not start from scratch but build on the chapters written by students in the last course. It is therefore also expected that you make improvements to your chapter:

- structure and organization (clearly identify the learning objectives of the chapter, end the introductory page with a one paragraph chapter outline, and add study questions at the end of a chapter)
- edit the chapter for writing style (improve readability, turning the chapter it into something that you
would like to read, and less into a literature review)

- improve the flow of the chapter by better connecting the ideas in the chapter
- enrich the chapter with examples that demonstrate the concepts
- update the content reflecting changes in the lectures and new findings from the literature
- make corrections where necessary

On the discussion page associated with the chapter also keep track of the major changes to the existing chapter. This should be somewhat like release notes you that accompanies a new version of a piece of software.

Chapter format: learning objectives, chapter outline, body of chapter, questions, references. Copy and paste from other websites is not acceptable. You must restate the work of others in your own words. The same holds for figures. Unless these figures have been made available under a license that allows reuse (eg Creative Commons), you need to either obtain permission from the publisher (difficult and expensive!) or recreate the figure.

Instructor will provide a template chapter that illustrates the format and the main techniques of using a wiki that incorporates the lessons learned from the previous class.

For other examples of books written using a wiki check out the WikiBooks initiative (http://en.wikibooks.org/wiki/Wikibooks:Guidelines_for_class_projects) and the Global Text Project (http://globaltext.terry.uga.edu/).

Assignment 2
This is a group assignment. These can be different groups. I expect around 8 projects.

Propose the concept for a new Web 2.0 business opportunity. Document the customer value proposition: what is new about the business opportunity, and what are its points of difference for different types of customers with regard to existing offers. Include your rationale for selecting the concept: identify potential concepts and show the criteria you used to rank them. The deliverables of this assignment are two presentations (the first version will not be marked, but is used to provide you with feedback on your concept), and a report (maximum of 5 pages). The presentation should follow the template supplied by the instructor and be in PDF format.

Links:

Presentation of first version due: February 24, 2009
Presentation of final version and submission of a report (maximum 5 pages) due: April 7, 2009

Class participation
Active class participation is an important component of this class:

1. Participation in class discussions (contribute to lessons learned at the end of each class, lead a discussion, provide feedback on the assignments of your classmates)
2. Start discussions on four topics related to the class material and post them to the wiki, and contribute to four discussions created by others. The contributions are evaluated based on their significance.
3. Write four glossary entries on key concepts and post them to the course glossary.
4. Contribute at least three postings to the course blog with examples of Web 2.0 websites or services, and tag your posts. The tags will appear in a tag cloud on the course website.

Group work and free loaders
Group work is an important component of this course. You may elect to work in the same group to prepare both assignments or work in two different groups. Group conflicts are to be dealt with by the group in a way that is fair, fast and without personal attacks. The instructor does not settle group disputes.

The instructor will dissolve a group that is late submitting an assignment. A group of three is expected to deliver better work than a group of two.

Free loaders are not welcome anywhere. This course is no exception. The best way to deal with free loaders is to not include their names in the first page of the group assignments. If a student’s name does not appear in an assignment submitted by his or her group, the student must submit his or her own assignment. Failure to do so,
the student will receive zero for the assignment. There is zero tolerance for free loaders.

**Students with disabilities**

Students with disabilities who require academic accommodations in this course are encouraged to contact the Paul Menton Centre (PMC) for Students with Disabilities to complete the necessary forms. After registering with the PMC, make an appointment with me in order to discuss your needs at least two weeks before the first assignment is due. This will allow for sufficient time to process your request.

**Plagiarism**

Plagiarism (copying and handing in for credit someone else's work) is a serious instructional offence that will not be tolerated. Please refer to the section on instructional offences in the Graduate Calendar for additional information. Plagiarism is against the TIM culture. A case of plagiarism will be referred to the Chair of the Department and the Carleton University Ethics Committee. The instructor will not deal with the matter directly. The university has clear processes to deal with students who are suspected of plagiarism.

**Administrative details**

These are the rules of conduct for this course:

- Please notify the instructor via e-mail if you will not attend a class.
- You must be prepared for each class. You do so by reading the material assigned and being prepared to discuss in class how what was read can be applied in product development organizations.
- Each presenter must make his/her slides available to all other students by noon the day before.

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**Web 2.0 (Collective Web): Schedule**

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<th>Topic</th>
<th>Readings</th>
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<td>Session 1: Introduction</td>
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<td>Session 2: Concepts</td>
<td>• Lee et al. (2008)</td>
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<td>• McAfee (2006)</td>
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<td>Jan 20</td>
<td>Session 3: User participation</td>
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<td>• Cook (2008)</td>
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<td>• Chapter 3 in: Leadbeater (2009)</td>
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<td>• Marlow et al. (2006)</td>
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<td>Jan 27</td>
<td>Session 4: Network effects</td>
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<td>Session 5: Social media</td>
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<td>• Boyd &amp; Ellison (2007)</td>
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<td>• Van Alstyne &amp; Brynjofssen (2005)</td>
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<td>Feb 10</td>
<td>Session 6: Mashups</td>
<td>• Chapter 4 in: Shuen (2008)</td>
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<td>• Mashup Pattern in: Governor et al. (2009)</td>
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<td>• Balasubramaniam et al. (2008)</td>
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<td>• Chapter 9 in: Yee (2008)</td>
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<td>Feb 17</td>
<td>Winter break</td>
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<tr>
<td>Feb 24</td>
<td>Session 7: Present first version of assignment 2</td>
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Readings
To access the required journal articles in electronic form, go to: [http://www.library.carleton.ca](http://www.library.carleton.ca), and click on “Journals & Journal Articles”. Enter the name of the journal, and click “Search”. Click on the link (there may be several), and enter your barcode number and PIN. For material on the Web, the URL is provided.

The “In depth” and “Examples” sections contain further reading which is optional.

**Readings for Session 2**

**Readings for Session 3**
Shuen, A. (2008), Users Create Value, Chapter 1, 1-38.
Leadbeater, C. (2009), How we-think works (and not), Chapter 3, 61-87
Examples: Yee, R. (2008), Understanding Tagging and Folksonomies, Chapter 3, 61-75.

**Readings for Session 4**


Gruber, T., Collective knowledge systems: where the social web meets the semantic web, Web Semantics: Science, Services, and Agents, 6, 4-13.

Readings for Session 5


In depth: Marlow, C. (2005), The Structural Determinants of Media Contagion, Master’s Thesis, MIT.

Readings for Session 6
Shuen, A. (2008), Companies Capitalize Competences, Chapter 4, 107-128


Yu, J., Benatallah, B., Casati, F., & Daniel, F. (2008), Understanding mashup development, IEEE Internet Computing, September/October, 44-52,

Yee, R. (2008), Moving from APIs and Remixable Elements to Mashups, Chapter 9, 227-242.

Examples: Mahemoff et al. (2007), Flickr and Google Maps mashups, Chapter 7, 217-250.

Readings for Session 8

Ogrinz, M. (2009), Manage Patterns, Chapter 7.


Readings for Session 9


Readings for Session 10


Readings for Session 11

Yee, R. (2008), Making your web site mashable, Chapter 12, 313-324.


Readings for Session 12


Reference texts

All reference texts for this class are either available online or through the e-books section of the library.


Suggested books


Bell, G. (2009), *Social Web Applications*, O'Reilly.


Libert, B., & Spector, J. (2008), *We are Smarter than Me*, Wharton School Publishing.


Zittrain, J. (2008), *The Future of the Internet*, Yale University Press, also available under a Creative Commons License at [http://futureoftheinternet.org/download](http://futureoftheinternet.org/download)