BA 3843 -- Spring, 2006
Decision Support Systems

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M 6:00 - 6:30 pm
or by SCHEDULED appointment

General Information

Acceptable Use Policy: http://www.umsl.edu/help/userrights.html
Computing Information: http://www.umsl.edu/technology/
Computer Lab Information: http://www.umsl.edu/technology/instructionalcomputing/
Advanced MIS Lab Information: http://www.umsl.edu/business/mis/MISlab.html
Library Information: http://www.umsl.edu/services/library/library.html
UMSL Home Page http://www.umsl.edu/
MIS Home Page http://www.umsl.edu/business/mis

Any JavaScript Book with which you feel comfortable.

Supplemental Materials

Class Web Site http://www.umsl.edu/~sauter/DSS/3843start.html
DSS Current Page http://www.umsl.edu/~sauter/DSS/current.html
Web Help http://www.umsl.edu/~sauter/help/index.html
JAVA Script Help http://www.umsl.edu/~sauter/help/Links_java.html
Student Information Form http://www.umsl.edu/~sauter/DSS/student_info.html
Group Evaluation Form http://www.umsl.edu/~sauter/DSS/group_eval.html

Prerequisites: BA 3300 -- Business Statistics

Semester Goals: Decision Support Systems are tools decision makers use to gain a better understanding of their business. They are the "front-end" technology that is generally associated with a data warehouse, and which provides the modeling and analysis capabilities to help decision makers see avenues through which to gain competitive advantage. As the name suggests, a DSS focuses how models, data, and other analytical tools decision makers might use in the reasoned consideration of the options available to them. In the current environment in most businesses, DSS are being implemented as intranets and so require web-based technologies.

Assignments
**Individual Assignments:**

1. **Blogs:**

   One primary difference between a Decision Support System and other systems is the inclusion of models – from descriptive statistical models to financial models to optimization models, and even artificial intelligence. So, we really need to focus on models – what they are and how they can be used to support decision making, as well as what happens when they are not present in decision making. Hence, to ensure that we all are regularly thinking about the modeling in terms of DSS, we will maintain “blogs” (a sort of a journal of news articles) on the topic during the semester.

2. **Technology Assignments:**

   Since the programming in advanced html and in javascript is new to most students in the class, we will have some homework assignments that ensure no one falls too far behind. These generally will be short assignments that demonstrate tools and functionality we discuss in class. Assignments will be intermittent, and will be announced in class. To start this effort, you must demonstrate that you can create a web page that has at least the following characteristics:
   - Your page must have a theme that is displayed in the background, icons and layout of the page.
   - You must include at least two images or graphics on your home page. You may either copy the image to your public_html directory, or you may create a direct link to the image's original site.
   - You must include two or more buttons on the page.
   - You must also include one or more tables in the design of your page.
   - Your home page must have a title (what the browser displays at the top of the window).
   - The page must have a link to the class page.
   - The page should include a link to any other web pages you maintain.
   - The body of the personal home page should have your name and a hot-linked e-mail address.
   - Make use of the available headings to give a professional appearance to your page.
   - You are free to add more and make your page more interesting and “cool.”

   Post the webpage on the internet and send the url to Professor Sauter. These preliminary pages are due by February 6.

3. **“Networking” Activities:**

   Learning to network, and learning to learn about new topics is an important part of any IS Professional’s life. Therefore, you are going to practice that activity this semester by attending at least three external events. These might include the IS Mentoring Program, the IS Programming Club, the Career Services Etiquette Banquet, the Executive Leadership Institute’s Lunch Series, ITS’ High Performance Computing Day, Student Night Seminars sponsored by the Institute of Internal Auditors and the Information Systems Audit and Control Associations, the local Web Developers Chapter, Saint Louis Visual Basic Users Group, the XPSTL Group, the Wireless SIG or any other IS-related seminar by a campus based or local professional organization (if it is not in this list, be sure to get permission before you go). The base grade will be the percentage of the expected events (3) you attend. Any you attend above three will count as extra credit.

   To get credit for attendance, you must bring a note from an officer of the organization noting the date of your attendance, your name and the speaker’s topic.

**Group Assignments:** For the Modeling Assignment and the Project, students will work in groups of 3-5, which will be created randomly by the instructor. However, she will take into account students’ preferences for group members. No later than January 30, each individual must email the instructor with a list of names of individuals with whom he or she does want to work and a list of names of individuals with whom he or she would prefer not to work. Groups should be announced no later than February 6.
Modeling Assignment: Each group will examine some decision that is current in the local business or political community, and identify models that are being used to examine the question as well as those models which should be used to examine the question.

- What kind of decision or problem is being considered?
- Who are the decision makers?
- What options are they considering?
- What kinds of information are necessary to determine the benefits of the options under consideration?
- What kinds of models are necessary to examine that information?
- What kinds of problems in data collection and/or analysis are likely?
- How would you address those needs in a DSS?

The presentations will all occur on February 27, and will be scheduled by lottery. Students must also turn in a URL for a discussion on February 27. Web pages should be informative and attractive, and include appropriate links.

Systems Development: Each student will get "hands-on" experience with the development of a decision support system/expert system. This semester, we will develop decision support systems to facilitate the informed purchase of a home computer system. The project teams will decide on the specific functions built into the system. However, theoretically, the system would be available to help both novice and experienced computer purchasers select from among a variety of styles of computers and peripherals.

The system must be able to accommodate a variety of decision making styles in these choices. These systems must include some "intelligence." That is, the system must be able to make some decisions on its own as a function of its "knowledge" of the user and/or its "knowledge" about the customer's interests. Students may (and are encouraged) to fabricate (or invent) any other data they need for the system; they are not expected to collect it. Groups are not required to use the provided information and may re-formulate information into other databases.

Systems and Final Reports: The groups will provide a disk or URL with the working system that they write as well as a report justifying their system. This paper must identify and justify the system characteristics. It must include a discussion of what the system does, and why your group elected to implement the system in the fashion chosen. This includes:

1. a description of the decision process
2. a justification for how the process would be improved with this system
3. the goals/objectives of the DSS
4. a discussion of how those goals/objectives meet the needs of the users
5. a discussion of how the DSS might be integrated into normal work processes
6. an explanation of what types of information will the system require, and how will that information be maintained
7. an explanation of what type(s) of modeling the DSS will use

Students will probably want to include a section, "what we wanted to do, but didn't know how or didn't get to." Papers must be typed (or word-processed), double-spaced with one-inch margins on all sides, and with page numbers. The maximum length for the paper is 10 pages. The paper and system will be due on May 5 (note this is the first day of final exams).

While the entire group generally will receive the same grade, I reserve the right to assign grades differentially to reflect substantially different levels of work being completed by members of the group. At the end of the semester, group members must evaluate the amount of work done by others in the group using the Group
Member Evaluation Form.

**Exams:** There will be a midterm and a final exam.

- **Midterm exam:** March 13
- **Final exam:** Monday, May 8 10 am-noon

Make-up exams will be provided only if Dr. Sauter has been notified prior to the exam and if you have an acceptable reason for missing the exam. Under all other circumstances, a grade of zero (0) will be assigned.

**Grading Policy:** The following proportions will be used for grading.

- Networking Activities 5%
- Technology Assignments 10%
- Blog Assignments 10%
- Decision Making Asgt 10%
- DSS 25%
- Midterm 20%
- Final Exam 20%

Approximate letter grades will be assigned when exams and projects are returned. Students should remember, however, that the term average is a weighted average of the numerical grades, not an average of the approximate letter grades.

**DROP POLICY:** For the purposes of this policy, the "effective drop date" is the date which I am informed of the drop or the actual date of the drop, which ever is later. Students can and may inform me by leaving me a note in my mailbox, leaving me a message (on voice mail or email) or by speaking to me in person or over the telephone.

A student may drop this class until March 19 with a passing grade. (Note the University policy states that you may drop until February 9 without receiving a grade; this policy is simply an extension of the University policy.) Between March 20 and April 3, a student will receive either a passing grade (excused) or a failing grade (F) depending upon his or her performance (current grade) in the course. A student may withdraw after April 3 only with and solely with the approval of the dean of his or her division. If you want to withdraw after this date, go directly to your dean; do not ask for my signature -- my signature is not needed and I will not provide it. Under no circumstance may a student drop this class after May 5, 2006.

**Academic Honesty:** According to the University Standard of Conduct, Section 6.0101,

> The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work.

> Students have a special obligation to adhere to such standards.

For the purposes of this class, cheating will include: plagiarism (using the writings of another without proper citation), copying of another (either current or past student's work), working with another on individually assigned work or exams, unauthorized marking on a graded paper or exam, or in any other way presenting as one's own
work that which is not entirely one's own work.

Any student who is caught cheating on any assignment or exam will receive a grade of zero (0) for that assignment or exam. Further, a recommendation will be made to the appropriate university officials that additional disciplinary action be taken.

**Rights and Responsibilities of Computer Users**

As part of its educational and research missions, the University of Missouri-St. Louis strives to provide quality computing facilities. These include large and small systems, communication networks, and personal computers, as well as associated software, files and data. Although computers affect how individuals communicate and interact with each other, computers do not change underlying societal values and established individual rights with respect to personal privacy and ownership of property. Computing facilities are recognized as community resources. Each computer user, therefore, is expected to act responsibly so as not to violate the rights of others. Access to computing resources is contingent upon prudent and responsible use. Inappropriate use of computing services and facilities will not be tolerated and may result in loss of computing privileges. In addition, disciplinary and/or legal action will be pursued for violation of these codes and statutes through appropriate University procedures.

**SCHEDULE**

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<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Chapter</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction and Definitions</td>
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<td>2-3</td>
<td>Decision Making</td>
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<td>4-6</td>
<td>Models and Model Management Components</td>
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<td>7-8</td>
<td>Programming and Decision Support Systems</td>
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<td>9-10</td>
<td>User Interface Components</td>
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<td>11-12</td>
<td>Data Components</td>
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<td>Data Mining</td>
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<td>13-14</td>
<td>International Issues in Decision Making</td>
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* Approximate allocation of time to topics.