University of Toronto
Department of Computer Science

CSC340F - Information Systems Analysis and Design

September 17, 2004
Prof. Steve Easterbrook

Assignment 2: Preparing a Feasibility Study

Due Date: 9:20am, Friday, October 29
(i.e. within 10 minutes of the start of the tutorial)

This assignment counts for 15% of the final grade

Prepare a feasibility study for an software development project of your own choice, to be carried out within an existing organization. This project is designed to give you exposure to basic concepts discussed in the course, and also to encourage you to "look around" for the type of work you may be doing in a few years as a computer science professional.

The project is to be carried out in teams of three. Each team will submit one report.

I. Doing the Assignment

This assignment has ten steps. They are:

1. *Identify a problem* within an existing organization that is amenable to requirements engineering techniques.
2. *Scope the problem*, i.e., choose how small or large a problem you will tackle during your feasibility study.
3. *Interview key people* involved in the problem. These may include your contacts, plus others with responsibilities related to the feasibility study.
4. *Study relevant documents*. This may involve reading policy documents, memos, documentation on current systems and new objectives/needs.
5. *Define alternatives* for conducting business and for automation. Define the criteria you will use to evaluate and choose among these alternatives. Your criteria should include cost/benefit, where applicable.
6. *Create models* of the key aspects of the problem and the alternative solutions. These should include: (a) goal models to represent the relationships between goals of the key stakeholders; (b) activity diagrams and/or statechart diagrams to represent important business processes related to the problem and the alternative solutions.
7. *Assess unusual circumstances* or special attention items. This may involve special requirements for particular employees or customers of the organization.
8. *Evaluate the alternatives* and choose the one that looks most promising.
9. *Write a report* that describes the objectives of your study, the problem you identified the alternatives you explored, as well as your recommendations.
10. *Document your teamwork* and complete a team report (see attached form)

II. What to Hand In

Hand in your report at the start of your tutorial on the due date. *Reports not handed in within the first ten minutes of the tutorial will be treated as late*.

You should hand in a report of your feasibility study, not exceeding twenty-five (25) pages (not counting references, appendices, figures or tables.) Assume that the report is being prepared for management. This means that you need to be clear and non-technical about your recommendations, and you should present the basic ideas and recommendations simply, without extraneous information. Keep in mind that busy managers do not have the time to read long reports.

The writeup should include information on the following items:

1. An introduction that *briefly* describes the organization you chose to study, the problem you identified, the information sources you used, and the process you followed during your study.
2. The basic alternatives you considered and the criteria you used to evaluate them.
3. The evaluation process and the output of that process (a table, or other format, that presents the results of the evaluation.
4. A recommendation to proceed or not to proceed with a software system development project, with supporting arguments.
5. A conclusion that summarizes the contents of your report and reiterates your recommendation.
6. One or more appendices which describe in more detail (i) the organization for which the study was conducted, (ii) the process used to gather information (interviews, review of written material, etc.), (iii) the names and phone numbers of people you talked to, (iv) details of any analyses you conducted, including goal, activity and statechart diagrams.

Written Presentation Requirements

Drawings must be clear and legible. Be sure to include a cover page indicating the name of your team, the names of all team members, title of work, course, date and tutor's name. Assignments will be judged on the basis of visual appearance, grammatical correctness and quality of writing, as well as their contents.

Please make sure that the text of your assignment is well-structured, using paragraphs, full sentences, and other features of a well-written presentation. The report must not consist of itemized lists of points. Text font size should be either 10 or 12 points.

III. Suggestions

Finding a Problem

Finding an organization that is willing to provide you with a problem is easier than you think. Of course, someone in that organization will have to spend some time talking to you and giving you information. But then remember that many class projects from this very course actually were adopted by the “customer” organization and were turned into real software development projects!

There are several things you may want to try here. Start by considering previous employers, but also friends, relatives, acquaintances, who may be in a position to give you access to an organization that is willing to have you study one of their systems and prepare a feasibility study for an information system project. Ideally, the organization you find will be large with many departments etc. and you will be dealing with a few people in one department. Failing this, you may want to try a small business (e.g., a retail store, a professional office,...).

Other possibilities for feasibility study projects include an information system or web service for public software (e.g., a help facility for Windows or Unix), a public service that you are knowlegeable of, e.g., driver license registration, or one for which there is publicly available information, e.g., OHIP-related information systems.

In approaching an organization, you should always talk to someone who has the authority to decide to assist you. Remember that this project should be mutually beneficial -- and make sure you tell your "customer" this. In fact, you should offer to present a copy of your final report to your client --- and make sure it is delivered.

What kind of project should you choose? Ideally, the organizational information system you study will have several people involved and possibly could include an existing computer system. The following are examples of typical projects:

- Computerize a given business system (e.g., inventory, sales).
- Computerize a firm (usually small), which currently uses no computers during its daily operations.
- Evaluate an existing computerized business system and recommend changes and modifications or even a new system.

Try not to bite off more than you can chew (remember, *this is a course project*). You may find fairly early on that the project you have chosen is too large. In this case, perhaps a subsystem of the original problem can be chosen. Discuss this with the instructor or your tutor.

Starting the Project

Be sure to mention to the people you contact that you will need to conduct interviews with the organization's staff, including the manager you are speaking with. The interviews should be short.

Try to collect some basic background information on the organization, its industry, the system you want to study; the library is a wonderful place to start.

Prepare a timetable of interviews/contacts so that your client knows what to expect and when to expect it. You will need to plan this schedule with your own time commitments, exams, and so on in mind. Once you offer the schedule, you will gain a lot more respect and assistance if you stick to it.

The Interviews

Always plan your interviews:

- Make sure you know what you want to learn.
- Prepare a list of questions before you go.
- Keep each interview short; your contact's time is valuable, so don't waste it....or your own.
- Sometimes a portable tape recorder can be used to record the discussion -- you should always ask permission before using one.
- Write down the answers to your questions and any notes or observations as soon as possible after the interview. Human memories are amazingly poor.

Your first interview should go over background information, probably with your principal contact. At that meeting, try to achieve the following:

- Get a good overview of the system to be studied -- purpose, perceived problems, plans for changes, major perceived benefits, and a description of its structure.
- Identify the key transactions; get volumes where possible.
- Get copies of any forms or reports used (sketches will do).

Watch out for your style of questioning. Don't scare your client -- don't use buzzwords you learned in class (e.g., "UML diagrams") unless you are sure your client knows what they mean. You are often better off to play stupid ("Gee, I don't quite see how that works") than to show off how much you (think you) know. Remember, your client knows her business best, not you.

Troubles

If you have any difficulty obtaining the information you need from your customer:

- Communicate with your tutor or with the instructor. They may be able to help with advice.
- Try a few *short question* phone calls with your contact person(s).
- Drop off a short questionnaire for pick up later in the week.

IV. Marking Scheme

Your assignment will be marked by your tutor. If you have questions about a marked assignment, you should first ask your tutor before/after a tutorial. If you don't get satisfactory answers, you should talk to your instructor.

Marks for this assignment will depend on the following factors:

Problem identification (20%): How well have you researched the problem, and the organization you are dealing with by talking to people, reading documents etc. How hard is your problem? (e.g., studying an existing system for a large organization is harder than studying the possibility of a new system for a small store).

Alternatives and criteria (15%): Have you considered obvious alternatives? ...interesting ones? How well defined are your criteria and how thorough is your evaluation? Are your recommendations backed by appropriate evidence? Are they reasonable?

Supporting evidence (15%): The supporting evidence you include in terms of figures, tables, cost/benefit analysis etc. Also, organization of appendices; usefulness of supporting information; how well does the evidence support the recommendations?

Modeling (30%): How complete and accurate are your diagrams describing the problem and the alternatives you are recommending?

Presentation (20%): The style of your presentation, including language, grammar, clarity of the presentation etc. (10% - Language; 10% - Style and clarity)

Note: The top three assignments will be posted on the course website, and will get for this a 5% bonus on this assignment.

Team Report Form

(must be submitted with assignment)

Description of roles and contributions of each team member:

Name	% of team Effort	Signature

Date submitted:_____