INSY 562:
Software Engineering Group Project II

Computer Science & Information Systems Department
Andrews University School of Business
Berrien Springs, Michigan 49104

Spring 1997

Instructor: Mr. Daniel E. Turk

Office:
This course is being taught remotely this quarter with one weekend visit expected, so no regular faculty office is available for meeting with the instructor; however, CSH 215 is the suite for the CSIS department where questions, contact information, and general assistance may be obtained.

Office Hours: by e-mail, phone, and arrangement on weekend visits

Phone Numbers:
AU CSIS Office: (616) 471-3516
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Class:
The only expected meetings for this class are possibly once at the beginning of the quarter and once around mid-term, and once at the end of the quarter. The times, days, and places of these meetings will be arranged throughout the quarter.

DO NOT MAKE PLANS FOR LEAVING AT THE END OF THE QUARTER BEFORE CONSULTING WITH THE TEACHER ABOUT THE FINAL PRESENTATIONS. YOUR GRADE DEPENDS HEAVILY ON ATTENDING THE FINAL PRESENTATIONS.

This Syllabus Provides a General Plan for the Course;
Deviations May Be Necessary.

Course Description and Prerequisites:

"The implementation of a group project and the study of topics related to the group project including CASE tools, 4GL's, graphical user interfaces, etc. Generally, the project which was begun in INSY 561 carries through to INSY 562. Comparatively less time is spent in class lecture, allowing this time to be devoted to the group project. Class lectures are devoted to project coordination, group presentations, and the discussion of selected topics." Prerequisites: INSY 460, INSY 561.

— 1996-97 Andrews University School of Business Bulletin

Textbooks and Other Required Reading:

None specifically required for this course.

Grading Criteria and Grade Breakdown:

Grading criteria:

- Timeliness of submitting required deliverables (bi-weekly reports, evaluations, etc.)
- Quality of submissions (spelling, grammar, use of generally-accepted software engineering practices, professional "look", etc.)
- Amount of project accomplished during term
- Individual evaluations
- Project "client" evaluations
- Teacher evaluations

Breakdown:

95	A
90	A-
87	B+
83	B
80	B-
77	C+
73	C
70	C-
60	D

NOTE: This breakdown indicates lower limits of the letter grade you will receive if you earn at least the score given in the chart.

Objectives:

The general objective of this course is to provide students with the opportunity to work in a group software development setting, working on real-life projects, and to learn and practice good interpersonal, software development, and project management skills.

Specifically, the successful student will be able to:

1. List, describe, and discuss various aspects of group software development team dynamics, and effectively participate in group software development efforts.

2. Name, describe, and create, the various deliverables which are required throughout a group software development project.

3. List, describe, and take part in the various project management activities which facilitate the smooth-running of a group software development project.

Teacher-Student Communications (Internet E-Mail and the WWW):

The best way to contact me is via Internet e-mail. Send e-mail to the address listed on the first page of this syllabus and I will probably respond within 24 hours of receiving your note. (Mostly likely within just a few minutes or hours — I check mail many times a day almost every day of the week.) I assume that you have an Internet e-mail account and will be using it regularly throughout this class. (If you do not have an account, apply for one right away!) I will expect to be able to send e-mail to each of you and to get prompt replies.

If there is an emergency which necessitates your speaking with me more quickly than what sending e-mail might allow, call one of the phone numbers listed on the first page of the syllabus.

I will use e-mail and the WWW to post notices, schedule changes, etc. Numerous handouts, course objectives, and assignments are distributed in electronic form (non-paper) through e-mail and Web pages which I continually update throughout the quarter. You will want to visit them frequently.

Participation:

Class participation is expected. Your grade in this course is directly related to your participation as well as how well the group does as a whole.

Tests:

There will be no tests.

Project:

This course is centered on conducting a group software engineering project. For most of you, this is a continuation of a project which was begun last quarter, where you performed a significant amount of systems analysis, some design, and possibly even some initial development and/or prototyping work. This quarter it is expected that you will continue with the same project, and produce a working product for use by the client. This product is not to be just a prototype, but an actual fully-working system which the client expects to be able to begin using at the end of the quarter. Those of you who are in the group which is not continuing the same project from last quarter were provided, at last quarter's final presentation, with the materials from the previous group whose project you are picking up.

Below, a number of procedures and expected deliverables for the project are described. Note that some of these deliverables are required regularly throughout the quarter, while others are only due once at the end of the term.

Bi-Weekly Project Reports

Given the remote nature of the way this class will be taught, regular communication via e-mail will be of utmost importance. Thus you will be expected to provide formal bi-weekly e-mail status reports, *due to me by 5pm every other Monday throughout the quarter via e-mail beginning April 14*, and are encouraged to interact informally on a daily basis between these times. Late submissions will impact your grade for the course. Further details are provided below. Clarifications may be provided and/or obtained in class, via e-mail, and through the WWW.

There are two parts to these bi-weekly reports. One part is created and submitted one per group (the *group* bi-weekly report), and the second part is created and submitted one per group member (the *individual* bi-weekly report).

Each *group* bi-weekly report should include the following, in addition to any other pertinent material:

- One-paragraph summary of current status & issues
- Current project charter
- Current list of primary responsibilities of members (see below)
- Current schedule
- Current documents (e.g., analysis, design, issues, problems to resolve, future enhancements, design decisions, etc.)
- Any additional materials

Each *individual* bi-weekly report should include:

- Individual evaluations (see below)
- Current time log (note that each subsequent time log submission will include the whole time log, and is thus cumulative and progressive in nature)

Submission Format

All submissions are to be provided via e-mail in a SINGLE UUENCODED ZIP file which will include all submitted documents. The enclosed documents are to be in MS Word 7 or earlier format. A public-domain ZIP / UNZIP utility (which is compatible with PKZIP / PKUNZIP) is available on the UNIX system if you do not already have PKZIP / PKUNZIP available on your PC.

What follows is an example of how your submission might be packaged. Say that you have the following files which you need to send to me:

Group:

Status.Doc (current single-paragraph status / issues summary)
Charter.Doc (current project charter)
Resp.Doc (current responsibility matrix)
Sched.Doc (current schedule)
Docs.Doc (analysis, design, etc. documents)
Misc.Doc (optional, additional materials)

Individual:

Eval0414.Doc
Log0414.Doc

Using ZIP or PKZIP you would obtain a group file called XXXMMDD.ZIP, where XXX is the project acronym (INV, TXT, or MAG), MM is the month (04, 05, 06, etc.) and DD is the day of the month the bi-weekly report is due (14, 28, 12, 26, etc.) Notice that a single-digit month or day is prefixed with a zero. So, for the first report, the file for the Inventory group would be named INV0414.ZIP, and would include 5 or 6 files as listed above.

In addition, each individual would submit a file called EVALMMDD.ZIP which would include two files, EVALMMDD.DOC, which would contain an evaluation of each of the other members in his/her group, and LOGMMDD.DOC, which contains the individual's current time log. (MM and DD are the month and day the report is due, as described earlier.)

Thus, all I should have to do to access your submissions is to save your e-mail, uudecode the saved file, and download the resulting ZIP file to my PC where I will UNZIP it and read the enclosed WORD files. THERE SHOULD BE NO DIRECTORY STRUCTURE INCLUDED in the ZIP or UUENCODED files, just straight files as listed in the examples above. Name all files as listed above.

Each e-mail submission should have an informative SUBJECT line, such as "XXX bi-weekly report 04/14" or "bi-weekly report 04/14" for group and individual reports respectively, where XXX is the group abbreviation, such as INV, TXT, or MAG.

Failure to follow these submission guidelines will impact on your grade for the course.

Time Log

One of the various documents you will be required to turn in is a log of the time you spend on this course. Each student will turn in a log, with the time categorized in appropriate areas (e.g. group meetings, class lectures, e-mail, design, interviews with Academy personnel, etc.). Your log should provide both the detailed information as well as summary amounts showing the totals for each category.

The following excerpts illustrate one possible format for these detailed and summary reports. The numbers in the summary report are derived from the detailed log. (The categories shown in the example summary table below are not comprehensive. You will probably need to have multiple additional categories.)

Date	Start Time	End Time	Inter-ruptions	Delta Time	Comments
Apr 3	12:00pm	3:00pm	30 min	150 min	• Group organizational mtg, • Assigned primary responsibilities, • 30 minute break
4	10:00am	12:00am		120 min	• Group mtg to set up software and create template forms for bi-weekly reports
7	3:00pm	5:00pm		120 min	• Worked on designing the reports (my primary responsibility)
…					

Activity	Time
Group mtg	10 hrs
Design	10 hrs
Code	20 hrs
Test	30 hrs
Fill out / submit biweekly reports	10 hrs
Project documentation	30 hrs
…	
Total	110 hrs

Primary Responsibilities of Group Members

While each project is the responsibility of the whole group, you are to determine the various tasks which will need to be performed and the various deliverables which will be created, and are to assign primary responsibility for these to various group members. This will help clarify what each person should focus their work for the quarter on, and will allow for more objective grading of each individual within the group. Make sure to distribute these responsibilities across all members of the group.

For instance, the user manual might be assigned to group member A, while the design document is assigned to member B. Further, maybe the writing of the bi-weekly group report is assigned to member C. (Even if one specific member is assigned to *write* the this report, all members should *review* and *approve* it before it is sent to me.) In addition, member A is responsible for the code for the data-entry section of the program, member B is responsible for the code for the calculations section of the program, and member C is responsible for the code for the reports section of the program. This is just one approach that might be followed. Each group is responsible for identifying and assigning primary responsibilities for all tasks and deliverables. You will be required to generate a "responsibility matrix" and to maintain its accuracy throughout the quarter and submit the current matrix with each and every bi-weekly report as well as with the final reports at the end of the quarter.

Individual and Group Evaluations

Because it is difficult, at best, to evaluate individuals within a group project, you will be asked with each bi-weekly report to assess how well you believe your co-workers are contributing to the *overall* project, and how well you believe they are carrying out the *primary responsibilities* which have been assigned to them.

These evaluations will perform several functions. First, they will help me to be more aware of what is taking place within each group by the various group members. By hearing from each of you about how your group and its members are functioning, I will be more informed about how your projects and group interactions are proceeding.

Second, this process will force you as individuals and as groups to raise and address issues which may be of concern for the group about the project or about how the group is achieving the project goals. In any group or organization, it is easy for issues to be "pushed under the rug" because people are afraid of addressing issues that are uncomfortable or not easy to resolve. However, if the issues can be raised and addressed in constructive ways, then everyone benefits. "Hiding things under the rug" benefits no one.

Third, by being forced, in a class group setting, to raise issues, discuss them, and to find constructive solutions which are helpful for your group, you will be practicing good inter-personal group relationship skills which you will hopefully take to your future jobs. Since you will *always* need to interact with other people and be able to

resolve ongoing issues, it is hoped that this process will help you learn positive and beneficial ways to work with others.

Thus, as a way to help facilitate good interactions within your individual groups, as a way to help you learn how to better interact and solve group and interpersonal issues, and as a way to aid my evaluation of each individual on this group project you will be asked to periodically assess your co-workers' contributions to the project. You will do this with each bi-weekly report, and you will do it one last time for the final group report.

The *Individual Group Member Evaluation Form*, provided at the end of this document, should be used to guide these evaluations. Note that the two main questions on this form each have three sections. First, you rate on a scale of 1-7 how well you feel each individual is performing his/her role in the course. A zero is to be used only if you do not have enough information upon which to base an evaluation. Second, you are to explain why you gave the rating you assigned. Finally, you are to describe what you would like to see different. In other words, you first rate the person, then identify any problems, and finally suggest solutions. By suggesting solutions, you are attempting to turn a potentially problematic situation into a constructive opportunity. It is also appropriate to identify good points — not just problems — on the evaluation form.

You should fill out the form for each member of your group (*including yourself*) every time a biweekly report is due. (Mark your self-evaluation as "self" being evaluated, and put it first in the sequence of evaluations in the file you submit.) This is not to be simply a "telling on others" activity, where you each tell me what you do or don't like about all the others. It is to be a process by which you bring up issues (if there are ones that need to be addressed) and you *think about solutions* to them. Hopefully you will be able to talk about these issues individually between yourselves and as a group and work to resolve them. (Obviously, you must be sensitive about how you raise and address these issues, since this process can easily become destructive to the group if not handled carefully.)

I will look very closely at these evaluations, and, as I see fit, I will encourage each group to address issues which I see as themes in one or more persons' evaluations.

Project Presentation

You will be required to present the results of your project at the end of the quarter. This presentation will involve two parts: one (managerial, less technical) part for the client, and one (more technical) part for the class and the instructor. These presentations will be expected to be professional in nature and to use a variety of media and mechanisms. Examples of such mechanisms might include using Microsoft PowerPoint for the presentation, handouts of the presentation slides, demonstration of the software, live video, data flow diagrams, object diagrams, etc. Evaluation of these presentations, along with the documents generated throughout the term, will be the

primary means used for assigning grades for the course. Required documents will be discussed during the quarter, but it is also assumed that you will draw on knowledge from INSY 460 in this regard as well.

Level of Quality Expected

All work turned in for a grade should be done to the same level of quality as would be expected in a professional/work environment. This means that all submissions should be neatly typed, use proper grammar and punctuation, have correct spelling, follow standard writing style guidelines, give credit when material is quoted, used, and/or referenced, etc. (See more detailed explanations below under *Individual Work* and *Professional Standards of Scholarship.*)

Individual Work:

Given that most of the work for this course will be performed and submitted as a group, this should not be a significant issue. However, for work requested individually, you should turn in only work that you yourself have done. If you draw on previous work done by others, be sure to give appropriate credit when this is the case[1].

Professional Standards of Scholarship:

Professional standards of scholarship require that any time an individual relies on another's work, proper credit must be given. This means that any time one directly uses textual material that it must be placed within quotes and referenced properly; other non-textual material must be shown with proper credit given citing the original source of the work. When material is not used in exact form (paraphrased, major ideas relied on or referred to, etc.) it should still be given credit as well, although it is not put within quotes. *Always give credit to ideas or materials that are not yours*[2]. If in doubt, give credit.

Violations of these standards are *highly* disapproved of, and appropriate academic action will be taken depending on the situation. Be professional, give credit where it is due, turn in work that is your own, and you will be fine.

IF YOU ARE UNCERTAIN ABOUT HOW TO DEAL WITH THESE ISSUES, PLEASE TALK WITH ME. I AM HERE TO HELP YOU LEARN AND TO HELP YOU WHEN YOU ARE UNCERTAIN ABOUT WHAT TO DO. DO NOT HESITATE TO ASK QUESTIONS!

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[1] For details see section entitled *Professional Standards of Scholarship*.

[2] This includes software source code as well. Always give credit when you rely on someone else's ideas, examples, algorithms, source code, etc.

Besides expecting professional standards of scholarship, generally accepted U.S. standards for written work will applied to documents turned in for this course. This means that grammar, punctuation, spelling, and citation of references should follow standard guidelines. APA (American Psychological Association) or another common standard is acceptable for work submitted for this course. Be consistent; be neat; be professional.

You are receiving a degree from an American university, which you and the University want to be well-respected. Thus you will be held to relevant American academic standards.

Forms:

The following forms are provided for use with the bi-weekly reports. You may download a copy in WORD 7 format from my WWW page under the "handouts" section.

Individual Group Member Evaluation Form

Date of evaluation: _____

Name of group member *performing* the evaluation: _____

Name of group member *being* evaluated: _____

Group (check appropriate blank):
_____ Inventory, _____ Textbooks, _____ Magazine Campaign

1.   Using the following 8-point "Likert" scale[3], please indicate how well you feel s/he is contributing to the *overall* group project.

No comment OR Not enough info to evaluate	Extremely Exceptionally Inadequate						"Average" Well
0	1	2	3	4	5	6	7

Please explain why you gave the above overall rating.
Use more space if necessary:

Please explain what you would like to see different. In other words, suggest one or more solutions. Use more space if necessary:

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[3] A rating of 1 indicates that you think the person was "extremely inadequate" in their overall contribution to the project, a 4 indicates you think the person's overall contribution to the project was "average", and a 7 indicates you think that the person has done "exceptionally well" in their overall contribution to the project.

2.   Using the following 8-point "Likert" scale[4], please indicate how well you feel s/he is carrying out *his/her "primary responsibilities"*.

No comment OR Not enough info to evaluate	Extremely Exceptionally Inadequate						"Average" Well
0	1	2	3	4	5	6	7

Please explain why you gave the above overall rating.
Use more space if necessary:

Please explain what you would like to see different. In other words, suggest one or more solutions. Use more space if necessary:

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[4] A rating of 1 indicates that you think the person was "extremely inadequate" in fulfilling their primary responsibilities for the project, a 4 indicates you think the person's fulfillment of their primary responsibilities for the project was "average", and a 7 indicates you think that the person has done "exceptionally well" in fulfilling their primary responsibilities for the project.