

Fall, 1996

MJS 401 - A

Application Prototyping and Business Systems Development

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Office Hours: MW 1 - 2:00 p.m. and W 6:00 - 7:30 p.m. and by appointment

(Note: Please let me know when you will be coming during my office hours.

While I am always on campus, at times I am busy with other GSU duties. This may save a wasted trip.)

Description: Introduction to systems prototyping, a method for extracting, presenting, and refining a business user's needs by building a working model with the help of software tools, includes the basic concepts of structured analysis and design, specification languages, and systems implementation. Emphasis will be on business systems development using CASE tools.

Recommended Prerequisites: It is STRONGLY recommended that students enrolling in MIS 401 have completed MIS 370 within the previous two years and either be currently enrolled in or have finished MIS 420 (database).

Performance Objectives:

- to teach the basic concepts of prototyping to design and develop business information systems.
- to provide an understanding of the relative merits of classical structured systems analysis and design vs the prototyping approach to build MIS's.
- to teach logical design of systems, including the use of DFD's (Data Flow Diagrams), structure charts, ER diagrams, and Semantic Object Modeling.
- to help the students to learn the practical aspects of user interface design.
- to enable students to design forms, screens, and outputs.
- to provide an understanding of the steps involved in conducting feasibility studies.
- to teach the concepts of requirements analysis through case studies.
- to help students to understand the important factors to be considered in business system implementation (program specification, testing, system installation, preparing users for change, and system maintenance).
- to familiarize students in the use of CASE tools for "Rapid System Prototyping".

Textbook

Shelly, Cashman & Adamski. Systems Analysis and Design, 2nd Edition, Boyd and Fraser, 1995.
or same bundled with Student Version of Visual Analyst

Evaluation

Exams (3 @ 100 pts each)	300
Group Project	
Mid evaluation	50
Final evaluation	100
Assignments	50

Final letter grade will be assigned based on a percentage of total points with participation and understanding levels factored in.

Course Policies

- The student is required to attend classes regularly and participate in class discussions and exercises.
- The student shall complete all assignments by specified due dates. Late submissions, if accepted, will affect grades.
- A grade of "incomplete" will not be given except under extenuating circumstances.

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Group Project:

The purpose of the project is to give the student actual experience in the development of a computer-based implementation of systems analysis and design. Students shall choose a real-life *small* business system (if possible for real clients) with the approval of the instructor for the project. Student teams (consisting of 3 - 4 students, approved by the instructor) will work closely with the instructor in defining and developing the project.

Students shall use the project to reinforce and understand the implementation aspects of the various systems tools and methods studied in the course. The project should help each team to better understand the system users, business objectives, system capabilities, components, constraints, etc. The project shall include data analysis, process analysis and design, file and database design, input and output design, user interface design, etc.

All phases of the project shall be documented and maintained in a "Project Notebook". Visual Analyst will be used to develop data flow diagrams, data dictionaries, and other documentation.

Each student should allocate approximately 30 hours for the project. It is useful to manage the allocation of time by developing a time plan (project schedule). Each project shall be implemented using a 4GL (of the team and client's choice such as dBASE, Paradox, Access, etc.).

Each team will be asked to regularly make progress presentations to the class. Presentations should be approximately 15 minutes in length. A final presentation (of the completed project) will be made at the end of the semester. This presentation should require no more than 45 minutes.

Be prepared to assess the skills, both technical and interpersonal, of your team mates. Working in groups is a large percentage of what IS professionals do, so consider this practical experience for this aspects of your career.

Tentative Schedule(subject to change)

<u>Class Period</u>	<u>Topic</u>	<u>Assignment</u>
1	Introduction	
2	Introduction to Systems Development	Ch 1
3	Preliminary Investigation	Ch 2
4	Determining Requirements	Ch 3
	Initial Approval of Project	
5	Analyzing Requirements	Ch 4
6	Data Flow Diagrams	
7	<i>Lab Meeting/Project</i>	
8	Completion of Analysis Phase	Ch 5
9	Review/Catch-up Day	
10	EXAM 1	
11	File and Database Design	Ch 9
	Project Teams	
12	Normalization	Handout
	Project Teams	
13	Output Design	Ch 6
	Project Teams	
14	Input Design	Ch 7
	User Interface	
15	File Concepts	Ch 8
	Project Teams	
16	Software Design	Ch 10
17	Structure Charts	Handout
18	Project Presentations - Analysis	
19	EXAM 2	
20	Project Teams	
21	Project Management	Ch 11
22	Project Teams	
23	Programming, Testing & Documentation	Ch 12
24	Project Teams	
25	Systems Implementation & Evaluation	Ch 13
26	Project Teams	
27	Systems Operation	Ch 14
28	Project Teams	
29	EXAM 3	
30	Project Presentations	