



School of Computing and Mathematical Sciences

CMSCD3005 Software Systems: Planning and Design

Coursework Assignment

DOS to Windows Migration and Other Systems

Coursework : Exam weighting 25:75

Weighting towards all pieces coursework (%) 100%

Learning Outcomes Being Assessed

1. Appraisal of problems & issues surrounding software systems planning and design
2. Evaluation & comparison of project management techniques & tools
3. Appraisal of problems & issues surrounding software development
4. Understanding of the wider issues of requirements analysis
5. Evaluation & comparison of appropriate system design methods & their implementation
6. Ability to discuss appropriate strategies to address the above issues.

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| Set by | Dr J.O. Akomode & Dr P. Vickers |
| Moderated by | Dr P. Vickers & Dr J.O. Akomode |
| Handout date | 27 November, 2000 |
| Handin date | 26 March, 2001 (absolutely no extensions!) |
| Expected handback date | 30 April, 2001 |
| Estimated number of hours of effort | 40 Hours |

Outline of Problem

The main objective is to enhance an MS-DOS-based software package to a Microsoft Windows (3.xx/9x/NT) platform or to transform an existing (may be manual) system to a suitable new computer system. You will work in a **team of 2** in which you are joint project managers in charge of this enhancement (or transformation) process and you have the flexibility to use various groups of skilled personnel.

Detail of tasks

You should choose **one** of the following scenarios in which to carry out your enhancement or transformation project:

1. An information technology enterprise called *SPD* is involved in the development and marketing of software packages for accounting and financial management. SPD develops and tailors its products to meet the needs of business customers. Due to market forces and increased competitiveness SPD wants to migrate one of its products (you choose which) from DOS to Windows.
2. Your consultancy company, *Analyst-CD3005*, has been asked by a client company to investigate the possibility of developing a computer system for their point-of-sales transaction processing. Your investigation will

enable you to find out their current system (manual or computerised) which they want to change or enhance. In any case you and your team will also be involved in the entire project for the software system planning, design and implementation. In your position (i.e. the two of you as a team), it is important that you demonstrate how you would achieve optimum satisfaction for your client group and your company.

3. Instead of the *SPD* enterprise focused on accounting and financial management, or the *Analyst-CD3005* group focused on system transformation for an effective point-of-sales transaction processing, you may choose your own enterprise focused on other business.

Deliverables

Submit a team report which should include:

1. A description of the software package you are enhancing (to include a description of the product, not just its name) or the manual system that you are transforming to a computerised system.
2. The suitable method(s) for investigating the needs of your client and details of the requirements obtained.
3. Analysis and specification of the requirements for the new computer system.
4. The risk factors identified in the project and possible management steps for their mitigation.
5. A statement of the problem frame(s) that best fit(s) this task. You should discuss why you picked the chosen problem frame(s) and how it/they is/are suitable for the task.
6. System-level design documentation for the 'new' system. You should use an appropriate system design method for this (e.g. YSM, JSD etc). For example, if using YSM then you would be producing things like behavioural state transition diagrams and system event specifications; for JSD you would provide real world action & entity models leading to a system specification diagram.
7. An assessment of the suitability of the chosen design method for the task in hand. You should discuss its strengths and weaknesses and give reasons for choosing it for this project.

Guidelines

From your experience of software system planning and design, clearly *demonstrate* (from a practical perspective) how you would handle the different stages of this project by showing appropriate deliverables. Note that the outcome of the stages with which you are concerned is critical to supporting technical design and implementation stages effectively, in order to achieve the overall goal of the project.

Resources Required

Varies, depending on scenario chosen. No special computing facilities.

Other information

Indicate on your report the relative weight to be assigned to the two members of your team. If you made an equal contribution then specify 50/50.

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Assessment

| Assessment Criteria | % weighting for each problem part |
|---|--|
| Report parts 1,2, & 3 | 10% each |
| Report part 4 | 15% |
| Report part 5 | 15% |
| Report part 6 | 20% |
| Report part 7 | 10% |
| Presentation A good report should not need to use more than about 40 pages. Reports of unnecessary length will be marked-down. We will also be looking for good spelling and grammar and an easy-to-read layout. | 10% |
| Work will be assessed on its clarity, relevance, adherence to relevant standards & guidelines and logical progression from one stage to the next. | |