Project

1. General

A great deal of theory will be covered during lectures. You must apply your theoretical knowledge to the development of a project in a chosen scenario. You must design and develop a computerised system as part of your practical work for module CMPG213. You will be required to construct and implement the same system in the CMPG223 module. Your reports and documents must be compiled in Microsoft Word, diagrams and models in Microsoft Visio 2016 or draw.io and project plans in Microsoft Project 2016.

You must work in groups of four to five. The group must decide on the desired application area as early in the year as possible. During the fourth week of the semester, the group must submit and present a proposal on their project. Upon approval of the proposal, the group will be allowed to continue to design and develop the system.

It is vital that all team members, working together on a project, be enrolled for CMPG223 since the system will be constructed and implemented during this module.

2. What is expected of you?

The following system requirements are applicable:

- A minimum of 4 entities with 5 attributes each.
- CRUD-operations (create, read, update and delete) must be performed on all entities.
- The exclusive use of data grid components to perform the various transactions will not be allowed. It is preferred that input, editing and deletion of data be performed using a variety of methods.
- Complex data structures (records, arrays, pointers, etc.) and business rules.
- Different types of input and reports.
- Sorting.
- Units, bat files, dll, exe, etc.
- Sound and colour.
- Back-ups and security.
- Service provider applications.
- Internet or web-based applications.
- Please feel free to consult the lecturer. Tutors will be available to assist with projects.

3. General Requirements

The following general requirements are applicable:

- Four to five students per group.
- Store all your documentation in a folder.
- Consistently meet on a regular basis (weekly).
- Record each member's activities and time spent by means of software such as Bitbucket or GitHub. You will be required to submit this record.
- Compile all your documentation and reports in a word processor, diagrams and models in MS Projects or draw.io. Do your project planning, tasks and time scheduling with MS Project or similar software (System Architect).

- **NB!** Make regular backups. You must keep at least two copies of all your reports and software.

4.   Reports and documentation to be submitted

a.   Your proposal should be about 2-3 pages and must describe your proposed system, the current problems, how this system intends solving the existing problems and what this will entail.

b.   The Requirements document must specify all inputs, outputs and processing to be done by the system. You are encouraged to consult with an expert that will typically use the system. Such an expert may help in formulating the business rules to which the system must adhere. Consult Chapter 6.

c.   The Analysis document must include data models, process models and prototypes. Consult Chapter 7 to 10 to compile this document.

d.   CD – all documentation (models, examples, prototypes, time spent by each member, etc) must be copied on a CD to be handed in.

e.   The phases up to Decision analysis must be completed during the first semester and the Physical design, Construction and Installation during the second semester. You will have to present your project orally during the first few weeks of the course. Before the end of the course you will have to present your system design and project documentation.   Both presentations will contribute towards your project mark. Please consult the lecturer or tutor should you experience any problems.

5. Marking Guide for Project Proposal

Group Number: _____ Group name: _____

Members: _____ Student no: _____

                _____   _____

                _____   _____

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System to implement: _____

Item	Maximum Mark	Group's Mark
Presentation • On time for appointment (1) • Whole team participates and work together as a team (1) • Good communication skills (listening, observing body language, respecting differing views, sharing knowledge as appropriate, help customer understand possibilities, changing technology terminology to fit client's background) (1) • Professional (1) • Self-confident with a teachable attitude (1) • Note down important comments (1) • Material presented in PowerPoint contains the essence of problems and requirements (2) • Presentation is well-organized and without spelling or grammar errors (1) • Hard copy of Word document with table of contents and all information presented (1)	10	
System Initiation • Background (4) • Problem statement, i.e. identify problems of existing system(s) (7) • Constraints (3) • Definition of scope (7) • Identify goals (3) • Opportunities to improve (2) • Schedule (3) • Budget (3) • Internal resources to participate in project (3)	35	
• Prove to have gained business knowledge (3) • Prove to have a complete understanding of user requirements (2)	5	
Correspond too much with given example	-50	
TOTAL	**50**	

6. Marking Guide for Project Requirements Document

Group Number: _____

Members: _____ Student No: _____

      _____   _____

      _____   _____

      _____   _____

System to implement: _____

Item	Maximum Mark	Group's Mark
Appearance, language and technical neatness	7	
Table of contents	3	
Project Plan with inter-task dependencies and resources allocated	6	
Definitions, acronyms and abbreviations	4	
Scope, project description	10	
Functional requirements i.e. - business data requirements (inputs, outputs), - business processes requirements and - business interface requirements	20	
Non-functional requirements (categorized according to the PIECES Framework)	10	
Candidate Systems Matrix	10	
Feasibility Analysis Matrix	10	
Use-Case Glossary & Use-Case Model Diagram	10	
Examples of data, questionnaires, fact-finding techniques used	10	
Summary, future & further planning (PERT & Gantt Charts)	10	
TOTAL	**110**	

Comments:

_____
_____
_____

7.   Marking Guide for Analysis Document

Group Number: _____

Group name: _____

Members: _____ Student No: _____

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_____   _____

System to implement: _____

Item	Maximum Mark	Group's Mark
Appearance and technical neatness	3	
Table of contents and index	2	
Description of project and system requirements	10	
Data models - Context, key based and fully attributed	20	
Use-case list and high-level use-case narratives	10	
Process models	20	
CRUD Matrix	5	
Prototype examples	10	
Record of activities and time spent	10	
Bonus marks (complexity level)	10	
TOTAL	**100**	

Warning against plagiarism

Plagiarism is a serious offence and you should familiarise yourself with the plagiarism policy of the NWU. Refer to the Policy on Plagiarism and other forms of Academic Dishonesty and Misconduct of June 2011.

For the NWU link for plagiarism, go to: http://www.nwu.ac.za/webfm_send/25355