



Christian Brothers' High School, Lewisham

Year 12 Information Processes & Technology

Group Information System Project 20% of Assessment

Project:

A local supermarket is open seven days a week and employs 21 people on a full-time or part-time basis. It has a POS system and EFTPOS facilities. The supermarket is having problems with stock records and needs a new information system. The supermarket maintains its prices are lower than the competitors'. Develop a solution for the supermarket.

It must store fictitious data for each item, such as name, product description, price, brand, quantity and universal product code. Create relevant queries, forms and reports. Investigate the prices of a range of goods in your local community.

Create a flyer for the local supermarket to promote its lower prices.

Outcomes:

H1.1	Applies an understanding of the nature and function of information technologies to a specific practical situation.
H1.2	Explains and justifies the way in which information systems relate to information processes in a specific context.
H2.1	Analyses and describes a system in terms of the information processes involved.
H2.2	Develops solutions for an identified need which address all of the information processes.
H3.1	Evaluates the effect of information systems on the individual, society and the environment.
H3.2	Demonstrates ethical practice in the use of information systems, technologies and processes.

H4.1	Proposes ways in which information systems will meet emerging needs.
H5.1	Justifies the selection and use of appropriate resources and tools to effectively develop and manage projects.
H5.2	Assesses the ethical implications of selecting and using specific resources and tools.
H6.1	Analyses situations, identifies a need and develops solutions.
H6.2	Selects and applies a methodical approach to planning, designing or implementing a solution.
H7.1	Implements effective management techniques.
H7.2	Uses methods to thoroughly document the development of individual and/or group projects.

Mark Allocation:

1. Understanding the Problem
2. Making Decisions
3. Designing solutions
4. Implementing
5. Testing Evaluating and Maintaining

6. Social and Ethical Issues
7. Log Book / Journal
8. Files saved correctly using correct software.
9. Group Dynamics

Date Due:

Last week of Term 1 2001

Year 12 I.P.T Group Project

The following sheet is to be used as a GUIDE in order to appropriately and/or correctly complete the Group Project.

Understanding the problem

- One (1) A4 page on what the problem is, who are the participants, data, requirements.
- One (1) A4 page on what P.O.S and EFTPOS systems are.
- Project plan outlining the overall schedule, subprojects (inc. schedules), people involved, information technology and data/information required by the system. Minimum two (2) A4 pages.
- Conduct some preliminary investigation on at least 4 **different** supermarkets to ascertain the following:
 - Current Information System in use
 - Products sold (Do they only stock brand names?)
 - Prices (Are their prices competitive? Who do they cater for?)
 - Marketing (How do they get customers into their store?)
 - Layout of the store(s).
- A one (1) A4 page requirement report that outlines the aims and objectives of the new system and how it will help the organization.

Making decisions

- Suggest three (3) or more possible solutions to the problem. Include for each:
 - i) Constraints (factors that affects the system and prevents it from achieving the desired objectives) on the system. These could be financial, technical, environmental or personal.
 - ii) Advantages and disadvantages of each solution.
- A feasibility study to be carried out on the most appropriate of the proposed solutions. The feasibility study is to include:
 - i) Economic feasibility
 - ii) Technical feasibility
 - iii) Schedule feasibility
 - iv) Organisational feasibility
- A revised project plan based on the feasibility study.
- An analysis report investigates the existing system in greater depth to ensure all current operations and problems are understood. This analysis report must include:
 - i) Needs of the new system
 - ii) Data to be gathered (via interviews, surveys, observations and measurements)
 - iii) Recommendations for design, implementation and maintenance.
 - iv) Design specifications such as hardware configuration of the new system and designs for both input an output.

Designing solutions

This stage is the transformation of the specifications into appropriate hardware, software and information processes. It involves purchasing hardware, writing or purchasing software, and specifying information processes to make he system operational. In this section you must include:

- A spreadsheet file that includes the following:
 - i) Cost of proposed hardware to be used
 - ii) Cost of proposed software to be used.
 - iii) General expenditure of the supermarket
 - iv) Payroll for all of the employees
- A database file that includes the following:
 - i) A form for stock that includes 100 fictitious records (Name, product description, price, brand, quantity and universal product code)
 - ii) A form for employee information (Name, address, post code, phone number, position and employment status)
 - iii) A form for suppliers information (Name, address, post code, phone number, and product supplied)
 - iv) Relevant Queries
 - v) Reports
- Two (2) context diagrams on various aspects of the system (Ordering products, Sales at the check-out)
- One (1) Data Flow Diagram (DFD) on the sales at the check-out system.
- Two (2) decision trees on various aspects of the system (Ordering products, EFTPOS purchasing)
- One (1) data dictionary based on the database.
- One (1) system flowchart.

Implementing

- An implementation plan (one A4 page minimum) detailing the following aspects:
 - i) Method of participant training and why.
 - ii) The conversion method and why.
 - iii) System testing (Hardware, software and information processes)
- Create a flyer for the local supermarket to promote its lower prices using Microsoft Word.

Testing, evaluating and maintaining

In this stage, the performance of the system is tested and then evaluated. You must include:

- Methods of testing conducted and reason why.
- Evaluation of the new system by comparing it to the initial aims and objectives outlined in the requirement report.
- Methods of maintaining the system.

Social and ethical issues

- One (1) A4 page that includes information about the type of system, work environment and systems and ethics.

Logbook / Journal

Each group member is to contribute to a logbook/journal (Who is doing what, when they did it, time taken, how it was done, and problems encountered). This is to be done on a weekly basis.

Group Dynamics

Each group will be called upon at random over the course of the project to show/discuss aspects of the project.

Year 12 Group Information System Marking Sheet

Task	Mark
Understanding The Problem 26%	
Has the group defined the problem sufficiently ? (2 or more paragraphs)	1
Has the group outlined who the participants are ?	2
Has the group discussed at least four (4) types of data required ?	4
Has the group outlined the requirements ?	1
Has the group provided an overall schedule in the project plan ? Gantt Chart and explanation	1
Has the group broken the project into subprojects?	1
Provided pictorial explanations for the subprojects?	2
Inclusion of the people involved.	1
Has the group outlined the Information Technology required by the system?	1
Have the data/information requirements been outlined?	1
Project plan two (2) or more pages in length?	1
Evidence of four (4) different supermarkets researched provided.	4
Explanation provided on the current information system of each supermarket.	4
Evidence of the products sold given (catalogues, etc)	4
Evidence of the prices of each supermarket.	4
Marketing strategies used by each supermarket supplied/provided.	4
Layout of the stores.	4
Requirement Report is one (1) or more pages in length	1
Aims and objectives outlined in the requirement report	2
Explanation of how the new system will help the organisation	1
Information on P.O.S supplied (Minimum 1/4 A4 page)	5
Information on E.F.T.P.O.S supplied (Minimum 1/4 A4 page)	5
Sub-Total	54
Making Decisions 19%	
Group has given three (3) possible solutions to the problem.	3
Constraints on the system supplied for each solution. (Financial, Technical, Environmental and Personal)	12
Advantages and disadvantages of each possible solution.	6
Feasibility Study is one (1) or more A4 pages	1
Feasibility study contains information on economic, technical, schedule and organisational feasibility (Minimum 1/4 A4 page for each)	4
Revised project plan is supplied based on feasibility study	1
Analysis report is one (1) or more A4 pages in length	1
Needs of the system is outlined	1
Data to be gathered included (via interviews, surveys, observations and measurements)	3
Recommendations for design, implementation and maintenance given.	3
Design specifications supplied (Hardware configuration, designs for input and output)	3
Sub-Total	38

Task	Mark
Designing solutions 24%	
Spreadsheet file contains worksheet with cost of proposed hardware to be used. (Formulas, Layout, Appropriate to project, separate worksheet)	/4
Spreadsheet file contains worksheet with cost of proposed software to be used.	/4
Spreadsheet file contains worksheet with the General expenditure of the supermarket.	/4
Spreadsheet file contains worksheet with the payroll for all the employees.	/4
Database file contains form for stock (100 records that include Name, product description, price, brand, quantity and Universal Product Code)	/8
Database file contains form for employee information (Name, address, post code, phone number, position and employment status)	/7
Database file contains form for suppliers information (Name, address, post code and product supplied)	/6
Database contains at least three (3) queries of any sort	/3
Database contains at least two (2) reports	/2
Context diagram on ordering products system supplied and correct	/1
Context diagram on sales at the check-out system supplied and correct	/1
Dataflow diagram on the sales at the check-out system supplied and correct	/1
Decision tree on ordering products system supplied and correct	/1
Decision tree on EFTPOS purchasing system supplied and correct	/1
Data dictionary on ALL data types used in the database supplied and correct	/1
System flowchart drawn correctly	/1
Sub-Total	49
Implementing 9%	
Implementation plan is at least 1 A4 page minimum	/1
Implementation plan includes the method of participant training and reasons why	/2
Implementation plan contains the conversion method and reasons why	/2
Implementation plan contains system testing (Hardware, software and information processes)	/9
Flyer created using Microsoft Word 97/2000	/1
Flyer includes section that brings attention to the supermarkets low prices	/1
Flyer includes the name of the supermarket	/1
Flyer includes the address of the supermarket	/1
Flyer is easy to read (not too cluttered)	/1
Sub-Total	/19
Testing, Evaluating and maintaining 4%	
Methods of testing to be conducted and reasons why given	/2
Methods of testing and reasons why is at least ½ A4 page minimum in length	/1
Evaluation of the new system supplied	/1
Evaluation compares new system to initial aims and objectives outlined in requirement report	/1
Evaluation is at least ½ A4 page minimum in length	/1
Methods of maintaining the new system given (Minimum ½ A4 page in length)	/2
Sub-Total	/8

Task	Mark
Social and Ethical Issues 2%	
Group has included social and ethical issues of the new system (Minimum 2 A4 page)	/2
Information about the type of system is included (½ A4 page minimum)	/1
Information on the work environment is included (½ A4 page minimum)	/1
Information on the issue systems and ethics of the new system supplied (1 A4 page minimum)	/1
Sub-Total	/5
Log Book / Journal 10%	
Has the group handed up a log book / journal?	/1
Are there entries in the log book / journal for each week of the project? (Minimum 15 weeks)	/15
Has each group member contributed to the log book / journal ?	/4
Is the log book / journal legible and/or logically set out ?	/1
Sub-Total	/21
Electronic Files 1%	
Has the spreadsheet been created using Microsoft Excel 97/2000?	/1
Has the database been created using Microsoft Access 97/2000?	/1
Has the flyer been created using Microsoft Word 97/2000?	/1
Sub-Total	/3
Miscellaneous 3%	
Has the group been working well together ?	/1
Has each group member contributed equally to the project ?	/1
Has the group relatively 'stuck' to the proposed schedule? (If not, have they justified it?)	/1
Have the diagrams used throughout the project been legible / logical ?	/1
Has the group been prepared for each meeting with the teacher ?	/3
Sub-Total	/7
TOTAL	204