Gosford High School
Information Processes and Technology – HSC Course 2016
Assessment Task

Module / Unit: Major Project (Developing an Information System)

Task Number: 1 **Weighting**: 20% **Date / Timing:** Term 4 Assessment Week, 2015

Outcomes to be assessed (syllabus outcomes being assessed by the task)

H1.1 Applies and explains 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
H5.1 Justifies the selection and use of appropriate resources and tools to effectively develop and manage projects
H6.1 Analyses situations, identifies needs, proposes and then develops solutions
H6.2 Selects, justifies and applies methodical approaches to planning, designing or implementing solutions

Introduction
Information systems arise out of problems, needs and opportunities that involve people and data. The development and implementation of an effective information system requires the combination of a broad range of knowledge and skills, including a firm grasp of the information processes, the creativity to construct a functional and aesthetically pleasing solution to a poorly defined problem, and a command of numerous project management techniques.

Task Description and instructions
You are to create information system of your choosing incorporating a variety of media. The information system may be designed for a mass audience or specific target audience and must fit into one (or more) of the following categories:

- Education and training
- Leisure and entertainment
- Information
- Virtual reality and simulations

Task requirements and allocation of marks

The project will be assessed across the five stages of the traditional system development approach (waterfall model) as outlined on the following pages.

Marks will be awarded for:

- Original and creative use of appropriate software
- Demonstration of competence in the learning outcomes listed above
- Balance between scope and depth in the completed product
- Depth and clarity of project documentation

Stage 1 (HSC Assessment task 1) Planning and Prototyping – 20% (Due: Term 4, 2015 – Assessment Week)
Stage 2 (HSC Assessment task 3) Implementing and Testing – 30% (Due: Term 2, 2016 – Assessment Week)

NB: Students should frequently refer to the IPT course specification document when completing this project.

Major Project - Stage 1 (Due: Term 4, Assessment Week, 2015)

***Formal progress meeting with the teacher will be conducted in Term 4, week 6 – 2015.**

In the first stage, significant time and effort must be invested to investigation and planning to ensure that later work is appropriately and efficiently directed.

Understanding the problem

For this section you must submit a requirement report for the proposed information system. The requirement report should be structured as follows

Introduction

- System Purpose (the overall aims and objectives of the system)
- Needs of the Users (user needs that will be addressed by the system)
- System Scope (An explanation of what the system will and will not do. All major functionality that will be included in the new system will be explained)
- Participant Characteristics (each different type of participant is identified and the nature of their use of the system described)

System Requirements

- Technical (the technical requirements of the system in terms of hardware and software)
- Security (requirements that deal with privacy and access of data/information within the system)
- Data/Information (requirements that address the data, processes and information needs of the system)

Planning

For this section you must submit for marking:

- A feasibility study outlining two (2) possible solutions to the problem. Include for each:
    - Constraints on the system (factors that affect the system and potentially prevent it from achieving its desired objectives). Include the following constraints:
        - economic
        - technical
        - scheduling (time)
        - operational
    - Advantages and disadvantages of each solution.

- Justification of the solution chosen to be developed
- Project scheduling in the form of a Gantt chart

Designing

For this section you must include for marking:

- tools used in designing, including:
    - A context diagram showing an overview of the entire information systems.
    - A Data Flow Diagram (DFD) showing the various processes of the Information system
    - A decision tree representing possible combinations of decisions and their resulting actions.
    - A decision table represents possible conditions and the actions that will result.
    - A data dictionary
    - A storyboard describing the elements and aspects of your proposed information system (scenes, sections etc.)

- An alpha prototype:
    - This version of the information system must demonstrate the essential functional features and how they function together to achieve the system's purpose, even though the quality of these features may be very low at this stage. The most likely testers for the Alpha are other system developers.

Communication

- Agenda for progress meeting with teacher (work completed to date, problems encountered, questions etc.)

- Minutes of progress meeting with teacher
- Project blog

Major Project Stage 1– Marking Guide

Understanding the problem - Requirement report

Introduction

Criteria	Mark	
Introduction comprehensively describes the nature of the information system and identifies the participants. All elements outlined in the brief are included in the response	8-10	
Introduction describes the nature of the information system and identifies the participants. Most elements outlined in the brief are included in the response	4-7	
Introduction briefly describes the information system and identifies the participants	1-3	

System Requirements

Criteria	Mark	
System requirements section of the report comprehensively outlines the technical security and data/information requirements of the proposed information system All elements outlined in the brief are included in the response.	8-10	
Outlines the technical security and data/information requirements of the proposed information system. Most elements outlined in the brief are included in the response.	4-7	
Requirement report provides minimal information concerning the technical security and data/information requirements of the proposed information system.	1-3	

Planning

Feasibility Study

Criteria	Mark	
Feasibility Study comprehensively outlines two possible solutions to the problem detailing all relevant constraints, advantages and disadvantages of each.	13-15	
Feasibility Study describes two possible solutions to the problem detailing most of the relevant constraints, advantages and disadvantages of each.	9-12	
Feasibility Study briefly describes two possible solutions to the problem detailing some of the relevant constraints, advantages and disadvantages of each.	5-8	
Feasibility Study identifies two possible solutions to the problem describing some of the relevant constraints or advantages or disadvantages of each.	1-4	

Justification of chosen solution

Criteria	Mark	
Justification of chosen solution is clearly provided and accurately corresponds with the details outlined in the requirement report and feasibility study.	4-5	
Justification of chosen solution is provided and largely corresponds with the details outlined in the requirement report and feasibility study.	2-3	
A proposed solution to the problem is provided.	1	

Gantt Chart

Criteria	Mark	
Gantt chart provides a comprehensive outline of the project scheduling.	4-5	
Gantt chart provides a comprehensive good overview of the project scheduling.	2-3	
Gantt chart provides a basic outline of the project scheduling.	1	

Designing

Tools used in design

Criteria	Mark	
Design tools provide a clear and concise overview of the proposed system. Demonstrates exceptional understanding of symbols, structure and purpose of the tools. All design tools outlined in the brief are included.	24-30	
Effectively demonstrates the structure and functionality of the proposed system through the use of design tools. The majority of tools outlined in the brief are included and completed correctly.	16-23	
Design tools and diagrams provide a reasonable overview of the proposed system. Response includes some of the tools outlined in the brief completed correctly and in context.	8-15	
Basic understanding of design tools. Incomplete diagrams and/or a number of errors in each diagram. The diagrams do not effectively represent the system.	0-7	

Alpha Prototype

Criteria	Mark	
A working yet basic prototype that clearly demonstrates all of the essential functional features of the proposed information system.	13-15	
A working yet basic prototype that demonstrates some of the essential functional features of the proposed information system.	9-12	
A basic functional prototype that demonstrates a part of the proposed system.	5-8	
An attempted prototype that is non-functional yet still demonstrates some of the proposed project features.	1-4	

Communication

Criteria	Mark	
Substantial evidence of progress meetings is present. Agenda is well planned and minutes are clear and accurate. Frequent, clear and concise blog entries reflect the student’s progress throughout the SDLC.	8-10	
Clear evidence of progress meetings is present in the form of a detailed meeting agenda and minutes. Blog entries reflect the student’s progress through the SDLC.	6-7	
Recorded evidence of progress meetings is present but minimal. Blog entires are brief and/or do not effectively outline the student’s progress to date through the SDLC.	4-5	
Limited evidence of progress meetings/communication with the teacher. Few or no blog entries have been written.	1-3	

Presentation

Criteria	Mark	
A professionally designed and formatted report. Structure uses correct standards and the reader can easily find specific information via use of a dynamic table of contents.z	8-10	
An adequately formatted and designed report. Structure uses correct standards and a table of contents is included.	6-7	

Report uses basic formatting and minimal design. Standards are inconsistent and/or table of contents is missing or inaccurate.	4-5	
A rudimentary formatted report. Minimal use of standards and/or lacks presentation. Table of contents is missing or inaccurate.	1-3	

Total

/110	%