Gymea Technology High School
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12 Enterprise Computing

Task 3: Enterprise Computing Project

Due Date: 20 Jun 2025

Task Distributed: 1 May 2025

Unit: Enterprise Computing Project

Task Type: Practical Project

Task Weighting: 30 %

Outcomes:

- analyses how innovative technologies have influenced enterprise computing systems EC-12-06
- explains the social, ethical and legal implications of the application of enterprise computing systems on the individual, society and the environment EC-12-07
- justifies the selection and use of tools and resources to design and develop an enterprise computing system EC-12-08
- selects and applies methods to record the management and evaluate the development of an enterprise computing system EC-12-09
- evaluates the effectiveness of an enterprise computing system EC-12-10
- communicates an enterprise computing solution to a specific audience EC-12-11

Students identify a real-world problem or opportunity that can be addressed through the development of an enterprise project. Students develop project documentation and develop a solution that addresses this real-world problem or opportunity. The enterprise project is presented to the class by simulating a client handover. The project adheres to the ethical and legal standards of enterprise computing practice.

Task Description:

You are to develop an enterprise solution for a client or you may use a scenario provided (listed below) to help guide you in the development of an enterprise solution.

The enterprise solution should:

- demonstrates the principles of design thinking, or data science and data visualisation, and user experience and interface design.
- use appropriate tools and resources from enterprise computing to create a functional and user-friendly system
- consider the social, ethical,and legal implications of enterprise computing for the project
- document and report the project process and outcomes using industry standard formats and styles
- test and evaluate the system according to criteria and present the system to a specific audience using appropriate visual aids

Task

The task is broken into three parts:

PART A - Documentation

You are required to complete a project portfolio which addresses the following:

- problem definition (describe the problem and why you have selected it for this project)
- analysis of the problem to determine the system requirements including the scale and scope determined by including relevant research, discussion and feedback
- criteria to evaluate the success of the project
- justify the selection of tools and processes required for the development of the project
- a data dictionary
- storyboard
- a gantt chart
- a data flow diagram (level 0 and 1)
- system flowchart
- decision tree
- a financial plan showing the costs of creating the system
- a journal/process diary documenting the date, progress since last entry, tasks achieved, issues encountered, reflective comments and pitfalls
- an explanation of how the hardware and software needed for this new enterprise system will be integrated into existing hardware and software
- justify appropriate training for staff
- describe the role how either functional testing, acceptance testing, live data, simulated data, beta testing and volume testing are used on the new enterprise system
- explain the impact of cyber risks and cybersecurity breaches on the new enterprise system
- evaluation of the enterprise solution with reference to performance of the new enterprise system

Part B - Enterprise System

Develop an enterprise project using the enterprise project development cycle for the stated problem. You will need to consider:

- the alignment of the system to the problem definition and tools/resources established
- the functionality and user experience of the enterprise system

Part C - Presentation

You are to develop a 4-minute presentation in the appropriate format (for example, PowerPoint) that demonstrates their software solution to a client (simulated by peers) using a professional language, style and format.

The presentation will include screenshots of the development and documentation of the process. During a 2-minute question and answer session students will answer questions about their project and receive feedback from the audience.

The presentation must have:

- **Presentation slides:** A set of slides in the appropriate format (for example PowerPoint) that highlights your solutions features, benefits and challenges using appropriate visual aids such as slides, diagrams and screenshots.
- **Demonstration**: a live demonstration of your system that allows your teacher and peers to see how you interact with the system and provide feedback.

NESA Glossary of Key Words

Understand the verb associated with the task. The verb will provide an understanding of the detail needed to successfully answer the question.

- **Define** - State meaning and identify essential qualities
- **Describe** - Provide characteristics and features
- **Evaluate** - Make a judgement based on criteria determine the value of
- **Identify** - Recognise and name.

Check the NESA Glossary of Key Words for further guidance
https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/hsc/hsc-student-guide/glossary-keywords

Details of Submission

You are to submit your documentation and presentation digitally as a Google Doc or Google Slide Deck or PowerPoint file and the practical component as a zip file or downloadable Git repository.

Teacher Feedback and Student Self-Reflection

The task will typically be returned to students within **14 days** of the due date.

Information on how to improve will be provided through written teacher feedback and the marking criteria. Students can clarify or seek further feedback by speaking with their teacher.

Upon return of the task and teacher feedback, students will also be expected to complete the following self-reflection form, to provide them with the opportunity to reflect on the strength of their performance, as well as areas that have been identified to strengthen in future tasks - https://forms.gle/oBnPJ8EsGLTQZm7Z8

How does this link to my learning?

This task will allow students to demonstrate their understanding of theoretical concepts, providing students with the opportunity to showcase their knowledge, understanding and skills in

- Effective use of project management techniques including documentation and communication
- Demonstrates the ability to uses appropriate resources and tools to effectively develop, document and manage their project

Assessment Procedures

All students should be fully aware of the School Assessment Procedures for their year group. These were provided at the beginning of the school year and are available off the school website under the Learning Tab for each year group.

Scenarios

The following are some examples of enterprise systems that you could make for this project:

- A **web-based interactive media system** that uses data driven journalism to inform the public about a social or environmental issue, such as climate change, homelessness or mental health. This system will use data and stories to show the facts and impacts of the issue and to engage the audience. To develop this system, you will need graphic design tools to create a web page or an app that looks nice and easy to use, spreadsheet analysis features to work with data from different sources and formats, presentation software to show your stories in a clear and attractive way and business analytics services to measure how well your system reaches and influences your audience.

- A **network of interconnected devices** that uses IoT (Internet of Things) and ML (Machine Learning) to monitor and optimise the energy consumption and environmental impact of a smart home or a smart building. This type of system will use sensors and actuators to collect and control data from different devices and appliances, such as lights, heaters or cameras. It will also use ML algorithms to analyse the data and find ways to improve the efficiency and sustainability of the home or building. To develop this system, you will need biometrics to identify people who live or work in the home or building, haptics to give feedback to the users or devices, touch and gesture to control the devices or settings, VR/AR to create immersive experiences for the users or devices, voice and sound to communicate with the users or devices, microcontrollers to program the devices or appliances, sensors to measure things like temperature, humidity or motion, actuators and motors to move things like switches, valves or fans.

- A **data visualisation** that uses big data and predictive analytics to identify and communicate trends, patterns and relationships in a specific domain, such as health, education or sports. This system will use large amounts of data from various sources and apply statistical techniques to find and show meaningful insights. It will also use predictive analytics to forecast future outcomes or scenarios based on the data. To develop this system, you will need graphs to show numbers in different ways like bars, lines or pies, infographics to show facts in a visual way like icons, dashboards to show summaries of key metrics or indicators, reports to show details of specific findings or recommendations, network diagrams to show connections or interactions between different entities or variables, maps to show locations or spatial distributions.

- An **intelligent system** that uses expert systems and AI to provide decision support or automation for a specific purpose, such as diagnosis, scheduling, gaming or surveillance. This system will use expert systems to store and apply knowledge from human experts in a specific domain or problem. It will also use AI techniques to learn from data and perform tasks that normally require human intelligence or judgement. To develop this system, you will need flowcharts to show logic or rules of the system or process, data flow diagrams to show data movement or transformation in the system or process, infographics to show information or results of the system or process, decision trees to show choices or outcomes of the system or process, SQL to work with databases or queries in the system or process.

Marking Rubric

CRITERIA	0 -1	2	3	4	5
Problem Definition	Student provides a limited understanding of the requirements of the enterprise solution being developed.	Student outlines and identifies the problem being solved and/or features of the enterprise solution being developed.	Student outlines the problem being solved and features of the enterprise solution being developed and identifies and/or outlines reasons for the selection of the project.	Student describes the problem being solved and features of the enterprise solution being developed and reasons for the selection of the project.	Student clearly describes and explains the problem being solved and features of the enterprise solution being developed and justifies the reasons for the selection of the project.
System Requirements	Student provides a limited understanding of the system requirements of the enterprise solution being developed.	Student outlines and/or identifies the system requirements for the enterprise solution being developed. Student identifies the scale or scope of the system.	Student provides a some judgement about the system requirements for the enterprise solution being developed. Student outlines the scale and/or scope of the system and outlines the relationship between them.	Student provides a reasoned judgement about the system requirements for the enterprise solution being developed. Student describes the scale and scope of the system and the relationship between them.	Student provides well developed and reasoned judgement about the system requirements for the enterprise solution being developed. Student clearly describes and explains the scale and scope and the relationship between them.
Success Criteria	Student provides a limited understanding of the success criteria used to evaluate the enterprise solution being developed.	Student identifies criteria to evaluate the success of the enterprise solution being developed, some of which may be inappropriate.	Student briefly describes or outlines the criteria to evaluate the success of the enterprise solution being developed.	Student describes appropriate criteria to evaluate the success of the enterprise solution being developed with some analyses of these criteria.	Student establishes and analyses appropriate criteria to evaluate the success of the enterprise solution being developed.

Tools and Process Justification	Student provides a limited understanding of the tools and processes used in the creation of the enterprise solution being developed.	Student identifies some tools and process used for the creation and implementation of an enterprise solution.	Student outlines appropriate tools and process used for the creation and implementation of the enterprise solution.	Student describes the selection of appropriate tools and process used for the creation and implementation of the enterprise solution.	Student clearly justifies the selection of highly appropriate tools and process used for the creation and implementation of the enterprise solution.
Data Dictionary	Student provides a limited or no understanding of a data dictionary.	Student creates a basic data dictionary with a few of the required components or column headings.	Student creates a data dictionary showing some of the required components.	Student creates a data dictionary showing most of the required components and follows the course specifications.	Student creates a comprehensive data dictionary that includes all data types and follows the course specifications.
Storyboard	Student provides a limited or no understanding of a storyboard.	Student creates a basic storyboard that includes some information and/or detail that somewhat relates to the enterprise solution being created.	Student creates a storyboard that includes appropriate information that relates to the enterprise solution being created.	Student creates a comprehensive storyboard that includes all appropriate information that highly relates to the enterprise solution being created.	

Gantt Chart	Student has attempted to organise tasks into a Gantt chart or no understanding of Gantt Charts.	Student has most of the tasks ordered and assigned into a plausible sequence.	Student has created a Gantt chart that has all the tasks ordered and assigned into a logical and realistic timeframe.		
Data Flow Diagram (Level 0)	Student provides a Data Flow Diagram that shows limited or no process, or external entities and does not relate to the enterprise solution being developed or no understanding of data flow diagrams.	Student provides a basic Data Flow Diagram that shows no or multiple processes, some data flows, external entities and loosely relates to the enterprise solution being developed.	Student provides a Data Flow Diagram that shows one or multiple processes, some data flows and external entities and somewhat relates to the enterprise solution being developed. NESA symbols used for some of the symbols.	Student provides a Data Flow Diagram that shows one process and most data flows and external entities representing the enterprise solution being developed. NESA symbols used throughout most of the diagram.	Student provides a substantially correct Data Flow Diagram that shows one process, all data flows and external entities representing the enterprise solution being developed. NESA symbols used throughout the diagram.
Data Flow Diagram (Level 1)	Student provides a Data Flow Diagram that shows limited processes, datastores, external entities and does not relate to the enterprise solution being developed or no understanding of data flow diagrams.	Student provides a basic Data Flow Diagram that shows some processes, datastores, data flows, external entities and loosely relates to the enterprise solution being developed.	Student provides a Data Flow Diagram that shows some processes, datastores, data flows, external entities and somewhat relates to the enterprise solution being developed. NESA symbols used for some of the symbols.	Student provides a Data Flow Diagram that shows most processes, datastores, data flows and external entities representing the enterprise solution being developed. NESA symbols used throughout most of the diagram.	Student provides a substantially correct Data Flow Diagram that shows all processes, datastores, data flows and external entities representing the enterprise solution being developed. NESA symbols used throughout the diagram.

System Flowchart	Student provides a System Flowchart that shows limited or no process and devices, and does not relate to the enterprise solution being developed or no understanding of system flowcharts.	Student provides a basic System Flowchart that includes some processes and devices and loosely relates to the enterprise solution being developed.	Student provides a System Flowchart that shows one or multiple processes and devices and somewhat relates to the software project being developed. NESA symbols used for some of the symbols.	Student provides a System Flowchart that shows most of the main process and devices representing the enterprise solution being developed. NESA symbols used throughout most of the diagram.	Student provides a substantially correct System Flowchart that shows all the main processes and devices representing the enterprise solution being developed. NESA symbols used throughout the diagram.
Decision Tree	Student provides a decision tree that shows limited understanding of the problem definition and does not relate to the software project being developed.	Student provides a basic decision tree which represents a basic number of possible combinations of decisions and their resulting actions. Branches are shown to describe a basic number of the eventual action depending on the condition at the time. Most paths lead to either no decision or no final action.	Student provides a somewhat correct decision tree which represents some of the possible combinations of decisions and their resulting actions. Branches are shown to describe some of the eventual action depending on the condition at the time. Some decision paths lead to either another decision or a final action.	Student provides a mostly correct decision tree which represents most possible combinations of decisions and their resulting actions. Branches are shown to describe most of the eventual action depending on the condition at the time. Most decision paths lead to either another decision or a final action.	Student provides a substantially correct decision tree which represents all possible combinations of decisions and their resulting actions. Branches are shown to describe the eventual action depending on the condition at the time. Each decision path leads to either another decision or a final action.

CRITERIA	0 - 1	2	3	4	5
Financial Plan	Student provides a limited or no understanding of a financial plan.	Student proposes a finance plan including some costs of the new enterprise solution	Student develops and applies a finance plan showing most costs of the new enterprise solution	Student develops and applies comprehensive finance plan clearly showing all relevant costs of the new enterprise solution	
Journal	Student provides a limited entries or no understanding of a journal.	Student provides basic entries identifying problems or what was achieved and/or limited entries with basic details.	Student provides some entries outlining problems or what was achieved or how the problems were solved.	Student provides regular entries describing a number of problems and what was achieved and how the problems were solved.	Student provides extensive entries explaining a wide range of problems and what was achieved and how the problems were solved.
Hardware and Software Requirements	Student provides a limited understanding of the hardware and software requirements of the enterprise solution being developed.	Student identifies the hardware and software needed for this new enterprise system or identifies how it will be integrated into existing hardware and software.	Student outlines how the hardware and software needed for this new enterprise system will be integrated into existing hardware and software.	Student describes how the hardware and software needed for this new enterprise system will be integrated into existing hardware and software.	Student clearly describes and explains how the hardware and software needed for this new enterprise system will be integrated into existing hardware and software.
Training Strategy	Student provides a limited understanding of the training strategy used when implementing the enterprise solution being developed.	Student identifies training strategies that could be used to training staff tin the use of a new system.	Student outlines appropriate training strategies of staff to use the new enterprise solution.	Student describes the selection of appropriate training strategies of staff to use the new enterprise solution.	Student clearly justifies the selection of highly appropriate training strategies of staff to use the new enterprise solution.
Role of Testing	Student provides a limited understanding of the role of testing.	Student identifies types of testing that could be used on the new enterprise system being developed and implemented.	Student outlines the role and types of testing used on the new enterprise system being developed and implemented.	Student describes the role and types of testing used on the new enterprise system being developed and implemented.	Student clearly describes and explains the role and types of testing used on the new enterprise system being developed and implemented.

Impact of Cybersecurity Breaches	Student provides a limited understanding of the impact of cybersecurity breaches on the new enterprise solution being implemented.	Student identifies the impact of cybersecurity breaches on enterprise systems.	Student outlines the impact of cybersecurity breaches on the new enterprise system.	Student describes the impact of relevant cybersecurity breaches on the new enterprise system.	Student clearly describes and explains the impact of highly relevant cybersecurity breaches on the new enterprise system.
CRITERIA	**0 -2**	**3 - 4**	**5 - 6**	**7 -8**	**9 -10**
Evaluation	Student provides no understanding of how to evaluate the final enterprise solution in relation to the performance of the enterprise system.	Identifies the value of the new enterprise system and/or identifies the performance of the new enterprise system	Outlines the value of the new enterprise system making some reference to the performance of the new enterprise system	Describes the value of the new enterprise system making reference to the performance of the new enterprise system	Clearly describes and evaluates the new enterprise system making clear judgements and reference to the performance of the new enterprise system
CRITERIA	**0 - 4**	**5 - 8**	**9 - 12**	**13 -16**	**17 - 20**
Enterprise System	Student provides a limited enterprise computing solution The project shows minimal alignment with the problem; tools and resources are hardly used.	Student designs and develops a basic enterprise computing solution Student demonstrates basic knowledge and understanding of the application of data, tools and resources. Some alignment is evident, but the integration of needs and tools is superficial.	Student designs and develops a sound enterprise computing solution Student demonstrates sound knowledge and understanding of the application of data, tools and resources. Sound alignment with the problem; tools and resources are used appropriately.	Student designs and develops an effective enterprise computing system Student demonstrates thorough knowledge and understanding of the application of data, tools and resources in developing enterprise computing solutions. Strong alignment and integration of project needs;	Student designs and develops a highly effective enterprise computing system Student demonstrates extensive knowledge and understanding of the application of data, tools and resources in developing enterprise computing solutions. Excellent alignment with the problem; tools and

				effective use of tools and resources.	resources are used innovatively and effectively.
CRITERIA	**0 - 1**	**2**	**3**	**4**	**5**
User Interface and User Experience	Student provides a limited user interface and a poor user experience or no understanding of appropriate screen design, messages and instructions. Includes a limited number of required features.	Student provides somewhat appropriate messages. GUI implemented is appropriate for the solution. Instructions provided to the user. Includes most of the required features.	Student provides highly appropriate messages to aid the user. GUI implemented is highly appropriate and aids in the user experience of the solution. Instructions provided are clear and unambiguous. Includes all required features.		
Accessibility and Inclusivity	The student has attempted to address accessibility and inclusivity.	The student has shown some consideration of accessibility and inclusivity. The rationale is mentioned in the process diary (journal).	The student has shown good consideration of accessibility and inclusivity. The rationale is outlined in the process diary (journal).		

CRITERIA	0 -2	3 - 4	5 - 6	7 -8	9 -10
Presentation	Minimal to no description of the solution’s features, benefits or challenges.The student’s class presentation attempts an explanation and demonstration of some of the project concepts used in the project.	Basic description of the solution’s features, benefits and challenges. Provides a simple outline of how this was achieved. The student demonstrates limited components of the project.	Sound overview of the solution’s features, benefits and challenges with examples. Some explanation of how this was achieved. The student is able to answer some of the questions raised during Q&A. The student demonstrates some components of the project.	Detailed presentation of the solution's features, benefits and challenges. Detailed explanation of how this was achieved. The student is able to confidently answer questions raised during Q&A about the development process. The student demonstrates most components of the project.	Comprehensive and insightful presentation of the solution’s features, benefits, and challenges with clear links to improvement and future development. Thorough explanation of how this was achieved. The student provides informative and educational answers to questions raised during Q&A. The student demonstrates all components of the project.

Total: /127