Computing Technology Stage 5 (Year 10) – sample assessment task 4 notification

**Enterprise systems – designing for user experience**

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# Task description

**Type of task:** design for user experience product with planning and documentation.

**Outcomes being assessed:**

A student:

* selects and applies safe, secure and responsible practices in the ethical use of data and computing technology **CT5-SAF-01**
* applies iterative processes to define problems and plan, design, develop and evaluate computing solutions **CT5-DPM-01**
* communicates ideas, processes and solutions using appropriate media **CT5-COM-01**
* applies computational, design and systems thinking to the development of computing solutions **CT5-THI-01**
* acquires, represents, analyses and visualises simple and structured data **CT5-DAT-02**
* designs and creates user interfaces and the user experience **CT5-DES-01**

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**Suggested weighting:** 30%

Design an app with a multimedia element that you have previously planned in Assessment task 3.

In pairs or small groups, you will be creating a prototype user interface utilising Adobe XD with an interactive media element created utilising Adobe Aero and an embedded link or QR code.

In Assessment task 3 you chose an option from the following:

* pet tracker
* enhance posture
* watering plants
* shopping map
* smart fridge recipe generator
* fitness
* games account tracker
* chores.

Evaluating the ideas generated in Assessment task 3, choose a theme that you will utilise in the development of an Adobe XD prototype app and corresponding augmented reality (AR) component. You will utilise Adobe Photoshop, Adobe Illustrator or Adobe After Effects to create assets to produce an interactive component for your app.

You will utilise an iterative approach in your design and authoring of your interactive multimedia product.

# Submission details

Students can submit their work digitally including their digital product and documentation.

Students can showcase their digital product in a class presentation for peer and teacher review.

# Steps to success

Table 1 – assessment preparation schedule

|  |  |
| --- | --- |
| Steps | What I need to do/when I need to do it |
| Record all steps of development in creating the interactive experience prototype | * Create an extensive record of project development that accurately illustrates the iterative journey of completing the design, creation and troubleshooting of your app. * The record of development contains detailed and accurate lesson by lesson accounts of work completed which includes discussions, evaluations, images and milestones precisely timestamped and presented in a professional manner. |
| Design a storyboard of your app | * Plan and design your interactive media app so that it demonstrates excellent functionality, accessibility, usability and aesthetics with attention to privacy and cyber security considerations. |
| Create your Augmented Reality assets | * Plan and create excellent assets for use in the development of an AR media element. * Apply extensive skills in the development of 2D and 3D designs utilising a variety of tools. |
| Develop your Augmented Reality in Adobe Aero | * Compile and present your assets in a creative and well organised way to ensure user engagement and enhance the user experience with the app. |
| Create your Adobe XD prototype app | * Create a user experience based on your chosen theme that demonstrates excellent functionality, usability, accessibility and aesthetics. |
| Evaluate your app using functional and non-functional requirements and test criteria | * Evaluate your final app against the functional and non-functional requirements outlined in Assessment task 3, highlighting areas of success and areas of improvement. |

# What is the teacher looking for?

Students are to plan, design and develop a solution to a real-world problem. They are to manage and document their progress and processes in the development of the final solution.

The task will require students to investigate and utilise iterative design to produce an excellent Adobe XD prototype app that has an AR interactive element. This will require students to develop critical skills in the use of authoring tools to create a user-centred user interface that engages through interactivity.

Understanding how to balance functionality, accessibility and usability with interactivity will be a pivotal focus for students.

A final evaluation by students that critically evaluates the final solution against the functional and non-functional specifications highlighted in Assessment task 3.

# Marking guidelines

Table 2 – assessment marking guidelines

|  |  |
| --- | --- |
| Grade | Marking guideline descriptors |
| A | * The student skilfully applies appropriate iterative processes to produce computing solutions. * The student develops highly effective computing solutions using computational, design and systems thinking skills. * The student selects and applies safe, secure and ethical practices in the use of data. * The student demonstrates creativity and innovation in the design and implementation of user interfaces to create engaging user experiences. |
| B | * The student applies appropriate iterative processes to produce computing solutions. * The student develops effective computing solutions using computational, design and systems thinking skills. * The student selects and applies safe, secure and ethical practices in the use of data. * The student demonstrates creativity in the design and implementation of user interfaces to create engaging user experiences. |
| C | * The student applies iterative processes to produce computing solutions. * The student develops sound computing solutions using computational, design and systems thinking skills. * The student applies safe, secure and ethical practices in the use of data. * The student designs and implements user interfaces to create user experiences. |
| D | * The student uses processes to produce computing solutions. * The student develops basic computing solutions using computational or design or systems thinking skills. * The student uses data safely and responsibly. * The student implements basic elements of user interface design to support user experiences. |
| E | * The student identifies processes that may produce a computing solution. * The student works safely with data. * The student identifies elements of user interfaces that contribute to user experiences. |

# Student-facing rubric

Table 3 – rubric for assessment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Limited | Basic | Sound | High | Outstanding |
| Record of Development | Incorrectly records the journey of designing and creating a multimedia app. The records are partially complete and presented simplistically. | Provides a record of project development that inaccurately illustrates the journey of designing and creating a multimedia app.  The record contains some lesson-by-lesson accounts of work completed. | Provides a record of project development that correctly illustrates the journey of designing and creating a multimedia app.  The record contains lesson-by-lesson accounts of work completed which includes discussions, evaluations, images and milestones precisely timestamped and is presented appropriately. | Provides an accurate record of project development that correctly illustrates the journey of designing and creating a multimedia app.  The record contains detailed lesson-by-lesson accounts of work completed which includes discussions, evaluations, images and milestones precisely timestamped and is well presented. | Provides an extensive record of project development that accurately illustrates the journey of designing and creating a multimedia app.  The record contains detailed and accurate lesson-by-lesson accounts of work completed which includes discussions, evaluations, images and milestones precisely timestamped and is presented in a professional manner. |
| Storyboard | Creates some components of a storyboard. The design tool has little appropriate, functional, usability or aesthetical information. | Creates most components of a storyboard. The design tool contains some appropriate, functional, usability or aesthetical information. | Creates an appropriate storyboard. The design tool contains suitable functional, usability and aesthetical information. | Creates an effective storyboard. The design tool demonstrates understanding of design principles and contains suitable functional, usability and aesthetical information. | Creates an excellent storyboard. The design tool demonstrates an extensive understanding of design principles and contains explicit functional, usability and aesthetical information. |
| AR Assets | Demonstrates minimal skill in the creation of assets, utilising minimal tools and techniques in their development. | Demonstrates some level of skill in the creation of assets utilising some tools and techniques in their development. | Demonstrates appropriate level of skill in the creation of assets utilising appropriate tools and techniques in their development. | Demonstrates significant skill in the creation of assets utilising a variety of tools and techniques in their development. | Demonstrates an exemplary level of skill in the creation of assets utilising an extensive number of tools and techniques in their development. |
| AR Compilation | Creates an incomplete AR compilation that demonstrates minimal skill in combining, placing and building behaviours of objects to engage a user. | Creates an incomplete AR compilation that demonstrates some skill in combining, placing and building behaviours of objects to engage a user. | Creates a complete AR compilation that demonstrates appropriate skill in combining, placing and building behaviours of objects to engage a user. | Creates a complete AR compilation that demonstrates effective design and skill in combining, placing and building behaviours of objects that engage the user. | Creates an outstanding AR compilation that demonstrates extensive design and skill in combining, placing and building behaviours of objects that effectively engage the user. |
| App prototype | Builds some components of an app prototype that also demonstrates minimal design principles and technical skill.  App does not contain a working interactive multimedia element. | Builds most components of an app prototype that also demonstrates some design principles and technical skill.  App does not contain a working interactive multimedia element. | Builds a complete app prototype that demonstrates appropriate design principles and technical skill.  App integrates a satisfactory interactive multimedia element. | Builds an effective app prototype that demonstrates a thorough understanding and use of design principles and technical skill.  App effectively integrates an interactive multimedia element. | Builds an outstanding app prototype that demonstrates an extensive understanding and use of design principles and technical skill.  App effectively integrates an interactive multimedia element to engage the user. |
| Evaluation | Evaluation identifies some areas of success or some areas for improvement. | Evaluation identifies most areas of success and most areas for improvement. | Evaluation outlines areas of success and areas for improvement based on predetermined functional and non-functional requirements. | Evaluation describes areas of success and areas for improvement based on predetermined functional and non-functional requirements. | Evaluation is detailed, objective and explains areas of success and improvement based on predetermined functional and non-functional requirements. |

# Student support material

**Resources include:**

* Teacher resource with scaffolds, templates and graphic organisers for completing the task
* Teacher resource with additional information to support student understanding
* Program of learning.

# Additional information

This resource has been developed to assist teachers in NSW Department of Education schools to create learning that is contextualised to their classroom. It can be used as a basis for the teacher’s own program, assessment, or scope and sequence, or be used as an example of how the new curriculum could be implemented. The resource should be used with timeframes that are created by the teacher to meet the overall schedules of assessment.

For additional support or advice, contact the TAS curriculum team by emailing [TAS@det.nsw.edu.au.](mailto:TAS@det.nsw.edu.au)

## Assessment advice

Assessment is a powerful tool to measure student learning and plan for the next stages in the learning process. Some considerations in using parts of this assessment notification are:

* Consider the skills, knowledge, and understanding students need to complete the task, and see where there are opportunities for them to refine these through ongoing feedback in the learning sequences associated with the assessment task.
* Ensure the language and readability of the task presents an appropriate challenge for the students the task is being used with. Direct, plain English will allow the greatest number of students to access the task independently.
* Marking guidelines should directly reflect the success criteria and outcomes of the task and align with appropriate levels of achievement for the relevant Stage.
* When constructing or adjusting the marking guidelines and/or rubric, try to keep active verbs like ‘do’, ‘say’, ‘make’, or ‘write’ in mind to measure student performance at each level. This will help to avoid subjective language.

## Assessment as a learning opportunity

Assessment can provide ways for students to use formal and informal feedback and self-assessment to help them understand where they are in their learning, where they are going, and how they are going to get there. It is essential that students receive feedback on their performance in the task and have opportunity to clarify and plan the next steps in learning.

* Clear and explicit marking rubrics can support effective self-assessment in relation to the learning intentions and success criteria assisting students to become owners of their own learning. Students can then build their capacity for individual goal setting, which includes students asking questions such as, ‘What do I need to improve?’ and ‘What is my next step?’ ([CESE Growth goal setting – what works best in practice](https://education.nsw.gov.au/about-us/educational-data/cese/publications/practical-guides-for-educators/growth-goal-setting)).
* Greater learning gains may be made when teachers provide explicit descriptive feedback to students in a timely manner. This feedback supports students in forming their learning goals as well as helping the teacher to plan for the next iteration of the teaching and learning cycle.

### Differentiation advice

Differentiated learning can be enabled by differentiating the assessment approach to content, process, and product. Reasonable adjustments of assessment for students with disability is a legal requirement under the [*Disability Standards for Education 2005* (Cth)](https://www.dese.gov.au/disability-standards-education-2005). For students with a disability, adjustment in assessment tasks should be made through the [Collaborative curriculum planning](https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/diversity-in-learning/special-education/collaborative-curriculum-planning) process. For more information on differentiation, go to [Differentiating learning](https://education.nsw.gov.au/teaching-and-learning/professional-learning/teacher-quality-and-accreditation/strong-start-great-teachers/refining-practice/differentiating-learning) and [Differentiation](https://education.nsw.gov.au/campaigns/inclusive-practice-hub/primary-school/teaching-strategies/differentiation). When using this resource, teachers can use a range of [adjustments](https://education.nsw.gov.au/teaching-and-learning/disability-learning-and-support/personalised-support-for-learning/adjustments-to-teaching-and-learning) to ensure a personalised approach to student learning.

* Some common adjustments are available through the [Inclusive Practice hub assessment and reporting](https://education.nsw.gov.au/campaigns/inclusive-practice-hub/all-resources/secondary-resources/other-pdf-resources/nesa-assessment-and-reporting) site.
* The [Universal Design for Learning planning tool](https://education.nsw.gov.au/teaching-and-learning/learning-from-home/teaching-at-home/teaching-and-learning-resources/universal-design-for-learning) can be used to support the diverse learning needs of students using inclusive teaching and learning strategies.
* The [HPGE Differentiation Adjustment Tool](https://education.nsw.gov.au/teaching-and-learning/high-potential-and-gifted-education/supporting-educators/implement/differentiation-adjustment-strategies) and [Differentiation Package](https://schoolsnsw.sharepoint.com/sites/HPGEHub/SitePages/Home.aspx#first-time-access-to-hpge-resources) can assist teachers to decide how to provide extension and additional challenge for High Potential and Gifted (HPG) students.

The steps below may be useful to consider when creating access opportunities for all students:

* remove unnecessary words/images
* simplify any tricky words or make a glossary of subject-specific words
* reduce the lexical density of the steps and use student-friendly language
* chunk large passages of reading or offer alternate ways of representing the information, such as a visual
* make the task description a checklist with numbered steps
* limit options and/or reduce the number of choices students need to make independently.

## Support and alignment

**Resource evaluation and support**: all curriculum resources are prepared through a rigorous process. Resources are periodically reviewed as part of our ongoing evaluation plan to ensure currency, relevance, and effectiveness. For additional support or advice contact the TAS curriculum team by emailing [TAS@det.nsw.edu.au](mailto:TAS@det.nsw.edu.au).

**Alignment to system priorities and/or needs:** [School Excellence Policy](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468), [School Success Model.](https://education.nsw.gov.au/public-schools/school-success-model/school-success-model-explained)

**Alignment to the School Excellence Framework**: this resource supports the [School Excellence Framework](https://education.nsw.gov.au/policy-library/policies/pd-2016-0468) element of assessment (formative assessment, summative assessment, student engagement).

**Alignment to Australian Professional Teaching Standards**: This resource supports teachers to address [Australian Professional Teaching Standards](https://educationstandards.nsw.edu.au/wps/portal/nesa/teacher-accreditation/meeting-requirements/the-standards/proficient-teacher) 5.1.2, 5.4.2.

**Consulted with**: Curriculum and Reform and subject matter experts.

**NSW Syllabus**: Computing Technology 7-10

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**Related resources**: further resources to support Stage 5 TAS can be found on the [TAS curriculum page](https://education.nsw.gov.au/teaching-and-learning/curriculum/tas).

**Professional learning**: relevant professional learning is available through the TAS statewide staffroom.

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# Evidence base

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