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| **Stimulus: *Water safety, water awareness and water care.*** |
|  |

Digital Technologies project: digital solution

**Section 1: Explore and Develop**

**Analyse** and **determine** a plan for a prototype Scratch game that reflects the stimulus for this Unit (see first page) – encouraging users to be more **water** safe, water aware or water caring.

Complete this task within a maximum of one A3 landscape page.

**Section 2: Generate and Evaluate**

1. Generate a prototype Scratch game that best implements the core game mechanics determined in Section 1. **#comment** your code, explaining what each code block does, as well as **refinements made** and **reccomendations for the future**.
2. Evaluate your game in terms of meeting (end user) needs, innovation and sustainability.

*More detailed assistance can be found in the scaffold issued with this task.*

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| **Submission Requirements** |
| * Section 1: submit one digital document (maximum of one A3 landscape page) |
| * Section 2.1: submit commented Scratch file |
| * Section 2.2: submit answers to evaluation questions. Can be included with Section 1 |
| **Important Notes** |
| * Use comments in code to explain understanding of code blocks, as well as pointing out any refinements made, or any on-going testing of code blocks. |
| * Keep backups of your files. Save every 10-15 minutes of work. |
| **Getting Started** |
| * Look at the examples of past completed assignments shown in class for inspiration. |
| * Look through past class notes, and resources from the website to help you plan. |
| * Brainstorm some ideas on an A3 sheet of paper for games you would like to play or see. |
| **Authentication Strategies** |
| * Acknowledge any and all code snippets, tutorials, advice, information or help given. |
| * Students may be asked to explain their solution, or parts there-of, to determine authenticity. |

#### Appendix A: QCAA Years 7 and 8 Digital Technologies standard elaborations

#### Given nature of task, *information systems* has been contextualised to *game*:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | **A** | **B** | **C** | **D** | **E** |
| **Processes and production skills** | *Investigating and defining* | *Section 1* | purposeful definition and decomposition of problems in terms of functional requirements and constraints | effective definition and decomposition of problems in terms of functional requirements and constraints | definition and decomposition of problems in terms of functional requirements and constraints | partial definition and decomposition of problems in terms of functional requirements and constraints | fragmented definition and decomposition of problems |
| *Generating and designing; producing and implementing* | *Section 2.1* | systematic testing, modification and proficient implementation of digital solutions. | reliable testing, modification and effective implementation of digital solutions. | testing, modification and implementation of digital solutions. | partial testing or modification and partial implementation of digital solutions. | fragmented testing or modification or implementation of digital solutions. |
| *Evaluating* | *Section 2.2* | critical evaluation of *game* solution in terms of meeting needs, innovation and sustainability. | informed evaluation of *game* solution in terms of meeting needs, innovation and sustainability. | evaluation of *game* solution in terms of meeting needs, innovation and sustainability. | explanation of *game* solution. | statements about *game* solution. |

*This will be marked digitally via the submission platform.*

#### Appendix B: Australian Curriculum content descriptions

This assessment instrument is used to allow students to formally demonstrate the following Australian Curriculum Digital Technologies Years 7 and 8 Content Descriptions:

|  |  |
| --- | --- |
| **Explicitly measured** | |
| P&PS | Define and decompose real-world problems taking into account functional requirements and economic, environmental, social, technical and usability constraints |
| P&PS | Implement and modify programs with user interfaces involving branching, iteration and functions in a general-purpose programming language |
| P&PS | Evaluate how student solutions and existing information systems meet needs, are innovative, and take account of future risks and sustainability |
| **Implicit to the task** (not formally measured) | |
| K&U | Investigate how data is transmitted and secured in wired, wireless and mobile networks, and how the specifications affect performance |
| K&U | Investigate how digital systems represent text, image and audio data in binary |
| P&PS | Acquire data from a range of sources and evaluate authenticity, accuracy and timeliness |
| P&PS | Analyse and visualise data using a range of software to create information, and use structured data to model objects or events |
| P&PS | Design the user experience of a digital system, generating, evaluating and communicating alternative designs |
| P&PS | Design algorithms represented diagrammatically and in English, and trace algorithms to predict output for a given input and to identify errors |
| P&PS | Plan and manage projects that create and communicate ideas and information collaboratively online, taking safety and social contexts into account |

**Key**:

K&U: Knowledge and Understanding

P&PS: Processes and Production Skills