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| **Stimulus: *2D platformer games.*** |
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Digital Technologies project: digital solution

**Section 1: Explore and Develop**

1. **Analyse**, **determine** and / or **symbolise** a plan for a game that fits within the platformer game genre (see stimulus).

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| * As this genre is limiting to the type of game you can generate, focus your plan on level layout, challenges, special skills or alternate mechanics, under the headings of:   + **Functionality** (game physics, behaviours or triggers)   + **Accessibility** (controls, sizing, on-screen help)   + **Usability** (playability, focusing on learning curve and progression)   + **Aesthetics** |

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

**Section 2: Generate and Evaluate**

1. Generate a prototype game that illustrates the plan determined in Section 1.

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| Some tips:   * Stay native to the game engine studied in class. Engineering is not about finding a perfect solution – it’s about finding the best solution with what is available. * Utilise [royalty free assets](https://opengameart.org/) if you wish. The focus is on gameplay. * As these games will be exported to HTML5 for web playback, it is recommended you aim for either a 640x480 or 800x600 viewport window. |

1. **/\*comment** at bottom of code in your main object in either STEP or CREATE event:

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| Specific iterations of your game, describing in each iteration:   * Version 1: base functionality, roadmap or next steps to reach version 2 (planning) * Version 2: refinements, additions, fixes, removals, roadmap to version 3 * Version X |

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| **Submission Requirements** |
| * Section 1: submit one digital document (maximum of one A3 landscape page) |
| * Section 2: submit entire project folder zipped (include evaluation in code comments) |
| **Important Notes** |
| * Use comments in code to explain understanding of programming structures, as well as pointing out refinements and on-going testing of code. |
| * Keep backups of your files. Save every 10-15 minutes of work. |
| * Final testing, refinements, evaluations and future recommendations should be neatly commented in an event in your most “significant” game object, e.g. **objPlayer.Step** |
| **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 about games you like to play, and try to come up with a unique idea from these |
| **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 9 and 10 Digital Technologies standard elaborations (contextualised)

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|  |  | | **A** | **B** | **C** | **D** | **E** |
| **Processes and production skills** | *Generating and designing; producing and implementing* | *Section 1* | **purposeful** design and evaluation of user experiences | **effective** design and evaluation of user experiences | design and evaluation of user experiences | **partial** design and **explanation** of user experiences | **fragmented** design and **statements about** user experiences |
| *Section 2A* | **proficient** implementation of modular programs | **effective** implementation of modular programs | implementation of modular programs | **partial** implementation of modular programs | **fragmented** implementation of modular programs |
| *Collaborating and managing* | *Section 2B* | **comprehensive** planning and management of digital projects using an iterative approach | **informed** planning and management of digital projects using an iterative approach | planning and management of digital projects using an iterative approach | **partial** planning and management of digital projects using an iterative approach | **fragmented** planning and management of digital projects |

*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 9 and 10 Content Descriptions:

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| **Explicitly measured** | |
| P&PS | Design the user experience of a digital system by evaluating alternative designs against criteria including functionality, accessibility, usability, and aesthetics |
| P&PS | Implement modular programs, applying selected algorithms and data structures including using an object-oriented programming language |
| P&PS | Plan and manage projects using an iterative and collaborative approach, identifying risks, and considering safety and sustainability |
| **Implicit to the task** (not formally measured) | |
| K&U | Analyse simple compression of data and how content data are separated from presentation |
| P&PS | Develop techniques for acquiring, storing, and validating quantitative and qualitative data from a range of sources, considering privacy and security requirements |
| P&PS | Analyse and visualise data to create information and address complex problems, and model processes, entities and their relationships using structured data |
| P&PS | Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs |
| K&U | Investigate the role of hardware and software in managing, controlling, and securing the movement of and access to data in networked digital systems |
| P&PS | Design algorithms represented diagrammatically and in structured English and validate algorithms and programs through tracing and test cases |
| P&PS | Create interactive solutions for sharing ideas and information online, taking into account safety, social contexts, and legal responsibilities |
| P&PS | Evaluate critically how student solutions and existing information systems and policies, take account of future risks and sustainability, and provide opportunities for innovation and enterprise |

**Key**:

K&U: Knowledge and Understanding

P&PS: Processes and Production Skills