##### Stage 1 Digital Technologies

##### Assessment Type 2: Digital Solution

##### Advanced Programming: Creating an Advanced Role-Playing Game

###### Purpose

In the previous tasks, you created a basic RPG skeleton game and learnt additional skills to develop a more sophisticated educational game with improved collision and avoidance systems and the intrigue associated with randomness for the player.

The purpose of this task is to create a more advanced RPG that improves player satisfaction.

###### Assessment Description

* Based on the design plan and skills developed in the previous task, alter your existing game by adding, removing or modifying your existing game.
* Develop an evaluation of the effectiveness of the solution.
* Gain a user impact evaluation of the game.
* Consider the ethical implications of the solution on the user.

###### Assessment Conditions

* The game.
* Prepare a video presentation or multimodal presentation (up to 3 minutes, or equivalent), which includes:
* the game in use
* a solution effectiveness evaluation
* a user impact evaluation
* the ethical implications of the solution on the user.

**Assessment Design Criteria**

CT2 Development and application of programming skills to create a digital solution or prototype

CT3 Analysis of patterns and relationships in data sets and/or algorithms to draw conclusions

DE1 Development and application of program-design skills to create a digital solution or prototype

DE2 Evaluation of the effectiveness of a digital solution or prototype

RE1 Research into and discussion of ethical considerations in digital solutions and/or data use

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|  | **Computational Thinking** | **Development and Evaluation** | **Research and Ethics** |
| **A** | Insightful and sustained application of computational thinking skills to explore problems and possible solutions.  Focused development and strategic application of a wide range of programming skills to create a digital solution or prototype.  In-depth analysis of patterns and relationships in data sets and/or algorithms to draw insightful conclusions. | Purposeful and well-considered development and application of program-design skills to create digital solutions or a prototype that include innovative features.  Insightful evaluation of the effectiveness of a digital solution or prototype.  Insightful and proactive contribution to collaborative work. | In-depth research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **B** | Some insights in the application of computational thinking skills to explore problems and possible solutions.  Thorough development and well-considered application of a range of programming skills to create a digital solution or prototype.  Some depth in analysis of patterns and relationships in data sets and/or algorithms to draw well-informed conclusions. | Well-considered development and application of program-design skills to create digital solutions or a prototype that include one or more innovative features.  Well-considered evaluation of the effectiveness of a digital solution or prototype.  Mostly consistent and effective contribution to collaborative work. | Some depth in research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **C** | Application of computational thinking skills to explore problems and possible solutions.  Competent development and application of programming skills to create a digital solution or prototype.  Description, with some analysis of patterns and relationships in data sets and/or algorithms, to draw generally informed conclusions. | Development and application of program-design skills to create digital solutions or a prototype that may include one or more innovative features.  Description, with some evaluation of the effectiveness, of a digital solution or prototype.  Effective contribution to collaborative work. | Considered research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **D** | Some application of basic computational thinking skills to describe problems and possible solutions.  Basic development and some application of programming skills to create one or more partial solutions or prototypes.  Basic description of patterns and relationships in data sets and/or algorithms to draw one or more basic conclusions. | Some development and application of program-design skills to create one or more partial solutions or prototypes.  Basic description of a digital solution or prototype and one or more aspects of its effectiveness.  Some contribution to collaborative work. | Basic research into and discussion of the ethical considerations in digital solutions and/or data use. |
| **E** | Attempted application of a limited number of simple computational thinking skills to describe a problem and/or possible solution.  Attempted development and/or application of basic programming skills.  Attempted description of one or more patterns and relationships in data sets and/or algorithms. | Attempted development and application of program-design skills.  Attempted description of a digital solution or prototype.  Limited contribution to collaborative work. | Attempted discussion of an ethical consideration in digital solutions and/or data use. |