**Stage 1 Digital Technologies**

**Assessment Type 1: Project Skills**

**Product Design Plan**

**Purpose**

You are to develop a concept for a digital solution that will solve the issue that you identified and refined in Task 1 (Data Collection) and Task 2 (Data Analysis).

You will work collaboratively to produce and present your design concept for a digital solution.

The product design must be complimented by a proposed development portfolio outlining your design process, and suggesting how the product design will serve as a solution.

**Assessment Description**

* Work collaboratively to develop a product design for a digital solution that will solve the issue identified in Task 1 and Task 2. The digital solution design may be in the form of an app, website, game, micro-controller system, wearable technology etc. The solution may raise awareness or be a digital solution that addresses the problem directly.
* Produce a product design plan, including:
* the minimum viable product (MVP) specifications
* an outline of the intended user experience
* a plan for the design / build process
* annotated sketches (digital or hand drawn) of the interface, storyboard and/or relationship/object design (as appropriate)

*(Note: diagrams can be created using* [*https://www.draw.io*](https://www.draw.io)*)*

* an outline of each feature to be included in the proposed solution, with a brief description and proposed code design (pseudocode)
* an explanation of how the proposed digital solution will solve the issue
* You must submit a digital record of evidence of your own contribution to the collaborative product design.

**Assessment Conditions**

* Present your collaborative product design plan as a multimodal product pitch of 6 – 10 minutes. This may be a live presentation, pre-recorded video or in another format as negotiated with your teacher. Each member of the group must contribute to the product pitch.
* A digital record of evidence (notes, reflections, draft design annotations etc.) of your contributions to the collaborative project.

**Assessment Design Criteria**

CT1 Application of computational thinking skills to explore problems and possible solutions

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

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

DE3 Contribution to collaborative work

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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. |