**Stage 1 Digital Technologies**

**Assessment Type 2: Digital Solution**

**Digital Solution**

**Purpose**

You are to develop a digital solution to solve the issue that you have defined in Task 1 (Data Collection) and Task 2 (Data Analysis), and planned in Task 3 (Product Design Plan).

You will need to work within the constraints of a time limit to produce, test and present your digital solution.

The product design must be complimented by a solution effectiveness statement and a user impact evaluation.

**Assessment Description**

* Develop a digital solution to solve the issue identified and planned in previous tasks. The digital solution 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.
* Once developed, the digital solution must undergo user experience testing with a target audience.
  + Identify a target audience and conduct user experience testing.
  + Seek feedback from the user experience testing about the effectiveness, impact and design of the digital solution.
* Refine and develop iterations of the digital solution.
* Repeat user experience testing (time permitted) and seek further feedback.
* Develop the end product digital solution.
* Develop an evaluation, including a:
  + description of what makes the solution innovative
  + solution effectiveness statement outlining how the digital solution solves the issue
  + user impact evaluation

**Assessment Conditions**

* A digital solution (end product) e.g. app, wearable technology, micro-controller system etc.
* A digital evaluation of a maximum of 3 minutes if presented orally, and 500 words if written, or the equivalent if multimodal, including a:
* solution effectiveness statement
* user impact evaluation

**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

DE2 Evaluation of the effectiveness of a digital solution or prototype

|  |  |  |  |
| --- | --- | --- | --- |
|  | 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. |