	All Saints Anglican School	
	Student name:	Student number:
	Teacher name: Mr Mathews	Cohort: 2020/2021
	Date distributed: 24/02/20	Date due: 23/03/20

Unit 1 Digital Solutions

Formative Internal assessment 2 (30%)

Project

Assessment objectives

This assessment instrument is used to determine student achievement in the following objectives:

1. recognise and describe programming elements and useability principles
2. symbolise and explain information, ideas and interrelationships related to programming problems
3. analyse problems and information related to a selected technology context
4. determine user-experience and programming requirements, and self-determined and prescribed criteria of a programming problem
5. synthesise information and ideas to determine possible digital solutions
6. generate user interface and programmed components of the prototype digital solution
7. evaluate impacts, components and solutions against criteria to make refinements and justified recommendations
8. make decisions about and use mode-appropriate features, language and conventions for particular purposes and contexts.

Subject	Digital Solutions		
Technique	Project — digital solution		
Unit	1: Creating with code		
Topic	Topic 1: Understanding digital problems Topic 2: User experiences and interfaces Topic 3: Algorithms and programming techniques Topic 4: Programmed solutions		
Conditions			
Duration	4 weeks		
Mode	Multimodal	**Length**	• 8–10 A3 pages • 2–4 minute demonstration of the functionality of the user interface and coded components of the digital solution by video recording • 4–6 A4 pages of code with annotations
Individual/ group	Individual	**Other**	• The reference list is not included in the page count. • School implements authentication strategies that reflect QCAA guidelines.
Resources available	• Computers • Internet • Stimulus (technical proposal)		
Context			
An interactive learning object is a piece of software with the primary goal of supporting learners in some way while providing entertainment. These objects can be created to provide instructional sequences and information, or model procedures. Learning objects can inspire students to learn something new or improve their skills and knowledge about something of value.			
Task			
You must document the problem-solving process used to develop and generate the user interface and programmed components of a prototype for a new for a new or re-imagined interactive learning object to be connected to the school's engagement platform, FIDO. The learning object must address the needs of your peers when in school, at home, on tour/excursion, etc. It may, for example, provide support, increase motivation and enhance learning. Demonstrate the functionality of the components of the prototype learning in a video recording.			

To complete this task, you must:

- recognise and describe
  - programmed and user-interface components
  - useability principles including accessibility, effectiveness, safety, utility and learnability
- symbolise
  - the user and developer problem using mind maps and one or more constructed sketches, annotated diagrams, images or screenshots
  - algorithms communicated in pseudocode that demonstrate knowledge and understanding of programming features
  - interrelationships between user experiences and programming in the prototype interactive learning object

- explain
  - essential features of the problem
  - code samples and screenshots from the prototype learning object with annotations
  - the prototype learning object from a user-experience perspective, communicated through a collection of annotated images of the user-interface components
  - how programming elements and user-interface components connect, communicated in an annotated diagram
  - functionality, useability and efficiency of the coded components, communicated through code comments and annotations on the 4–6 A4 pages
- analyse the prototype web app and information to identify
  - user interface and programmed components and their relationships to the structure of the prototype web app
  - the prototype web app's personal and social impacts
- determine
  - constraints and limitations
  - existing code and user-interface solutions
  - solution requirements that include essential elements and features of the user interface based on useability principles
  - prescribed and self-determined criteria
- synthesise ideas and information about solutions for user interfaces and programmed components of the prototype web app, for example annotated diagrams identifying and describing proposed components of the prototype web app
- generate
  - sample code for the digital prototype on the 4–6 A4 pages, demonstrating
    - selection
    - iteration
    - user input
  - a user interface and programmed components of a prototype for a social media web app
- evaluate against criteria relating to
  - personal, social and economic impacts supported by a collection of data samples or representations
  - accuracy and efficiency of the coded components supported by a collection of annotated code segments in tables, diagrams and written paragraphs identifying errors and actions
  - the prototype web app from a user-experience perspective supported by a collection of annotated images of the provided user interface components
- make refinements and justified recommendations for current and future improvements.

Checkpoints
☐ Week 6 (Monday March 2nd, 2020): Submit exploration of solutions, identification of algorithms and user interface sketches
☐ Week 8 (Monday, March 16th, 2020): Complete draft submission
☐ Week 9 (Monday, March 23rd , 2020): Final submission

Criterion	Marks allocated	Result
Retrieving and comprehending Assessment objectives 1, 2		
Analysing Assessment objectives 3, 4		
Synthesising and evaluating Assessment objectives 5, 6, 7		
Communicating Assessment objectives 8		
Total		

Authentication strategies
• Students will provide documentation of their progress at indicated checkpoints.
• Students must acknowledge all sources.
• Students must submit a declaration of authenticity.
• The teacher will collect copies of the student response and monitor at key junctures.
• The teacher will conduct interviews or consultations with each student as they develop the response.

Scaffolding
Your response must include: • headings that organise and communicate the iterative phases of the Digital Solutions problem-solving process • A3 pages that – demonstrate all phases of the problem-solving process – communicate knowledge and understanding by way of annotated sketches, diagrams, images or screenshots • a video – in mp4 file format – no larger than 200 MB – demonstrating the functionality of the prototype interactive learning object's user interface and coded components • A4 pages of code with annotations of analysis, synthesis and evaluation related to the code element or problem • referencing of sources, using the school's referencing style • written and visual features, as well as grammatically accurate language conventions, to communicate decision-making.