Instrument-specific marking guide (IA1): Investigation — technical proposal (20%)

Criterion: Retrieving and comprehending

Assessment objectives

1. recognise and describe data sources, programming elements, user-interface components and useability principles

2. symbolise algorithms and user interfaces, and explain ideas and interrelationships between proposed data structures and user experiences of the identified problem

The student work has the following characteristics:	Marks
• accurate and discriminating recognition and discerning description of data sources, programming elements, user-interface components and useability principles • adept symbolisation of algorithms and user interfaces and discerning explanation of ideas and interrelationships between proposed data structures and user experiences of the identified problem.	4–5
• appropriate recognition and description of data sources, programming elements, user-interface components and useability principles • competent symbolisation of algorithms or user interfaces and appropriate explanation of ideas and interrelationships between proposed data structures and user experiences of the identified problem.	2–3
• makes statements about elements and features of data, programming, user interface or useability principles • variable symbolisation of algorithms and superficial explanation of aspects of ideas or interrelationships related to the identified problem.	1
• does not satisfy any of the descriptors above.	0

Criterion: Analysing

Assessment objectives

3. analyse the problem and information related to the selected technology context

4. determine programming and user-experience requirements of the identified problem and prescribed and self-determined criteria

The student work has the following characteristics:	Marks
• insightful analysis of the problem and relevant contextual information to identify the relevant elements and features of user interface, data and programming components and their relationships to the structure of the identified problem • astute determination of programming and user-experience requirements of the identified problem and essential prescribed and self-determined criteria.	5–6
• appropriate analysis of the problem and contextual information to identify some elements and features of user interface, data and programming components and their relationships to the structure of the identified problem • reasonable determination of programming and user-experience requirements of the identified problem and some prescribed and self-determined criteria.	3–4
• superficial analysis of the problem or aspects of information to identify some elements or features of user interface or data or programming components or their relationships to the structure of the identified problem • vague determination of some programming or user-experience requirements of the identified problem or prescribed criteria.	1–2
• does not satisfy any of the descriptors above.	0

Criterion: Synthesising and evaluating

Assessment objectives

5. synthesise information and ideas to determine possible data elements, user interface and algorithm components for digital solutions

6. generate a technical proposal for user interfaces and algorithm components of the low-fidelity non-coded prototype digital solution

7. evaluate impacts, components and a low-fidelity prototype against prescribed and self-determined criteria to make refinements and justified recommendations

The student work has the following characteristics:	Marks
• coherent and logical synthesis of relevant information and ideas to determine data elements, user interface and algorithm components for digital solutions • purposeful generation of a technical proposal for relevant user interfaces and algorithm components of the low-fidelity non-coded prototype digital solution • critical evaluation of impacts, components and low-fidelity prototypes against effective prescribed and self-determined criteria to make refinements and astute recommendations justified by data.	5–6
• simple synthesis of information and ideas to determine possible data elements, user interface and algorithm components for digital solutions • adequate generation of a technical proposal for some user interfaces and algorithm components of the low-fidelity non-coded prototype digital solution • feasible evaluation of impacts, components and low-fidelity prototypes against some prescribed and self-determined criteria to make refinements and fundamental recommendations justified by data.	3–4
• rudimentary synthesis of information or ideas to determine possible data elements, user interface and algorithm components for digital solutions • generation of elements of the low-fidelity non-coded prototype digital solution • superficial evaluation of impacts, components or low-fidelity prototype against criteria.	1–2
• does not satisfy any of the descriptors above.	0

Criterion: Communicating

Assessment objective

8. make decisions about and use mode-appropriate features, language and conventions for written and spoken communication for a technical audience

The student work has the following characteristics:	Marks

• discerning decision-making about, and fluent use of
  – written, visual and/or spoken features to communicate about a solution
  – language for a technical audience
  – grammatically accurate language structures
  – referencing and investigation conventions.
	2–3

• variable decision-making about, and inconsistent use of
  – written, visual and/or spoken features
  – suitable language
  – grammar and language structures
  – referencing or investigation conventions.
	1

• does not satisfy any of the descriptors above.	0