NZQA
New Zealand Qualifications Authority
Mana Tohu Matauranga O Aotearoa

Assessment Report

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Part A: Commentary

The format of 91886 encourages candidates to evaluate and think critically about the design of interfaces that they use daily. It is an excellent way to apply digital technology theory to real-word application.

Having Neilson's 10 heuristics listed as a resource at the start of the assessment meant the candidates could focus more on identifying, evaluating and discussing the heuristics rather than simply having to remember them.

In 91887 many candidates could explain which compression method was most appropriate and when compression could be used, but could not give a technical explanation of how compression method(s) worked or how they affect the media from a viewer's perspective, or even how files were represented using bits.

Part B: Report on standards

91886: Demonstrate understanding of human computer interaction

Candidates who were awarded **Achievement** commonly:

- described the role of the chosen interface

- identified and described at least four heuristics from the chosen interface

- included one or more screen captures to explain each usability heuristic.

Candidates whose work was assessed as **Not Achieved** commonly:

- identified fewer than four heuristics from the chosen interface

- identified four heuristics with screenshots without providing descriptions

- provided descriptions that were too narrow, showing multiple partial understandings

- provided descriptions that were literaly derived from the names of heuristics

- identified four heuristics from the chosen interface but gave incorrect examples

- misunderstood one or more heuristics, particularly the two error-related heuristics

- identified and described the same heuristic two or three times, therefore failing to identify four distinct heuristics

- referred to website features (e.g. a sign-in page) rather than to a specific heuristic.

Candidates who were awarded **Achievement with Merit** commonly:

- used evaluative comments to assess their chosen heuristics

- used a scale or rating system along with justifications to assess their chosen heuristics

- provided examples with screenshots to support their evaluations

- gave more than one example of each heuristic being used.

Candidates who were awarded **Achievement with Excellence** commonly:

- used screenshots to support their evaluations

- compared and contrasted at least two different interfaces with examples in terms of the heuristics

- recommended and justified at least two feasible improvements to the chosen interface using the heuristics.

Standard-specific comments

This standard provides clear opportunities for candidates to attain grades at Achievement, Merit and Excellence, using the "describe, explain and discuss" model.

It provides an authentic opportunity for candidates to develop their interests in computer science and to further their literacy skills in technical setting. This has positively impacted on the candidate responses. It is pleasing that a large number of candidates wrote reports with considerable insight and passion.

Providing the heuristics was a big help as it enabled the candidates to focus more on identify and evaluating the applications of each heuristic.

91887: Demonstrate understanding of compression coding for a chosen media type

Candidates who were awarded **Achievement** commonly:

- did not demonstrate an understanding of how data can be represented using bits

- gave justifications for decisions that were light on evidence

- were able to state which compression methods were most appropriate for a situation but didn't demonstrate an understanding of how they worked

- used screenshots of colour palettes from Word (or similar) to support their explanation of how bits can be used to represent pixel colours in images

- gave examples of how a compression method affects image / sound / video quality, without explaining why nor showing understanding of the technical reasons

- relied too heavily on the resources.

Candidates whose work was assessed as **Not Achieved** commonly:

- confused compression types, for example stating that jpeg was lossless and png was lossy

- provided discussions that were too short, giving no evidence that they understood how compression works

- considered reducing colour depth to be a form of compression

- made incorrect decisions about appropriateness of compression types

- misunderstood what compression does, thinking it reduces file size by decreasing the file dimensions

- used hexadecimal codes to represent colours

- gave answers with little or no explanation.

Candidates who were awarded **Achievement with Merit** commonly:

- demonstrated understanding but were not always able to communicate it clearly

- created their own images / colour swatches to demonstrate how files could be represented with bits

- explained why files would be compressed

- used the resources to support their explanations.

Candidates who were awarded **Achievement with Excellence** commonly:

- demonstrated understanding of the technical complexity around compression coding and were able to articulate this in their responses.

- were able to clearly communicate their justifications and reasoning for decisions.

- referred to their chosen scenario in their explanations.

- used real-world examples when explaining when compression could be used and what the advantages of compressing files are.

- were able to relate technical explanations to real world implications, e.g. how jpeg removes information from details that are unlikely to be detected by the human eye.

- gave clear and concise links between outputs, compression types and file type.

Standard-specific comments

The standard requires candidates to "explore" the relationship between lossy compression and human perception, so candidates should be able to explain how lossy compression works, even in general terms, and thus how this impacts on human perception of the medium. Candidates who could explain how a lossy compression algorithm such as jpeg works generally met Merit or Excellence grades.

Candidates using heavily templated answers were disadvantaged.

Digital Technologies subject page

Previous years' reports

2019 (PDF, 116KB)

2018 (PDF, 87KB)