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92006



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 1 Digital Technologies 2025

92006 Demonstrate understanding of usability in human computer interfaces

Credits: Five

| Achievement | Achievement with Merit | Achievement with Excellence |
|--|---|--|
| Demonstrate understanding of usability in human-computer interfaces. | Examine the usability of human-computer interfaces. | Evaluate the usability of human-computer interfaces. |

Complete ALL parts of this examination.

You should aim to write no more than **1200 words** in total.

Achievement

TOTAL 04

Page 1

INSTRUCTIONS

The task in this assessment is in five parts:

- Part A – Short-answer questions
- Part B – Identifying usability principles
- Part C – Interface you have studied
- Part D – Scenario questions
- Part E – Real-world examples.

Complete ALL parts of this examination.

You should aim to write no more than **1200** words in total.

In Part D, you are required to discuss the application of usability principles in the development of a phone app (scenario A) or examples of the incorporation of usability principles into the design of a new website (scenario B).

In Part E, you may play, pause, and restart the videos as often as you like.

Note: *the videos have no sound.*

Read all parts of the examination before you begin writing.

Usability principles can refer to any of the following:

RESOURCE A: Mātāpono Māori

Mātāpono Māori relevant to usability could include the following aspects:

- The clear and accurate use of te reo Māori (including tohutō / macrons) within the interface.
- Whether tools such as spell-checking and word prediction work accurately with te reo Māori.
- Manaakitanga – the interface is welcoming and respectful of users.
- Rangatiratanga – users have control over the interface.
- Whanaungatanga – the interface design fosters connections and relationships.

RESOURCE B: Nielsen's 10 usability heuristics

“Usability heuristics” are general principles or “rules of thumb” to help measure the effectiveness of a user

10. Help and documentation.

Source (adapted): Nielsen, J. (1994, updated 2020), *10 Usability Heuristics for User Interface Design*. Nielsen Norman Group.
<https://www.nngroup.com/articles/ten-usability-heuristics>

RESOURCE C: Usability concepts

- Internal and external consistency
- Accessibility.

PART A – Short-answer questions

Table 1: Nielsen's usability principles.

| Number | Description of usability principle |
|--------|--|
| 1 | The interface should take into account the diverse range of people who might be using it and enable all users to achieve their goal. |
| 2 | The interface should always keep users informed about what is going on, through appropriate feedback within a reasonable time. |

| | |
|---|---|
| 3 | The interface should reduce unnecessary elements and simplify the layout. |
| 4 | Users should be able to undo actions if they make a mistake. |
| 5 | The importance of providing clear assistance and guidance to users whenever they need it. |
| 6 | The interface design should prevent users from making a mistake in the first place. |

- (a) Using Table 1 above, complete the boxes below by entering the number of the description that correctly matches each usability principle. One of these has been completed for you.

| | | | | |
|----------------------------------|---|--|-----------------------------|---|
| Aesthetics and minimalist design | 3 | | Visibility of system status | 2 |
| Error prevention | 6 | | Accessibility | 1 |

- (b) Give a definition and example of Nielsen's heuristic 'Match between the system and the real world'.

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Match between system and real world means that the system should be designed to speak the user's language, using familiar words from real life to help the users to better understand the meanings. An example will be the word 'bin'. When you remove a document to the bin in Google Drive it just means the document is being moved into the rubbish bin.

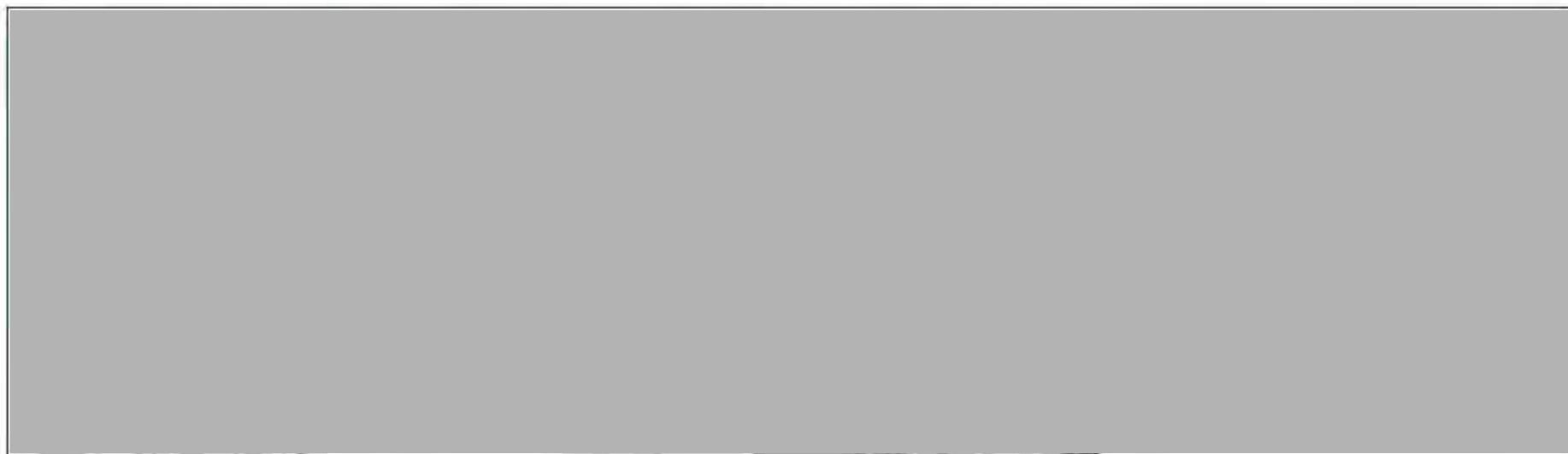
- (c) One example of using mātauranga Māori is observing the correct use of tohutohu / macrons and spelling of Māori words. What is another way mātauranga Māori has been incorporated into an interface you have studied?

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In Google Docs when you write in Māori using macrons it will not display a red line under saying this is spelled wrong. It recognizes Māori words and macrons.

PART B – Identifying usability principles

- (a) Identify and describe TWO usability principles that can be seen in the image below.





Source: <https://makodesign.co.nz/collections/necklaces-and-sets>

Usability principle 1:

Description:

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In the image above, it shows the usability principle of visibility of system status when they clicked on Jewellery and it underlines it showing the users what is going on and what they had clicked on. Then below it, it shows few different product selection option that is relevant to the jewellery topic the user selected. When the user selected Necklace and Sets it underlines it again showing the users once again which section they are on.

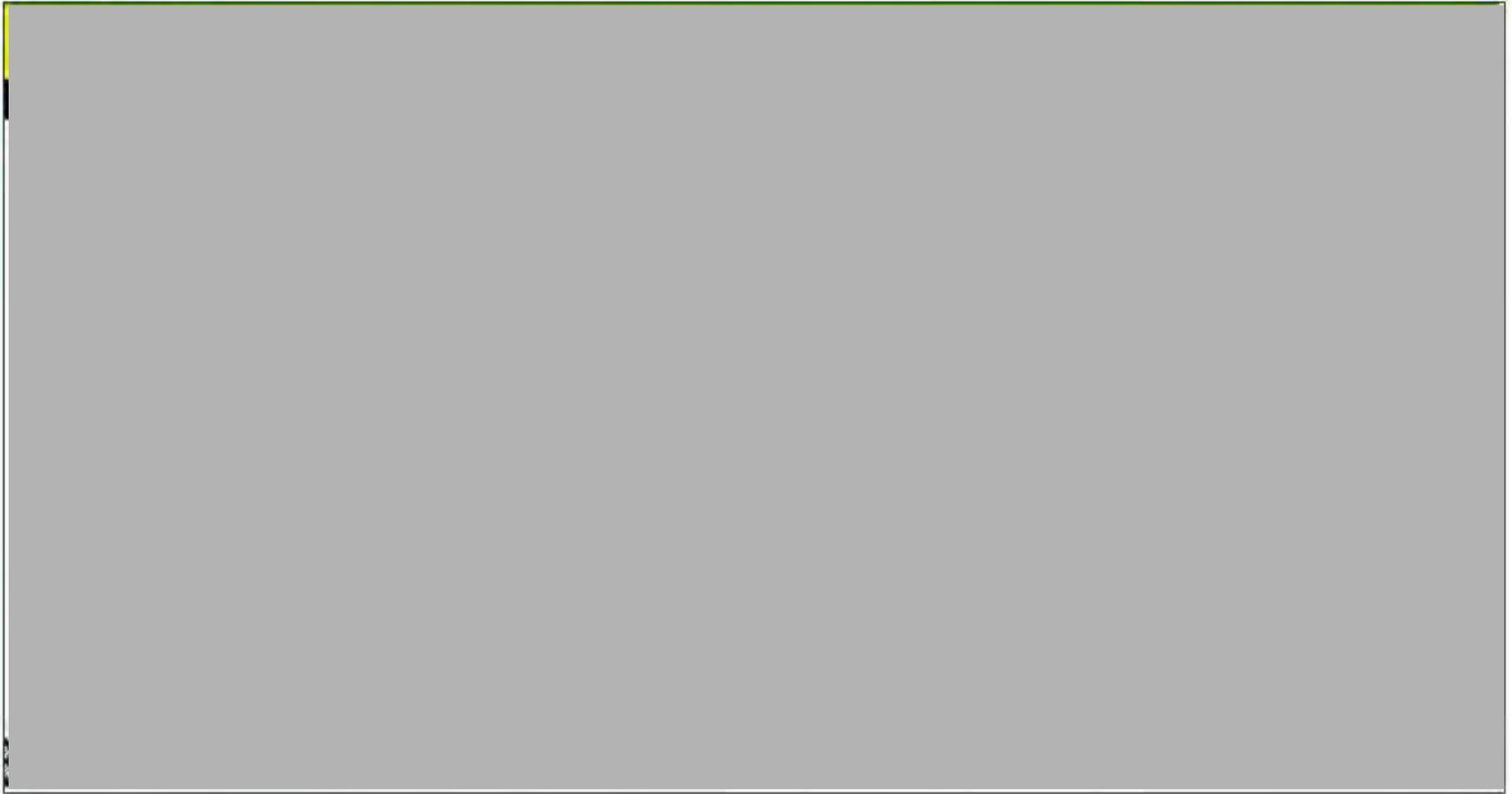
Usability principle 2:

Description:

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In the image shown above, it shows the usability principle of recognition rather than recall when the user had select Necklace and Sets. The system had provided the available products that is relevant to what the users had selected that they want to buy.

(b) Identify and describe TWO usability principles, **different from those identified in (a) above**, that can be seen in the image below.



Source: <https://www.jbhifi.co.nz/search?query=PS5>

Usability principle 1:

Description:

B *I* U     

In the image shown above it shows a range of different PS5s. they all look similar to each other and the users shouldn't have to wonder wheather different words and icons in this image means the same. The system is providing the user what they wanted to look for.

Usability principle 2:

Description:

Description:

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Help and documentation is shown in this image because it is strongly focusing on the users task. Users is searching up PS5s and the system is providing relevant resources related to PS5 to the user.

PART C – Interface you have studied

In your response to part C, refer to an interface you have studied this year.

Name of your interface:

Describe the purpose of this interface:

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Google Drive is used to store all your google documents, slides and images.

Explain how effectively two usability principles were applied in your chosen interface, **and** how they enabled the interface to achieve its purpose.

Usability principle (1)

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Recognition rather than recall is used efficiency in this interface because it recognizes all the documents and slides the users have created or have been shared with. It clearly states when you last opened this document and slides, and who last edit the slide. This heuristic helps to store the documents and slides which is helping the interface to achieve its goal.

Usability principle (2)

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Aesthetic and minimalist design is also efficiency in this interface because it is designed simple and easy for all users to use. Its only main purpose is to help store all users documents and slides. providing informations like who shared this document and slides with you and who last opened and edited this document and slide.

PART D – Scenario questions

Choose ONE of the following scenarios and type your response in the box provided.

In your response, do not repeat material used in earlier questions.

EITHER

- (a) Imagine you are designing a phone app for students to track their NCEA credits. How would you use usability principles to create an interface that meets their needs? Discuss at least TWO usability principles you would consider, and how you would implement them.

OR

- (b) Imagine you are designing a website for a New Zealand artist who wants to promote and sell their work. They are passionate about promoting the Māori language and culture through their work. Discuss at least TWO practical examples of incorporating usability principles to ensure the interface effectively meets the needs of the artist and the end users.

Scenario chosen:

(a)

(b)

Write your answer here.

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If I am designing a phone app for students to track their NCEA credits. I would use the usability principles of visibility of system status and aesthetic and minimalist design. These two heuristics will help when designing a phone app for students to track their NCEA credits because visibility of system status helps the students to know what is going on whether they're trying to see how much credits they got this year or previous year. Or they can just check how much NCEA credits they have in total. Aesthetic and minimalist design in this scenarios will work well because it is making the phone app look simple and easy to use. All users know

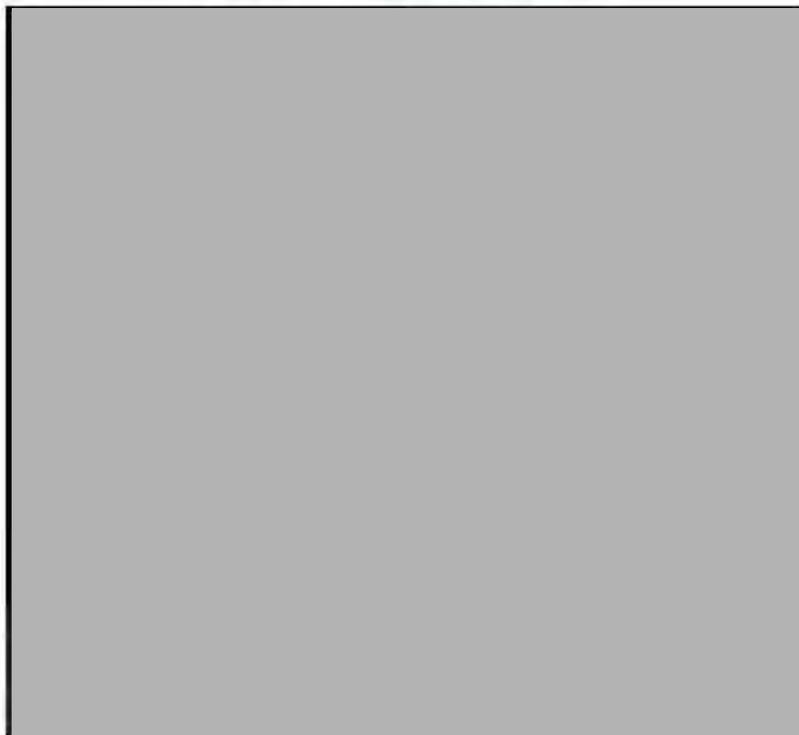
Minimalist design in this scenario will work well because it is making the phone app look simple and easy to use. All users know what the purpose of this app is and how to use this app to check your NCEA credits. These two heuristics is the best for this scenario because both of them helps the app to look clean, tidy and simple to use. Not too hard and difficult to use.

PART E – Real-world examples

Watch the two videos below before answering the questions that follow. The videos show the user using two different websites. On each, they set up an account and then search for an item to purchase. They add an item to the shopping cart and then remove it in each interface.

Note: the videos have no sound. Each video can be enlarged by clicking the full-screen icon in the bottom-right corner of the window, and returned to the original size by clicking the same icon at the end of the video. The videos may be viewed as many times as you like.

Video 1: Māori by Design



Source: <https://www.maoribydesign.co.nz>

Video 2: The Warehouse





Source: <https://www.thewarehouse.co.nz>

- (a) Compare the usability of BOTH real-world examples. Which of the two websites is the most effective in enabling the user to achieve their purpose? Justify your choice by discussing THREE usability principles.

Enter below, the name of the website you believe to be the most effective:

Discuss your first usability principle in the box below.

B *I* U

Help users recognise, diagnose, and recover from errors is shown the best in Maori by design website. When the users is creating an account and the password it too short the system display an error message in red at the bottom saying this is too short and also provided the user with a solution this must be minimum 5 characters.

Discuss your second usability principle in the box below.

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Visibility of system status is shown the best, because everytime when the user clicks on a different section or a differenr part it will have a border around it. so the users know where they're at. Having a border is better than just underlining the text because it is bigger and easier to see.

Discuss your third usability principle in the box below.

B *I* U

Flexibility and efficiency of use is shown best in Maori by design because new users and experienced users all have a good experience when going through the interface. new users can just click on the search bar and search. experienced users can do

experience when going through the interface. new users can just click on the search bar and search. experienced users can do some short cuts like just click on the suggestions instead of typing the suggestions in the search bar.

- (b) Suggest TWO improvements for enhancing the usability of ONE interface from either of the videos above. Justify your suggestions by referring to usability principles.

Improvement 1:

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In warehouse interface, the users can choose the price from one amount to another eg \$0-10 and \$10-20. Where in Maori by design it allows users to chose any number which I think is giving the users a better experience when selecting the price. It will be better to just let the users choose any numbers than just select from options.

Improvement 2:

B *I* U ☰ ▾ ☰ ▾ ↶ ↷ ⓘ

The main page of Maori by design is more simple compare to warehouse page. the warehouse pages contains more information. Maori by design page is focusing more the the Aesthetic and minimalist design because it is keeping the main page look simple and easy to understand.

Achievement

Subject: Level 1 Digital Technologies

Standard: 92006

Overall grade: 04

| Grade | Marker commentary |
|-------|---|
| A4 | <p>The candidate clearly knew their usability principles, and throughout the paper could identify and describe them.</p> <p>In part A (c), they gave a good example of Mātāpono Māori in an interface.</p> <p>In part B they correctly identified and described four usability principles, although some of these were not strong.</p> <p>In part C for Merit, they correctly identified usability principles, however the explanation was limited and mostly descriptive. For Merit, they needed to clearly explain how aesthetic and minimalist design was implemented.</p> <p>In part D they explained why their chosen usability principles were required, but did not specifically explain how they would be implemented into the interface.</p> <p>In part E, they continued to identify and describe usability principles without comparing the two interfaces. Only one improvement was discussed in terms of usability principles.</p> |