92006

NZQA

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**.**

Merit   TOTAL **06**

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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.

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 the system and the real world means providing the user with icons referring to real world objects instead of words. An example of this is demonstrated on the google docs interface, they use icons such as a printer and microphone instead of words to refer to the corresponding action of the icon, matching with the real world also makes to interface more assessable to users who speak another language.

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

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Mātāpono Māori is incorporated into the Air New Zealand interface by making the search prediction and spell-checking work accurately with Māori words including 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: Recognition rather than recall

Description:

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This interface displays recognition rather than recall. This interface does this well by providing a drop down menu for searches. This shows recognition rather than recall because it allows the user to not need to remember the spelling of anything as they can assess the products list with ease and select their desired items.

Usability principle 2: Aesthetic and minimalist design

Description:

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This interface also displays aesthetic and minimalist design. This interface does this well by keeping their site free of any unnecessary information or astetic details that may overwhelm the user. This interface uses a simple uncluttered design, making it easy to navigate and uses.

(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: Match between the system and the real world

Description:

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This interface displays match between the system and the real world. This interface does this well by using icons such as a shopping cart and store to represent sertion actions. This means the website is more assessable to users of another language and makes the interface easier to use and understand.

Usability principle 2: Flexibility and efficiency of use

Description:

Description:

This interface displays flexibility and efficiency of use. This interface does this well by providing accelerators and shortcuts for experienced users that may go unnoticed by novis users. This means the interface is more beginner friendly while also being very accessible for experienced users.

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: Spotify

Describe the purpose of this interface:

The purpose of the Spotify interface is to allow users to stream and listen to music and podcasts, whether they are on or offline. As well as providing creators and artist to share their work with the rest of the world to listen to.

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)

The first usability principle that was applied was mātāpono Māori. This interface displays this usability principle well as it clearly and correctly uses macrons in Maori language, as well as word prediction working accurately with te reo Maori. This enables the interface to achieve its purpose by letting users looking for songs or podcasts with Maori spelling be able to find them easily. I believe the Spotify interface could improve on this usability principle by letting users change the base language to Maori.

Usability principle (2)

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The second usability principle that was applied was recognition rather than recall. This interface displays this usability principle very effectively by using accurate word prediction to help users when searching so that users don't have to remember the spelling of artists, songs or podcasts. This interface also shows recognition rather than recall by providing users with a list of their resent searches as well as their frequently listened songs and recommendations for new songs and artists. This enables the interface to achieve its purpose by allowing uses to quickly access their their favourite songs or songs they might like without even needing to search or remember the names, meaning they listen to a larger vority of music.

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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The first usability principles I would consider to create an interface that meets the users needs is accessibility. An example of this would be by making it resizeable to be used on any device such as phones, ipads and computers, this means more students will be able to use my interface at any time or place. I would also make the interface accessibill by letting students chose their language they would like the interface to be set in, this means studens who speak another language will be able to accsess and track their NCEA resolts. The second usability principles I would consider is visability of system statis. An example of how my interface would

display this usability principle is by providing the students with loading and progress bars, this will allow users to see that the interface is still oporational. This would help the app meet its needs as it would make the interface more usable for the students. The third usability principles I would consider implomenting would be help and documentation. I would imploment this usability principle by poviding the users with helpfull information that is easy to find and understand. This will make the interface more usable for students as they wount have to make asumptions about sertion aspects of my interface.

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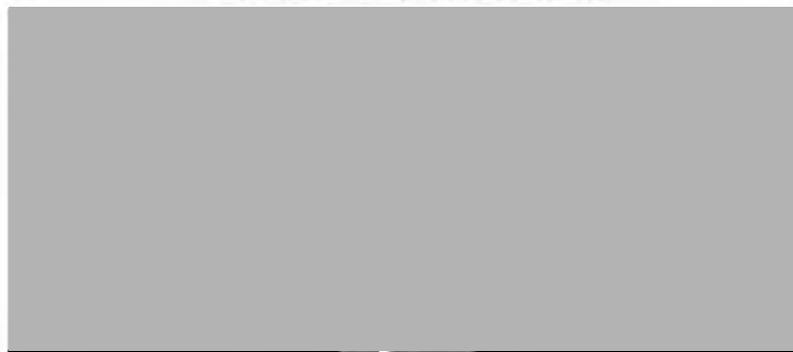
(a) Compare the usability of BOTH real-world examples. Which of the two websites is the most effective in enabling the user to achieve their purpose? Justify your choice by discussing THREE usability principles.

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

The Warehouse

Discuss your first usability principle in the box below.

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The first usability principle I believe made The Warehouse more effective in letting user to achieve their purpose is help and documentation. This interface did this well when the user was creating an account. The interface provided information about the requirements of the password while making it easy to locate and understand, the interface also let the user know when one of the requirements were for-filled.

Discuss your second usability principle in the box below.

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The second usability principle I believe made The Warehouse more effective is recognition rather than recall. This interface did this well when the user was searching for a product. The interface provided search suggestions as well as popular results without the user having to remember the spelling. The interface also displayed effective use of recognition rather than recall by giving suggestions of produces the user my like based on their preveis searches.

Discuss your third usability principle in the box below.

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The third usability principle I believe made The Warehouse more effective is consistency and standards. This interface displayed this well by keeping their interface consistent with other alike websites. The Warehouse does this by placing their logo in the top right,

well by keeping their interface consistent with other alike websites. The Warehouse does this by placing their logo in the top right, with the search in the middle, using a heart for the wishlist's icon, keeping the cart in the top left and using the same filter system as many other shopping interfaces. By keeping their interface consistent and utilising the same standards as other interfaces users are already filter, even if its their first time using the interface, this makes it easier for new users to navigate and use your interface.

(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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The first improvement I believe could be made to enhancing the Māori by Design interface is by improving the recognition rather than recall when creating an account. When the user creates a insifishent password all other information is deleted. This shows pore Recognition rather than recall because the user now has to retype all required information. This can be improved by not removing all provided criteria from the user and instead only reset the previously given incorrect password, while also providing the requirements of the password. This will enhance the usability of the interface as users will not have to retype all required information.

Improvement 2:

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The second improvement I believe could be made to enhancing the Māori by Design interface is by improving the error prevention when creating an account. When the user creates a insifishent password all other information is deleted. This can be improved by greying out the create button so the user cannot click it until the password is acceptable and/or by providing a warning signal that the password doesn't for-fill the requirements. This will enhance the usability of the interface as users will know if the password the entered will be accepted.

Merit

Subject: Level 1 Digital Technologies

Standard: 92006

Overall grade: 06

Grade	Marker commentary
M6	In this paper, the candidate demonstrated confidence in knowing their usability principles. They were able to identify and describe in some detail in parts A and B (more than required for these questions). Parts C and D were clear and concise. The candidate identified usability principles in part C and explained how they affected the user. In D they were specific in how they would apply usability principles to a designed interface. The response to part E was correct, but the candidate only spoke about one interface when comparing the different usability principles in each interface. The improvements suggested were fine. To reach Excellence, candidates must compare the interfaces and their use of usability principles.