Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Review of Achievement Standards (RAS)
Exemplar

Level 1 Digital Technologies

Achievement Standard 92006
Demonstrate understanding of usability in human-computer interfaces

Achievement   **TOTAL 04**

RESOURCE A: Mātāpono Māori

Mātāpono Māori relevant to usability could include:

- the accurate and clear use of te reo Māori (including macrons) within the interface

- whether tools such as spell-checking and word prediction work accurately with te reo Māori

- how the interface facilitates and allows for the expression and use of tikanga and mātauranga Māori.

RESOURCE B: Nielsen's 10 Usability Heuristics

"Usability heuristics" are general principles or "rules of thumb" to help measure the effectiveness of a user interface. You will be familiar with Jakob Nielsen's 10 usability heuristics summarised below.

1. Visibility of system's status

2. Match between the system and the real world

3. User control and freedom

4. Consistency and standards

5. Error prevention

6. Recognition rather than recall

7. Flexibility and efficiency of use

8. Aesthetic and minimalist design

9. Help users recognise, diagnose, and recover from errors

10. Help and documentation

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

ASSESSMENT TASK

Jackson is studying usability in human-computer interfaces and has asked you to help him learn key concepts by discussing an interface that you have studied at school and one that he has used recently.

An interface that you have studied at school

You may illustrate your answers with up to five screenshots.

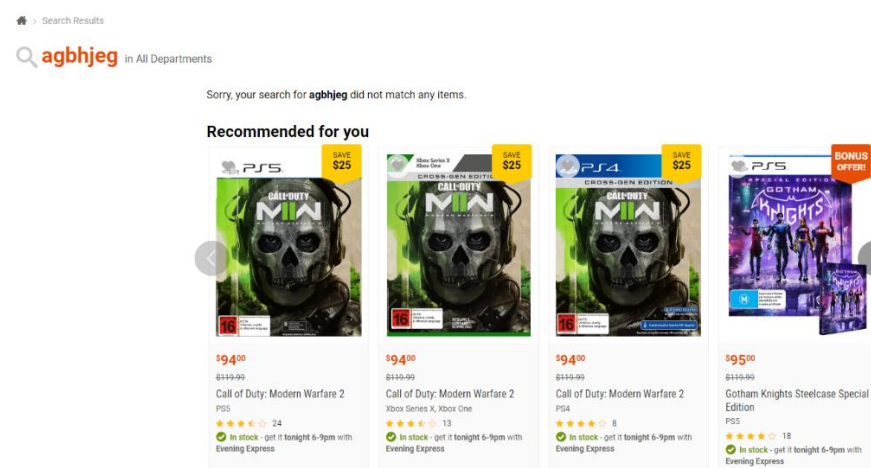(a) (i) State the name of your interface.

> Mighty Ape

(ii) Briefly describe the purpose of your interface. What does the user want to achieve while they are using it?

> Mighty ape is a shopping website that sells a variety of different items. The purpose of the mighty ape interface is to guide the users through choosing and purchasing items from the website. The user wants to be able to purchase and browse through items from this website with ease and efficiency.

(iii) Identify THREE features of your interface that work well in terms of usability. Explain how each of these features successfully addresses mātāpono Māori or usability heuristics.

> Feature: clearly expressed search error.
>
>
>
> When a user searches for an item that doesn't exist in the mighty ape store. The software tells the user that what you are searching for doesn't match any items within the store and offers you recommended games based on previous searches as an alternative. This works well in terms of usability because it tells the user what the problem with their input is and offers a solution. This successfully addresses the usability heuristic of helping users recognise, diagnose, and recover from errors. This is because the user can recognise and diagnose the problem and is able to recover by trying to search again or simply pressing the back button.

Feature: easily recognized and used shopping feature.
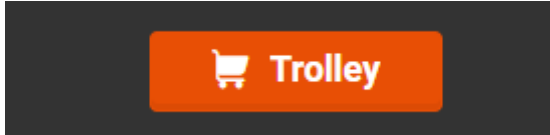
The main purpose of the interface is for the user to be able to purchase things from the mighty ape website. Trying to shop using the interface is incredibly intuitive due to there being a trolley button in the top right which is what most shopping interfaces use. This works well in terms of usability because the user does not need to learn how to shop with this interface but can instead recall how to shop with other interfaces they have learned and intuitively use the interface with ease. This successfully addresses the usability heuristic of consistency and standards. This is because the shopping cart in the top right is an example of external consistency and is used throughout most of all shopping interfaces.

Feature: good user help

The interface includes two means of helping the user. A help page at the bottom of the interface and a chat service where real people can help you use the interface if you run into issues. This works well in terms of usability because it helps people just in case, they can't navigate the interface properly and works as error prevention incase someone were to accidentally purchase the wrong item. This successfully addresses the usability feature of help and documentation. This is because the user is able to find resources available to them through the interface.

(iv)   What changes could you make to your interface by applying mātāpono Māori or usability heuristics to improve its usability?

Changes I would make to improve this interface include making the search bar follow you as you are scrolling. This would improve usability using the usability heuristic of flexibility and efficiency of use.

Another change I would make to improve this interface is changing the home button from the mighty ape logo to a picture of a home. This would improve usability using the usability heuristic of consistency and standards.
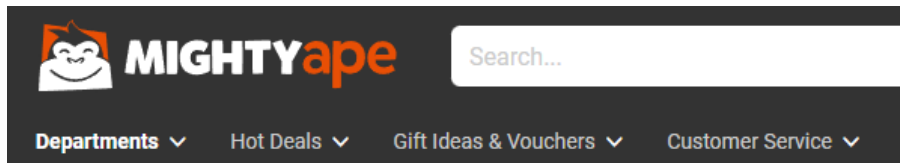
(v)   Explain how the changes would affect a user's experience.

The first change would affect the users experience by making searching for items more efficient. This is because they wouldn't need to scroll all the way back to the top of the page to be able to search for something. The second change would affect the users experience when they first use the mighty ape interface. Instead of having to learn to click on the logo to go back to the home page they would intuitively know to click the home button. This makes the interface easier to learn.

An interface that Jackson has used recently

Jackson recently shopped on the *Adrienne Whitewood* online store for his mother's birthday gift.

Refer to the video of Jackson interacting with the website to answer part (b). You may illustrate your answers with up to five screenshots.

In the video, Jackson:

- toggles the language setting from English to te reo Māori, and back again
- looks for gift ideas using both the navigation bar and the search bar
- looks at photos and details of items he is interested in
- adds a more expensive item to a wish list to keep as an idea for the future
- adds items to the cart
- creates an account
- checks out and enters his address for shipping.

(b) (i) How usable is this website interface? Justify your answer by explaining how usability heuristics or mātāpono Māori have or have not been applied. Give at least three examples to support your explanation.

> The website looks usable, but it doesn't look efficient. This is because it doesn't use the heuristic of consistency and standards. It is confusing to shop because the search menu and categories are all hidden behind a menu button. It also doesn't use the heuristic of flexibility and efficiency of use. Needing to learn that everything is hidden behind a menu means the interface isn't very intuitive as well as there being no way to access your cart unless you are at the top of the page. In saying this the website still is learnable and usable having all necessary components of an interface such as visibility of system status. This can be seen when Jackson hovers over top of the menu, and it changes opacity. This tells the user that what he was hovering over was indeed button

(ii) Compare how this website interface and your chosen interface address mātāpono Māori or usability heuristics. Discuss the similarities and differences between them and identify which interface meets these best, and why.

> Although both interfaces are shopping interfaces, they are vastly different. Mighty ape is more like other shopping interfaces while Adrienne whitewood is not. This means that mighty ape follows the heuristic of consistency and standards better. Mighty ape is also following the usability heuristic of aesthetic and minimalist design. This is because mighty ape can fit far more helpful and meaningful information onto the interface compared to Adrienne whitewood. I feel that mighty ape follows the usability heuristics better.

(iii) Recommend improvements that could be made to the *Adrienne Whitewood* website interface by applying usability heuristics or mātāpono Māori. Explain how these will improve the usability of the website.

You may refer to your interface and use screenshots to justify your discussion.

Achievement Exemplar 2022

Subject	Level 1 Digital Technologies RAS		Standard	92006	Overall grade	04
Q	**Grade**	**Annotation**				
1	04	The candidate has identified three features of their chosen interface that work well in terms of usability. They have discussed how well their chosen interface has met usability heuristics and how this aids usability. The candidate has attempted to evaluate the unfamiliar interface, but this lacks depth. They have incorrectly identified flexibility and efficiency of use as a heuristic for the menu. The suggestions for improvements to the chosen interface are weak. No suggestions are given for the unfamiliar interface.				