EXCELLENCE EXEMPLAR 2022

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COMMON ASSESSMENT TASK

Level 1 Digital Technologies 2022

91886 Demonstrate understanding of human computer interaction

Credits: Three

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of human computer interaction.	Demonstrate in-depth understanding of human computer interaction.	Demonstrate comprehensive understanding of human computer interaction.

Type your School Code and 9-digit National Student Number (NSN) into the space below. (If your NSN has 10 digits, omit the leading zero.) It should look like "123-123456789-91886".

▓▓▓▓▓▓▓▓-91886

Make sure you have the video file.

Answer ALL parts of the assessment task in this document.

You should aim to write **800–1500 words** in total.

Your answers should be presented in 12pt Times New Roman font, within the expanding text boxes, and may include only information you produce during this assessment session. Internet access is not permitted.

Save your finished work as a PDF file with the file name used in the header at the top of this page ("SchoolCode-YourNSN-91886.pdf").

By saving your work at the end of the assessment, you are declaring that this work is your own. NZQA may sample your work to ensure this is the case.

INSTRUCTIONS

The video shows the user, Jackson, carrying out different activities using two similar websites. The task in this assessment requires you to review the interactions in terms of the usability heuristics below.

Read all parts before you watch the video. You may play, pause, and restart the video as often as you like. *Note: The video has no sound.*

You are encouraged to illustrate your answers with screenshots from the video.

RESOURCE: 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 listed below.

1. Visibility of the 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/

SCENARIO: Shopping online for video equipment

Jackson is an 18-year-old looking to purchase some items to kick-start his professional YouTubing career. He needs a good microphone, a high-quality camera, a tripod, and an LED ring light. He will purchase these items online as he feels he can get a better deal if he compares prices on at least two websites.

You will be provided with a video which shows Jackson trying to complete several activities using two different websites. The two websites are *PB Tech* and *JB Hi-Fi*.

Activity	Timestamp (PB Tech)	Timestamp (JB Hi-Fi)
(1) Setting up an account	00:00	01:05
(2) Browsing products and adding to wish list	02:34	06:28
(3) Checking product stock levels and finding the nearest store	08:45	09:18
(4) Using the help feature	10:01	10:42
(5) Updating account details and logging out	11:42	12:20

ASSESSMENT TASK

(a) Choose a website – *PB Tech* or *JB Hi-Fi*.

> PB Tech

Describe the role of your chosen website.

> The PB Tech website is an online store allowing users to buy various tech products from a multitude of brands such as devices (e.g. computers and phones), gaming equipment, printing and office equipment, and other products. PB Tech also allows the user to compare products, look at reviews, check stock levels and locate the nearest store.

(b) Which usability heuristics allowed Jackson to complete the following activities? How did they achieve this?

(i) Setting up an account

Chosen heuristic:

> Help users recognise, diagnose, and recover from errors

How did this this heuristic help Jackson set up his account?

> This heuristic refers to how the website expresses error messages in plain language, precisely indicates the problem and suggests a solution. PB Tech uses this heuristic by displaying an error message in simple language when Jackson inputted a password in the 'Confirm password' box that does not match the password entered before. This helps Jackson set up his account as he knows precisely what he got wrong and what he needs to do to fix it – make the sure the passwords match.
>
>

Chosen heuristic:

> Match between the system and the real world

How did this this heuristic help Jackson set up his account?

> This heuristic refers to how the website uses symbols and concepts that are familiar to the user, rather than internal jargon. PB Tech uses this heuristic when Jackson is setting up his account by displaying a green outline and a checkmark when he has entered the correct information. Green is commonly known to represent 'correct' which is reinforced by the checkmark. This helps Jackson set up his account as he is most likely familiar with these symbols and concepts, ensuring that Jackson knows which input boxes he has done correctly.
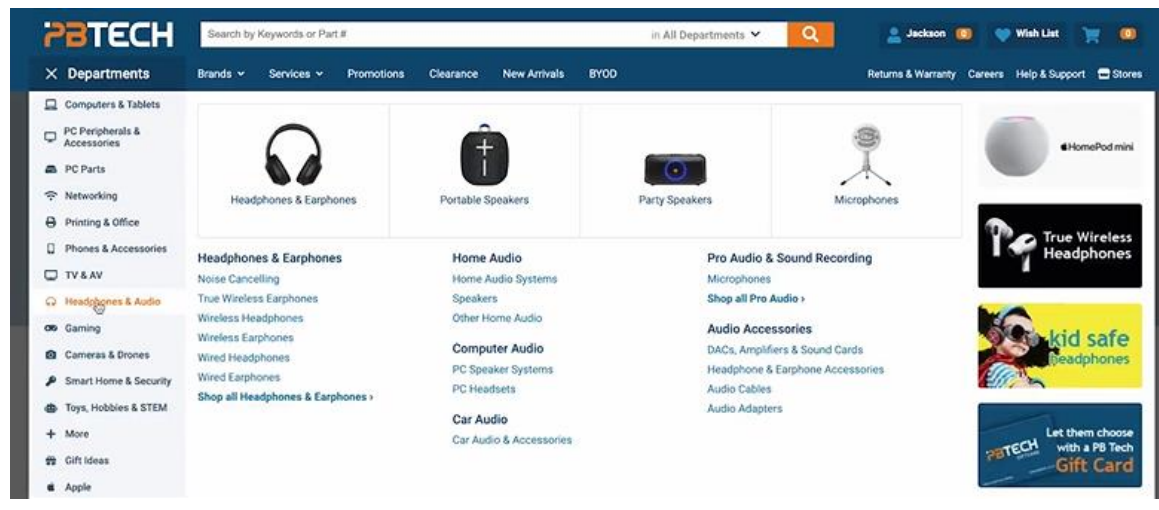>
>

(ii)   Browsing products and adding to wish list

Chosen heuristic:

Aesthetic and minimalist design

How did this this heuristic help Jackson browse products and add them to his wish list?

| |
|---|
| This heuristic refers to how the website uses its space, only containing relevant and needed information. PB Tech uses this heuristic by having an aesthetically pleasing design following a simple colour scheme of mostly blue, orange, and white. It is also not cluttered with information, rather, stores information in a series of drop-down menus. This helps Jackson browse for products as the website only displays information that is relevant to him and facilitate his goals. |

Chosen heuristic:

Recognition rather than recall

How did this this heuristic help Jackson browse products and add them to his wish list?

This heuristic refers to how the website minimizes the user's memory load by making elements, options, and actions visible. PB Tech uses this heuristic when the user is searching for products. It suggests options based on the user's input which they can then select from instead of having to remember exactly what product they want to find. This heuristic helped Jackson to browse products as it minimizes his memory load, allowing him to select an option using the website's suggestions rather than inputting (and having to remember) the exact product.
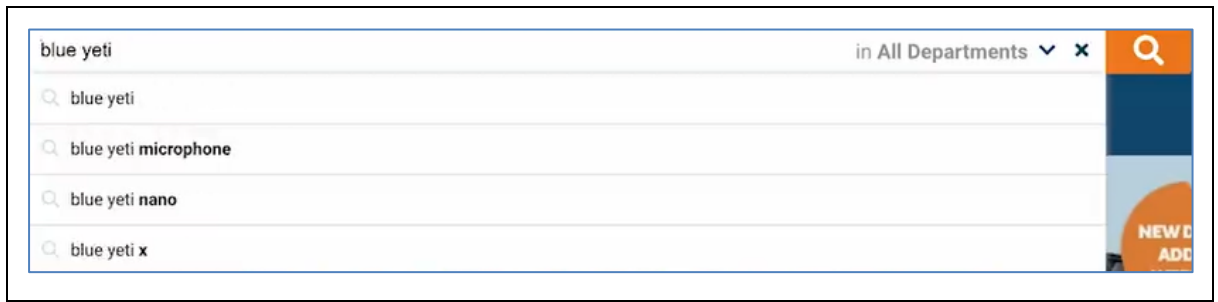
(iii)   Select a further activity from the table on page 3. Evaluate the usability heuristics that enabled the chosen activity to be carried out efficiently and successfully.

**Using the help feature**

Help and documentation

This heuristic refers to how the website provides documentation to help the user understand how to complete their tasks.

I rate PB Tech's use of the **help and documentation** heuristic a 9/10. The website uses this heuristic by having a 'help and support' link in their header that brings the user to a help menu. In this menu, there is a search bar (for the user to search articles), an FAQ section, help articles, and a contact option.

This enables Jackson to use the help feature efficiently and successfully as the website provides documentation that is easy to find (through the search bar) that helps him complete his tasks. This is seen when Jackson enters 'stock levels' and the website returns an article about 'Viewing stock levels'. Furthermore, the article is clear and concise, allowing Jackson to precisely understand how to view stock levels.
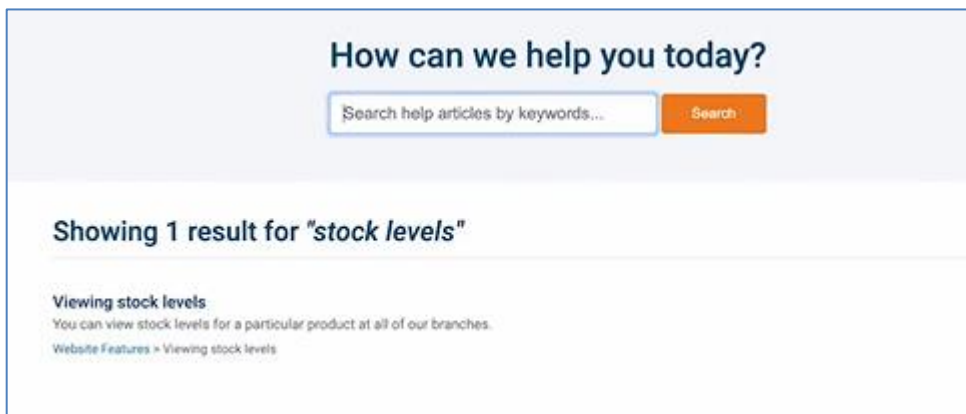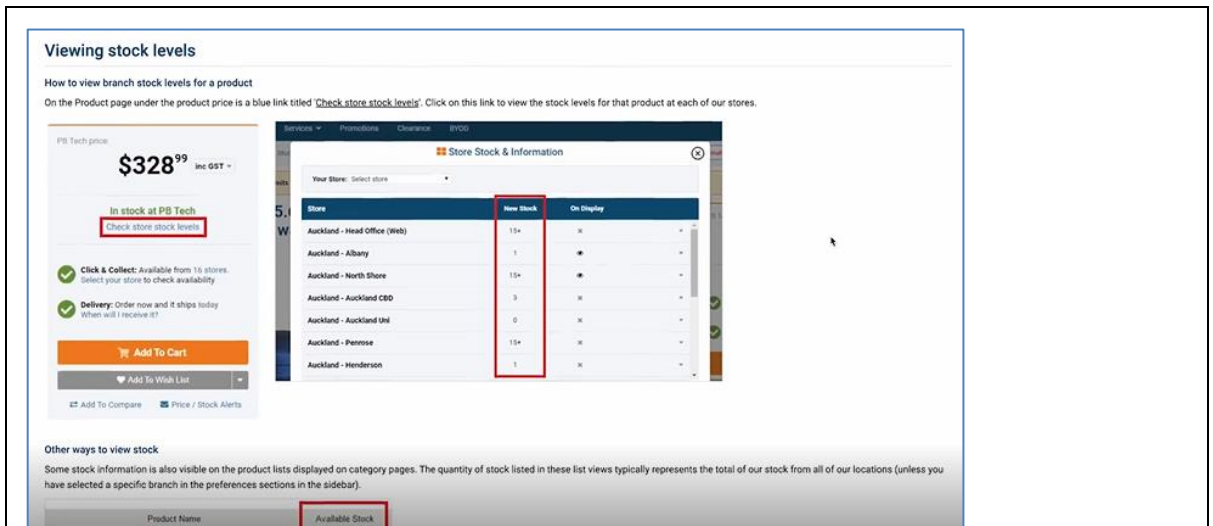
Visibility of System Status

This heuristic refers to how the website informs the user about what is going on through appropriate, timely feedback.

I rate PB Tech's use of the **visibility of system status** heuristic a 7/10. The website uses this heuristic in the help menu by displaying a loading box when a new page is loading (after the user inputs something into the search bar). The box contains the word 'Processing…' making it clear that the website is loading.

This enables Jackson to use the help feature efficiently and successfully as Jackson knows what the website is doing, allowing him to predict and plan his next steps. If this heuristic was not used, Jackson might be confused about what the website is doing or if it is frozen.

(c)   (i)   Which of the two websites was most effective in enabling Jackson to carry out the activities he needed to in order to purchase the video equipment? Justify your choice by comparing three or more features of the interfaces in terms of the <u>usability heuristics</u>.

Help users recognise, diagnose, and recover from errors: Error message feature

PB Tech and JB Hi-fi are **similar** in terms of the **help users recognise, diagnose, and recover from errors** heuristic as both display simple and concise error messages when the user inputs something wrong (as seen in the **setting up an account** activity). This helps Jackson realise precisely what he got wrong and what he needs to do in order to fix and overcome the error, instead of getting frustrated.

These two websites are **different** with when they display the error messages to the user. PB Tech shows the message before the user registers whereas JB Hi-fi shows the messages after the user registers (as seen in the screenshots below).

PB Tech

JB Hi-fi

Before clicking 'Create Account'   **After**

I think PB Tech uses the error message feature better in terms of the **help users recognise, diagnose, and recover from errors** heuristic as Jackson realises there is an error before he registers, allowing him to correct the box before creating his account. JB Hi-fi, however, only shows the error messages after Jackson has clicked 'Create Account' which many users will find frustrating as they have to correct all their information and click the button again instead of only having to click it once.

Help and documentation: Help feature

PB Tech and JB Hi-fi are **similar** in terms of the **help and documentation** heuristic as they both have a help menu with various articles to help the user understand how to complete their tasks.

PB Tech and JB Hi-fi are **different** with how to find help on their websites. PB Tech's help menu is in their header and their help articles are searchable. JB Hi-fi's help menu is

at the bottom of the page and is not searchable, rather, has a series of articles for various activities the user may need help with.

I think PB Tech uses the help feature better in terms of the **help and documentation** heuristic as Jackson could easily notice the help menu in the header, and find precisely what help he is looking for (through the search bar) instead of scrolling through various unrelated articles. JB Hi-fi's help menu was a little harder to find for Jackson as he looks through the header first before scrolling down and finding it at the bottom of the page. Furthermore, Jackson had to look through the articles instead of being able to search for the specific help he needs.
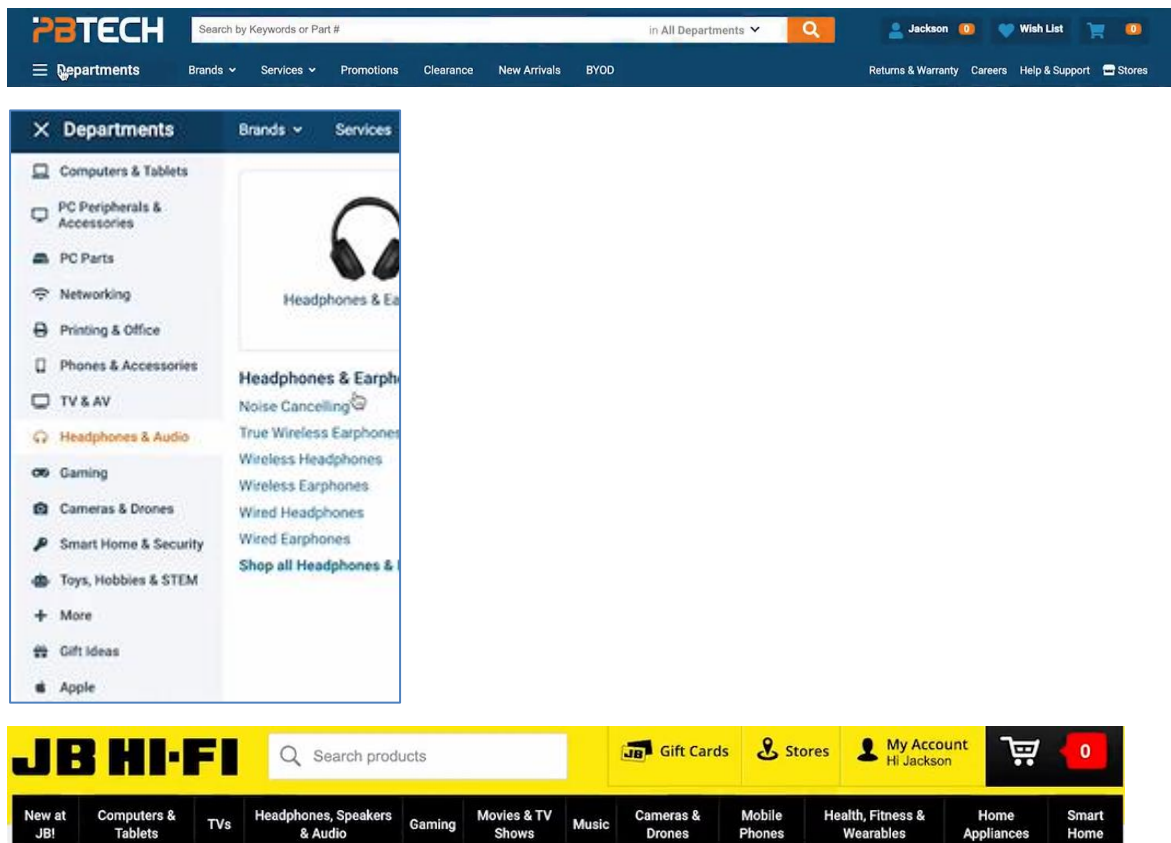
PB Tech
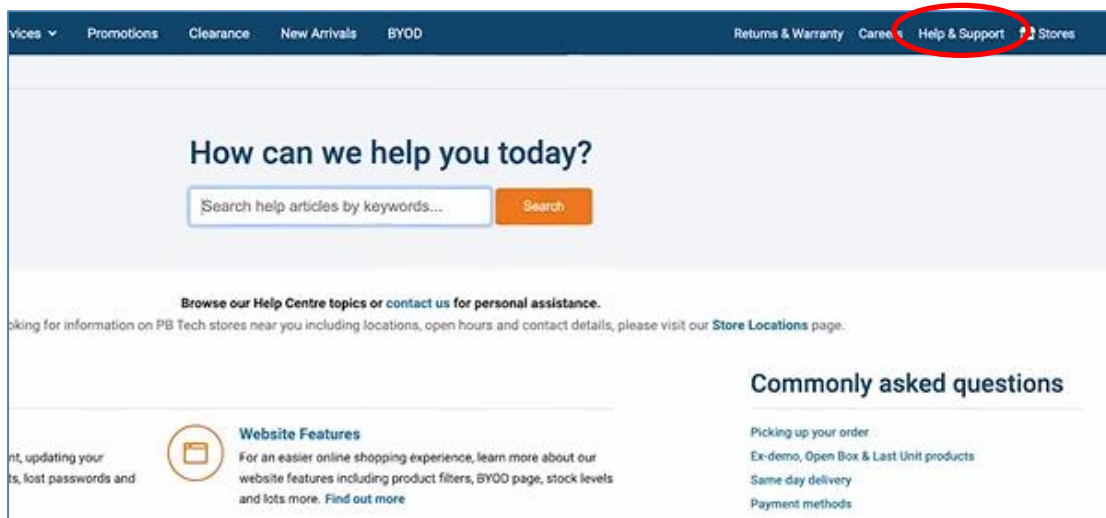
JB Hi-fi
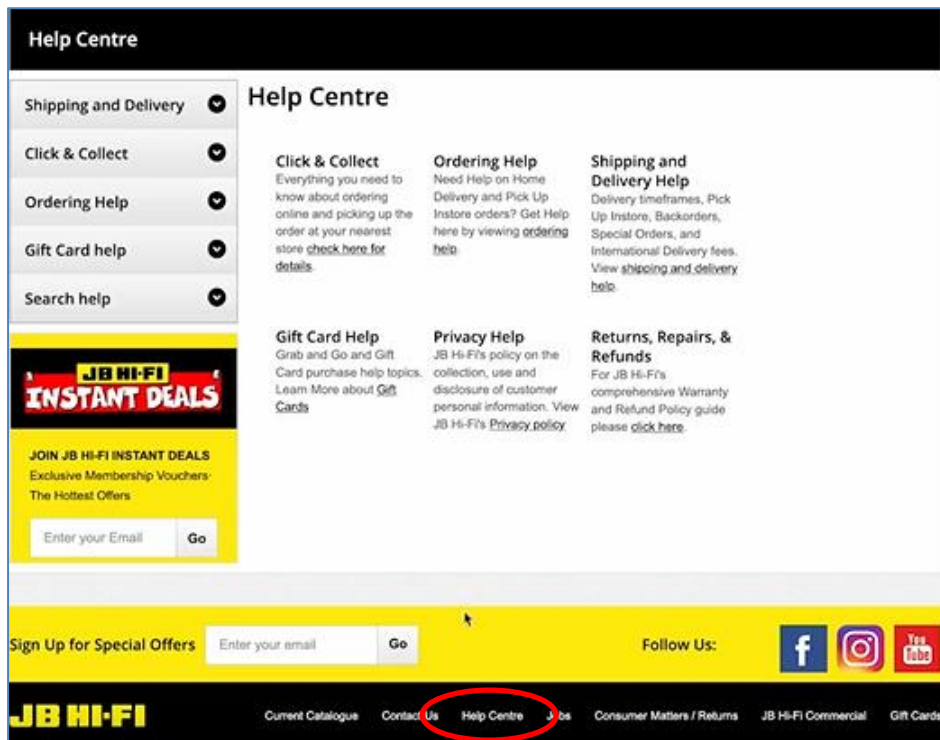
Aesthetic and minimalist design: Drop-down menus feature

PB Tech and JB Hi-fi are **similar** in terms of the **aesthetic and minimalist design** heuristic as they both incorporate a series of drop-down menus to store information

meaning Jackson only sees information that is relevant to him.

PB Tech and JB Hi-fi are **different** with which drop-down menus they display in their header and how they incorporate it into the design of their websites. PB Tech spaces out its drop-down menus (as seen in the image below), separating product-related menus (to the left of the header) from other options (to the right). JB Hi-fi does not space out their menus. Another difference is that JB Hi-fi has a 'Departments' menu, which contains various departments such as 'Computers & Tablets' whereas JB Hi-fi puts these departments straight into their header.

I think PB Tech uses the drop-down menus feature better in terms of the **aesthetic and minimalist design** heuristic as their header is not cluttered with information, rather, spaced out and containing a variety of menus to display only relevant information. JB Hi-fi's header looks cluttered as they do not leave much space and have many irrelevant menus to many users. Jackson may find this confusing as he tries to locate the information he needs.
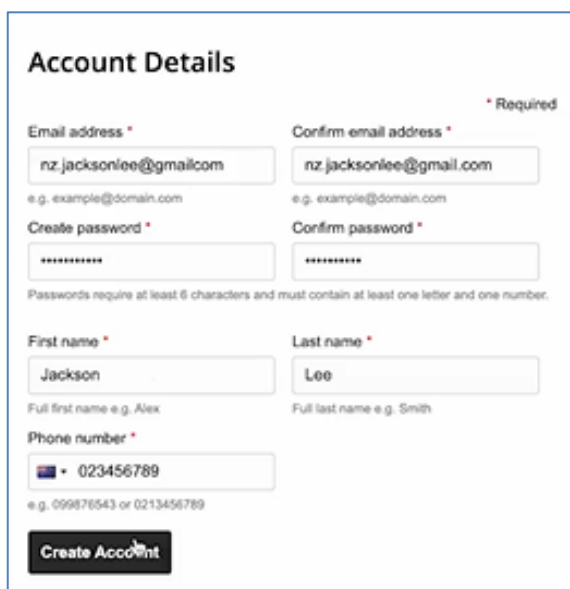
Which website was most effective?

I think that PB Tech was most effective in enabling Jackson to carry out the activities he needed to in order to purchase the video equipment. This is because PB Tech uses the error messages feature better in terms of the **help users recognise, diagnose, and recover from errors** heuristic (by displaying error messages before Jackson submitted), uses the help feature better in terms of the **help and documentation** heuristic (by making their help easy to find), and uses the drop-down menu feature better in terms of the **aesthetic and minimalist design** heuristic (by displaying only relevant information and not being cluttered).

(ii)   Referring to at least TWO usability heuristics, suggest how the usability of either interface could be improved.
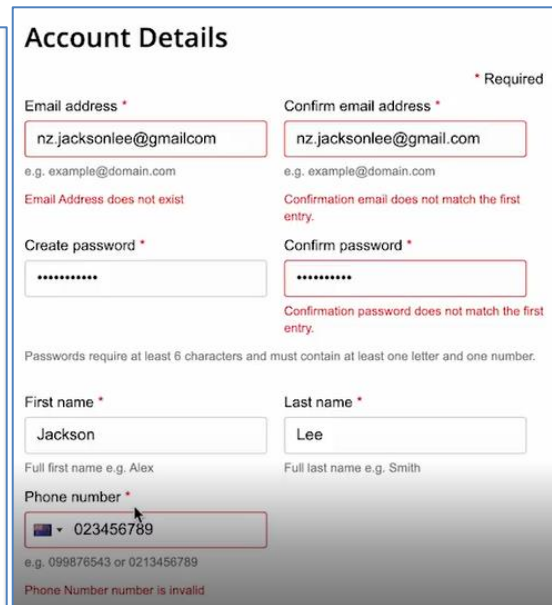
Improvement 1: Help users recognise, diagnose, and recover from errors

One improvement that can be made to the JB Hi-fi website in terms of the **help users recognise, diagnose, and recover from errors** heuristic is when the user is setting up an account. The website only displays error messages of incorrect fields after the user has submitted their information. This is frustrating for users as they have to fix all their information and submit again. I recommend that JB Hi-fi checks the input boxes as the user enters information, providing error messages before the user submits. This would improve the usability of the interface as users can see what the problem is and what they need to do to fix it before they press 'Create account'.

Before clicking 'Create Account'   **After**

Improvement 2: Help and documentation

Another improvement that can be made to the JB Hi-fi website is in terms of the **help and documentation** heuristic. Currently, the website's help menu is at the bottom of the page, making it unnecessarily hard for users to find help as they typically expect the help menu to be in the header. I recommend that JB Hi-fi move their help menu to their header, making it easy to find and improving the usability of the interface as the user spends less time looking for answers to their questions.
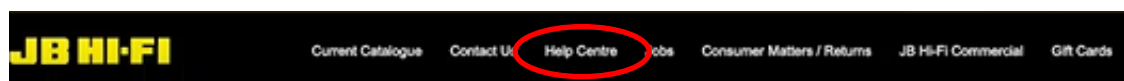
Improvement 3: Help and documentation

A further improvement I would make is to make the help articles searchable. This would make help easier to find for users as they can simply search what they need help with instead of having to scroll through various irrelevant articles.

Excellence Exemplar 2022

Subject	Digital Technologies Level 1		Standard	91886	Total score	08
Q	**Grade score**	**Annotation**				
1	E8	Candidate describes the role of their chosen interface. Candidate accurately describes two different heuristics for each of the given activities and provides screenshot exemplars. When selecting a further activity, the candidate chooses "Using the help feature". They refer to two further heuristics, "Help and documentation" and "Visibility of system status". They start by giving each heuristic a mark out of ten. The candidate then supports their judgements by providing supporting evidence. The candidate provided a detailed comparison of both interfaces by discussing three heuristics. They then say which interface is the most effective and details the reason why. The candidate uses their comparison to suggest three valid improvements. For example, **Help and documentation**: *"I would make is to make the help articles searchable. This would make help easier to find for users as they can simply search what they need help with instead of having to scroll through various irrelevant articles".*				