MERIT 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`".

[redacted]-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.

PB Tech is a website that allows users to buy products from the store online. This helps the user to buy the products online instead of going to the shop. This will help the people that don't like to shop in a store with lots of people. PB Tech sells products like microphones, headphone, phones, speakers, etc.

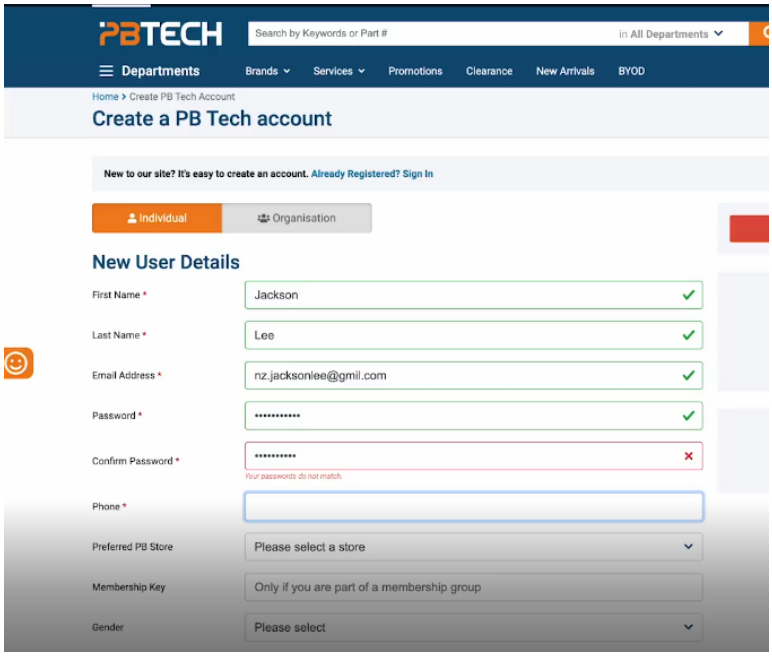
(b) Which usability heuristics allowed Jackson to complete the following activities? How did they achieve this?

(i) Setting up an account

Chosen heuristic:

Help users recognize, diagnose, and recover from errors

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

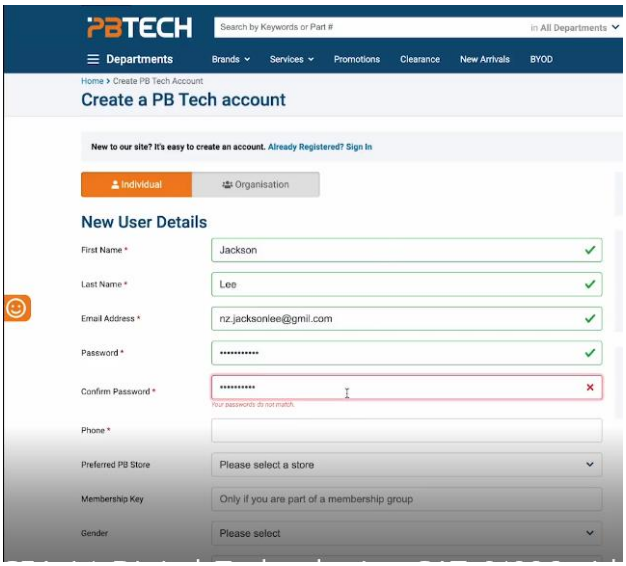


The heuristic, help users recognize, diagnose, and recover from errors has been show here. The Help users recognize, diagnose, and recover from errors heuristic is to help the user recover from their mistake. If the user makes a mistake, like misspelling their password, then the website will recognize this error then tell the user the mistake they have made or how to fix the mistake. In PB Tech's case in the sign-up process, they have recognized the error the user has made, typing in the wrong confirm password, and told the user what they have done wrong and displaying the error message, "your passwords do not match". By do this this, PB Tech has let Jackson know what he has done wrong and can now set up his account with his password being the same and confirmed. Without this heuristic Jackson would not be able to sign into the website.

Chosen heuristic:

Aesthetic and minimalist design

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



The heuristic, aesthetic and minimalist design, has been used in the sign process of PB Tech. The aesthetic and minimalist design heuristic is making sure that the right colors, fonts, font sizes, etc. are simple and don't confuse the user. For example, the background and the colors should make it easy for the user to see the content of the website. The user, in this case, should have to guess where things are. The colors should make it clear to the user were everything is. PB Tech does this on the sign-up page. The page has colors that are clear to the user and the user will know were everything is. From the color choice, the user can see were the nav bar is, were to type your information and what to click once you have finish, the register button. The colors around the information is also a good indicator of what is right or wrong. Because there is green around the information that is right or makes sense, the user knows nothing has to changed about that information. Like with the email address, that users knows that they haven't made any errors in that section as the

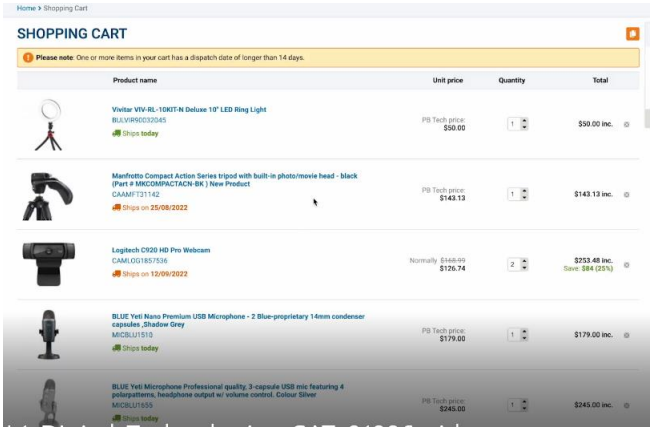
website is telling the user that it is correct. But with the confirm password, there was red before they changed it. Because the red outline was there, the user knew there was something wrong and that something needs to be changed. This helps Jackson to continue the sign-up process and to make and account.

(ii) Browsing products and adding to wish list

Chosen heuristic:

User control and freedom

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



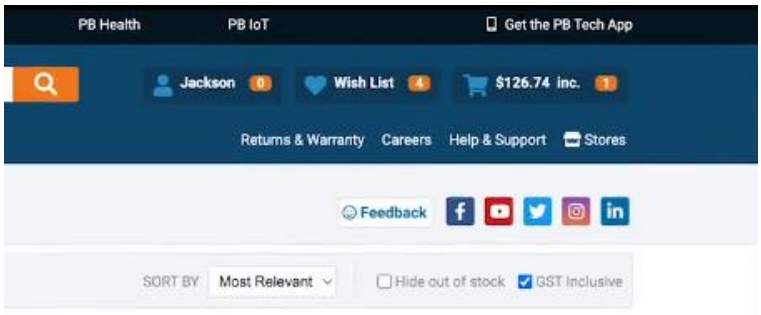
In the shopping cart page on PB Tech's website, the heuristic User control and freedom has been shown to the user. User control and freedom is letting the user have control in the actions within the website. An example of this is the exit button. The exit button allows the user to exit the page they are on anytime they want. This allows the user to move around the website in the way they want. In PB Tech's case, they do this really well. In the shopping cart section, PB Tech is letting the user have control over what they want in their cart. By having exit buttons at the end of the item, the user is able to choose what they want in their cart and what they want to buy. There is also an item increaser. This allows the user to add or subtract an amount of an item to there choosing. If the user wants 10

webcams, then they would be able to do this. This helps Jackson by allowing him to have control over the items he wants in his cart. Because he can also see the total cost of all the items, he can also remove if the thinks are to much for the money he has.

Chosen heuristic:

Match between the system and the real world

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



In the right corner of the PB Tech's website, the heuristic match between the system and the real world has been shown. Match between the system and the real world is having phrases, images, text, language, etc. that the user is used to. For example, if the website was directed to Americans, then the website would use English and spell words the way Americans do. The website would not be written in French or Chinese because that's not a main language of the targeted user. Match between the system and the real world can also be symbols and shapes that most people are familiar with. This could be silhouettes of houses and beds for websites like Harcourts. In PB Techs case, they have got a person, a heart and a shopping cart. Each are easy to understand there meaning, the person is the profile, the heart is any items the user has liked, the Wishlist and the shopping cart is the shopping to store items in. Each of these are easy enough to understand and would confuse the user in the context of the website. This would help Jackson find the items he has store in these places. They are easy to understand and find and would confuse Jackson when he is trying to find something.

(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.

In updating account details and logging out section, the error prevention heuristic has been shown through the updating part. Error prevention is preventing a mistake or error before it happens. Some examples are, warning the user not to have a weak password or not allowing the user to create an account if they haven't fill out all the information need. With PB Tech, they have warned the user not to have a password that has less than 8 characters. By doing this Jackson password can be stronger and more effective so people can't get into his account. By PB Tech doing this, they have successfully protected Jackson's account and prevented Jackson from creating a weak password.

(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 usability heuristics.

I think that JB Hi-Fi does a better job at effectively enabling Jackson to carry out his purchases. For one, JB Hi-Fi does better at following the Recognition rather than recall heuristic. While PB Tech doesn't have a recent search of any kind in its search bar, JB Hi-Fi has one. This allows Jackson to get back to items he has search up before. If Jackson wanted to re look at an item, then he could do so easily by just clicking on the search bar and then clicking on the item he once searches up. On PB Tech you cannot do this. Another reason is more effective is that it uses Aesthetic and minimalist design better. I think that JB Hi-Fi has a better color scheme. By using only yellow in small places and the nav bar, the page draws your attention to certain things. This would help Jackson because it he is look for prices or the add to Watchlist button, then they pop out and are more noticeable that PB Tech's. This is because PB Tech uses and non-bright color with blue. Because the blue isn't as eye-popping, it can be harder to notice something. The last reason JB Hi-Fi is more effective and finding and purchasing the items he wants is because it uses match between the system and the real world better than PB Tech. While PB Tech does have icons and language than is good and easy to spot, with icons, there are a lot of them and harder to see because of the color choice. Because JB Hi-Fi's icon is clear and easier to read, Jackson will be able to see the icon faster and get to the shopping cart faster. Also, the cart is bigger and easier to understand because of the clearer icon.

(ii) Referring to at least TWO usability heuristics, suggest how the usability of either interface could be improved.

PB Tech could improve on the recognize rather than recall heuristic. Recognize rather than recall is using information that the user has shown on the website and making it u=useful to the user. For example, If the user searches headphones up, then recommendation for headphones should show up. Also having a search history of the user is recognize rather than recall. PB Tech has little to none of this and should include stuff like this. If PB Tech were to have a recommendation system, the users would be able to buy the stuff they would faster or find things they like but didn't know where for sell. Another improvement on a heuristic they could implement is the error prevention heuristic. Although PB Tech does have error prevention, they only have it in the updating information page. If they were to have it on the sign-up page as well then, the process of signing up would be a lot faster and more beneficial for the user. If they were to implement error prevention in the sign-up page, then the user would know not to make an error like unrecognizable email addresses or invalid password. If they were to implement error prevention, then the user would have a more enjoyable time on the website and get there faster.

Merit Exemplar 2022

Subject	Digital Technologies Level 1	Standard	91886	Total score	06

Q	Grade score	Annotation
1	M6	Candidate describes the role of their chosen interface. Candidate accurately describes two heuristics for each of the activities given. Several examples are given for each heuristic along with supporting screenshots. Some evaluative comments are also evident, *"Because the red outline was there, the user knew there was something wrong and that something needs to be changed. This helps Jackson to continue the sign-up process and to make an account".* A further activity is chosen, "updating account section and logging out" and the candidate evaluates how "Error prevention" has been successfully implemented. Knowledge of six heuristics is demonstrated. The candidate compares the two interfaces by discussing three heuristics. Evaluation is also evident here. Two improvements suggested. Although the candidate has not implicitly explained how "Error prevention" could be implemented in the other interface.