Julius Chan

HCI Evaluation

Table of Contents

1.0 INTRODUCTION....4

2.0 SCOPE AND AREA OF FOCUS....4

3.0 BACKGROUND AND CONTEXT....4

4.0 FINDINGS AND ANALYSIS ON JAKOB NIELSEN'S 10 USABILITY HEURISTICS FOR USER INTERFACE....6

4.1 Visibility of system status....6

4.2 Match between the real world & system....8

4.3 User Control and freedom....8

4.4 Consistency and Standards....10

4.5 Error Prevention....11

4.6 Recognition and Recall....12

4.7 Flexibility and Efficiency of Use....14

4.8 Aesthetic and Minimalist Design....14

4.9 Help Users Recognize, Diagnose, and Recover from Errors....15

4.10 Help and Documentation....16

5.0 LIST OF REFERENCES....18

6.0 CONCLUSION....19

7.0 APPENDICES....20

7.1 Wireframe – Current Home Page....20

7.2 Wireframe – Revised Home Page....21

8.0 USER PERSONAS....22

8.1 Persona 1....22

8.2 Persona 2..... 23

9.0 DESIGN ELEMENTS TO SUPPORT NEWLY RECOMMENDED DESIGN SOLUTIONS.....24

Table of Figures

Figure 1 : Bugis Junction Mall (https://www.capitaland.com/sg/en/lease/mall-listing/bugis-junction.html, n.d.).....5

Figure 2 : Bugis Junction Mall Website Homepage (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023).....5

Figure 3 : Breadcrumb Trail shown while navigating through Promotions (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023).....7

Figure 4 : Navigating deals page through 'Load More' (https://www.capitaland.com/sg/malls/bugisjunction/en/deals.html, 2023).....7

Figure 5 : Page Navigation shown at the bottom while navigating through products on Shopee (https://shopee.sg/Computers-Peripherals-cat.11013247, 2023).....7

Figure 6 : Back to top function at the bottom right of Bugis Junction Deals Page (https://www.capitaland.com/sg/malls/bugisjunction/en/deals.html ,2023).....9

Figure 7 : Directed to Capital Land main website after clicking the carousel banner from Bugis Junction Website (https://www.capitaland.com/sg/en/shop/malls/discover/hong-kong-disneyland-resort.html , 2023).....9

Figure 8 : Undo option on Gmail after sending an email (https://www.copper.com/_next/image?url=https%3A%2F%2Fd2ydtwisqcxv72.cloudfront.net%2Fundo-send-option-in-gmail.jpg&w=1200&q=75, 2023) 10

Figure 9 : Icons on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html#top, 2023).....10

Figure 10 : Drop down submenu while navigating (https://www.lazada.sg/, 2023).....11

Figure 11 : Real time feedback provided while searching (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023).....11

Figure 12 : Error prevention message while entering an invalid phone number (https://sso.capitastar.com/ , 2023).....12

Figure 13 : Lucky Draw Section on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....13

Figure 14 : Navigation Bar on Bugis Junction Website
(https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023).....13

Figure 15 : Stores Page on Bugis Junction Website
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....13

Figure 16 : Bugis Junction Mall Homepage's Section
(https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023).....14

Figure 17 : Bugis Junction Homepage Section
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....15

Figure 18 : Bugis Junction Homepage Bottom Section
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....15

Figure 19 : Incorrect search result on Bugis Junction Website
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....16

Figure 20 : Incorrect Fields on Contact Us Page of Bugis Junction Website
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....16

Figure 21 : Mall Information Page on Bugis Junction Website
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023).....17

Figure 22 : Lazada Help Support (https://www.lazada.sg/helpcenter/ , 2023).....17

1.0 Introduction

In the fast-paced digital landscape, a website's success depends on its ability to deliver an exceptional and notable user experience. A critical framework that has influence the field of human-computer interaction (HCI) is Jacob Nielsen's 10 Usability Heuristics.

Developed by usability expert Jacob Nielsen, these heuristics has served as basic guidelines for evaluating and optimizing user interfaces to ensure a seamless and intuitive experience. This report will begin an in-depth exploration of the Bugis Junction website, a major shopping destination in Singapore through the usability of Nielsen's 10 usability heuristics. The aim is to analyse how well the website aligns with these principles and identify potential areas of improvement to create a more user-friendly shopping website.

2.0 Scope and Area of Focus

This report aims to evaluate the user experience of the Bugis Junction website by focusing on Jacob Nielsen's 10 usability heuristics. The assessment will address key insights such as situational visualization, real-world integration, user control, consistency, error prevention, analytics, simplicity, aesthetics of design, maintainability, and error correction.

When using these heuristics, the focus is not on solely critiquing or appraising Bugis Junction’s website but rather on utilising Jacob Nielsen's 10 usability through evaluation with his heuristics on the website. In addition, the website of Bugis Junction will be a platform for gathering information and insights into how to improve website usability and user satisfaction.

3.0 Background and Context

CapitaLand Bugis Junction Mall is located in Central Business District and positioned as a desirable shopping and leisure destination for young adults & professionals as it has a close proximity with schools such as Singapore Management University, LASALLE College Of Arts, and School of the Arts.

Figure 1 : Bugis Junction Mall (https://www.capitaland.com/sg/en/lease/mall-listing/bugis-junction.html, n.d.)

Managed by CapitaLand, Asia's leading real estate company, the mall has a rich history and is known as a lifestyle destination. Notably, it is located in Singapore's first and airy shopping streets with shops that neatly combine old and new in a varied and interesting range of shops making it welcoming and warm to visitors. As such, incorporating the ten general principles of user interface design by Jakob Nielsen into the design development process of the mall's website would provide recommendations for improvement to the online and information-seeking experience for users.

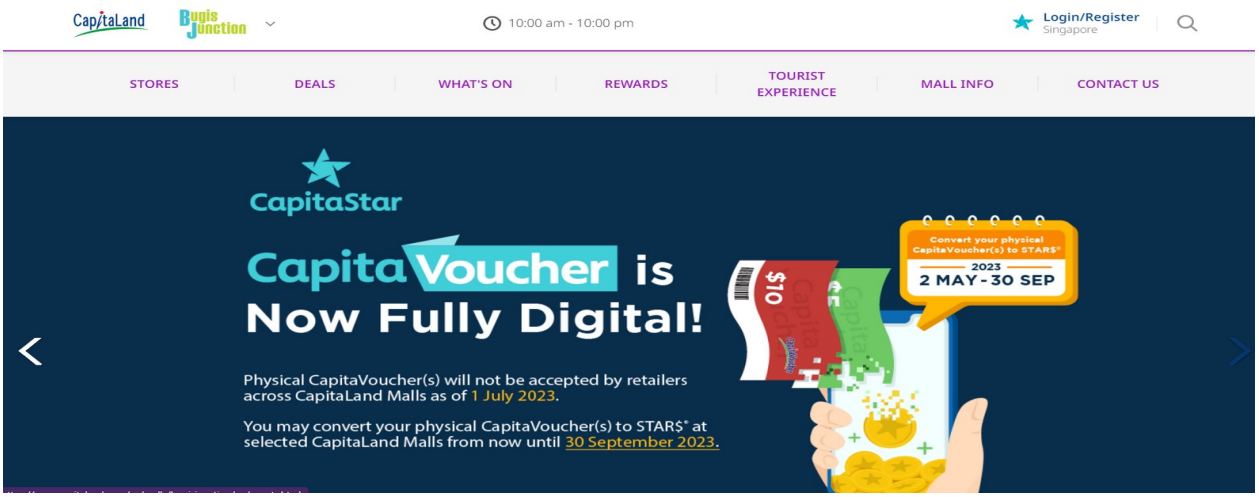


Figure 2 : Bugis Junction Mall Website Homepage (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

4.0 Findings and Analysis on Jakob Nielsen's 10 Usability Heuristics for User Interface

4.1 Visibility of system status

The first heuristic would be the system notifying users of what is happening by providing suitable feedback in a timely manner.

Condition : Partially Met

Comments : When performing a search on the Bugis Junction Mall website, a spinning wheel is presented to signify that the system is processing the user's queries. (Figure 3)

When browsing via promotions from the homepage, a breadcrumb trail was visible where it visually indicates the user's stage of progress and the level at which they are on the website. (Figure 3)

When utilizing the 'Load More' button to navigate through the 'Deals' page, it conceals the content behind a second click which would result with more clicks, reducing content visibility and leaving users unaware of the entire content & the progressive status. (Figure 4)

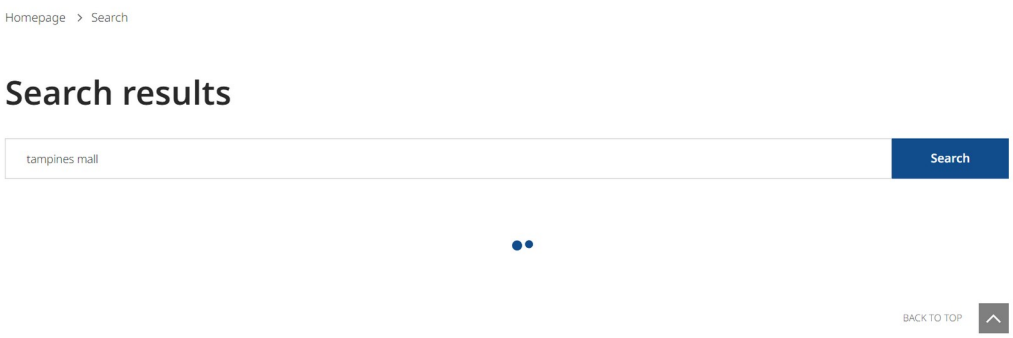


Figure 3 : Loading Indicator while searching (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

Figure 3 : Breadcrumb Trail shown while navigating through Promotions (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

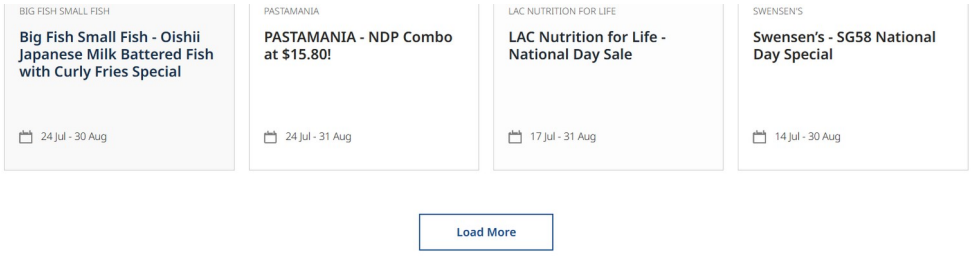


Figure 4 : Navigating deals page through 'Load More' (https://www.capitaland.com/sg/malls/bugisjunction/en/deals.html, 2023)

Rooms for Improvements

I would recommend utilizing a page number instead of a "show more" button as it is an improvement that can enhance the visibility of system status on the website such as Shopee. (Figure 5)

Page numbers would provide users with clear information about their current position in the content page.

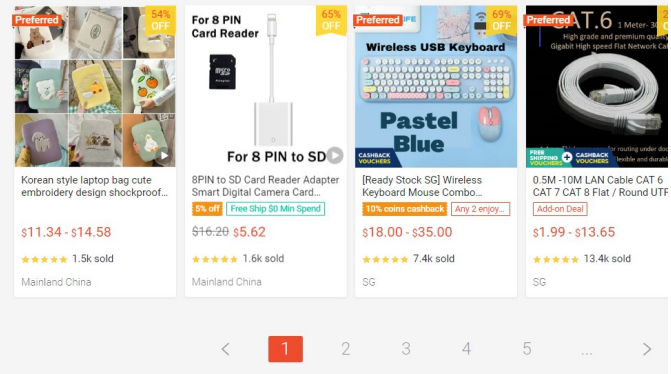


Figure 5 : Page Navigation shown at the bottom while navigating through products on Shopee (https://shopee.sg/Computers-Peripherals-cat.11013247, 2023)

4.2 Match between the real world & system

The second heuristic would be for the system to adhere to the standards of its users, making it user-friendly and intuitive by matching their expectations and understanding of the real world.

Condition : Met

Comments : The navigation and style of the Bugis Junction website show how well the system and the real world correspond.

As seen in the homepage, the website submenus include "Stores," "Deals," "Rewards," "Events," and "Contact Us" which allows users to locate information quickly which replicates what a physical shopping mall is like. (Figure 2)

4.3 User Control and freedom

The third heuristic would be giving the user the choice to undo or repeat a completed action.

Condition : Partially Met

Comments : The "Back to Top" function is positioned near the bottom of scrolling pages to give visitors a quick method to return to the top without having to manually scroll back up which would be convenient especially on lengthy scrolling pages. (Figure 6)

Upon clicking certain carousel banner from the Bugis Junction Mall Website, users may be directed to the main Capital Mall website with no back navigation to go back to the previous page of the mall's website. (Figure 7)

After pressing the submit button to submit the information to Bugis Junction through the contact us page, there is no undo option available since users may be afraid of making irreversible mistakes.

Figure 6 : Back to top function at the bottom right of Bugis Junction Deals Page (https://www.capitaland.com/sg/malls/bugisjunction/en/deals.html ,2023)

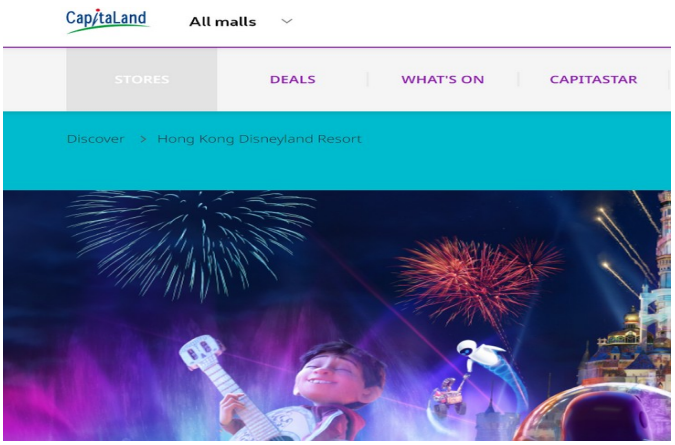


Figure 7 : Directed to Capital Land main website after clicking the carousel banner from Bugis Junction Website (https://www.capitaland.com/sg/en/shop/malls/discover/hong-kong-disneyland-resort.html , 2023)

Rooms for Improvements

It would be better to include a back navigation in the breadcrumb navigation to take users back to the Bugis's Junction website after pointing them to the CapitaLand webpage. It guarantees that users may quickly return to the previous page without using the back button integrated into their browser.

Implementing a "undo" option enables users to correct unintentional errors, lowering anxiety and improving the user experience as a whole. (Figure 8)

Figure 8 : Undo option on Gmail after sending an email (https://www.copper.com/_next/image?url=https%3A%2F%2Fd2ydtwisqcxv72.cloudfront.net%2Fundo-send-option-in-gmail.jpg&w=1200&q=75, 2023)

4.4 Consistency and Standards

The fourth heuristic is about following a consistent and cohesive user interface design for websites.

Condition : Partially Met

Comments : The search function is present in the header and utilizes a magnifying glass icon where users are familiar with. In keeping with the conventional interface design for websites, a shopping mall symbol is also there to let visitors know that they are on a shopping mall and allows them to return to the homepage upon clicking it. (Figure 9).

There is a lack of dropdown submenu which would be an issue as it is a standard design principle for most websites to organise complex navigation structures.

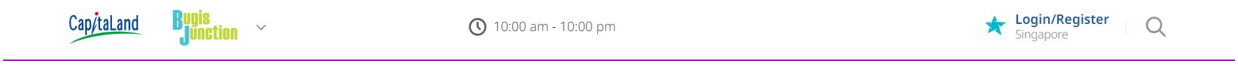


Figure 9 : Icons on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html#top, 2023)

Rooms for improvements

As the website has many different levels of information and categories, a suggestion would be adding dropdown submenus for the top navigation menu while this would follow the design principle as well.

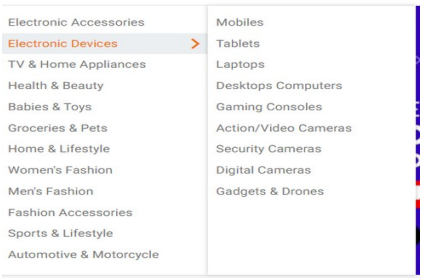


Figure 10 : Drop down submenu while navigating (https://www.lazada.sg/, 2023)

4.5 Error Prevention

The fifth heuristic is preventing errors or any circumstance that can cause a user to make an incorrect decision.

Condition : Met

Comments : While typing into the search query, real-time feedback was given by providing suggestions so that potential spelling mistakes would be less likely. (Figure 11)

When users enter an inaccurate or improperly formatted number during the membership account registration process on the mall website, an error prevention notice is shown. (Figure 12)

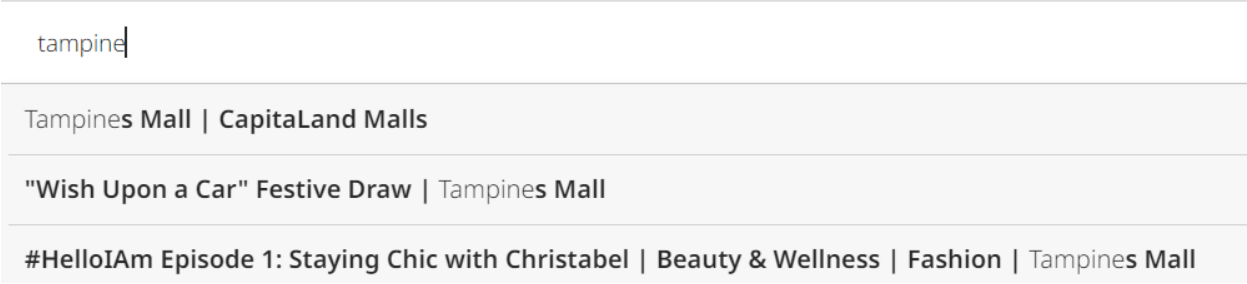


Figure 11 : Real time feedback provided while searching (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

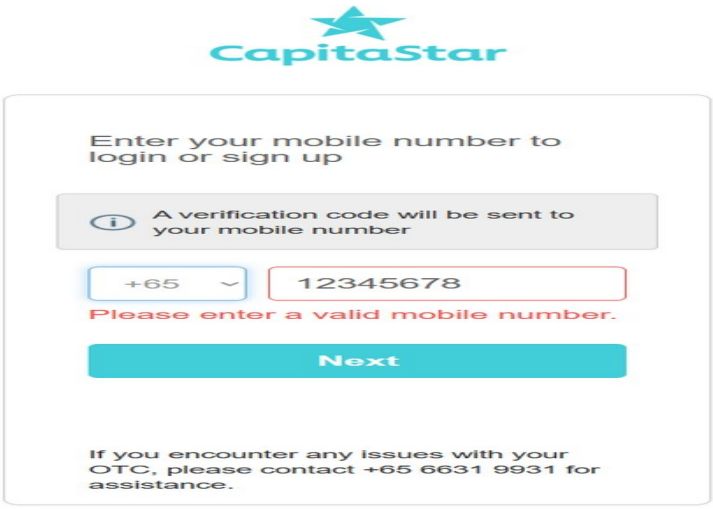


Figure 12 : Error prevention message while entering an invalid phone number (https://sso.capitastar.com/ , 2023)

4.6 Recognition and Recall

The sixth heuristic is to make it easy for users to detect and identify options or actions rather

than asking them to remember specifics from past interfaces or interactions.

Condition : Met

Comments : There are banners and sections that showcase lucky draws, discounts, and special promotions allowing customers to identify and quickly access as its strategically placed on the homepage. (Figure 13)

The "Mall Info" and “Contact Us” section is visible in the main navigation of the website, making it simple for users to recognize and access this information anytime they need it. (Figure 14)

The content on the "Store" page is clearly labelled and well-organized, with features like alphabetical order and sorting to make it easier for visitors to find stores based on the names & category. (Figure 15)

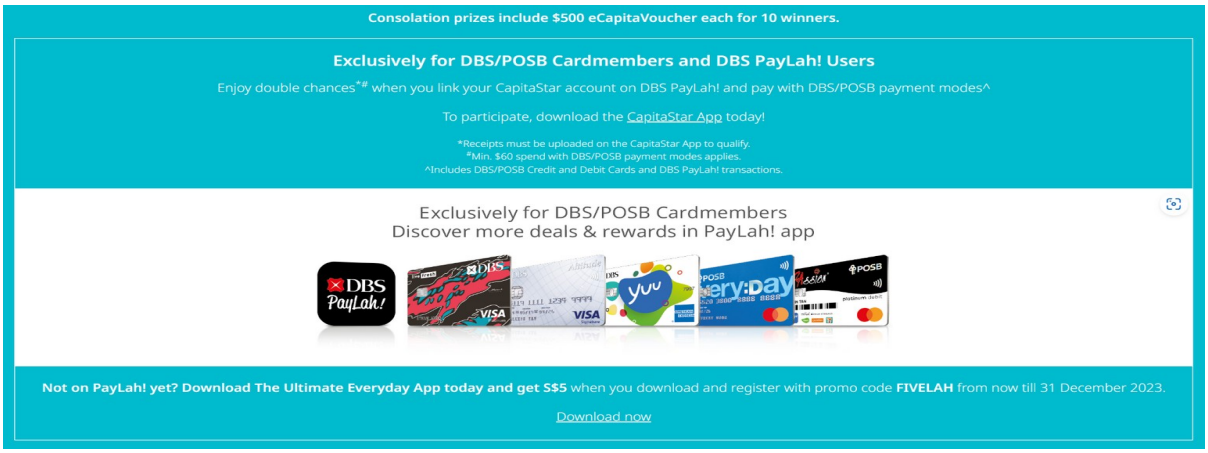


Figure 13 : Lucky Draw Section on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

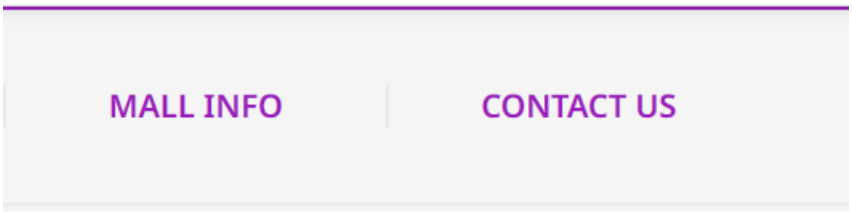


Figure 14 : Navigation Bar on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

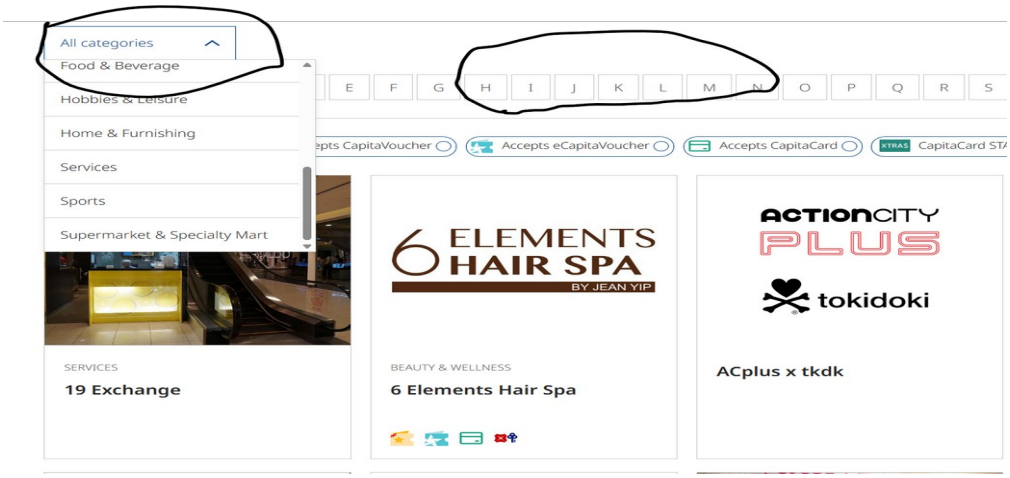


Figure 15 : Stores Page on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

4.7 Flexibility and Efficiency of Use

The seventh heuristic emphasizes the importance of providing a user interface that can adapt to different user needs and skill levels while enabling seamless and efficient interactions.

Condition : Met

Comments : The Bugis Junction website is easy to use with quick access fast links and icons that direct to commonly used sections. This design improves user efficiency by allowing users to access information with a single click which meets the efficiency of use therefore no additional features will be needed.

4.8 Aesthetic and Minimalist Design

The eighth heuristic would be focusing on a visual and user interface design style that emphasizes simplicity and elegance.

Condition : Partially Met

Comments : The homepage of the shopping mall website has a clean and simple design with a straightforward layout, as well as a 'Learn More' button on the banner so it hides more information to showcase on the homepage. (Figure 16)

While scrolling, the website has unneeded & repeated banners that may cover up the website's section area, causing users to scroll more and be overwhelmed with information. (Figure 17 & 18)

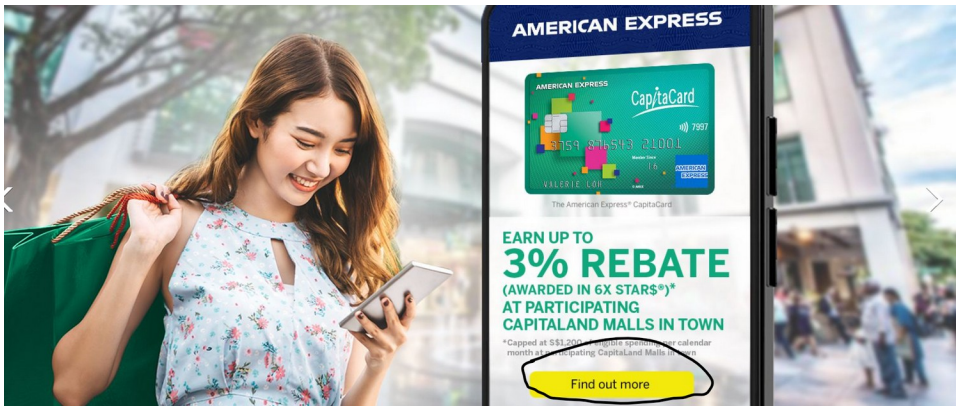


Figure 16 : Bugis Junction Mall Homepage's Section (https://www.capitaland.com/sg/malls/bugisjunction/en.html, 2023)

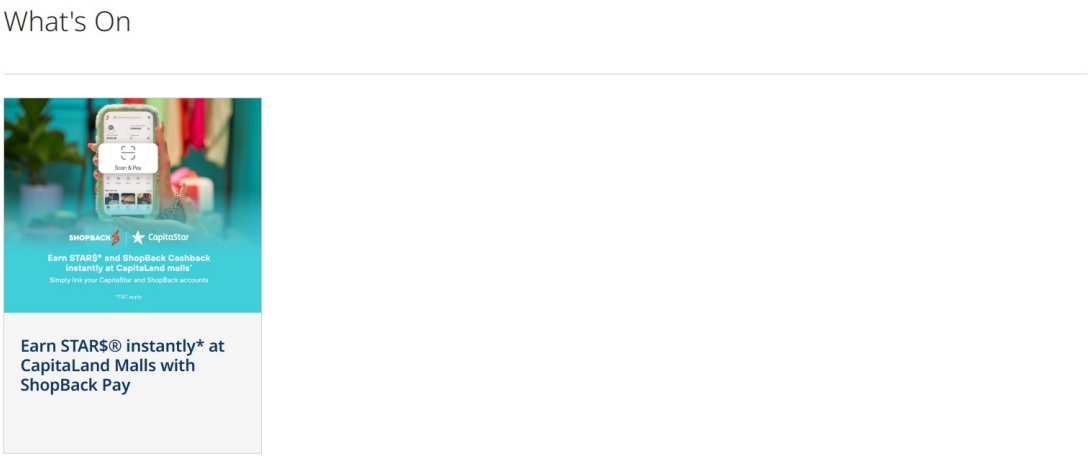


Figure 17 : Bugis Junction Homepage Section (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

Figure 18 : Bugis Junction Homepage Bottom Section
(https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

Rooms For Improvements

Removing the unneeded banners and sections from the respective homepage sections and combining them into the main banner or other sections would result in a cleaner and less cluttered website.

4.9 Help Users Recognize, Diagnose, and Recover from Errors

The ninth heuristic would be to create error messages in human-readable language and to provide solutions on how to solve or recover from them.

Condition : Met

Comments : While entering an inaccurate search, it displays an error message stating that it did not yield any results and offers the option to search in "All Malls" which is part of the recovery process. (Figure 19)

When users submits incorrect fields or leave them empty on the contact us page, it displays a specific error message which enables users to see the type of information required. (Figure 20)

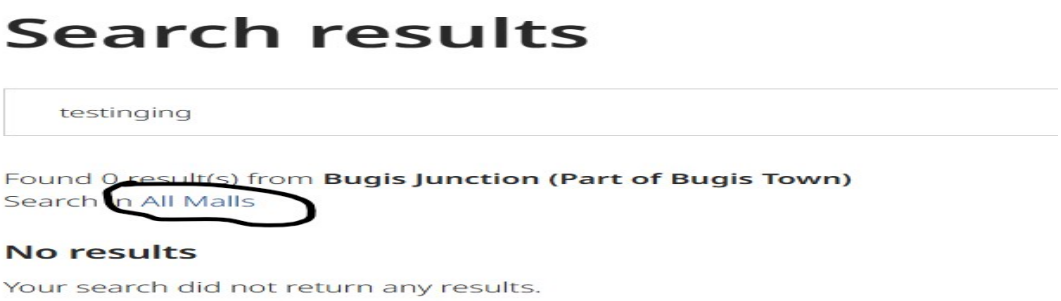


Figure 19 : Incorrect search result on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

Figure 20 : Incorrect Fields on Contact Us Page of Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

4.10 Help and Documentation

The tenth heuristic would be to provide guidance and documentation where the information should be easily searchable, targeted on the user's query and outline specific actions to be taken.

Condition : Partially Met

Comments : The website has an information section that may address typical questions like store locations, working hours and parking facilities as well as contact information or a phone number that is only available during office hours for support requests. However, such support may not be enough as the website do not have a FAQ section that address more common queries and dedicated support chat. (Figure 21)

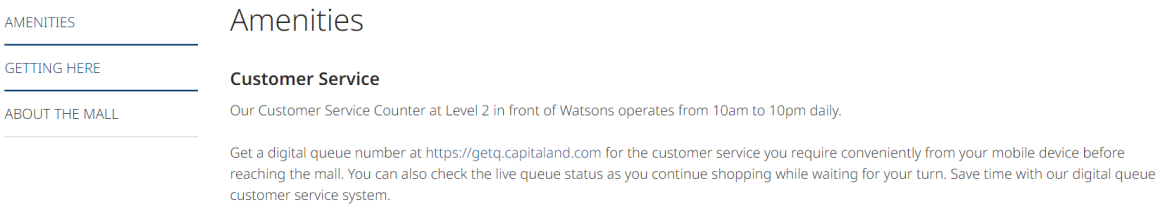


Figure 21 : Mall Information Page on Bugis Junction Website (https://www.capitaland.com/sg/malls/bugisjunction/en.html , 2023)

Rooms For Improvement

An improvement would be including a Frequently Asked Questions (FAQ) section that tackles most frequently asked questions about the shopping mall. However, the FAQ section may lack in-depth answers to more specific questions that users may have, thus introducing a live help chatbot would also be advantageous as seen in Lazada.

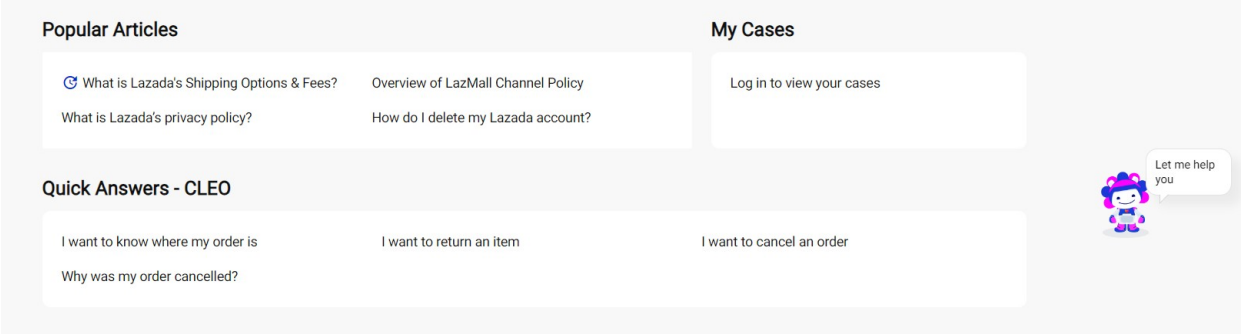


Figure 22 : Lazada Help Support (https://www.lazada.sg/helpcenter/ , 2023)

5.0 List of References

Aela, E. (2022) *Nielsen's heuristics: 10 usability principles to improve UI design*, *Nielsen's Heuristics: 10 Usability Principles to Improve UI Design*. Available at: https://aelaschool.com/en/interactiondesign/10-usability-heuristics-ui-design/ (Accessed: 27 July 2023).

Alita, J (2020) *Help and documentation: The 10th usability heuristic*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/help-and-documentation/ (Accessed: 01 August 2023).

Fessenden, T. (2021) *Aesthetic and minimalist design (usability heuristic #8)*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/aesthetic-minimalist-design/ (Accessed: 01 August 2023).

Kaley, A. (2018) *Match between system and Real World: 2nd usability heuristic explained*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/match-system-real-world/ (Accessed: 27 July 2023).

Krause, R. (2021) *Maintain consistency and adhere to standards (usability heuristic #4)*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/consistency-and-standards/ (Accessed: 28 July 2023).

Laubheimer, P. (2015) *Preventing user errors: Avoiding unconscious slips*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/slips/ (Accessed: 29 July 2023).

Laubheimer, P. (2020) *Flexibility and efficiency of use: The 7th usability heuristic explained*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/flexibility-efficiency-heuristic/ (Accessed: 30 July 2023).

Harley, A. (2018) *Visibility of system status*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/visibility-system-status/ (Accessed: 27 July 2023).

Nielsen , J. (1994) *10 usability heuristics for user interface design*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/ten-usability-heuristics/ (Accessed: 27 July 2023).

Parakh, A. (2021) *10 usability heuristics your UI/UX design must abide by*, *Perfomatix*. Available at: https://www.perfomatix.com/10-usability-heuristics-your-ui-ux-design-must-abide-by/ (Accessed: 27 July 2023).

Raluca Budiu (2014) *Memory recognition and recall in user interfaces*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/recognition-and-recall/ (Accessed: 29 July 2023).

Rosala, M. (2020) *User control and freedom (usability heuristic #3)*, *Nielsen Norman Group*. Available at: https://www.nngroup.com/articles/user-control-and-freedom (Accessed: 28 July 2023).

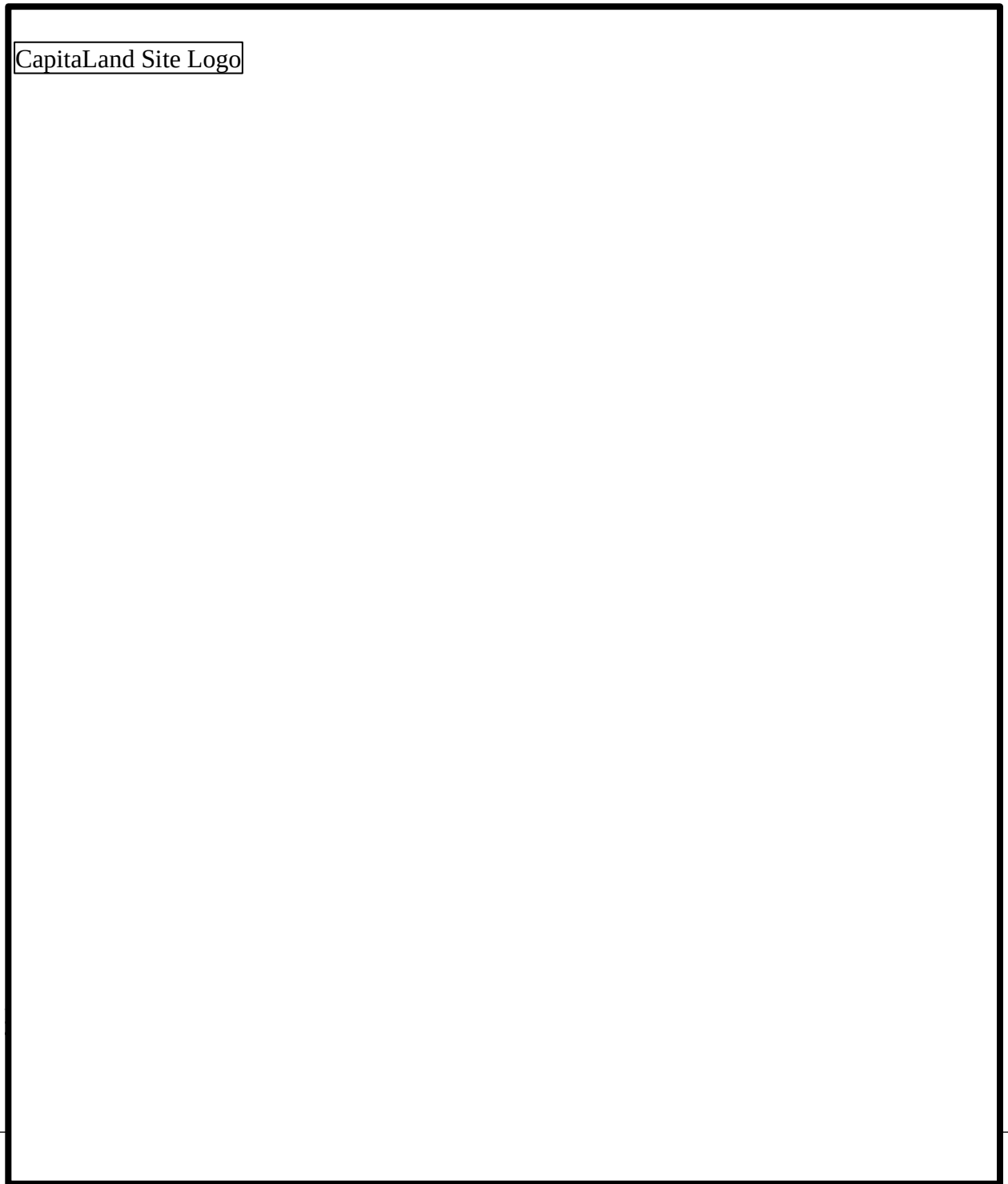
6.0 Conclusion

In conclusion, Bugis Junction Mall's website mostly met the criteria through the evaluation of 10 Jakob Nielsen's Heuristics, resulting in a good user experience for its users but there is still room for improvement to be made.

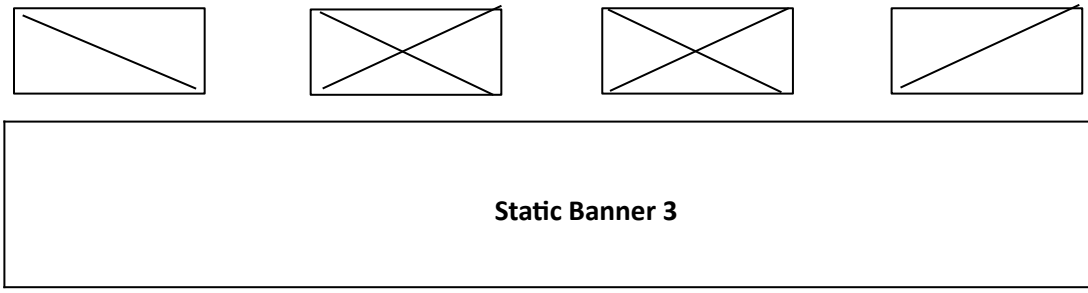
One area that would be helpful is to focus on the progress indicator for the navigation system so it will enhance the user experience by providing an intuitive progression through different parts of the website.

Additionally, including a comprehensive support and help documentation would address more queries that users may have.

By addressing these areas, the user experience for Bugis Junction Mall Website would be optimized and will enhance the overall functionality of the mall's website.


CapitaLand Site Logo

New Stores

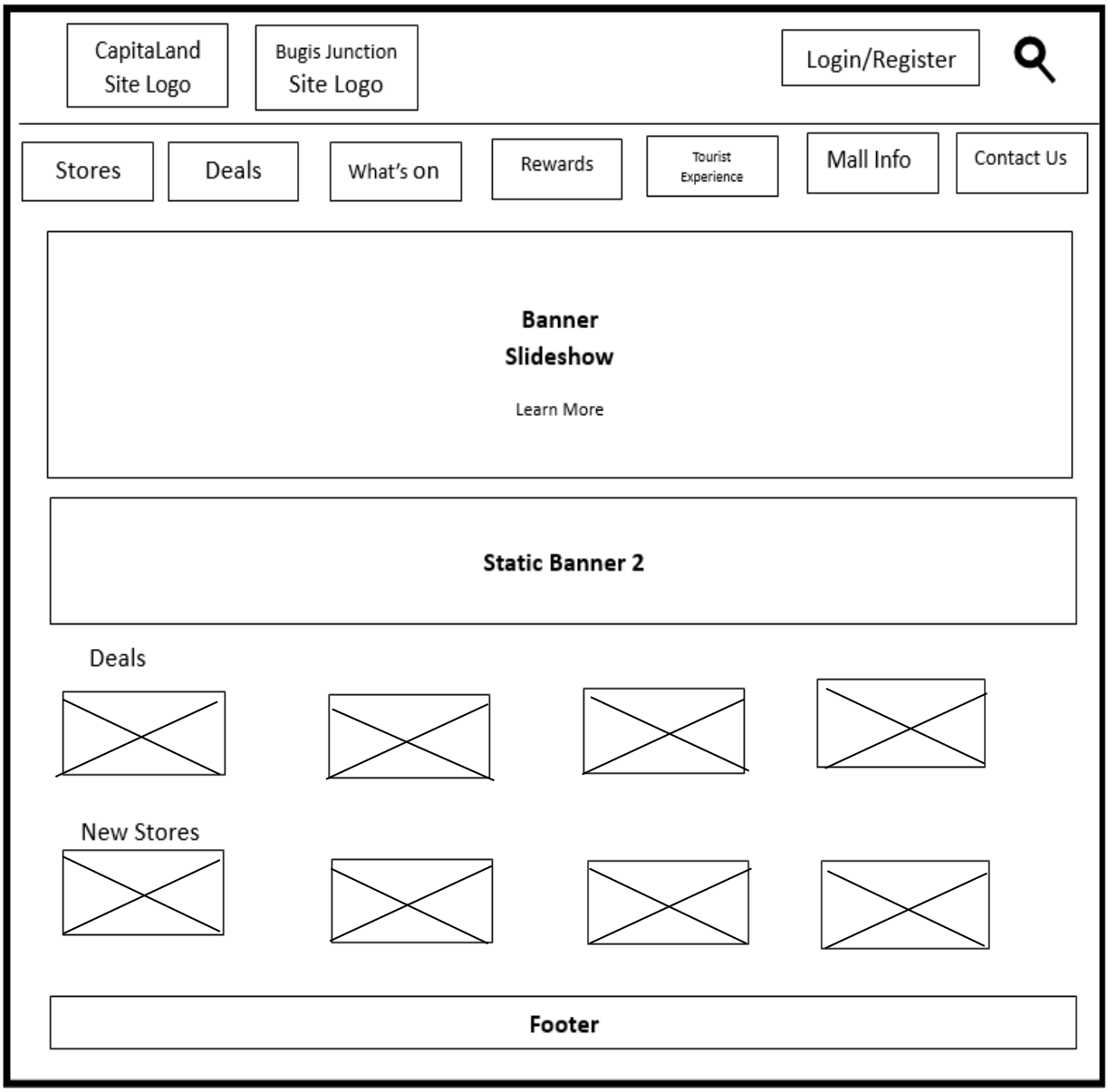


Rooms For Improvement

Footer

The [illegible] take up the website space as seen in the current wire frame. Also, there is only a single hover box in the 'What's On' section, which is unnecessary as there is already a 'What's On' section in the navigation bar. What could be improved would be combining the static banner located at the bottom into the banner carousel and also removing the 'What's On' section with the single hover box. As a result, this would keep the website homepage layout to remain the same but organized.

7.2 Wireframe – Revised Home Page



8.0 User Personas

8.1 Persona 1

Name : Emily Quek
Age : 30
Gender : Female
Address : Treasure at Tampines
Occupation : Product Manager
Hobbies : Shopping

Scenario

1. Emily has finished an appointment with a client at a location nearby Bugis Junction Mall.
2. She received a message in the product's team group chat suggesting that one of her colleagues' birthdays is today and would like to get a surprise present for her colleague.
3. Emily recalls that her coworker likes reading novels but is unfamiliar about the bookstores located at Bugis Junction Mall.
4. She went to the Bugis Junction Mall website to check what stores were available.
5. She went to the website's 'Stores' section and filtered the store category to books and stationery.
6. She checks the mall's website to discover which bookstores are offered in Bugis Junction Mall.
7. She makes a mental note of the bookstores that are available and start making her way there.

Goals and Needs

- Clear and straight forward navigation
- User friendly interface to navigate the stores and apply filters easily.
- Needs access to store information such as directory.

Frustrations

- May feel frustrated if there is lack of filters on store categories.
- May feel frustrated if these is a cluttered and confusing user interface.
- May feel frustrated is there is a difficulty finding store information.

8.2 Persona 2

Name : James Tan
Age : 37
Gender : Male
Address : Lavender Residence
Occupation : IT Helpdesk
Hobbies : Shopping, Online Shopping

Scenario

1. James was surfing the internet on his laptop and discover a gadget promotion that CapitaLand has.
2. He frequently visits Bugis Junction, so he decided to check the mall's website out for such promotion.
3. He navigated through the deals section but is unable to locate the promotion he discovered.
4. James ends up having a few queries if the promotion is applicable in Bugis Junction mall but realises that the website lacks live chat or support.
5. This leaves James no option but to use the 'Contact Us' page where he submits his queries regarding the promotion.
6. After submitting the 'Contact Us' form, he understands that he has to wait for a response which may take hours or days.
7. While waiting for the response, he decided to explore other website with similar promotions.

Goals and Needs

- Clear and accessible section for promotions and deals
- Requires a live support feature.
- Accurate information about such promotions

Frustrations

- Absence of live support
- Waiting for a response on "Contact Us" Page

9.0 Design elements to support newly recommended design solutions

Harmony/Unity

The website should follow a unity design which implies that it maintains consistency and ensures that all design components such as icons and buttons appear consistently throughout the site. As everything appears familiar, users get a seamless and pleasant experience when they navigate between different pages or sections.

Balance

The present layout of the website is following a symmetrical balance which places the logo at the top and evenly arranged navigation. This should be maintained to keep the layout organized and provide ease of use for the navigation.

Hierarchy

The biggest component of the website is the carousel banner, which is placed strategically on the homepage. As a result, the mall coupons and CapitaLand promos will receive high visibility. The website may utilise the hierarchy principle for other sections as well so this would drive more traffic to other promotions.

Scale/Proportion

I would suggest scaling the banner on the homepage to be smaller so that it will fit in proportion with other elements resulting in a clean layout. This also allows viewers to view the entire banner in a single glance.

Dominance/Emphasis

The website has already placed a hierarchy that direct users to the most important element of the website where promotions and offers stands out so that it encourages users to engage with them.

Contrast

Users would be more likely to pay attention if buttons for sections like "Deals of the Months" and "New Stores" were coloured in contrast, which may be advantageous for both the stores and CapitaLand.