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Abstract

In today's digital age, website usability is an essential aspect of any product. This report showcases the significance of website usability and the factors that contribute to it. It also provides a summary of two research works which stresses web designers to consider the special abilities and requirements of the user when creating website. The analysis section takes a deep dive into two popular e-commerce websites, Daraz and Amazon, using Schneiderman's 8 Golden Rules and Nielsen's 10 Usability Heuristics. The analysis shows that both websites are usable, but there is still room for improvement.

Table of Contents

1. Introduction.....	1
2. Literature Review.....	2
2.1. Usability evaluation methods for the web: A systematic mapping study	2
2.2. Age-Related Differences in Eye Tracking and Usability Performance: Website Usability for Older Adults	3
2.3. Products.....	3
3. Analysis.....	4
3.1. Daraz.com.np	4
3.1.1. Schneiderman’s 8 Golden Rules	4
3.1.2. Nielsen’s 10 Usability Heuristics.....	11
3.2. Amazon.com	15
3.2.1. Schneiderman’s 8 Golden Rules	15
3.2.2. Nielsen’s 10 Usability Heuristics.....	23
4. Conclusion	27
5. References	28
6. Appendix.....	29
6.1. Explore	29
6.2. User Profile	30
6.3. Edit Profile	31
6.4. Settings.....	32
6.5. Security.....	33
6.6. Chat	34
6.7. Schedule Meetups	35
6.8. Redeem Streaks	36

Table of Figures

Figure 1. Strive for consistency	4
Figure 2. Enable frequent users to use shortcuts.....	5
Figure 3. Offer informative feedback	6
Figure 4. Design dialog to yield closure (i)	7
Figure 5. Design dialog to yield closure (ii)	7
Figure 6. Offer simple error handling	8
Figure 7. Permit easy reversal of actions (i)	9
Figure 8. Permit easy reversal of actions (ii)	9
Figure 9. Support internal locus of control	10
Figure 10. Reduce short-term memory load	10
Figure 11. Match between system and the real world	11
Figure 12. Error prevention (i).....	12
Figure 13. Error prevention (ii).....	12
Figure 14. Aesthetic and minimalist design.....	13
Figure 15. Help and documentation (i)	14
Figure 16. Help and documentation (ii).....	14
Figure 17. Strive for consistency (i)	15
Figure 18. Strive for consistency (ii)	15
Figure 19. Enable frequent users to use shortcuts.....	16
Figure 20. Offer informative feedback	17
Figure 21. Design dialog to yield closure	18
Figure 22. Offer simple error handling	19
Figure 23. Permit easy reversal of actions	20
Figure 24. Support internal locus of control	21
Figure 25. Reduce short-term memory load	22
Figure 26. Match between system and the real world	23
Figure 27. Error prevention.....	24
Figure 28. Aesthetic and minimalist design.....	25
Figure 29. Help and documentation.....	26
Figure 30. Explore	29
Figure 31. User Profile.....	30
Figure 32. Edit Profile.....	31
Figure 33. Settings	32
Figure 34. Security.....	33
Figure 35. Chat.....	34
Figure 36. Schedule Meetups.....	35
Figure 37. Redeem Streaks	36

1. Introduction

Usability is the extent to which a system or product may be used and understood by its intended users in a satisfactory, effective, and efficient manner. It is a means to measure the effectiveness of the user experience, and it needs designing and assessing user interfaces to make sure they are simple to comprehend, navigate, and offer users clear and succinct feedback. (IxD, n.d)

Usability in websites refers to the ease and effectiveness with which users can interact with a website to achieve their objectives. A product or system must have strong usability to maximize user pleasure and loyalty, reduce user mistakes and annoyance, and ultimately increase overall success. (Hammond, 2018)

Some key factors that contribute to website usability include:

1. **Accessibility:** It should be made available to all users, regardless of their abilities
2. **Content:** It should provide relevant and right-to-the point content
3. **Functionality:** It should have features and functions that are reliable and efficient
4. **Navigation:** The website should be easy for users to navigate.
5. **Visual Design:** It should have an appealing and uniform design

2. Literature Review

2.1. Usability evaluation methods for the web: A systematic mapping study

Silva, Rocha, and Sillitti conducted a study that explored different ways of evaluating website usability. They analyzed 364 research papers published between 2006 and 2016, and identified 15 categories of usability evaluation methods. They grouped these categories into five clusters: experimental, observational, inquiry, inspection, and combination. The experimental cluster involves conducting controlled experiments, while the observational cluster involves observing users interacting with a website. The inquiry cluster involves gathering feedback from users about their experiences, while the inspection cluster involves analyzing a website based on predefined criteria. Finally, the combination cluster involves using two or more of the above clusters. The authors noted that user testing, followed by heuristic evaluation and surveys, is the most popular technique for assessing the usability of websites. They also found that combining different evaluation methods was becoming more popular in web development. The authors recommend that the choice of usability evaluation method should depend on the research question, available resources, and user population characteristics. They also recommend that future studies look into the efficiency of various evaluation techniques and the possible benefits of combining many techniques. This study demonstrates the value of taking usability into account throughout the design process and offers important information about the various usability evaluation techniques used in web development. (Fernandez, Emilio, & Abrahao, 2011)

2.2. Age-Related Differences in Eye Tracking and Usability Performance: Website Usability for Older Adults

Amanda Hellwege and Jennifer L. Germaine (2017) aimed to explore how older adults interact with websites and how their age affects usability performance and eye-tracking patterns. To gather data, 16 older adults aged 65 and above and 16 younger adults aged 18 to 35 were recruited, and their eye-tracking was monitored. The findings of the study revealed that older adults take longer to process information on websites than younger adults. However, the study also found that older adults have fewer fixations overall, suggesting that they are more efficient in their information processing than their younger counterparts. The study also discovered that older adults struggle more with navigation and finding information on websites, but they are just as satisfied as younger adults with the websites. The authors recommend that website designers should keep in mind the differences in eye-tracking patterns and usability performance between older and younger adults. Website designers should prioritize simplicity and clarity in the design of websites for older adults, with clear navigation cues and minimal distractions. The authors also suggest that more visual cues and feedback can aid older adults in using the websites. In conclusion, the study provides valuable insights into the challenges faced by older adults when interacting with websites. It encourages website designers to consider the unique abilities and needs of older adults when designing websites, with a focus on simplicity, clarity, and clear navigation cues. By making websites more accessible to older adults, website designers can ensure that their websites are usable by a wider range of users. (Romano Bergstrom, Olmsted-Hawala, & Jans, 2013)

2.3. Products

The products that we are going to analyze in this report are two famous e-commerce websites:

1. Daraz.com.np

2. Amzon.com

3. Analysis

3.1. Daraz.com.np

3.1.1. Schneiderman's 8 Golden Rules

3.1.1.1. Strive for consistency

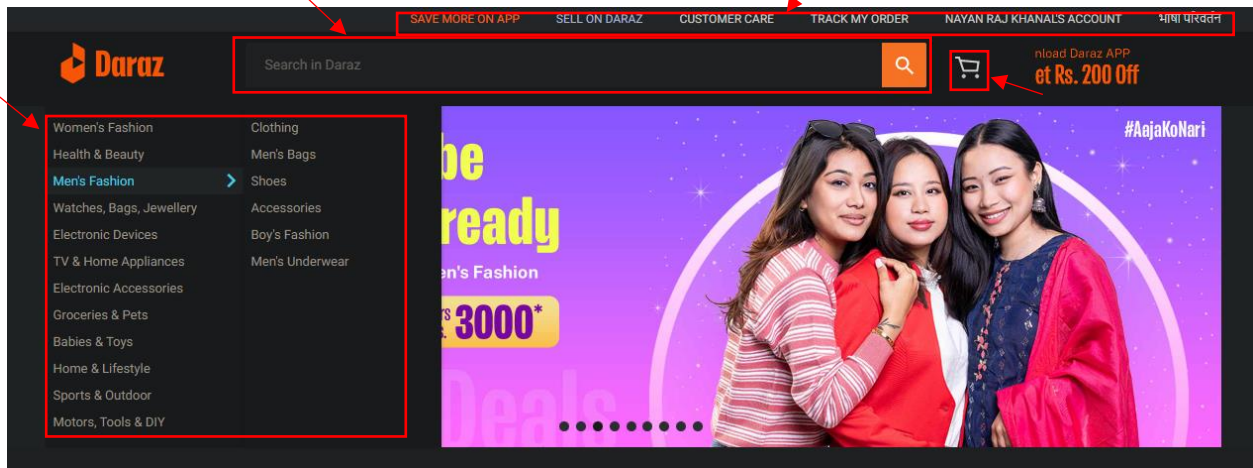


Figure 1. Strive for consistency

The website interface is mostly consistent in terms of layout and design elements.

3.1.1.2. Enable frequent users to use shortcuts

Select Payment Method

Credit/Debit Card
Credit/Debit Card

eSewa Mobile Wallet
eSewa Mobile Wallet

IME Pay
IME Pay Mobile Wallet

Cash On Delivery
Cash On Delivery

VISA

* Card number

Card number

* Name on card

Name on card

* Expiration date

MM/YY

* CVV

CVV

☒ **Save Card**
I acknowledge that my card information is saved in my Daraz account for subsequent transactions.

Pay Now

Figure 2. Enable frequent users to use shortcuts

Daraz lets users to have the option to save their card information. This enables them to check out more quickly when they make their next transaction.

3.1.1.3. Offer informative feedback

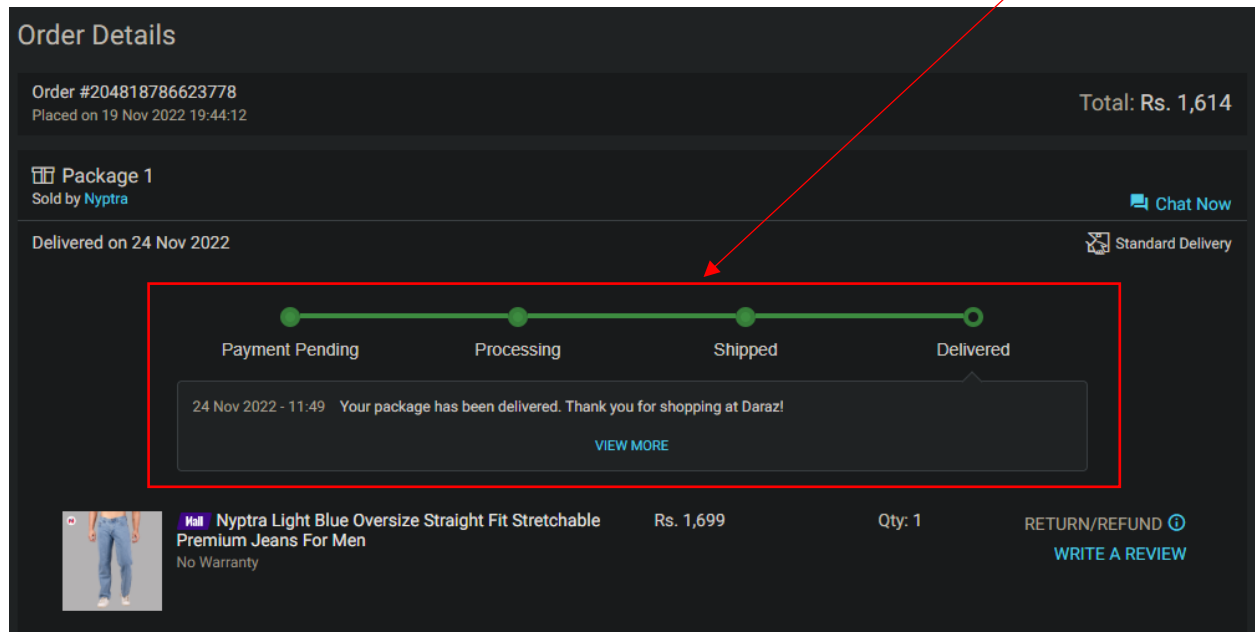


Figure 3. Offer informative feedback

Daraz provides customer with real-time detailed status update for every step of their order.

3.1.1.4. Design dialog to yield closure

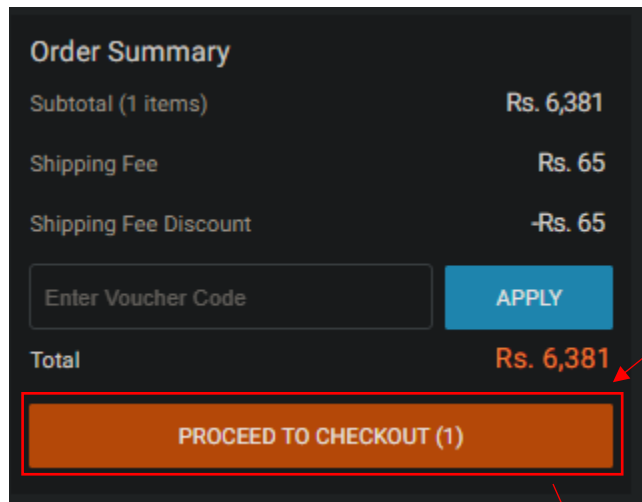


Figure 4. Design dialog to yield closure (i)

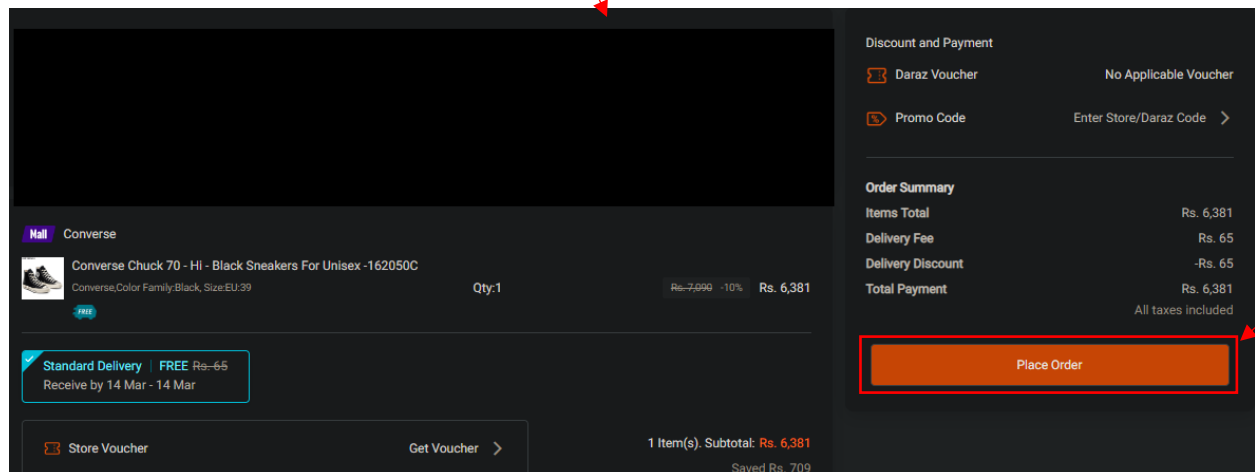


Figure 5. Design dialog to yield closure (ii)

Daraz provides a set of simple-to-understand and-follow instructions during the checkout process, making it straightforward for customers to complete their purchases.

3.1.1.5. Offer simple error handling

The screenshot displays the 'Create your Daraz Account' form. It features three input fields with error messages: 'Phone Number*' with the message 'Please enter a valid phone number.', 'Full name*' with 'The name length should be 2 - 50 characters.', and 'Password*' with 'The length of Password should be 6-50 characters.'. Each field has a red border and a red arrow pointing to it. The form also includes a 'Slide to get SMS Code' button, a 'SIGN UP' button, and a checkbox for receiving SMS offers. At the bottom, there are links for 'Terms of Use' and 'Privacy Policy', and buttons for signing up with Facebook or Google.

Create your Daraz Account Already member? [Login here.](#)

Phone Number*
N
Please enter a valid phone number.

Full name*
N
The name length should be 2 - 50 characters.

Password*
N
The length of Password should be 6-50 characters.

Slide to get SMS Code

☒ I'd like to receive exclusive offers and promotions via SMS

SIGN UP

By clicking "SIGN UP", I agree to Daraz's [Terms of Use](#) and [Privacy Policy](#)

Or, sign up with

Sign up with Email

f Facebook G+ Google

Figure 6. Offer simple error handling

Daraz provides a detailed error message to the user explaining the issue and gives recommendations on how to correct it.

3.1.1.6. Permit easy reversal of actions

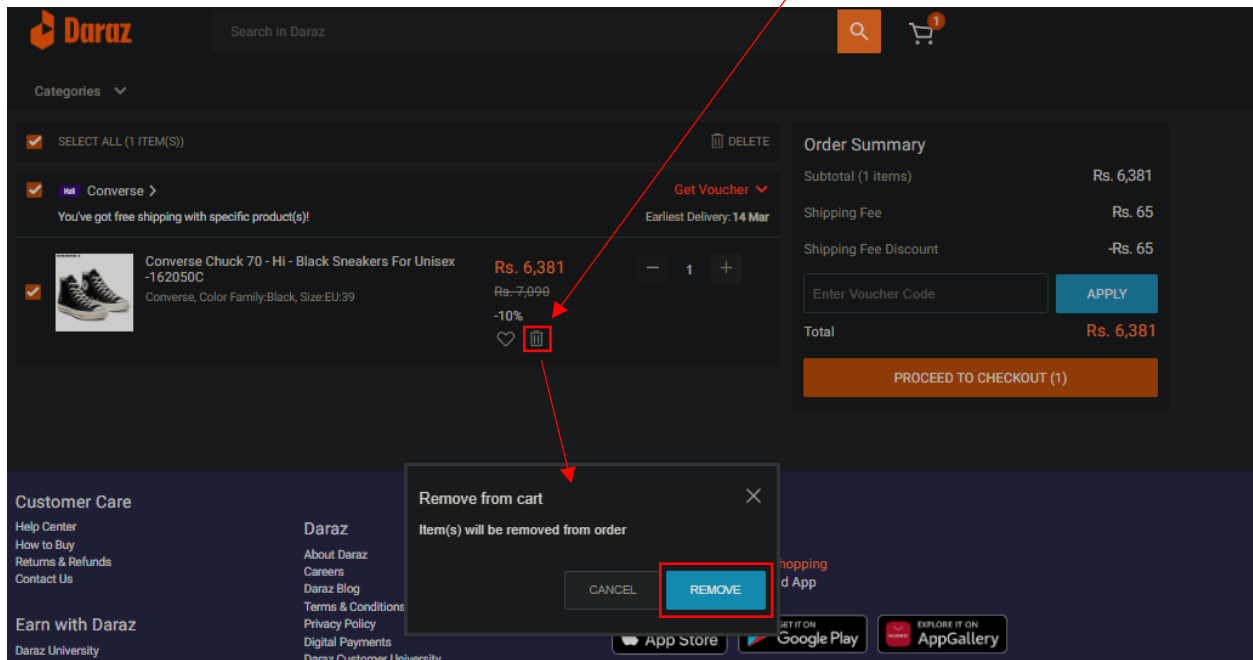


Figure 7. Permit easy reversal of actions (i)

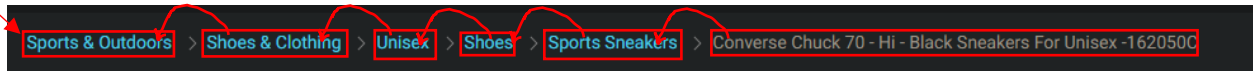


Figure 8. Permit easy reversal of actions (ii)

Daraz allows users to remove items from their shopping cart with ease. It also allows user to go back in categories with a click of a label.

3.1.1.7. Support internal locus of control

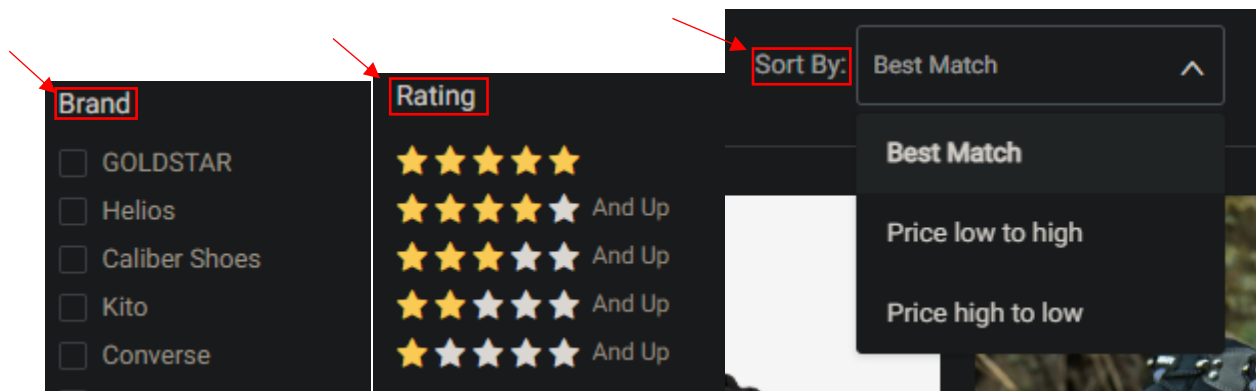


Figure 9. Support internal locus of control

Daraz allows its users to narrow down their search results by using a filter option that enables them to choose from various criteria, including price, brand, and category.

3.1.1.8. Reduce short-term memory load

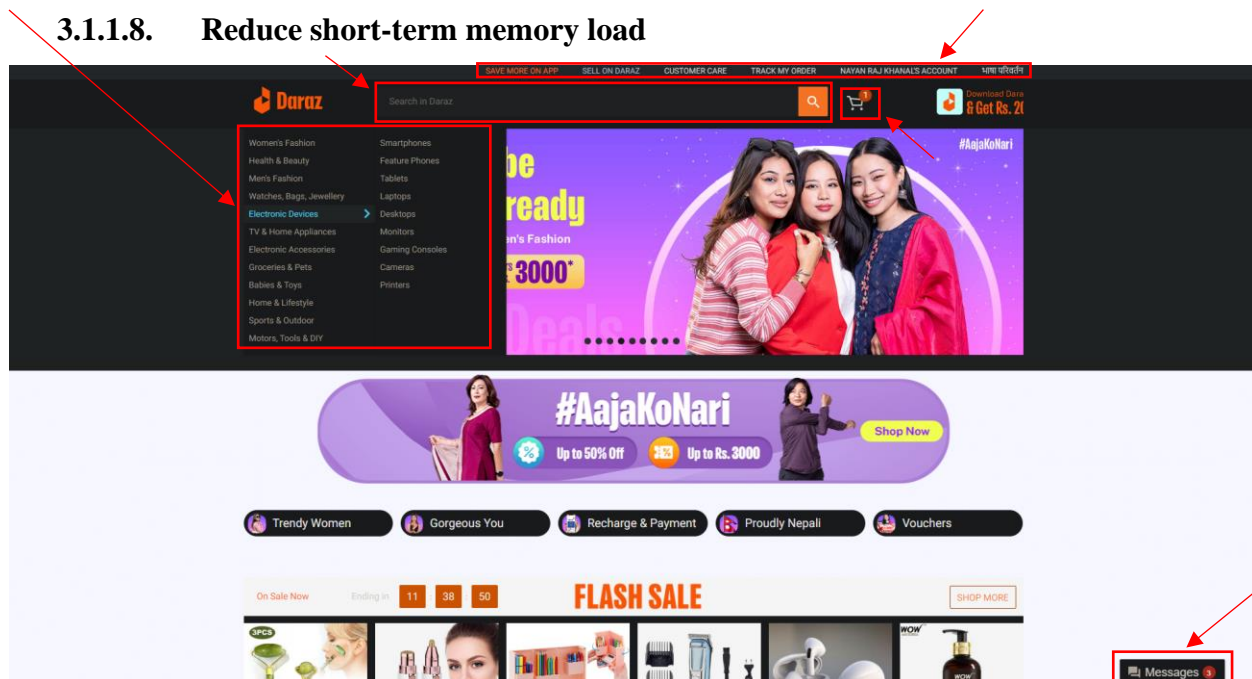


Figure 10. Reduce short-term memory load

Daraz has a design that is partially simple, making it easy for users to navigate and find products and information.

3.1.2. Nielsen's 10 Usability Heuristics

3.1.2.1. Visibility of system status

The point has already been analyzed.

3.1.2.2. Match between system and the real world



Figure 11. Match between system and the real world

Some elements do follow the heuristic while others do not. Daraz's website has a search bar, category menu that feel familiar for e-commerce users. However, the way products are listed and categorized, may not meet users' expectations. Additionally, the website's use of unfamiliar language may cause confusion for some users.

3.1.2.3. User control and freedom

The point has already been analyzed.

3.1.2.4. Consistency and standards

The point has already been analyzed.

3.1.2.5. Error prevention

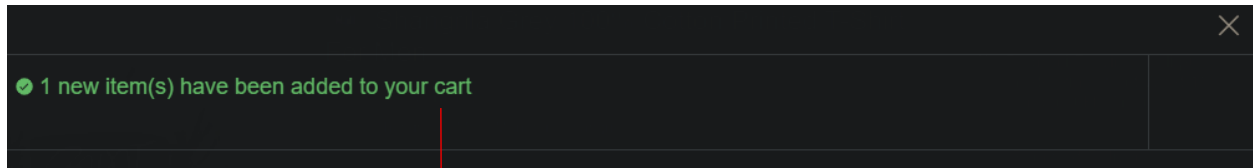


Figure 12. Error prevention (i)

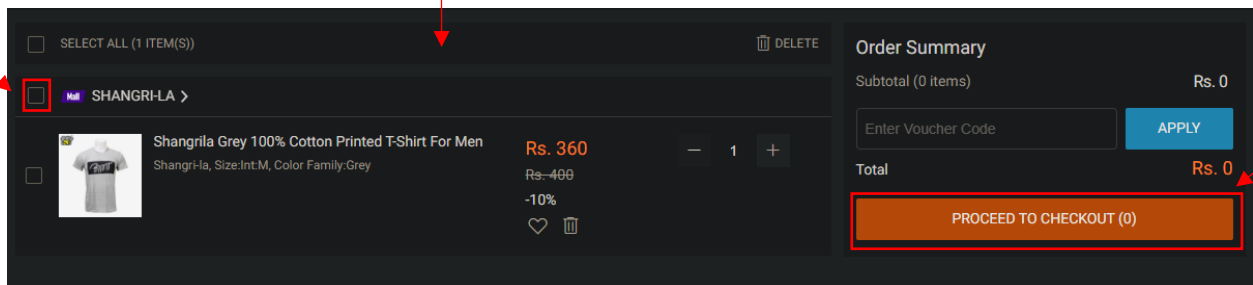


Figure 13. Error prevention (ii)

Daraz allows users to preview their order before placing or removing it. It also provides clear instructions for filling out forms.

3.1.2.6. Recognition rather than recall

The point has already been analyzed.

3.1.2.7. Flexibility and efficiency of use

The point has already been analyzed.

3.1.2.8. Aesthetic and minimalist design:



Figure 14. Aesthetic and minimalist design

It's debatable whether Daraz follows minimalist design principles or not. Some might argue that the website has too much visual content and features. However, Daraz does use a consistent color scheme and layout and white space to enhance the look. So, while it may not be a pure minimalist design, it still values visual consistency and cleanliness.

3.1.2.9. Help users recognize, diagnose, and recover from errors

The point has already been analyzed.

3.1.2.10. Help and documentation

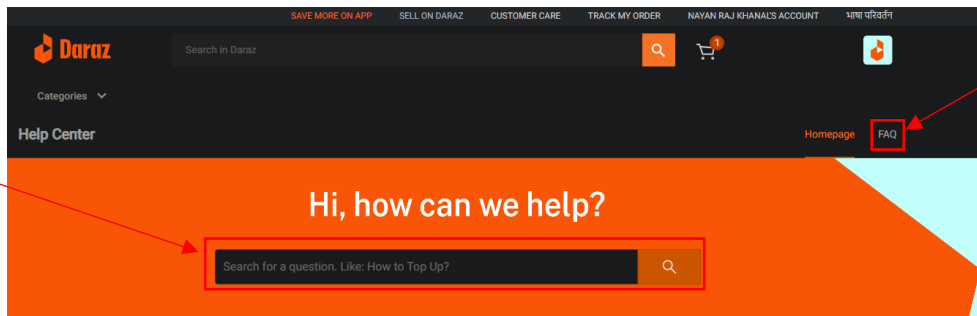


Figure 15. Help and documentation (i)

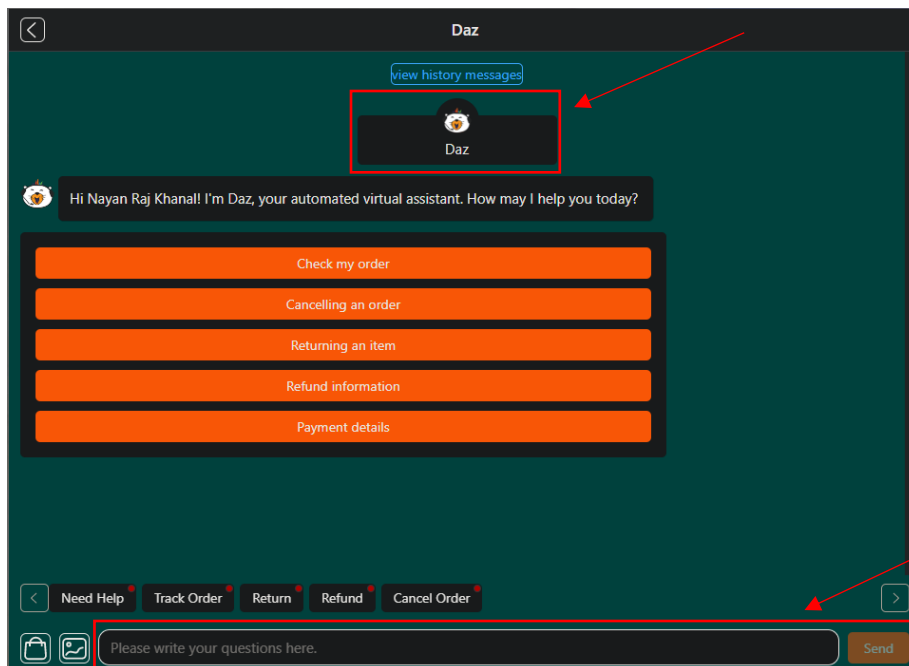


Figure 16. Help and documentation (ii)

Daraz provides user with a help center that includes FAQs, articles. The website also offers customer support through email, phone, and live chat.

3.2. Amazon.com

3.2.1. Schneiderman's 8 Golden Rules

3.2.1.1. Strive for consistency

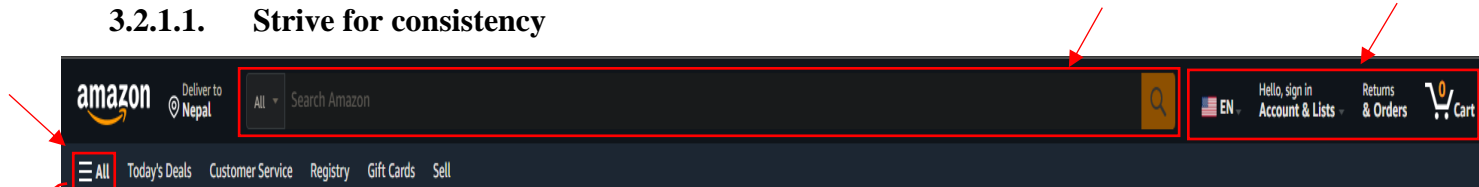


Figure 17. Strive for consistency (i)

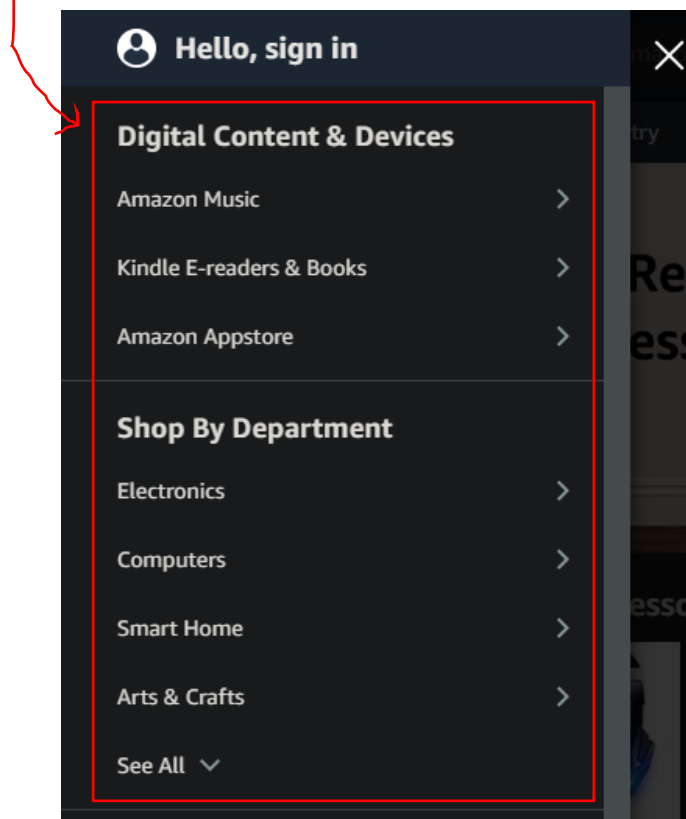


Figure 18. Strive for consistency (ii)

Amazon has a website interface that is mostly consistent in terms of layout and design elements.

3.2.1.2. Enable frequent users to use shortcuts

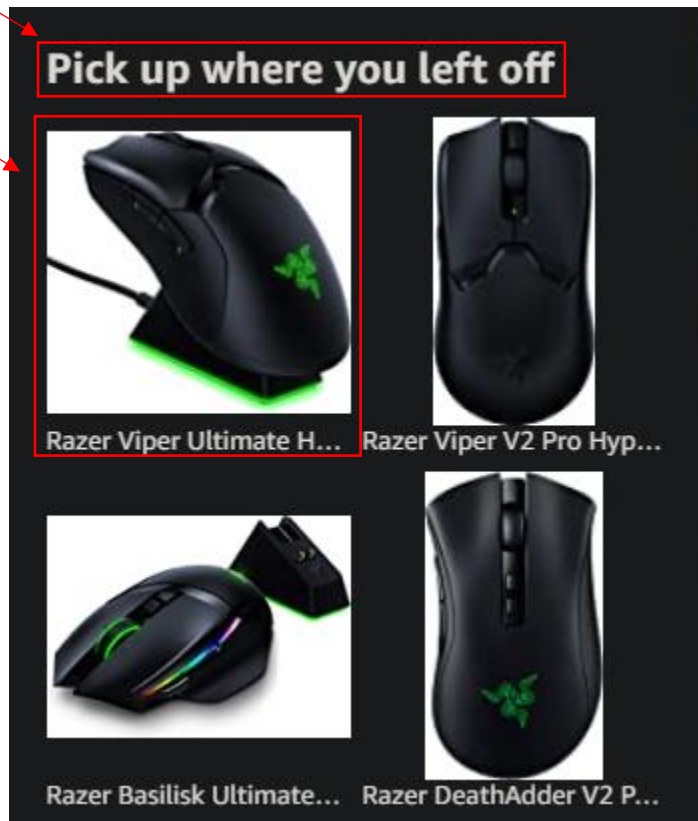


Figure 19. Enable frequent users to use shortcuts

Amazon allows users to continue their purchase of the specific item, also it suggests items similar to the original purchase.

3.2.1.3. Offer informative feedback

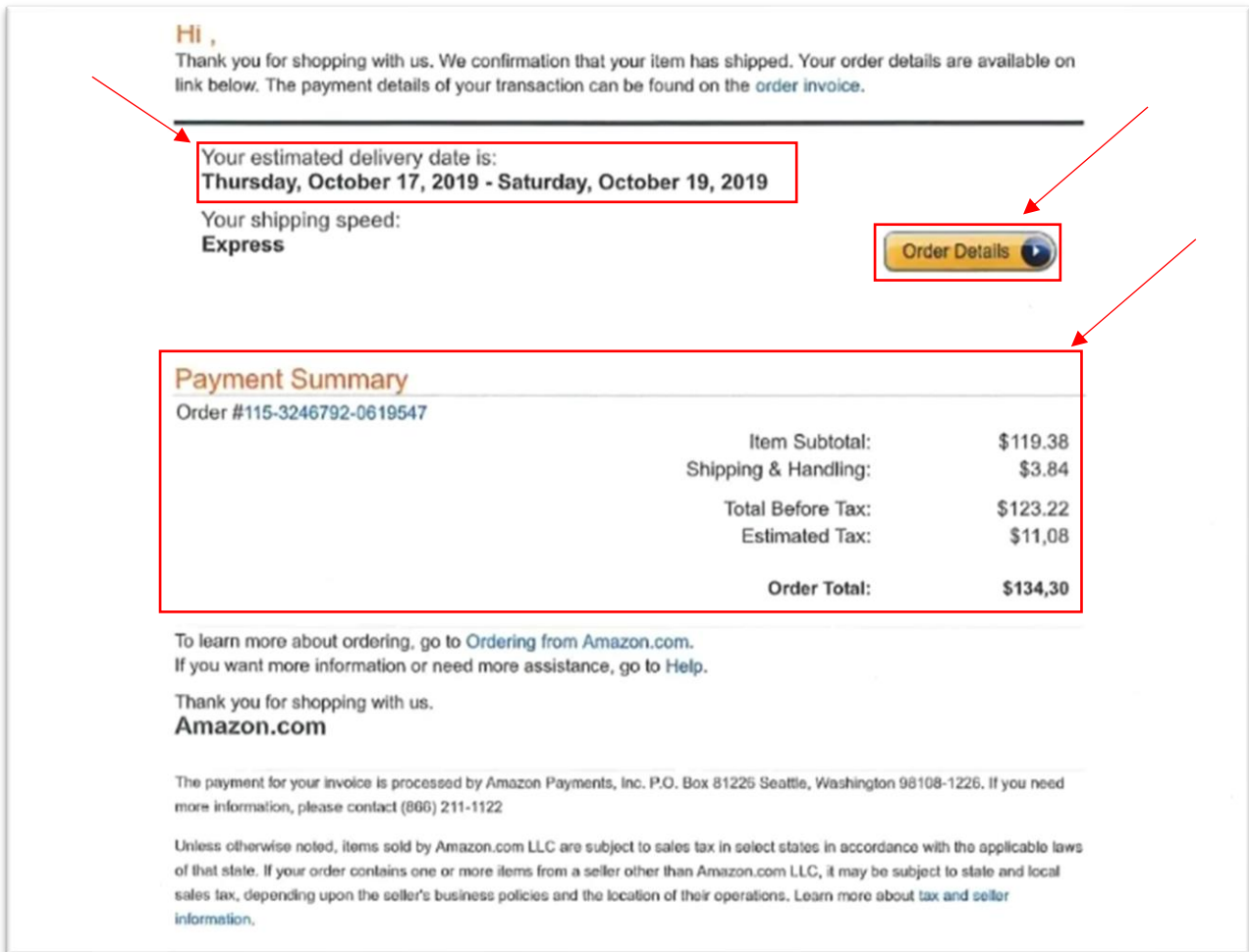


Figure 20. Offer informative feedback

Upon ordering an item from Amazon, it sends a confirmation email to the user with details of the order, estimated delivery date, and other relevant information.

3.2.1.4. Design dialog to yield closure

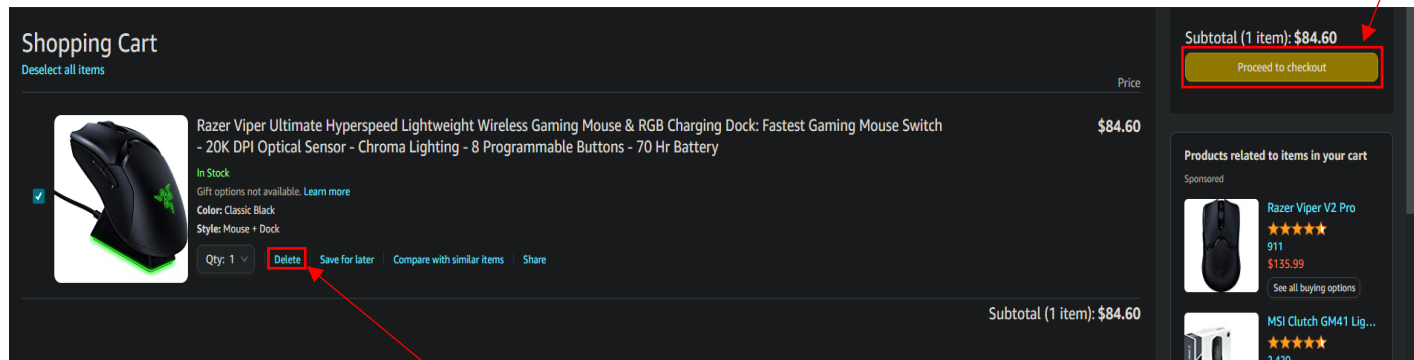
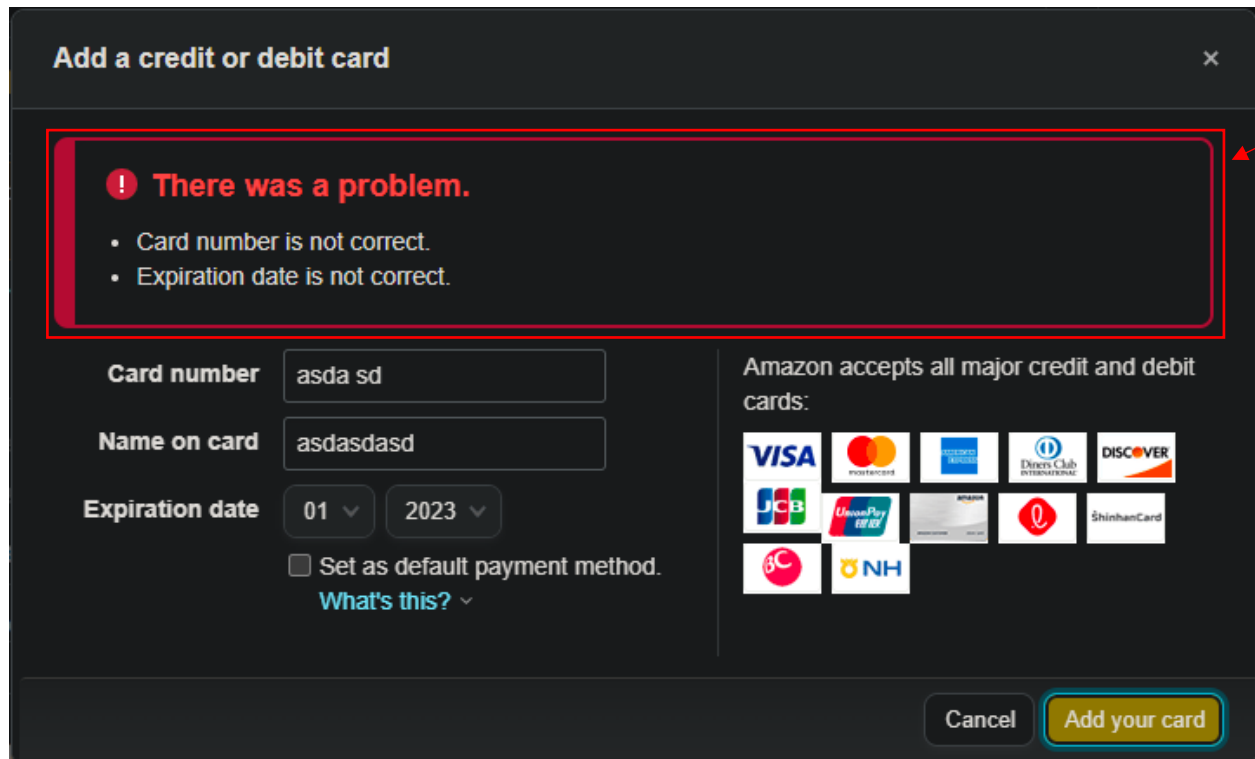


Figure 21. Design dialog to yield closure

Amazon provides clear and detailed summary of user's order, with option to edit or remove the item before finalizing the purchase.

3.2.1.5. Offer simple error handling



The screenshot shows a dark-themed modal window titled "Add a credit or debit card" with a close button (X) in the top right corner. A red rectangular box highlights an error message area at the top of the form. Inside this box, a red exclamation mark icon is followed by the text "There was a problem." Below this, two bullet points list the errors: "Card number is not correct." and "Expiration date is not correct." A red arrow points from the right side of the image towards the error message box. Below the error box, the form contains input fields for "Card number" (containing "asda sd"), "Name on card" (containing "asdasdasd"), and "Expiration date" (with dropdowns for "01" and "2023"). There is also a checkbox for "Set as default payment method." and a link "What's this?" with a dropdown arrow. To the right of the input fields, the text "Amazon accepts all major credit and debit cards:" is followed by a grid of 12 card logos: VISA, Mastercard, American Express, Diners Club International, DISCOVER, JCB, UnionPay, Amazon Pay, and ShinhanCard. At the bottom right of the modal, there are two buttons: "Cancel" and "Add your card" (which is highlighted with a blue border).

Figure 22. Offer simple error handling

Amazon provides clear and concise error messages to the user, describing the issue and providing potential solutions.

3.2.1.6. Permit easy reversal of actions

Your Orders [Search Orders](#)

[Orders](#) [Buy Again](#) [Open Orders](#) [Cancelled Orders](#)

46 orders placed in past 6 months



ORDER PLACED	TOTAL	SHIP TO	ORDER #
12 June 2020	₹2,499.00	Amlan Dutta	402-7440822-9270705
			Order Details Invoice
Returning to seller			Track package
 Salbuy 18° Selfie Ring Light with Remote and 3888 Extendable Tripod Stand & Flexible Phone Holder for Live Stream/Makeup, Desktop Led Camera Ringlight for YouTube TIK-Tok Video ₹2,499.00			Return or replace items
			Share gift receipt
			Leave seller feedback
			Write a product review
			Archive order
<hr/>			
ORDER PLACED	TOTAL	SHIP TO	ORDER #
12 June 2020	₹637.00	Amlan Dutta	402-0304453-0797152
			Order Details Invoice
Arriving Wednesday			Track package
 Online Quality Store Amla Reetha Shikakai, Bhingraj and Hibiscus Powder, 200g, Multicolor			Request cancellation

Figure 23. Permit easy reversal of actions

With a click of a button Amazon allows user to return, replace, cancel their purchase.

3.2.1.7. Support internal locus of control

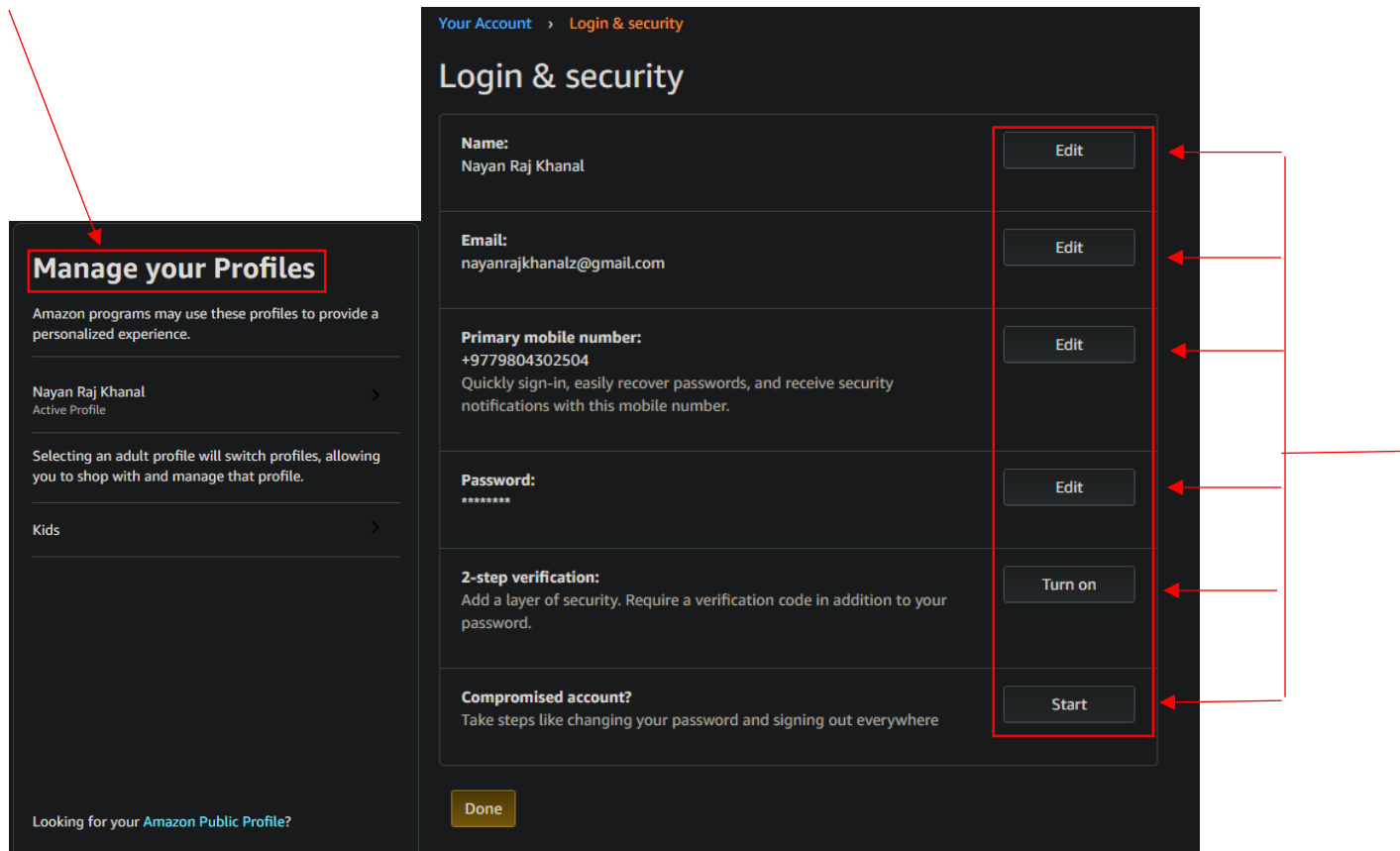


Figure 24. Support internal locus of control

Users can change their preferences and settings on Amazon.

3.2.1.8. Reduce short-term memory load

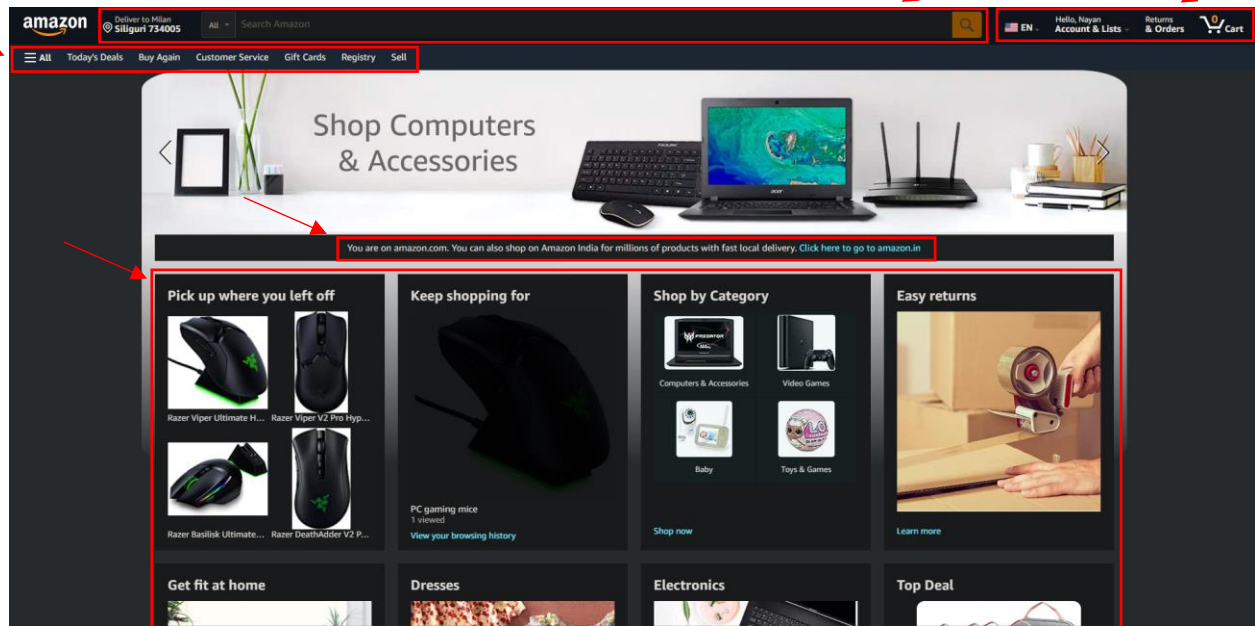


Figure 25. Reduce short-term memory load

Amazon provides clear and concise labels and instructions, clear indications of the items added to the cart, and the total cost. The search function also provides relevant and specific results.

3.2.2. Nielsen's 10 Usability Heuristics

3.2.2.1. Visibility of system status

The point has already been analyzed.

3.2.2.2. Match between system and the real world

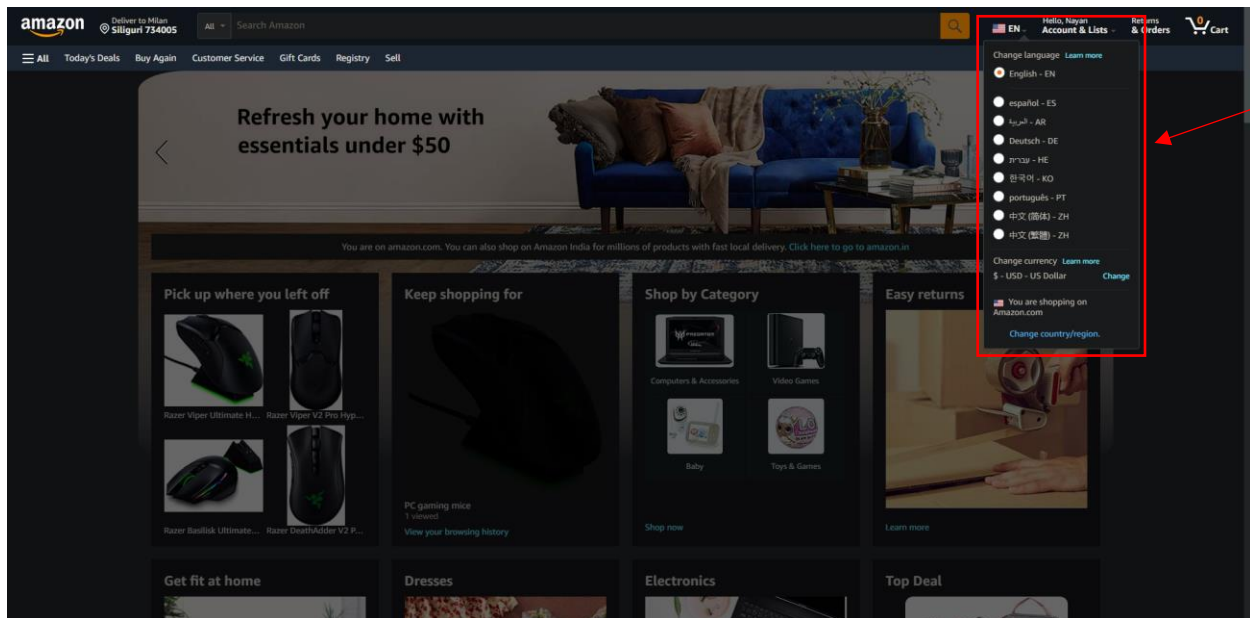


Figure 26. Match between system and the real world

Amazon's design, language and terminologies are familiar and commonly used in e-commerce industry.

3.2.2.3. User control and freedom

The point has already been analyzed.

3.2.2.4. Consistency and standards

The point has already been analyzed.

3.2.2.5. Error prevention

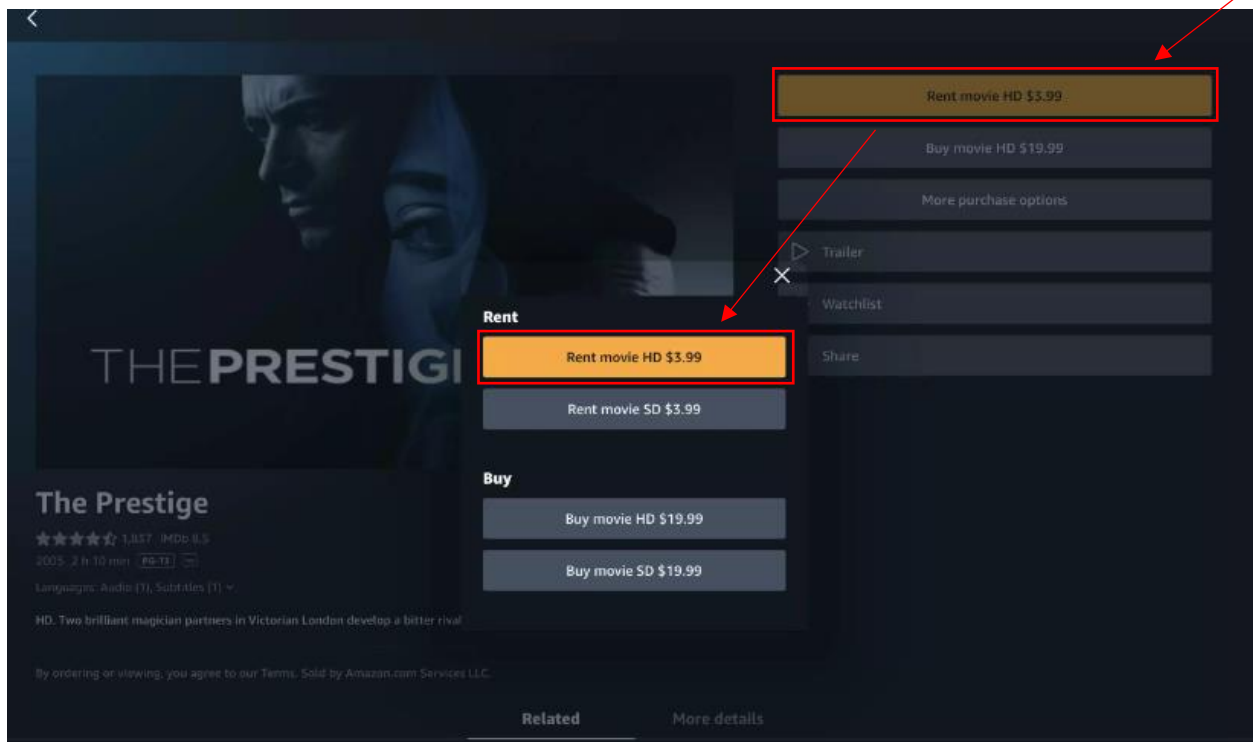


Figure 27. Error prevention

Well labelled buttons, links prevent users from making mistakes. Amazon also provides helpful feedbacks so that users don't jump and make accident purchases.

3.2.2.6. Recognition rather than recall

The point has already been analyzed.

3.2.2.7. Flexibility and efficiency of use

The point has already been analyzed.

3.2.2.8. Aesthetic and minimalist design

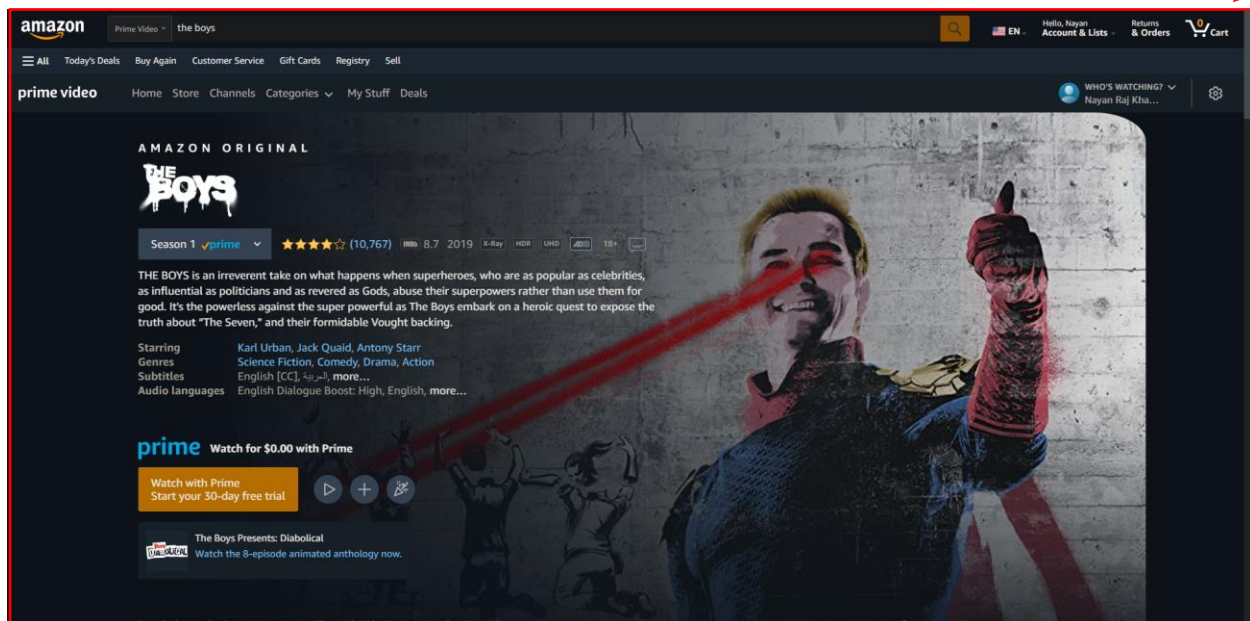


Figure 28. Aesthetic and minimalist design

Amazon follows clean and simple design with focus on products. It also has consistent colour scheme. However, it could improve in terms of aesthetic by reducing clutter.

3.2.2.9. Help users recognize, diagnose, and recover from errors

The point has already been analyzed.

3.2.2.10. Help and documentation

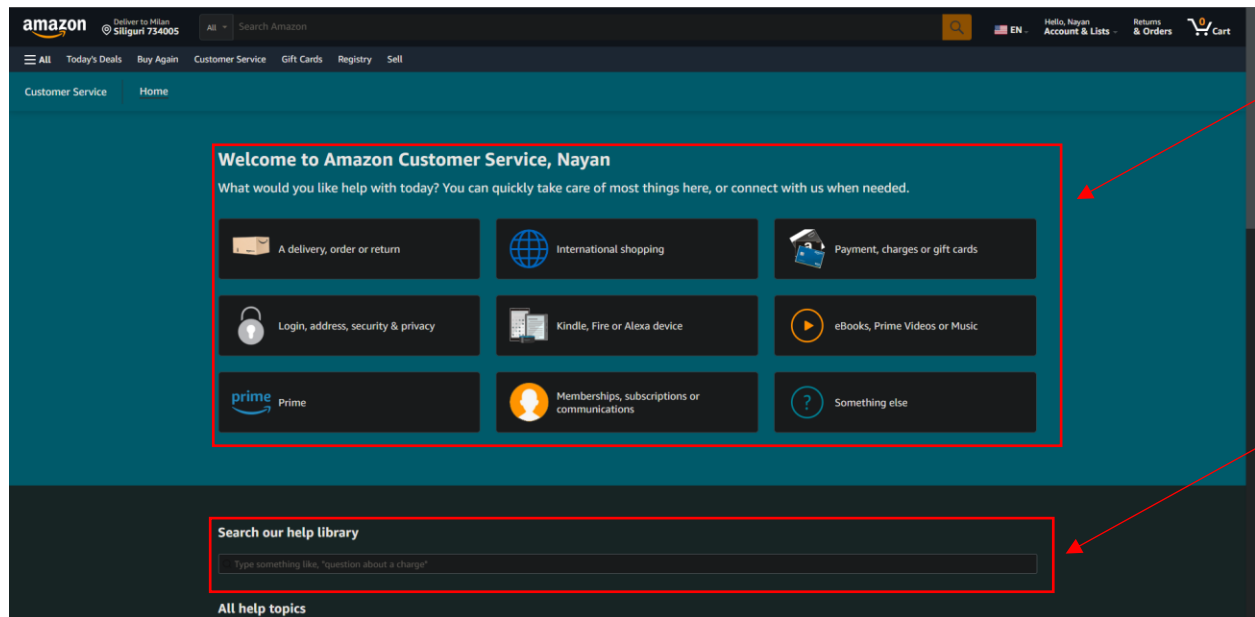


Figure 29. Help and documentation

Amazon has a comprehensive help and support system that includes FAQs, topics. In addition, the products have user reviews which simplifies the decision for potential buyers.

4. Conclusion

A user-friendly website is essential for a positive user experience, customer satisfaction, and a successful product or system. Multiple factors determine website usability, including accessibility, content, functionality, navigation, and visual design. Designers can evaluate website usability using different methods, such as user testing, heuristic evaluation, surveys, or a combination of methods. When designing websites, designers should prioritize simplicity, clarity, and straightforward navigation to make them easy to use for everyone, including older adults.

Two e-commerce websites, Daraz and Amazon, were analyzed using Schneiderman's 8 Golden Rules. Both websites had consistent layouts and design elements, making them easy to navigate. They provided informative feedback and shortcuts for frequent users. During the checkout process, both websites broke down the steps in a way that was easy to understand, simplifying the purchase process. However, Amazon outperformed Daraz in visual design, offering a more visually appealing and cohesive design.

In conclusion, I believe designing a user-friendly interface is crucial for its success. Designers should consider different factors that contribute to usability and use appropriate evaluation methods to ensure that the interface is easy to use. They should also keep the unique abilities and needs of different users in mind, especially older adults, to create an accessible interface for everyone.

5. References

- Fernandez, A., Emilio, I., & Abrahao, S. (2011). Usability evaluation methods for the web: A systematic mapping study. *Information and Software Technology*, 789-817.
- Hammond, R. (2018, June 5). *The 7 Most Important Website Usability Factors*. Retrieved from Tech.co: <https://tech.co/news/important-website-usability-factors-2017-05>
- IxD. (n.d, n.d n.d). *Usability*. Retrieved from Interaction Design Foundation: <https://www.interaction-design.org/literature/topics/usability>
- Romano Bergstrom, J. C., Olmsted-Hawala, E. L., & Jans, M. E. (2013). Age-Related Differences in Eye Tracking and Usability Performance: Website Usability for Older Adults. *International Journal of Human-Computer Interaction*, 541-548.

6. Appendix

Link:

https://www.figma.com/file/q52fhrE1ZLqjPnjwMQbqiQ/2227486_NayanRajKhanal_IceBreakerWireframe?node-id=0%3A1&t=46xSUMESVsOaFrOr-1

6.1. Explore

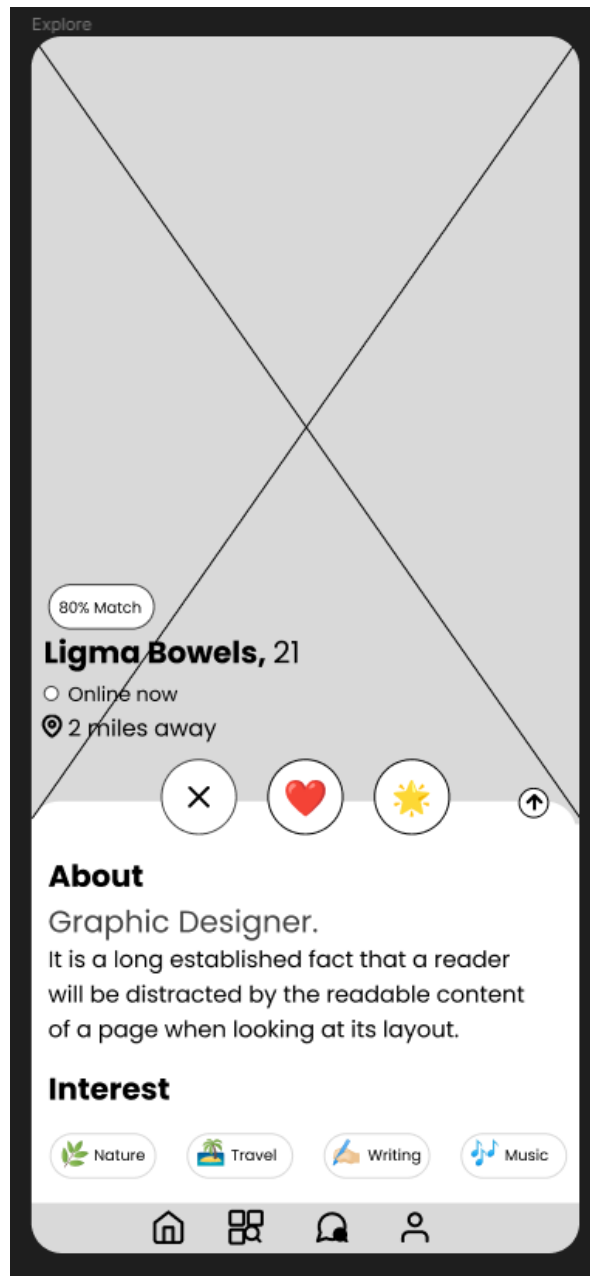


Figure 30. Explore

6.2. User Profile



Figure 31. User Profile

6.3. Edit Profile

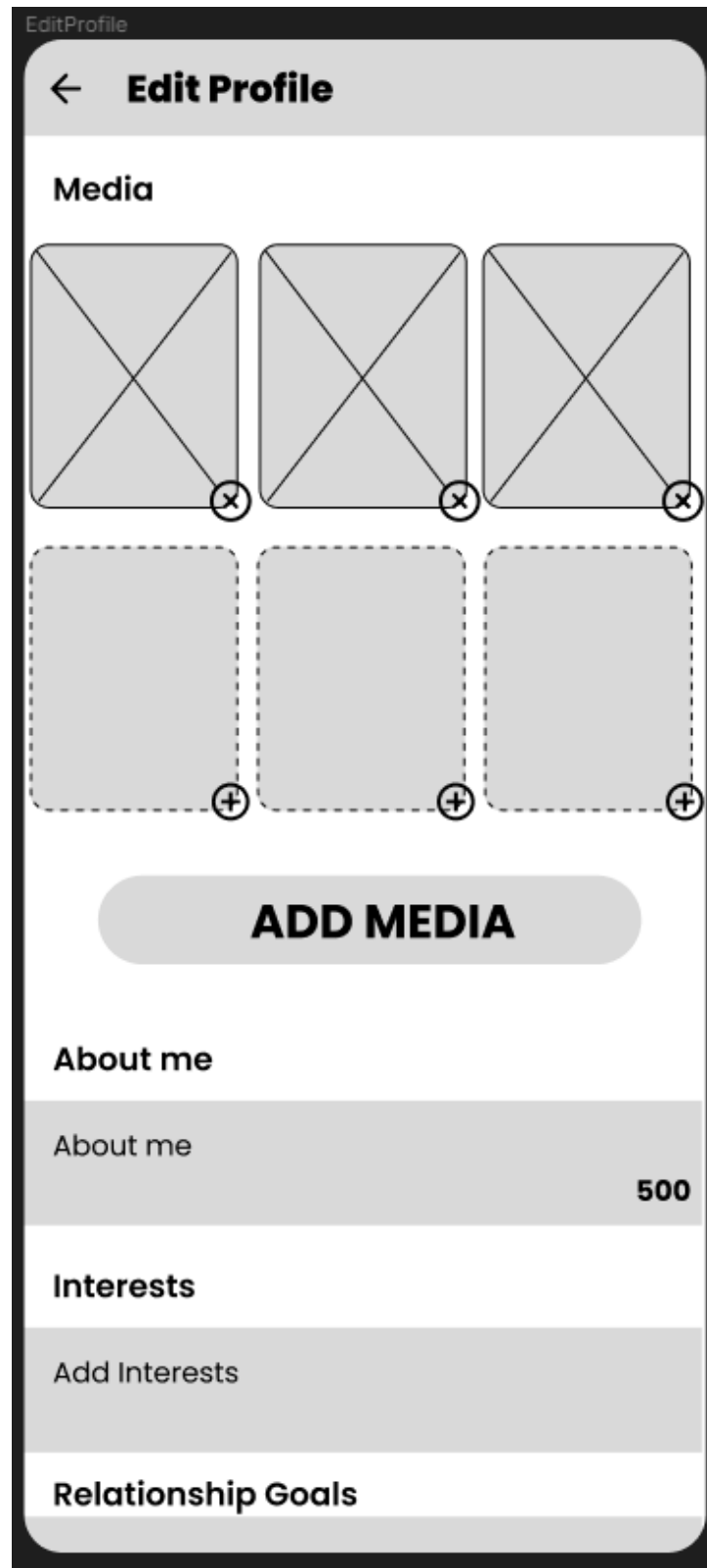


Figure 32. Edit Profile

6.4. Settings

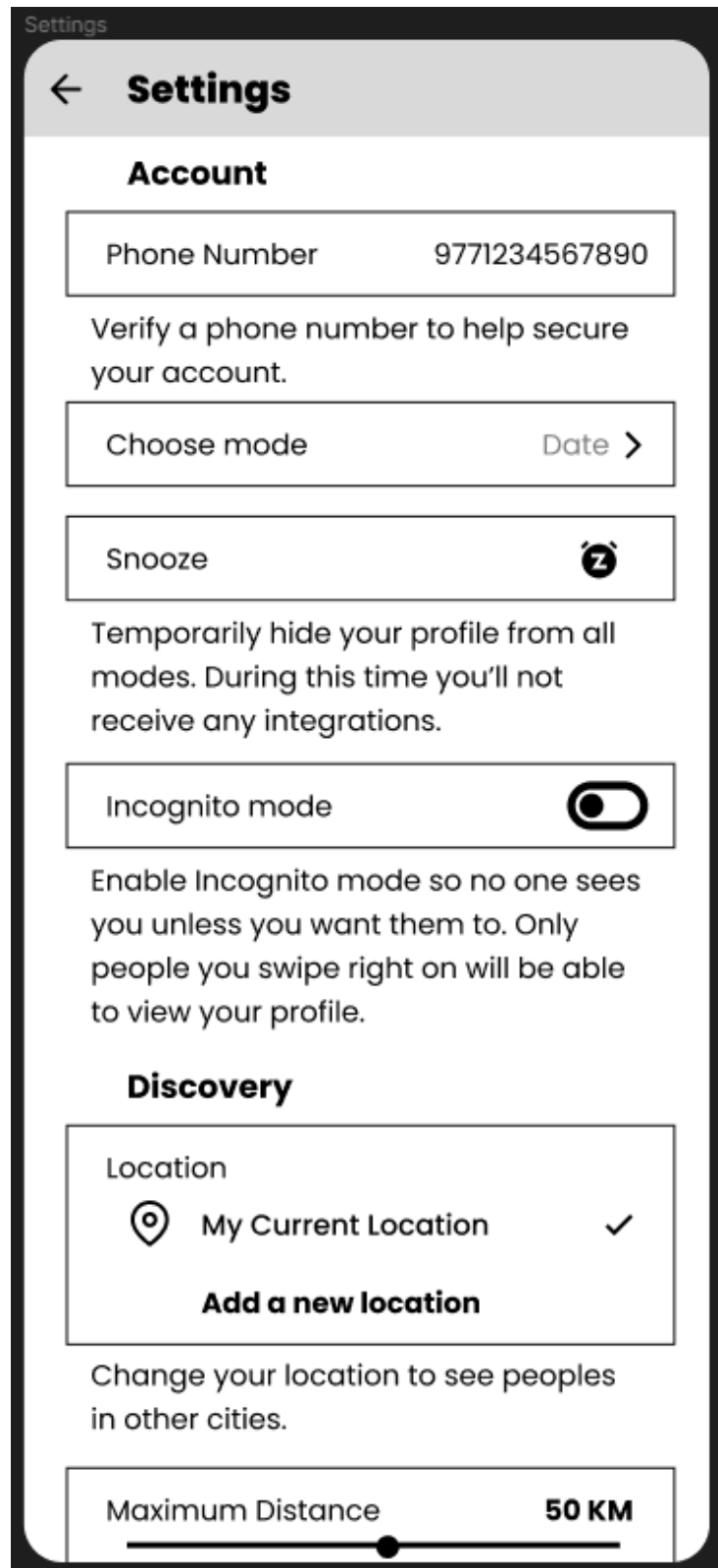


Figure 33. Settings

6.5. Security



Figure 34. Security

6.6. Chat

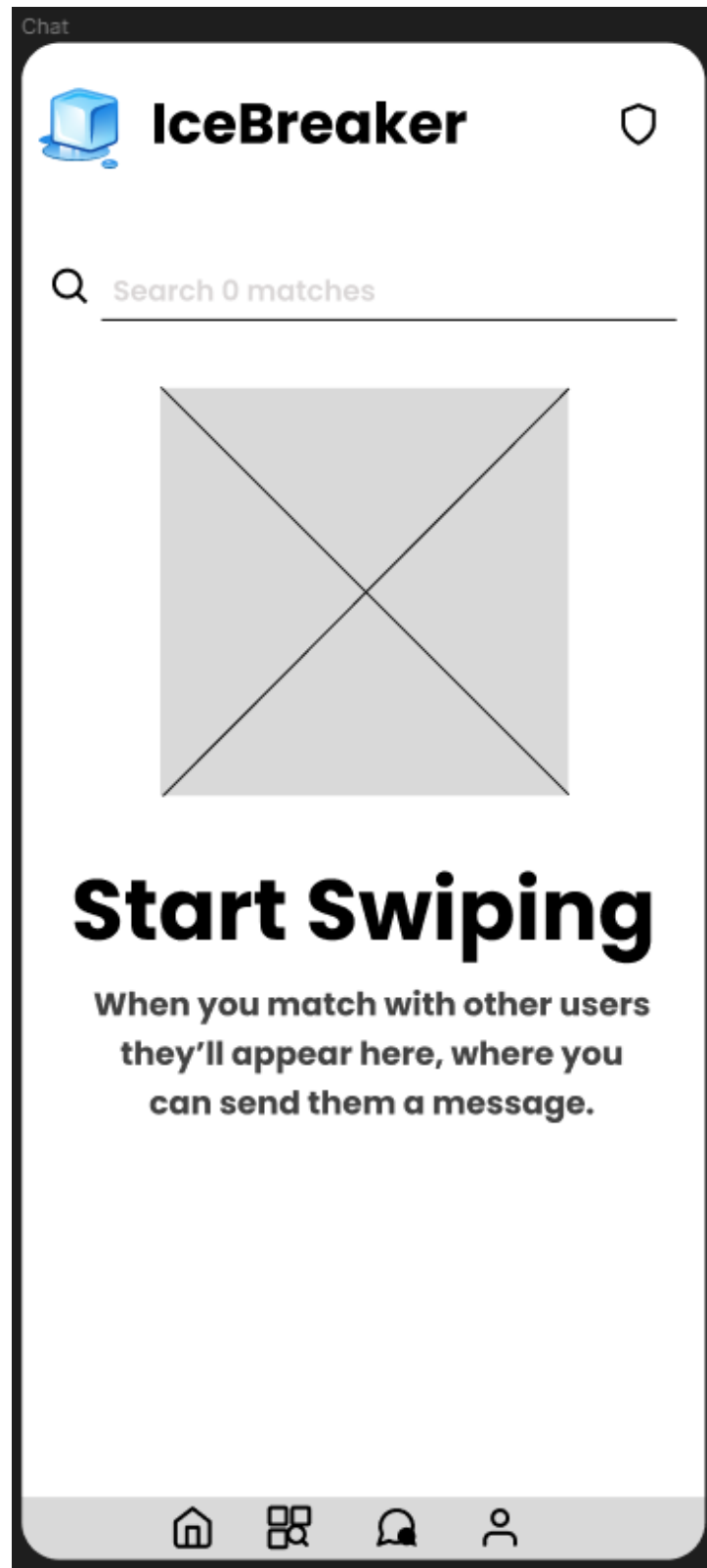


Figure 35. Chat

6.7. Schedule Meetups

Schedule Meetups

X

Schedule A Meetup

Choose your desired date and time
and send invitation to your special one.

T

T

Title

Meetup with Bowels

Date

February 14, 2069

>

Time

06:09 PM

>

Location

Herald College
Kathmandu

Open Maps

Message

Enter your message

Notify

2 hours before

>

Send Request

Figure 36. Schedule Meetups

6.8. Redeem Streaks

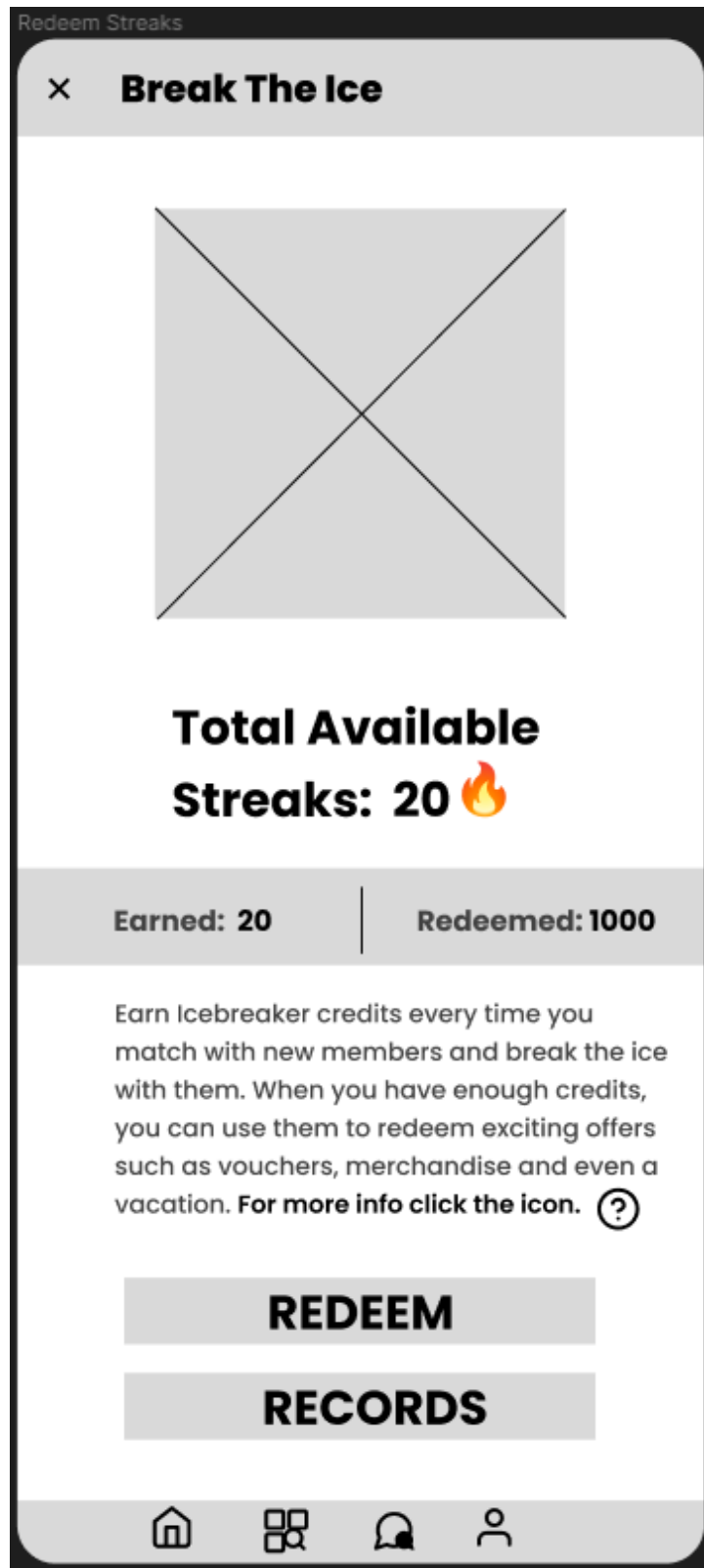


Figure 37. Redeem Streaks