



Human Computer Interaction – 5CS020

Report on Usability in Web Application

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Abstract

This study examines the use of usability principles in two well-known web apps, Webtoon, and YouTube, utilizing Schneiderman's 8 Golden Rules and Nielsen's Heuristics. By analyzing individual features and design decisions, we may name usability strengths and areas for improvement. The findings emphasize the relevance of usability in boosting user enjoyment and usability in online apps, giving valuable insights or designers and developers seeking to create more user-friendly digital experiences.

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1. Introduction

1.1 Usability in Web Application

One of the most important aspects of a Web application's quality is its usability. Usability is the extent to which consumers can interact with and use online programs efficiently and effectively. Simple user interfaces, efficient job completion, and overall user satisfaction are some of the topics it tackles. It has drawn a lot of attention lately and its now thought to be crucial to the creation of Web apps. Thus, defining strategies to guarantee usability is one of the current aims of Web engineering research. Additionally, because the industry understands the need of including usability tactics early in the development process to ensure that web applications are usable both before and after their development, usability is currently receiving a lot of attention. Using these tactics lowers expenses with a high cost-benefit ratio since they lessen the need for programme adjustments after they are implemented, according to certain studies. (Matera, 2006)

1.2 Importance of Usability in Web Application

The importance of usability in online applications cannot be overstated. A website must be more than simply functional; it also needs to have a compelling corporate brand identity, A user-friendly style, and a clear, concise content organization. Together, these elements offer a seamless user experience that simplifies navigation and interaction. The user-friendliness factor is particularly crucial since visitors might not be conversant with the vocabulary or style of a website. Therefore, it is imperative that user comprehension be considered while designing all aspects of the website, such as menu items, links, and subdirectories. With the use of words, images, or deliberate positioning, each link should serve an instructive and illustrative purpose by making it clear what functionality or information it pertains to. Prioritizing usability helps web developers make sure that consumers can quickly and properly evaluate the alternatives on the website, which both leads to increased user happiness and retention. A well-designed website is a strong marketing tool that improves a business's image by raising the feelings of authenticity and dependability among potential consumers. Investing in usability is therefore crucial to enhancing user experience and boosting organizational success in the internet's competitive environment. (Dreamkatcha, 2023)

2. Literature Review

2.1 On Usability

The literature review explores a wide range of usability assessment techniques, ranging from more traditional approaches like heuristics evaluation and cognitive walkthroughs to more contemporary ones like eye-tracking and remote usability testing. Each method is thoroughly investigated to find its benefits, drawbacks, and suitability for different scenarios. The study emphasizes how important it is to select the best strategy based on the project's goals, the resources at hand, and the characteristics of the users. Along with discussing the shortcomings and challenges of each strategy, it emphasizes how continuously innovate and adapt to match shifting client needs and technological advancements. (Fernandez, 2008)

2.2 On Usability in Web Application

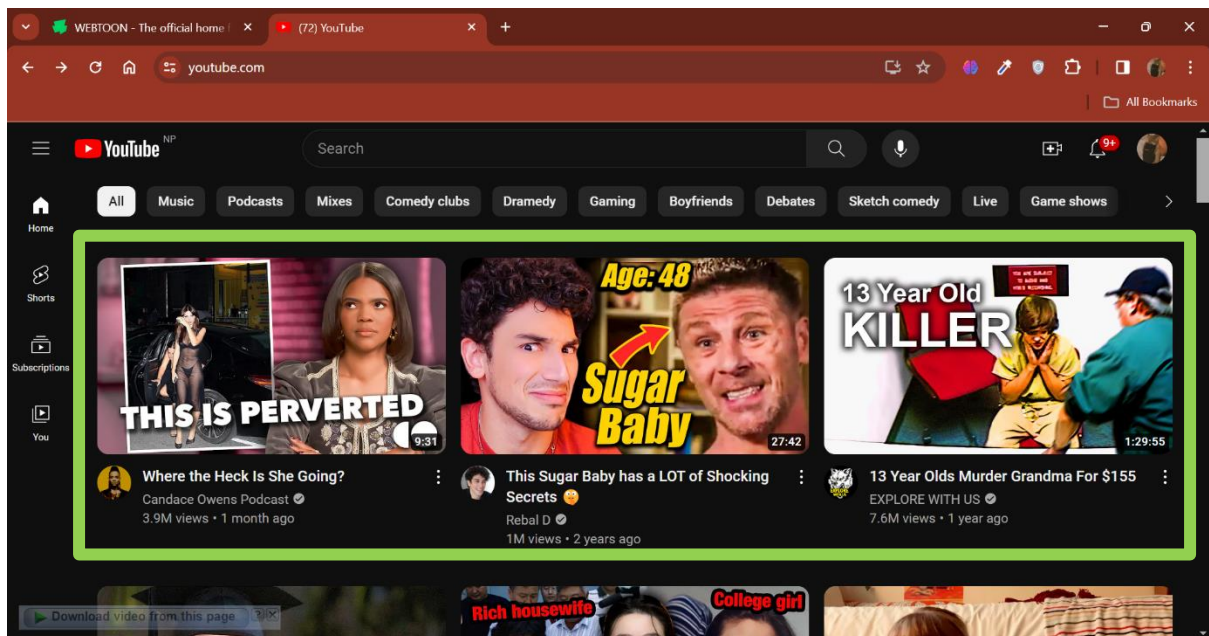
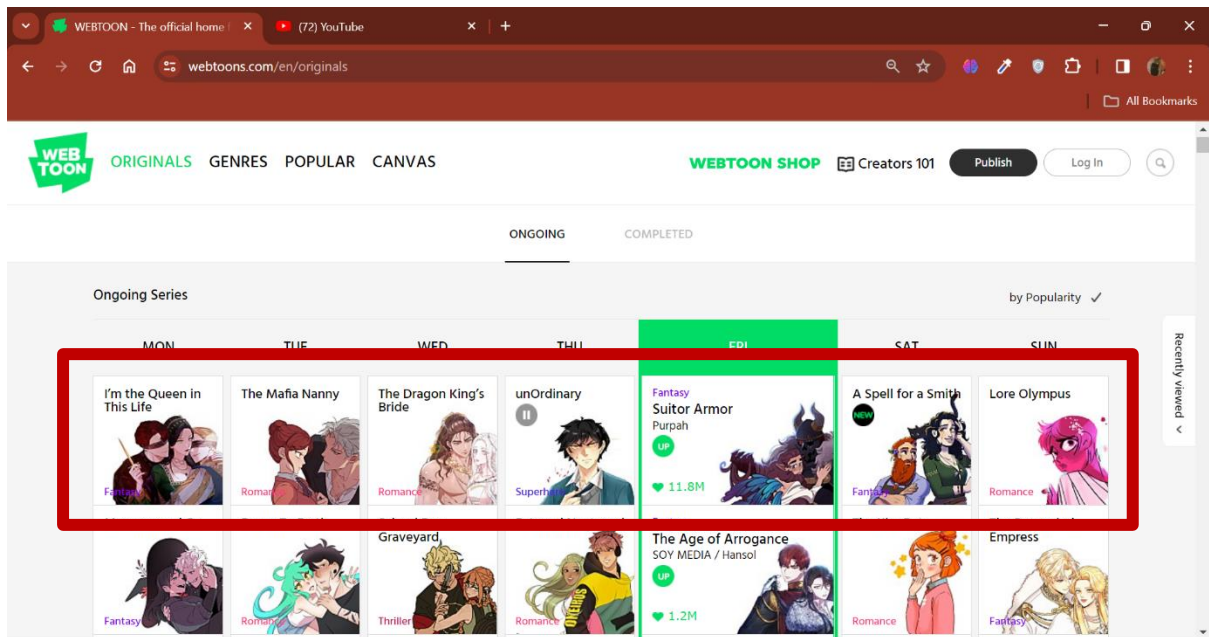
As they underline the critical role that usability plays in the development process, Insfran and Fernandez's study goes in-depth with the methods and techniques used to evaluate usability. The analysis highlights how critical it is to include these evaluations from the outset of the design and development process rather than treating usability as an add-on. When usability tests are conducted early in the development process, developers may get valuable insights into the requirements and preferences of users and build websites that are more effective and efficient designs by giving usability concerns top priority and resolving them all. Consumer satisfaction and engagement levels rise when websites are tailored to their needs. (Fernandez, 2008)

3. Analysis of two Web Applications

- Webtoon
- YouTube

3.1 Strive for consistency || Consistency and Standards.

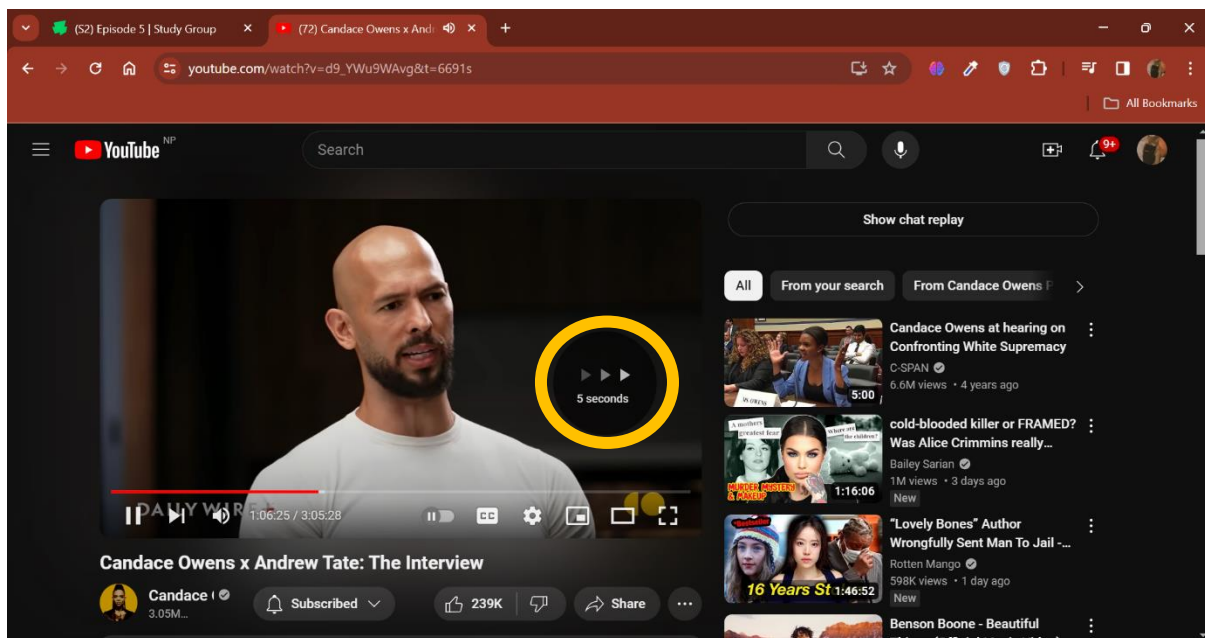
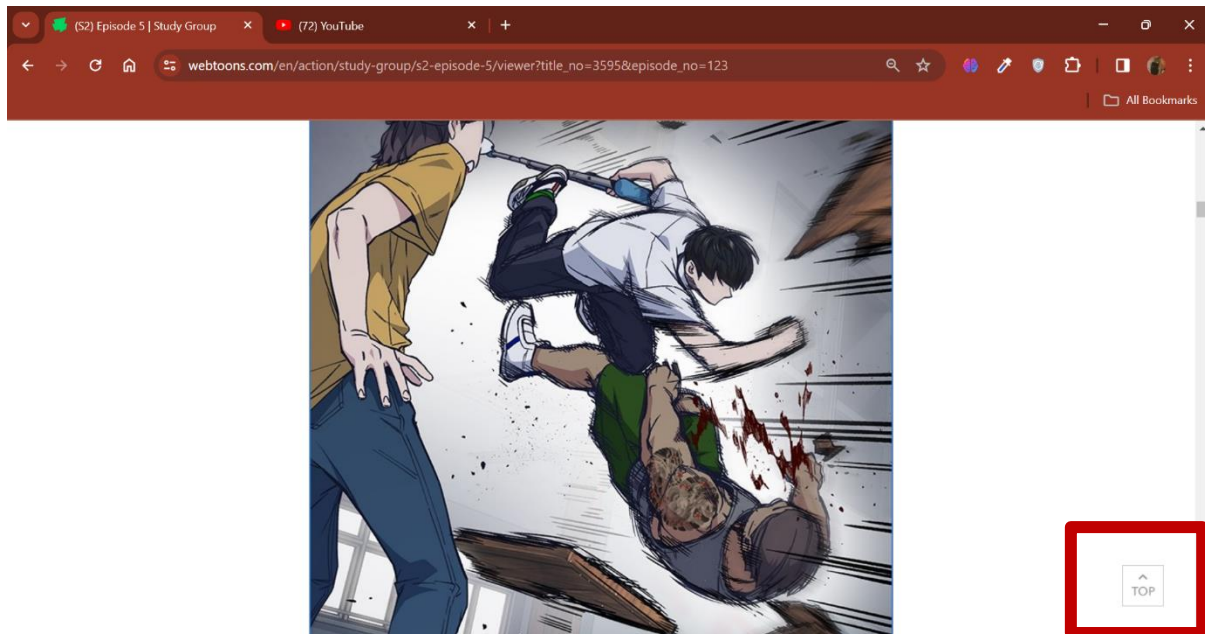
- **Schneiderman's 8 Golden Rules:** Strive for consistency.
- **Nielsen's Heuristics:** Consistency and Standards.



Webtoon and YouTube both have a unified design philosophy that aligns with the concept of “strive for consistency/ consistency and standards.” Both systems’ interfaces use a uniform design language, so visitors to the websites will notice recognized elements and layouts. This similarity simplifies the platforms and creates a sense of familiarity, all of which contribute to a more smooth and intuitive user experience. Users may carry out tasks fast and simply using the same design principles, whether they’re watching movies on YouTube or reading comics on Webtoon.

3.2 Enable frequent users to use shortcuts || Flexibility and efficiency of use.

- **Schneiderman's 8 Golden Rules:** Enable frequent users to use shortcuts.
- **Nielsen's Heuristics:** Flexibility and efficiency of use.



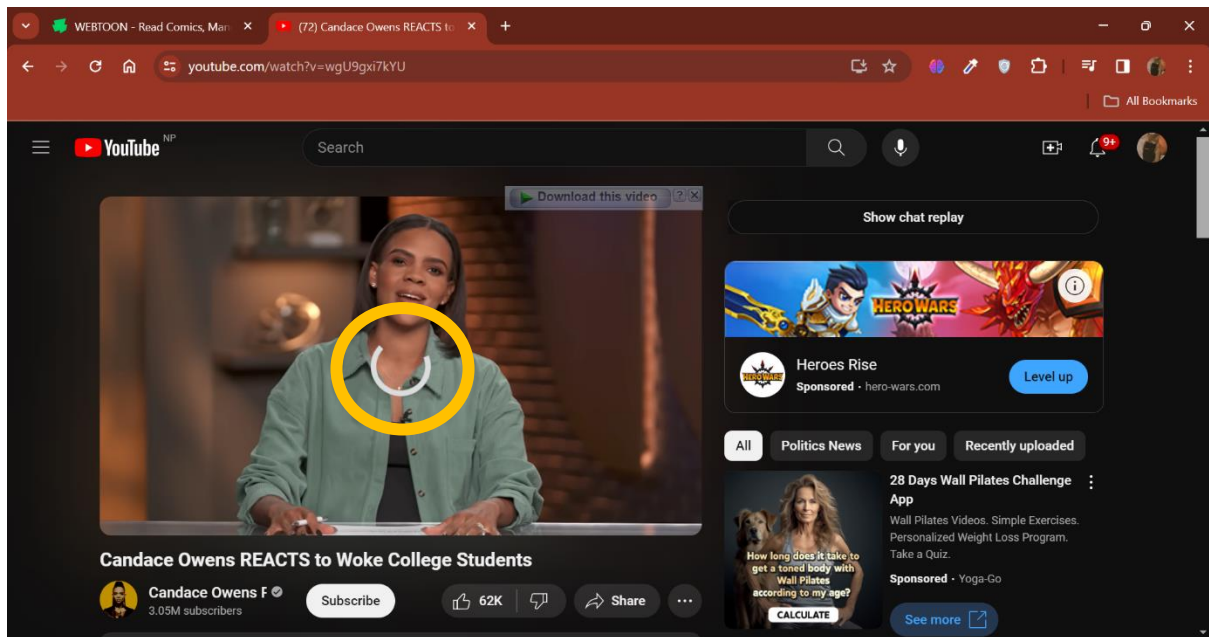
According to the concept of “enable frequent users to use shortcuts/Flexibility and efficiency of use,” Webtoon offers a “Top” button for easy navigation back to the beginning of a chapter while reading, which improves the user experience. Similarly, YouTube follows the same principle by giving a fast shortcut during video playing that allows users to go ahead or back

by 5 seconds, allowing for efficient surfing throughout information. These features showcases the platforms' dedication to enable users to use shortcuts, which increases flexibility and efficiency in their respective interfaces.

3.3 Offer Informative Feedback || Design dialogue to yield closure || Visibility of system Status.

- **Schneiderman's 8 Golden Rules:** Offer Informative Feedback || Design dialogue to yield.
- **Nielsen's Heuristics:** Visibility of system Status.

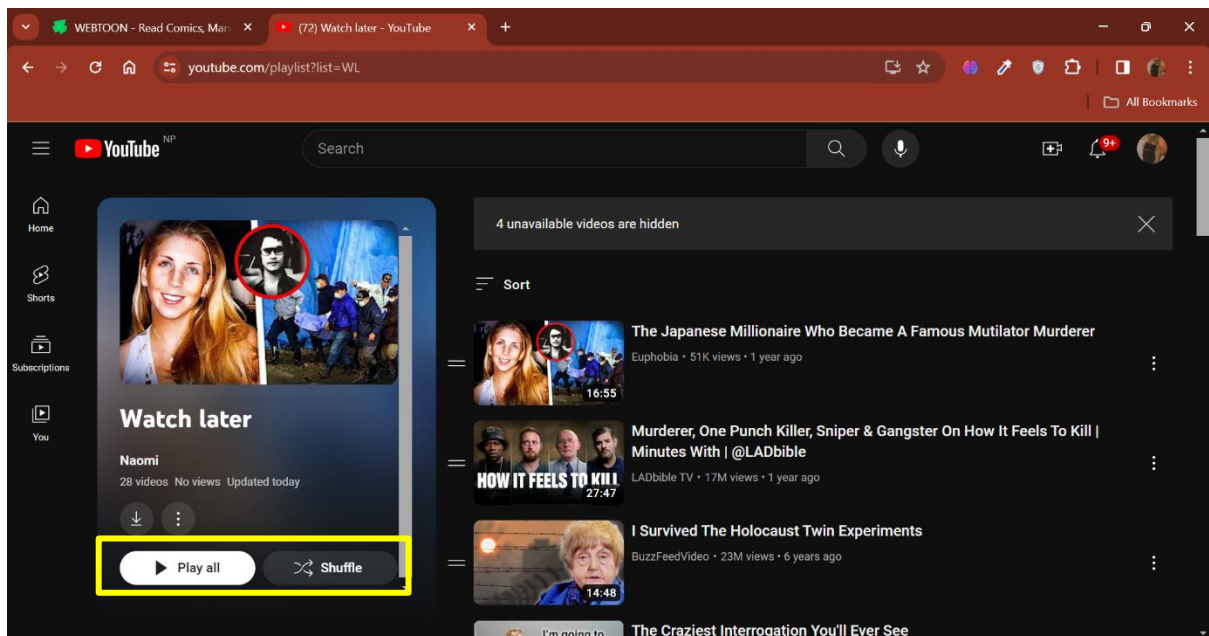
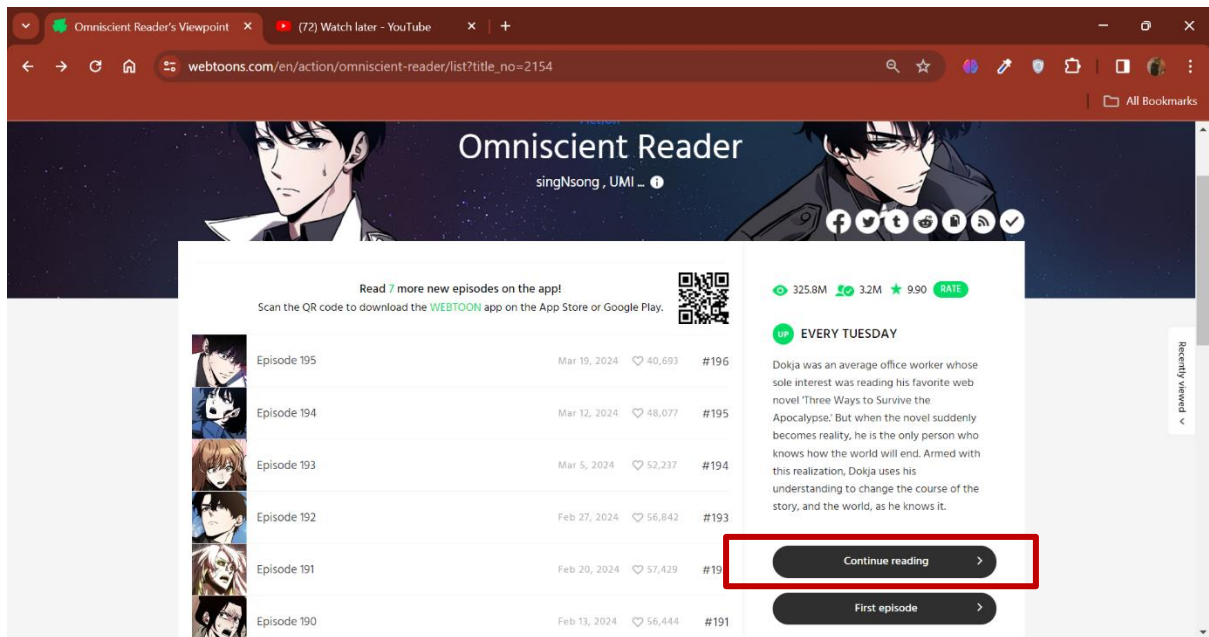
The screenshot displays the WEBTOON Canvas creation interface. At the top, there's a navigation bar with 'ORIGINALS', 'GENRES', 'POPULAR', and 'CANVAS'. Below this, a 'HELP' button and a message state: 'You can create a series in just few minutes! But, let's give you some tips before you start.' The main heading is 'Learn by creating with WEBTOON CANVAS.' with a 'GET STARTED NOW!' button. The form includes a 'Square Thumbnail' upload area, 'Genre 1' and 'Genre 2 (optional)' dropdown menus, a 'Series title' field (less than 50 characters), and a 'Summary' field (less than 500 characters). The 'Summary' field is highlighted with a red rectangle. A 'Recently viewed' sidebar is visible on the right.



According to the principle of “offer informative feedback/design dialogue to yield closure/visibility of system status:” Webtoon shows a box under the publish area, limiting user input to fewer than 500 characters. This feature gives proper feedback on the status of their publication process, according to feedback criteria and ensuring system status visibility. Similarly, while a video loads on YouTube, visitors see a buffering sign, which serves as visual feedback, showing the system’s condition and giving closure as they wait for the video to start. These features correspond to the principles of giving relevant feedback, ensuring design conversations that lead to the closure, and keeping system state visibility, all of which increase under understanding and overall experience across both platforms.

3.4 Reduce short-term memory load || Recognition rather than recall.

- **Schneiderman’s 8 Golden Rules:** Reduce short-term memory load.
- **Nielsen’s Heuristics:** Recognition rather than recall.

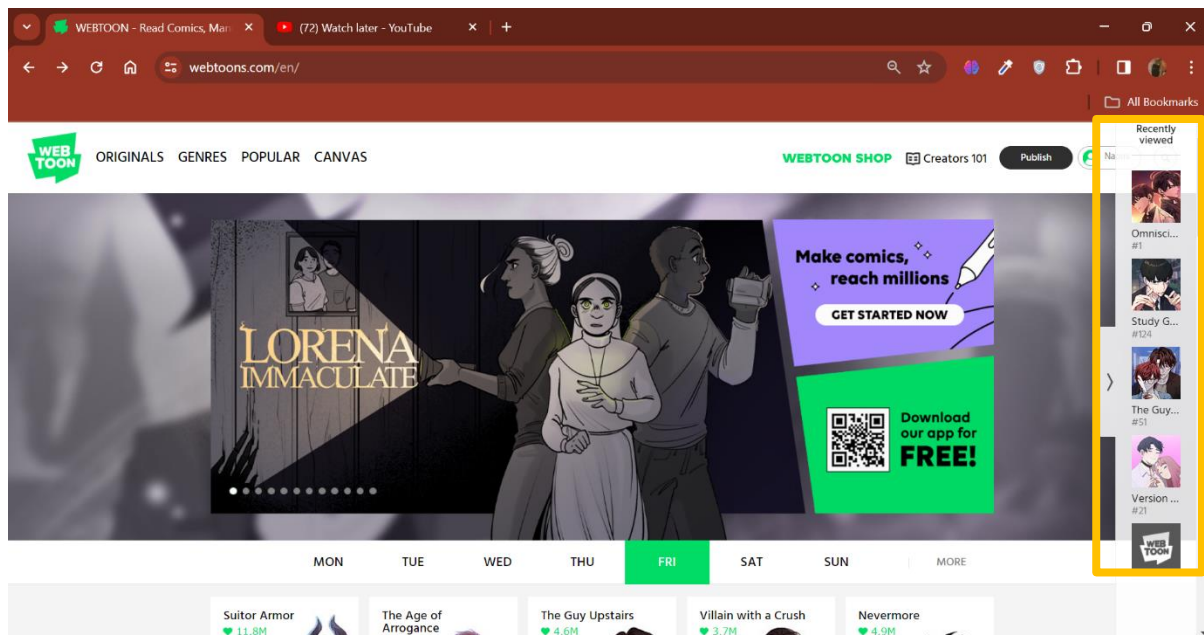


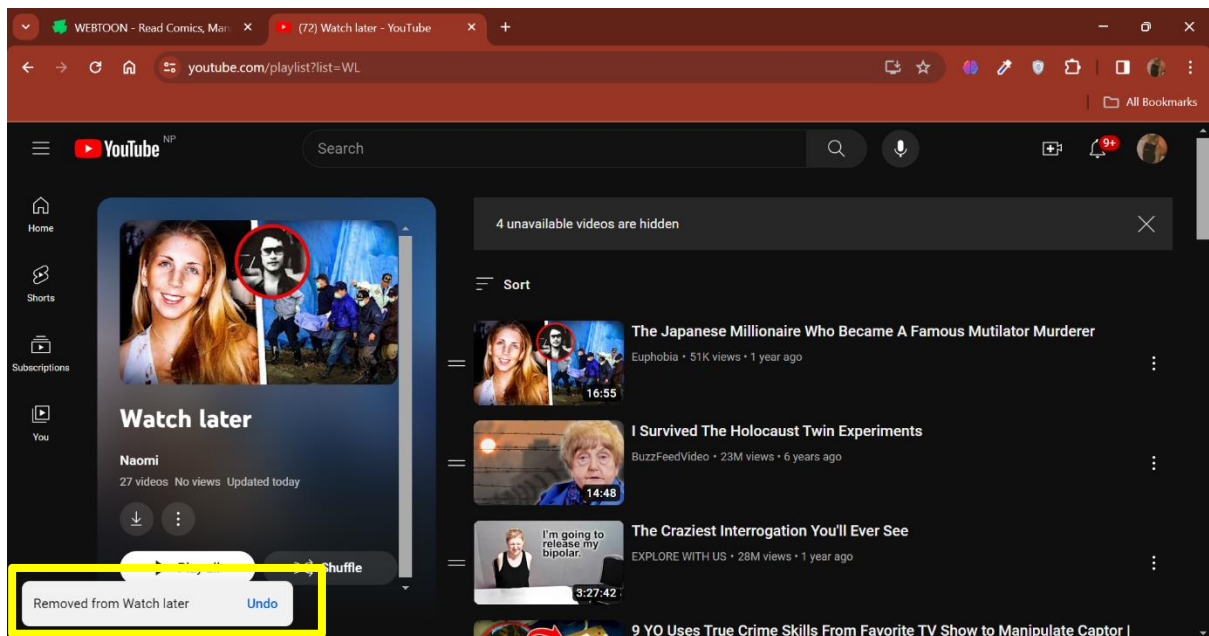
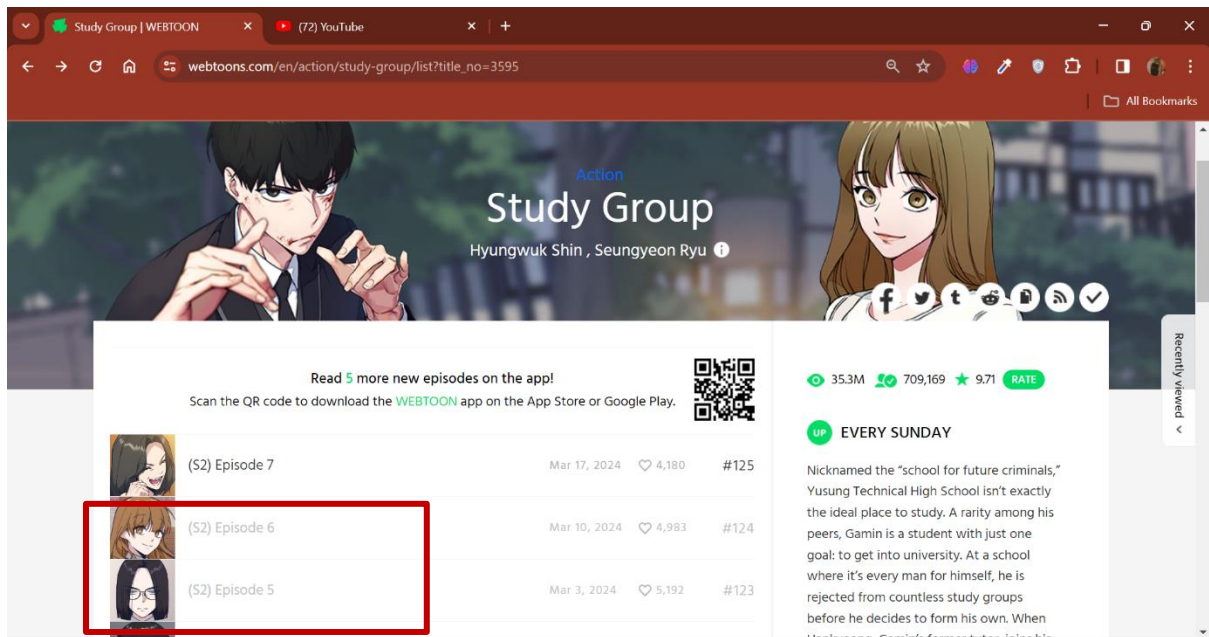
The concepts within the rule “Reduce short-term memory load/recognition rather than recall:” In Webtoon, when reader click onto specific comic or webtoon they want to read, beside the list of its chapters, they will notice a “Continue reading >” button which reduces short-term memory stress by providing an obvious option to keep reading without needing to recall the chapters they have already read. Similarly, under YouTube’s “Watch later” area, users may select to “play all” or “Shuffle” their saved films, minimizing cognitive strain by giving simple options for organizing their content without having to learn individual movie titles or sequences. These design considerations prioritize user experience by allowing for effortless

interaction with the platforms while adhering to the principles of reducing short-term memory stress and emphasizing recognition over recall.

3.5 Support internal locus of control || Permit easy reversal of action || User control and freedom.

- **Schneiderman's 8 Golden Rules:** Support internal locus of control || Permit easy reversal of action.
- **Nielsen's Heuristics:** User control and freedom.

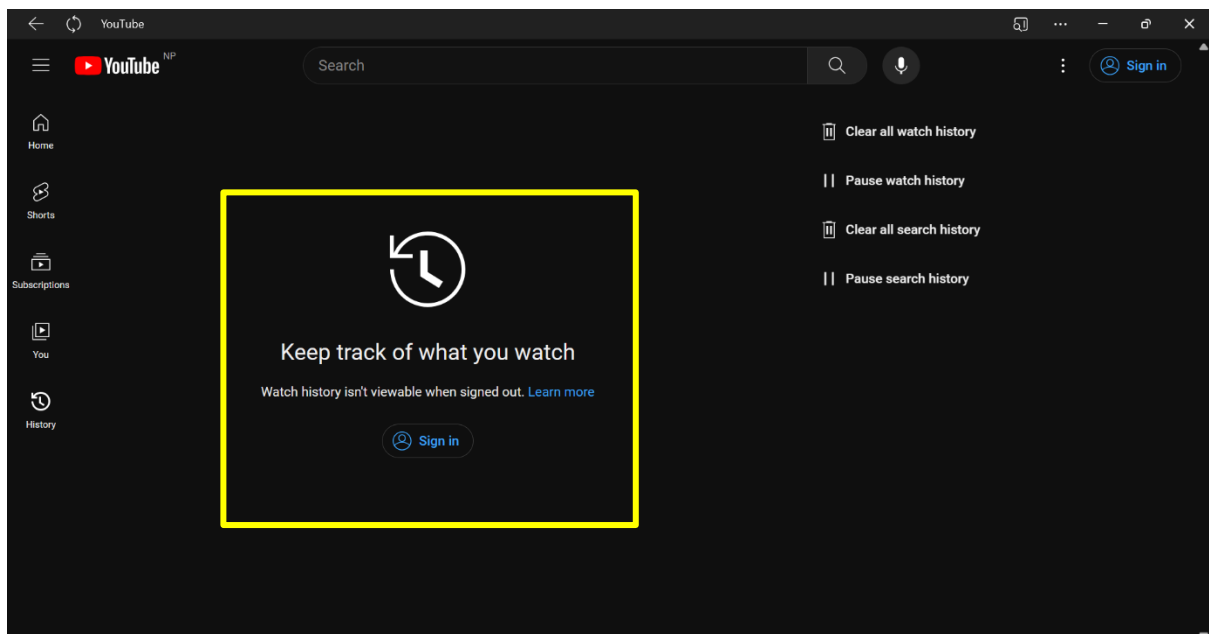
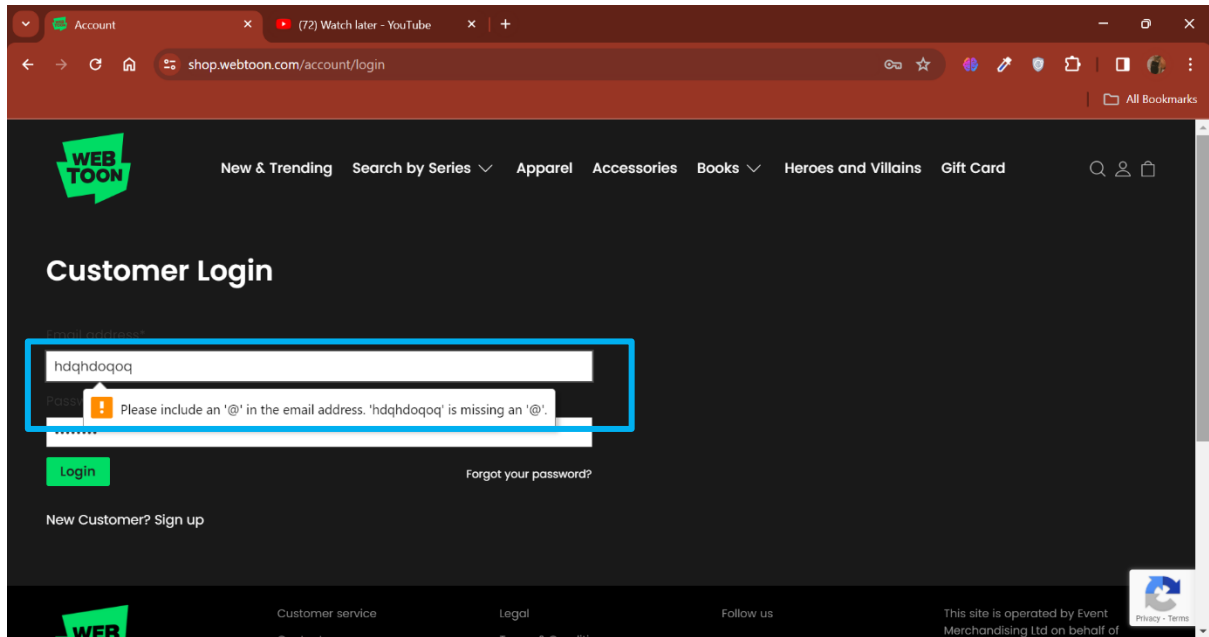




On Webtoon, a “Recently Viewed” page gives users rapid access to a list of recently watched Webtoons, fostering an internal locus of control as they manage their viewing history. Chapters that have been read are greyed out, making it easy to track progress and promote user autonomy. Similarly, YouTube’s “Watch Later” function allows users to “undo” activities, giving them rapid reversibility and control over recorded video. Both platforms emphasize user empowerment through the notions of internal locus of control, fast action reversal, and user autonomy.

3.6 Offer simple error handling || Help users recognize, diagnose, and recover from errors.

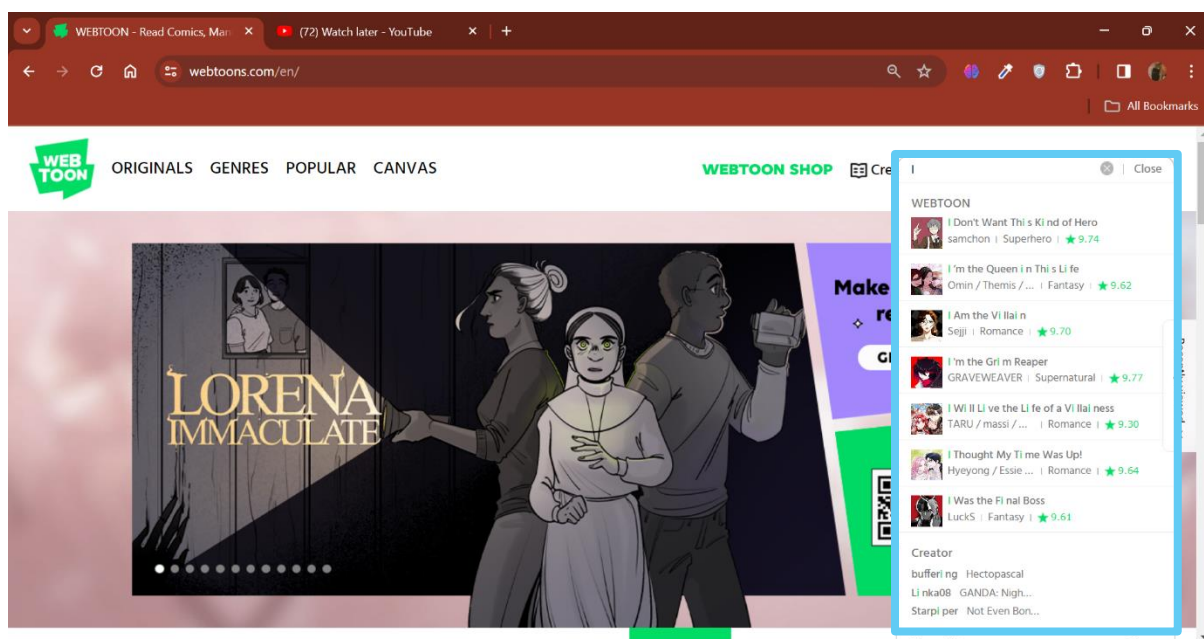
- **Schneiderman's 8 Golden Rules:** Offer simple error handling.
- **Nielsen's Heuristics:** Help users recognize, diagnose, and recover from errors.

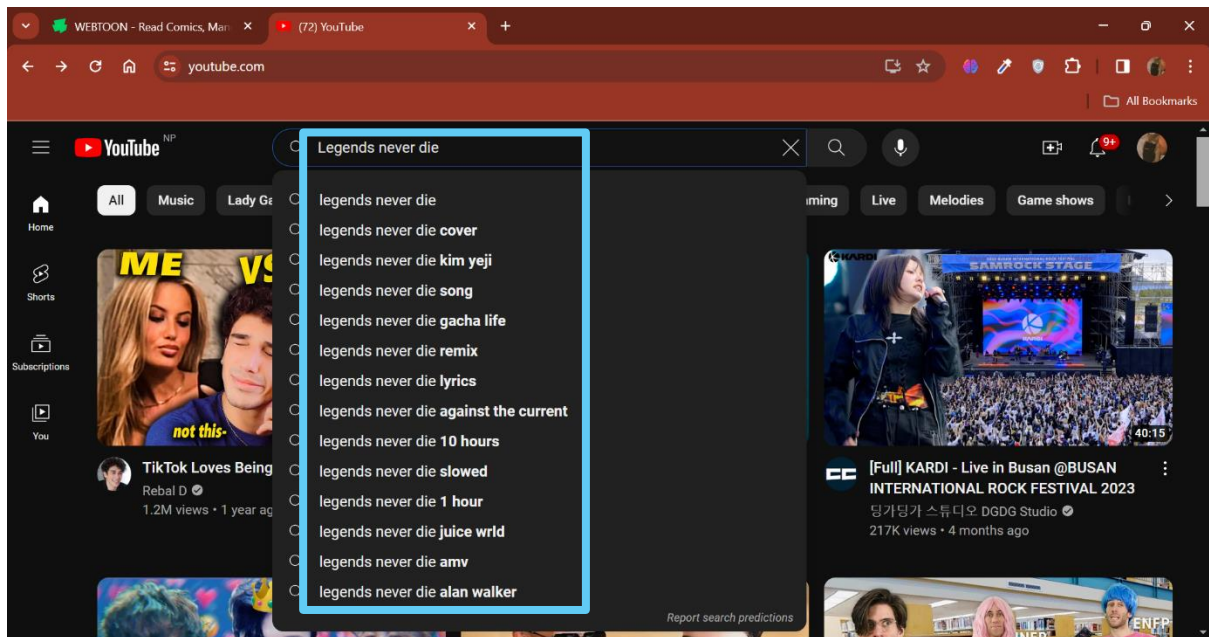


Based of the principles of “Offer simple error handling/Help users recognize, diagnose, and recover from error.”, Webtoon’s customer login page under the “Webtoon Shop” section provides useful error messages, such ad prompting users to include a ‘@’ symbol in their email

address if it is missing, easing error recognition and recovery. Similarly, on YouTube's history page, users are informed that watch history cannot be viewed after logging out, which helps in error detection and prevents misunderstanding. These error handling examples highlight both systems' commitment to user-centered design by giving clear feedback and supporting users in discovering, diagnosing, and recovering from errors, thereby improving the overall user experience.

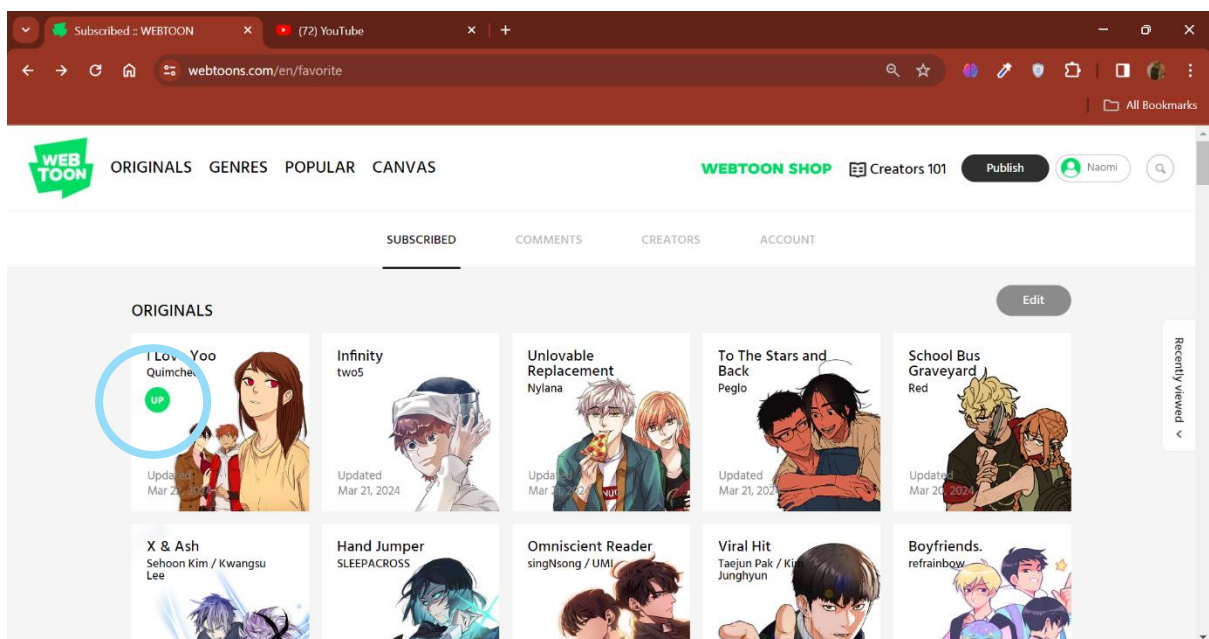
3.7 Error Prevention (Nielsen's Heuristics)

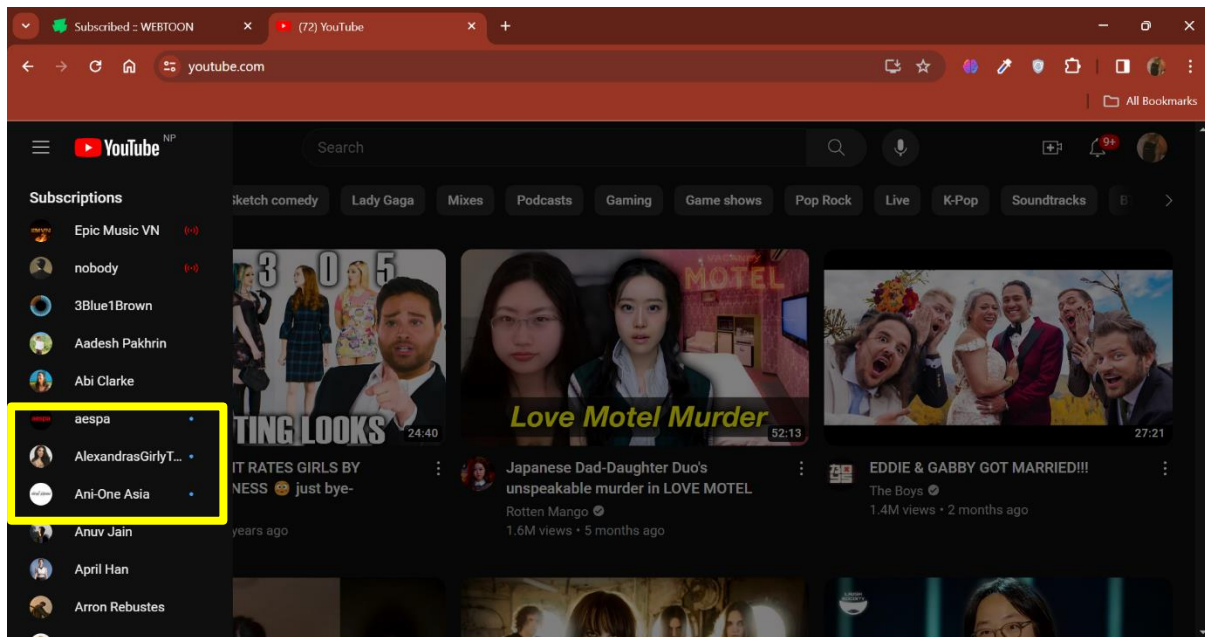




Error-prevention features are prominently displayed across Webtoon and YouTube's search capabilities. As users enter search queries, the platforms generate dynamic lists of suggested content that match the input in real time. This proactive strategy supports users in finding important options before completing their query, lowering the risk of errors. By providing such rapid feedback and ideas, both platforms prioritize use experience and speed up the search process, resulting in enhanced user satisfaction and usability across their respective platforms.

3.8 Aesthetic and minimalist design (Nielsen's Heuristic)





Webtoon and YouTube both adopt the concept of “aesthetic and minimalist design” on their own platforms. Subscribed webtoons on Webtoon are shown by little green icons that signal updates, resulting in a clean and straightforward look. This small visual tip effectively notifies users of recent upgrades without cluttering the UI. Similarly, subscribed channels on YouTube are marked with blue dots to signify new updates, according to the principles of simplicity and clarity. By integrating these minimalist design ideas, both platforms enhance user interface simplicity and visual clarity, hence improving overall user experience and appeal.

4. Conclusion

Usability is an important aspect of web design, as it has a significant influence on the user experience. If a website’s usability is bad, it may tarnish consumer impressions and cause them to seek out more user-friendly alternatives. Improving usability is a multifaceted strategy aimed at enhancing the overall user experience. Schneiderman’s 8 Golden Rules and Nielsen’s Heuristics are valuable tools in this quest since they provide comprehensive notions for increasing usability in applications and UI/UX design. It is seen that several of these strategies work well with Webtoons and YouTube. Both systems prove a commitment to consistency by providing users with easily identifiable design patterns that allow for seamless navigation. Furthermore, features such as useful feedback and error avoidance algorithms aid users in recognizing, diagnosing, and recovering from errors, resulting in more seamless user experience. While respectable, there is room for further improvement. Integrating components like swift reversal of actions may improve the user experience by delivering better indications

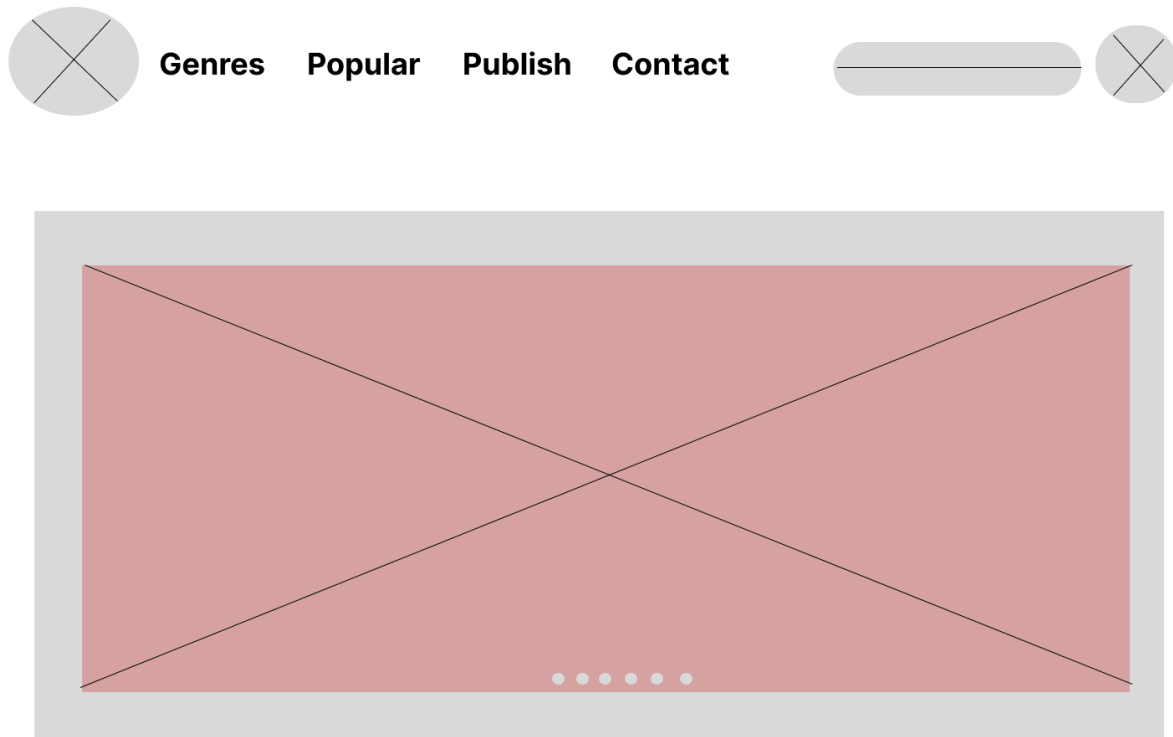
of the user's current location within the platform, resulting in faster navigation. By applying these usability principles, websites may deliver a simpler and more delightful browsing experience, reducing user frustration and improving satisfaction. Finally, the quest for greater usability is an ongoing activity that requires regular inspection and correction. As technology evolves and client expectations alter, designers must remain determined to create user-centric designs.

5. References

- Dreamkatcha. (2023, March Friday). *The importance of website usability*. Retrieved from Dreamkatcha: <https://dreamkatcha.com/importance-website-usability/>
- Fernandez, I. a. (2008). *A Systematic Review of Usability Evaluation in Web Development*.
- Matera, M. (2006). *Web Usability: Principles and Evaluation Methods*. Berlin: Springer.

6. Appendix

6.1 Wireframes



New and Trending

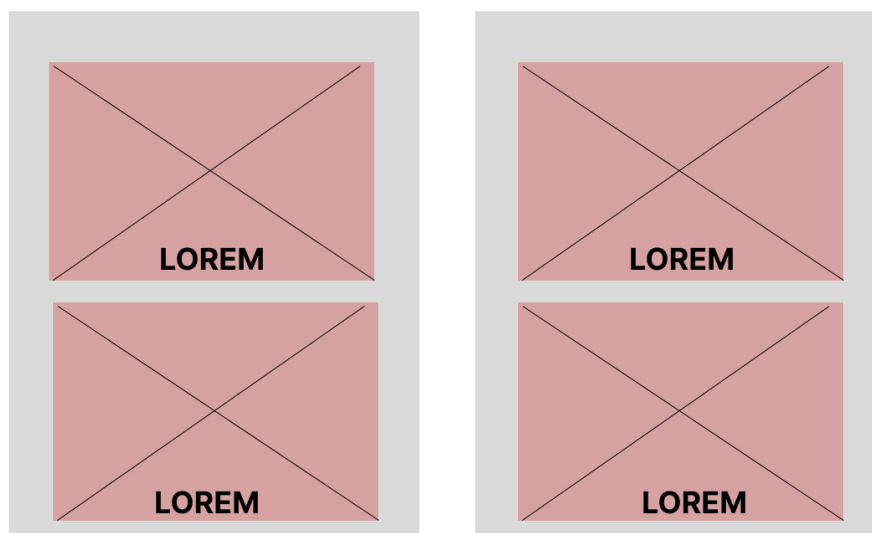


Figure 1 Home page.

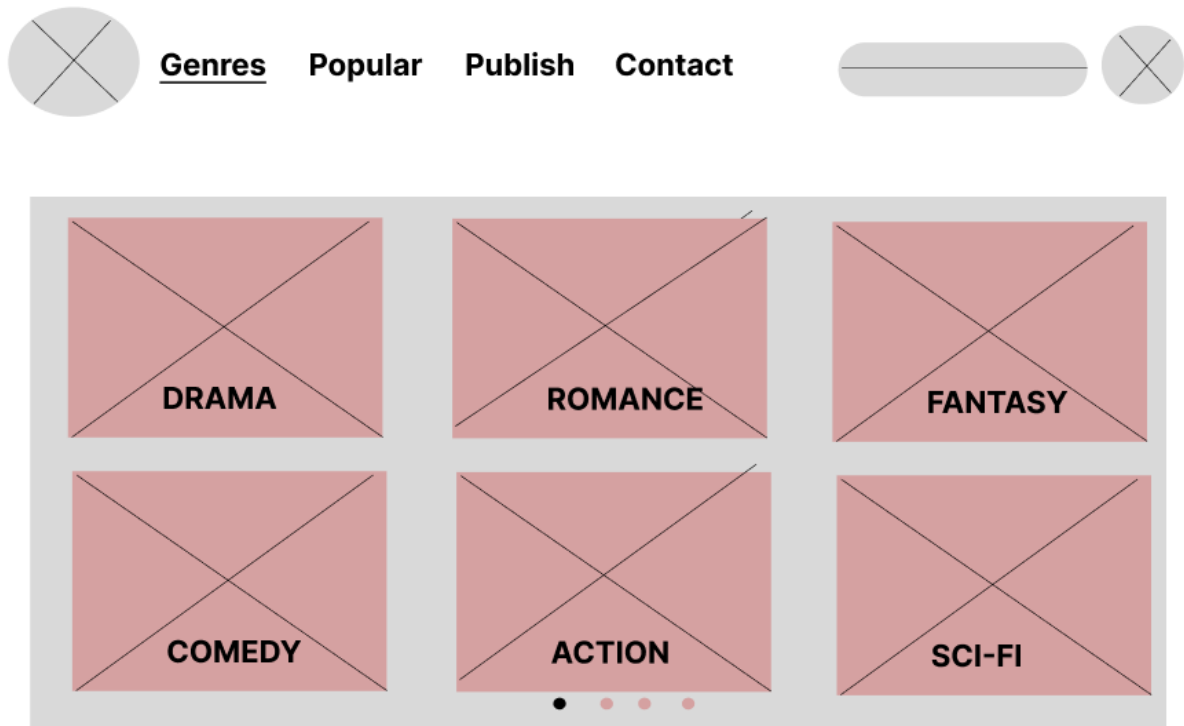


Figure 2 Collection within Genres

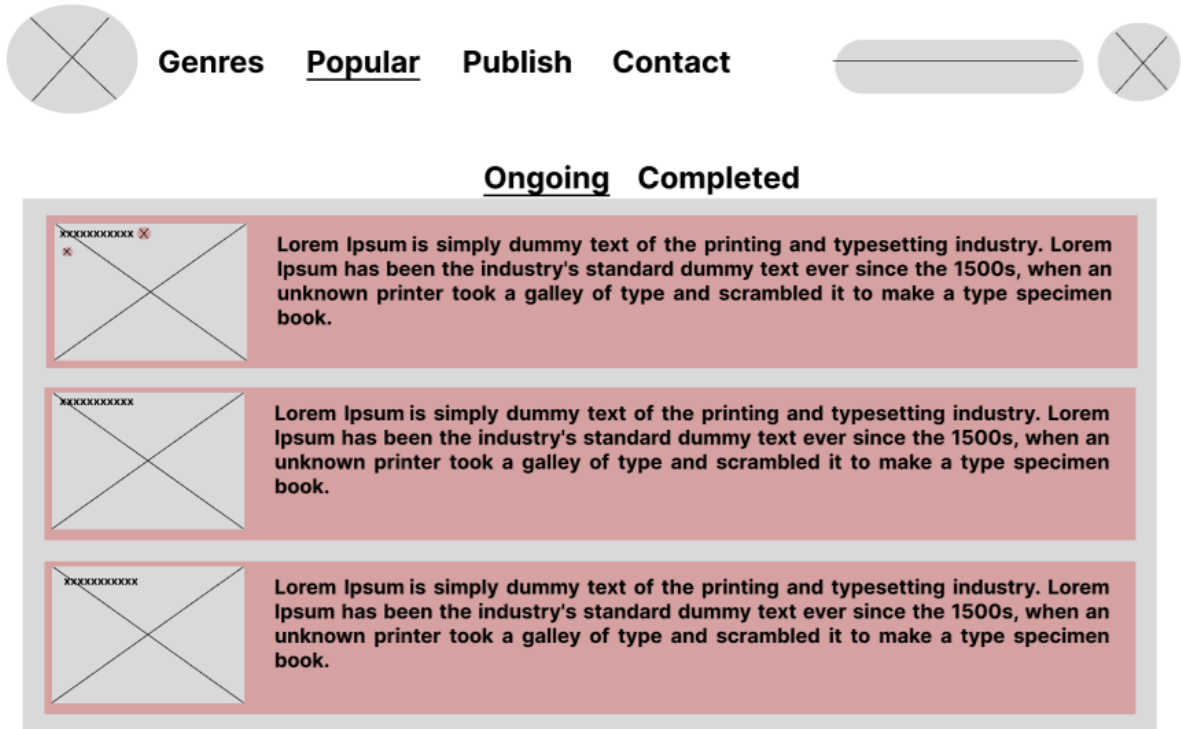


Figure 3 popular comics in accordance with their status.

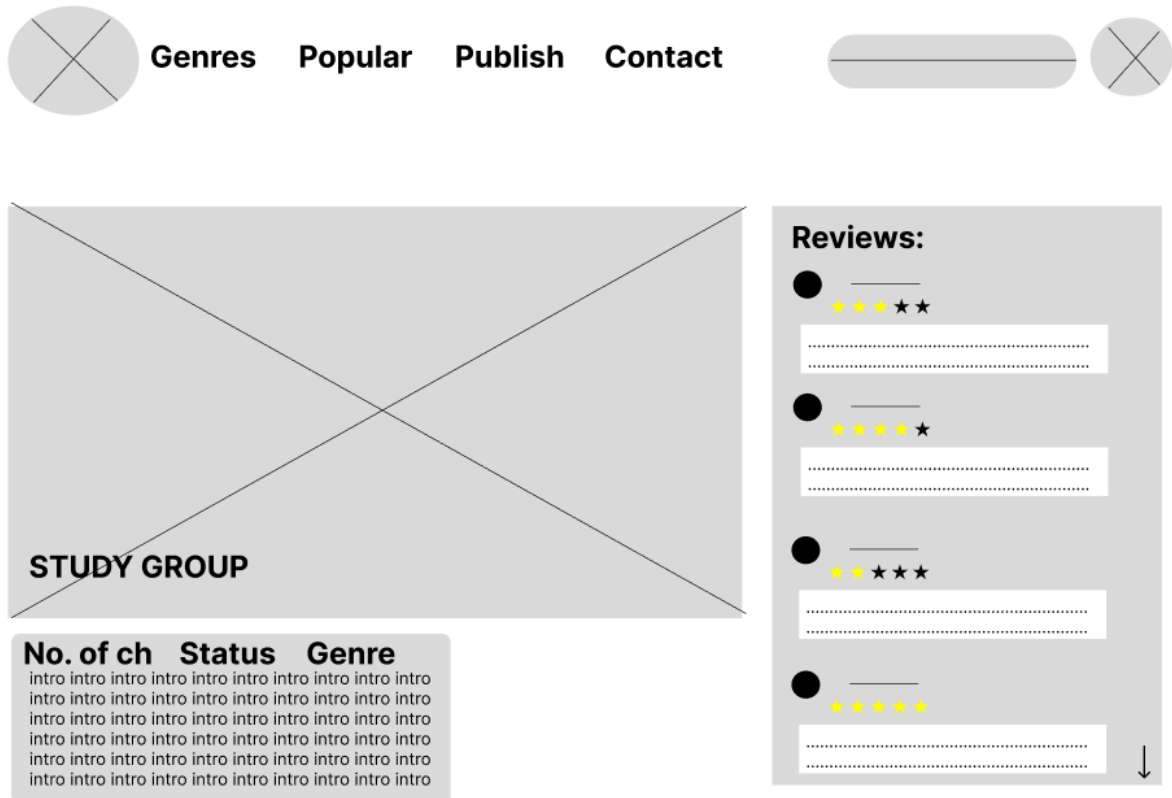


Figure 4 Info and Review of specific comic.

[Home](#)[List of Chapters](#)[Download Chapter](#)

Chapter I

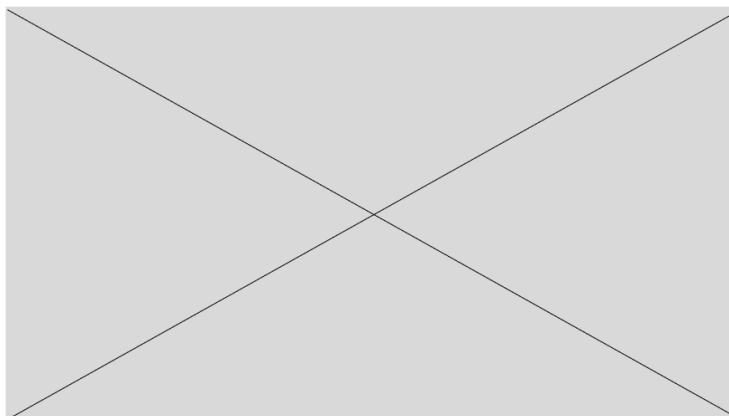
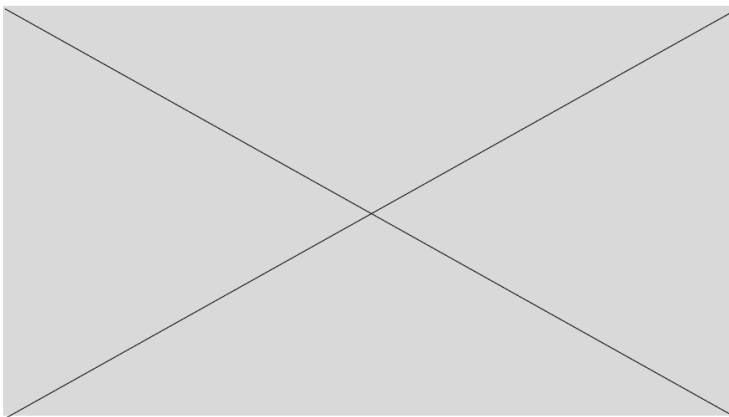
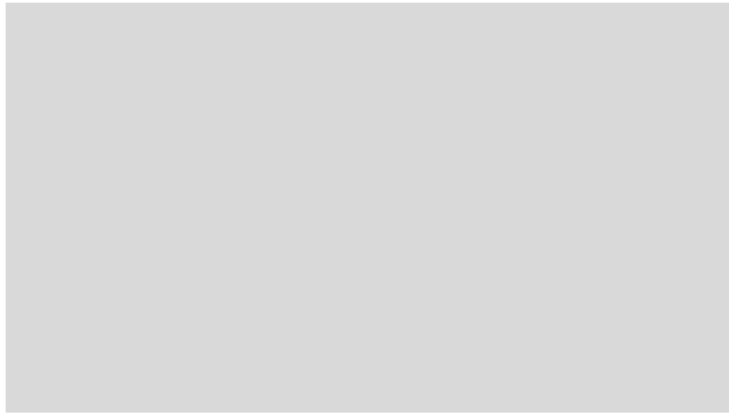
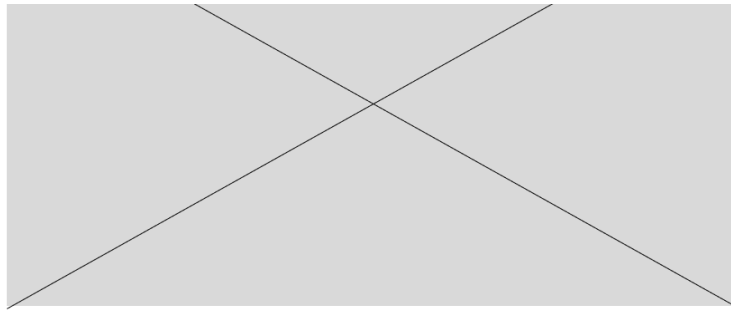
[Next](#)[TOP](#)

Figure 5 Reading view of comic.




Next

Share this chapter


Comments:

Four rows of comment input fields, each consisting of a profile icon, a name field, and a text area.

Figure 6 comment section after completion of each chapters.



Genres **Popular** **Publish** **Contact**



Name

Summary

Upload Images

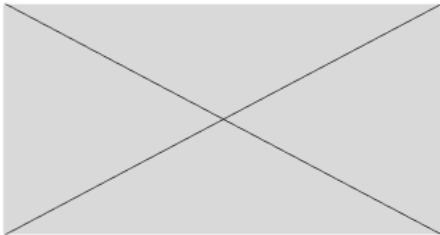


Figure 7 publish section for users to publish their own work.

[Genres](#)[Popular](#)[Publish](#)[Contact](#)

Contact Us

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.

Name

Email

Message

Submit

Figure 8 Contact us section.