

Heuristic Evaluation Report

YouTube.com

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INFO 608 Human-Computer Interaction

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Introduction

The heuristic evaluation provides insight into identifying the usability problems that a website may have within its user's experience. Each group member developed a different scenario that displayed YouTube's strengths as well as weaknesses. Whether the scenario affected the navigation, structure, or organization display of YouTube, each evaluation defined the violations that the website committed. The violations are being referred from the ten usability heuristics, which are methods that identify usability problems found on a website. With each violation found, the group discussed several ways that YouTube can solve these issues and provide better experience between multiple users and the website's interface. Overall, each member had conducted their own investigation and found various violations that they believed are causing users to be confused and frustrated.

When each group member concludes their investigation, they will be expected to find many violations that YouTube might possess, regardless of it being visible or not. Violations could be connected to a website's navigation, display, and structure. Solutions will then be provided to counteract the effects of the violations and will help create a method where the user can freely interact with the website. Also, each violation listed will be issued a severity level that emphasizes if the given issue must be fixed immediately or have it resolved whenever possible. Overall, with each violation, every group member will start an informative discussion that will identify the problem as well as provide a solution that might undo the action taking place.

Heuristic Evaluation

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
1	Player Page	It is not visible that there is a loop function. A user cannot discover this function without right-clicking on the video.	1, 6	3
	Discussion	<ul style="list-style-type: none">- H1 is violated because a user can't tell whether a video is on loop or not.- H6 is violated because a user needs to remember how to access the loop function. By default the loop function is not mentioned anywhere so the knowledge in the world is missing.- Severity level 3: lot of people do not realize the loop function exists, and us		

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
		usually have to search google to find out about this function or find a video that repeats the same video in one video (e.g. Taylor Swift - Lover 1 Hour).		
	Solution	Create a loop button on the screen so that user knows that the button would loop the video when clicked		
2	Upload page	When an error occurs when a user uploads a video, YouTube only provides the error message, no further instructions are provided, and the page is frozen.	9	3
	Discussion	<p>- H9 is violated because no further instructions or actions options are provided. YouTube just freezes the question page and restricts user actions but did not give further instructions. Although only the exit function is available, the user may have filled in some information on the page before the error occurred and it is possible that user still wants to continue editing or at least keep a copy of what they wrote.</p> <p>- Severity level 3: user might have written a long bio and would lose everything.</p>		
	Solution	YouTube can provide users with options and guidance for correcting errors, such as highlighting areas and keys that need to be operated.		
3	YouTube analytics	Some of the analytics metrics can be difficult to find and understand.	2, 7	1
	Discussion	<p>- H7 is violated because the difference between primary and secondary metrics is ambiguous and can only be understood by an expert user.</p> <p>- H2 is violated because it can be difficult for users to understand what impression click-through rate means.</p> <p>- Severity level 1: it is not a functional issue, and does not cause any large problem with using YouTube generally. However, it would provide a novice user who is unaware of data analytics more in-depth understanding if better language is used.</p>		
	Solution	Use more common vocabulary to provide descriptions about each of the metrics.		
4	YouTube studio	After entering the video upload page, if the user wants to return to the main page, they will not return to the homepage after habitually clicking the icon in the upper left corner, and the entrance to the homepage is relatively hidden.	4	3

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
5	Discussion	<ul style="list-style-type: none"> - H4 is violated because users don't realize that they have switched modes, which caused a mode error, and the page color and layout of this studio mode are similar to the main mode, which makes users more confused. - Severity level 3: it is not only the functional issue but also the function itself is not intuitive enough for users to get access to it. 		
	Solution	There are two corresponding solutions, one is to give more obvious prompts to make users aware of the difference in mode, such as changing the layout and color matching; the other is to maintain a uniform and standardized layout.		
	Player Page	It is difficult for a user to manipulate the playlist that they are following without the process of saving that playlists and adding a video to the playlist first. Even after the playlist has been manipulated, the user is not provided any feedback to know that the playlists was customized according to them.	1, 7	3
6	Discussion	<ul style="list-style-type: none"> - H1 and 7 are violated as the user has to go through multiple steps just to add a video to the playlist. Also, users do not get any feedback from the system when they made changes. - Severity level 3: major portion of users use YouTube to listen to music. 		
	Solution	Add buttons with "Save as my playlist" and gives feedbacks when changes were made to the playlist.		
	Play List	<p>The queue playback function of YouTube is not available, users are not informed that the queue will disappear once they close the page, and this operation is irrevocable.</p> <p>Also, the YouTube does not give any description or explanation differences among queue, user's playlists, and subscribed playlists.</p>	3, 4	3
6	Discussion	<ul style="list-style-type: none"> - H3 is violated because users can quit the application without saving the playlists by mistake. Also, once the page was left, there is no way to recover the previous queue list. - H4 is violated because users are not aware of the different functions among queue, user's playlists, and subscribed playlists. - Severity level 3: because users are not able to prevent or recover from the mistakes. 		

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
	Solution	Provide enough information about each feature and present a dialogue "Your queue will be lost, do you want to leave this page?" and rename queue as "Temporary playlist".		
7	Player Page	YouTube does not stop a user from accidentally adding the same video to the queue multiple times.	1	1
	Discussion	<ul style="list-style-type: none"> - H1 is violated because a user may wonder why the same video is playing multiple times without realizing that he accidentally added the video to the queue more than once as the user does not receive any feedback that the video is already in the playlist. - Severity level 1: some users might want to add the same videos in the playlist, also users can still delete the repeated videos. 		
	Solution	Provide a prompt that says "This video already exists in the playlist, do you still want to add?"		
8	Upload page	<p>The thumbnail has to be uploaded from outside YouTube and does not allow a user to scroll through the video to choose a thumbnail.</p> <p>YouTube provides three screenshots of the uploaded video as cover options, users can't choose the cover they want, they can only do it outside of YouTube</p>	3, 7	3
	Discussion	<ul style="list-style-type: none"> - H7 is violated because it is inefficient to leave YouTube just to take a screenshot of a particular scene on the video. The process should be a part of the upload flow. - H3 is violated because YouTube only provides three options to choose from for the thumbnails which is not flexible. - Severity level 3: the user has to leave the application and sometimes they might not have programs to create the thumbnail. 		
	Solution	Allow users to scroll through the video and choose a scene during the video upload process without leaving the YouTube.		
9	Account Setting	Users cannot have separate account just for the YouTube, but the user must create Google account first, which can be connected to YouTube account.	7	4

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
	Discussion	<ul style="list-style-type: none"> - H7 is violated because user does not have flexibility over personal information management, and has to go through multiple steps to make any changes in their account related including profile picture, name, date of birth, and gender. - Severity level 4: users may not want to affect their Google account information because of their YouTube account updates. 		
	Solution	Allow users to make change on their YouTube settings without affecting Google account.		
10	Main page and Recommendation	<p>When users want to select specific videos to watch recommended content, they need to enter the viewing history to find the corresponding videos. YouTube does not provide any categorizations for users to navigate easily.</p>	6, 7, 8	3
	Discussion	<ul style="list-style-type: none"> - H6, H7, and H8 are violated because users have to go scroll down every content that YouTube recommends even if they are not relevant to the user's interests. - Severity level 3: because there is no control over the recommended contents 		
	Solution	YouTube can further refine the recommendation mechanism with it. For example, it can intelligently identify the recommendation category, so that users can also make their own choices in fully intelligent recommendations.		
11	Watch Later Page	<p>It is difficult for the user to find the video especially when there are a lot of watch later videos. The list does not display a date of when the video was added to the list which can make it difficult for the user to identify the video they are looking for.</p>	2, 6, 7	1
	Discussion	<ul style="list-style-type: none"> - H6 is violated because the user has to remember when the video was added to watch later. - H2 and 7 are violated because the "watch later" list does not automatically delete after watching the videos, this list is getting longer and longer, and users always forget what they marked to watch. - Severity level 1: it doesn't effect on the usability of YouTube but if user wants to use this function, the user might have difficulties with using it. 		
	Solution	Delete videos after being watched, and users can find them in watch history. Also, add date for when the video was added.		

Conclusion

Throughout this report, each feature and uncovered error from user flows underwent heuristic evaluation. This process revealed how each error can lower the usability of the application and identified how they can be improved.

YouTube is a huge website that offers countless features. It performed well overall, but we found that for some specific user groups, YouTube still has room for improvement. One idea is to use Goal-directed Design to improve the user experience. Taking the map navigation app as an example, the idea of activity-centered design (ACD) is "enter destination-search-confirm destination-click navigation" to perform interaction design in accordance with this process, and suppose we think about interaction with goal-oriented design (GDD) Process, the user opens the navigation software to go to the destination (Goal), not to enter the destination location (action). Then we can design it like this: When the user opens the map app near the company at off-hours, the homepage displays the route from the company to the home, and the user only needs to click to start navigation.

Therefore, similar to that, YouTube can be designed into different modes to deal with users with different goals. For example, for users who listen to music for a long time, they can switch to music mode. In this mode, playlist feature will have more functions and will also create a more immersive atmosphere to ensure that the user's other task processes are not interrupted; and for those gamers, YouTube will provide a more professional and enhanced mode to help them get the information they want, such as more detailed search function.

Appendix 1. Hyung Wook Choi's Individual Heuristic Evaluation

ID	Location Of Problem	Description of Problem	Heuristic Number	Severity
W1	Account Setting	Users cannot change profile picture or any user information without changing Google account information. Every YouTube account is connected to the Google account, which barring users to manage the account separately.	7	3
W2	Recommendation	YouTube integrates every recommended content so that user has to scroll down every content to find the content that meets the interests or relevant. This decrease the usability of overall YouTube service.	3, 6	3

M1	Playlist	Users cannot modify the order of the videos in the playlist until the user add it to the library.	7	3
M2	Playlist	There are three different features within playlist: (1) queue, (2) subscribed playlist, and (3) user's playlist. However, the YouTube does not provide any information about differences among them, and users must learn through their own experiences.	3, 6	2
S1	Upload Video	Tag feature might not be familiar to users, which can be useful for them to provide more information about their contents.	1	1
1	Watch Later	Users do not have distinctive knowledges about differences between "Watch Later" and other playlist features.	2, 4	1
2	Navigation Bar	Users cannot adjust the order of menus in navigation bar which can debase the usability.	3	2

Appendix 2. Chenmeng Zhao's Individual Heuristic Evaluation

ID	Location of Problem	Description of Problem	Heuristic Number	Severity
1	Wook's persona Account manage	When users have multiple family members using YouTube at the same time, it is not convenient to switch accounts	3	
2	Wook's user flow Main page Recommendation	When users want to select specific videos to watch recommended content, they need to enter the viewing history to find the corresponding videos	6	
3	Shahrar's user flow Upload page	Users don't quite understand the tag function when uploading videos	1,2	
4	Shahrar's user flow Upload page	YouTube provides three screenshots of the uploaded video as cover options, users can't choose the cover they want, they can only do it outside of YouTube	3,7	
5	Upload page	When an error occurs when a user uploads a video, YouTube only provides the error message, no further instructions are provided, and the page is frozen	9	

6	YouTube studio	After entering the video upload page, if the user wants to return to the main page, they will not return to the homepage after habitually clicking the icon in the upper left corner, and the entrance to the homepage is relatively hidden	4	
7	Biniam's user flow Search page	Users want to find the video they want quickly and accurately while playing games, which is about specific games and characters	1,6	
8	Meng's persona Player page	The queue playback function of YouTube is not saveable, users are not informed that the queue will disappear once they close the page, and this operation is irrevocable	1,3	
9	Meng's user flow Playlist manage	It is very difficult for heavy users to manage playlists, and it is not possible to change the playlists created by others	7	
10	Chat & Comment	Users have no control over chat and comment blocking options	3	
11	Watch Later	Because the "watch later" list does not automatically delete the watched videos, this list is getting longer and longer, and users always forget what they marked to watch	2,7	
12	YouTube channel	When entering a channel, some channel homepages will have a video that plays automatically, and the sudden sound makes some users feel caught off guard	3,4	

Appendix 3. Biniam Zewde's Individual Heuristic Evaluation

ID	Location of Problem	Description of Problem	Heuristic number	Severity
3	Clicks create a video or a post	Action is hidden, not visibly accessible to users and must be noted.	2, 4	2

5	Drags and drop Video on uploader	Only 1 action was stated, must note that the user can also choose 'Select File' to complete uploading process	1	2
5	Select save to playlist "music for work" in the popup video	There is no option for the user to select that action	2	2
9	Click on the navigation bar sign in the upper right corner of the page	Mislead users in the instruction. 'upper right' (should be left)	2	3

Appendix 4. Shahrar Nizam's Individual Heuristic Evaluation

ID	Location of Problem	Description of Problem	Heuristic number	Severity
M1	Player Page	<p>It is difficult to add a playlist to the existing playlist being played. All the videos in the playlist need to be accessed individually and added to the playlist(H7). Unless the user has gone through the process at least once and remembers the steps required, there is no way for an inexperienced user to know how to add a playlist to the current playlist (H6). The user is forced into watching every video even if they don't want to at that time(H3).</p> <ul style="list-style-type: none"> This violates heuristic 7 as the user has to go through multiple steps just to add a video to the playlist. The user may not want to watch the video first before adding it to the playlist making the process inefficient. 	7, 6, 3	2
M2	Player Page	<p>YouTube does not stop a user from accidentally adding the same video to the queue multiple times.</p> <ul style="list-style-type: none"> This violates H5 because a user may wonder why the same video is playing multiple times without realizing that he accidentally 	5	2

		added the video to the que more than once.		
3	Player Page	<p>It is not visible that there is a loop function(H1). A user cannot discover this function without right-clicking on the video(H6).</p> <ul style="list-style-type: none"> • H1 is violated because a user can't tell whether a video is on loop or not. • H6 is violated because a user needs to remember how to access the loop function. By default, the loop function is not mentioned anywhere so the knowledge in the world is missing. 	1, 6	3
W4	Watch Later Page	<p>It is difficult for the user to find the video especially when there are a lot of watch later videos. The list does not display a date of when the video was added to the list which can make it difficult for the user to identify the video, they are looking for</p> <ul style="list-style-type: none"> • H6 is violated because the user has to remember when the video was added to watch later. 	6	1
S5	Upload page	<p>The thumbnail has to be uploaded from outside YouTube and does not allow a user to scroll through the video to choose a thumbnail</p> <ul style="list-style-type: none"> • Violates H7 because it is inefficient to leave YouTube just to take a screenshot of a particular scene on the video. The process should be a part of the upload flow 	7	3
6	YouTube analytics	<p>Some of the analytics metrics can be difficult to find and understand. The difference between primary and secondary metrics is ambiguous and can only be understood by an expert user(H7). For example, what does impression click-through rate mean(H2)?</p>	2, 7	1

Appendix 5. Role and Work Description

Name	Role and Work
Hyung Wook Choi	Overall review and formatting, conclusion, merging Heuristic evaluation, individual Heuristic evaluation
Chenmeng Zhao	Conclusion, merging Heuristic evaluation, individual Heuristic evaluation
Biniam Zewde	Introduction, merging Heuristic evaluation, individual Heuristic evaluation
Shahrar Nizam	Introduction, merging Heuristic evaluation, individual Heuristic evaluation