Final Project

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1 INTRODUCTION

1.1 Describe the Interface

Recently, YouTube has made the controversial decision to remove the dislike button counter from videos, meaning that videos only display the number of positive likes (The YouTube Team, 2021). The intention of this change, according to YouTube, is to protect users from 'dislike bombs' and to reduce 'stress and embarrassment for creators (BBC, 2021). However, many YouTube content creators have come out in opposition of the decision, claiming that dislikes have several benefits, including "stopping clickbait" (BBC, 2021). Clickbait videos have misleading titles and thumbnail images, which lead users to watching a video lacking the content they expected.

1.2 Appearance of changes

Prior to the changes, the like and dislike counter would appear under the title of the video, next to the total views, using a thumbs up to represent likes, and thumbs down to represent dislikes. Additionally, a bar appears under the counters to represent the ratio of likes to dislikes. Screenshots of the same video prior to and following the changes appear in figures 1 and 2.

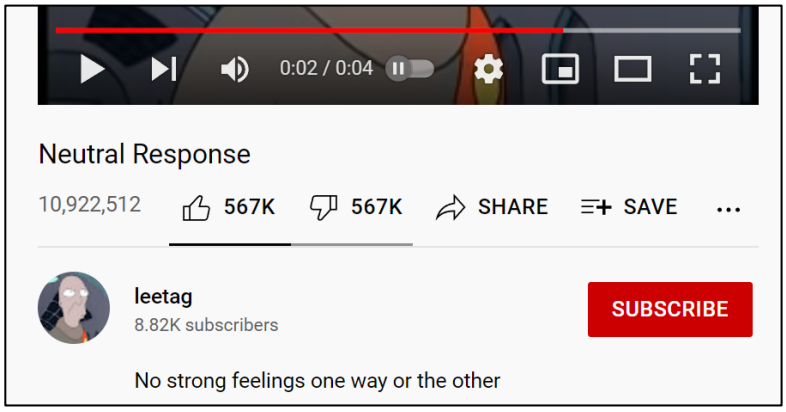

Figure 1— Like/Dislike interface prior to changes (leetag, 2009).

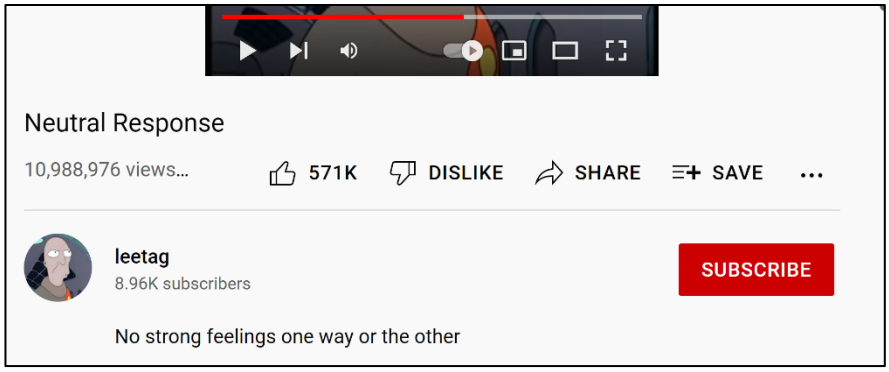

Figure 2—The same video after the implementation of the new Like/Dislike interface (leetag, 2009).

2 INITIAL NEEDFINDING

2.1 Describing the Problem Space

The problem space for this project is the issue that YouTube is making a major change to one of the primary features of their platform, which is the likes and dislikes feature. There are two main parties affected by this decision: viewers and content creators.

2.2 Survey of Users

2.2.1 *Description of Survey*

A survey of the users' feelings on the subject will help to get an overall idea about the impact that these changes have on YouTube viewers. The questions that I used in my survey are:

Likert-Scale Agreement Questions:

1. I often use the "like" "dislike" feature of YouTube (clicking "like" on videos I like and "dislike" on videos I dislike).
2. Looking at the "like" and "dislike" ratio of a video affects my decision to watch or continue watching that video.
3. I believe that removing dislike counts from YouTube will have an overall POSITIVE effect on the platform as whole.
4. I believe that many content creators become the target of "dislike attacks" which may inaccurately represent the quality of their content to perspective viewers.

Short Answer:

5. What is your overall impression of YouTube's decision to hide the dislike counter?
6. If you consider it to be an issue, what suggestions would you make to resolve the issue of "dislike attacks"?

Demographic:

7. Select your age.

2.2.2 *Data inventory*

The survey was implemented using the Georgia Tech Peersurvey platform, meaning the participants were students in the Human-Computer Interaction class during the Fall of 2021. The users are scattered throughout the world.

The user's goals are to find and watch YouTube content which fits their desires. Because YouTube has so much content available, users need to be able to narrow down videos to the best fit for what they are looking for at that time.

The subtasks are the various methods for finding videos, including the built-in search feature, and the recommended video feature of YouTube.

2.2.3 *Potential Bias*

The potential bias in this needfinding activity is that the participants are all Master's students which means they may not represent the average YouTube viewer in terms of interests, needs, and ability to navigate and assess content.

My method for limiting the impact of this bias is to analyze the results of the survey with this bias in mind, and not attempt to create broad statements across all viewers based on the results of this particular survey.

2.2.4 *Results*

47 OMSCS students participated in my survey, which was much greater than I anticipated. I believe this is due to the accessibility and topicality of my survey. YouTube is one of the most commonly used platforms in the world and the topic of removing the dislike counter has been a very popular news story while this survey was conducted. 30 of the participants reported their age between 18-29.

15 reported their age between 30-39, 1 reported their age between 40-49, and 1 participant abstained from answering the age question.

The first question asked participants about their usage of the “like”/”dislike” feature of YouTube (Figure 3).

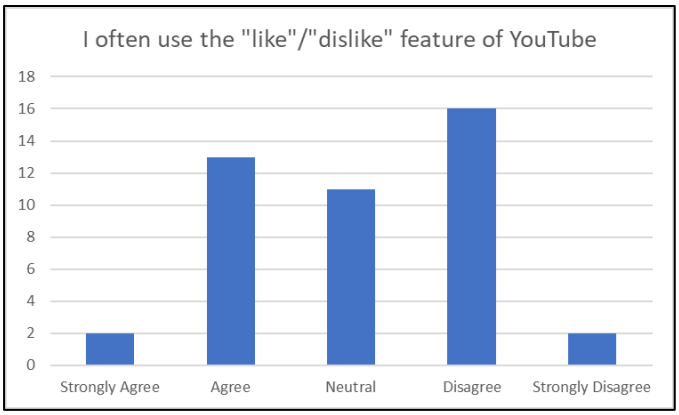

Figure 3 — Responses to Question 1 of the survey.

The responses for this were fairly evenly distributed between Agree, Neutral, and Disagree, with very few on the extremes in either direction. This means that participants reportage usage varied without many strong feelings in either direction.

Question 2 asked if the “like” and “dislike” ratio impacted their decision to watch the video (Figure 4).

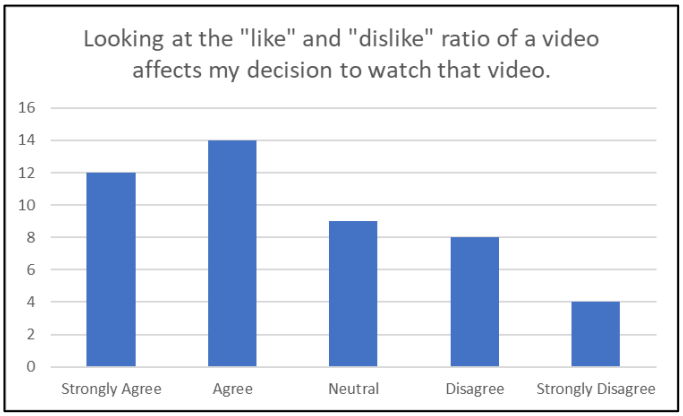

Figure 4 — Responses to Question 2 of the survey.

The responses to this question leaned towards agreement, showing that overall, participants felt the like-to-dislike ratio of a video affected their decision to watch the video.

Question 3 asked participants if they felt the removal of the dislike counter had an overall positive impact on the platform (Figure 5).

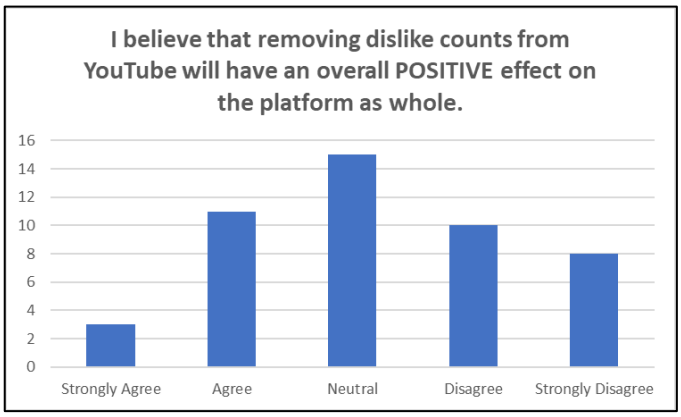

Figure 5— Responses to Question 3 of the survey.

This question was more centralized in responses, though the extreme opinions skewed towards "Strongly Disagree", showing that participants who disagree that the platform is positively impacted by the removal of the dislike counter are more likely to hold a stronger conviction in that belief.

Question 4 was a short answer question asking users their overall impression of YouTube's decision to hide the dislikes counter. I attempted to accurately categorize the various commonly held beliefs in the responses.

The positive responses to this answer expressed these thoughts:

- Trolls/haters attempt to harm content creators with dislike bombs.
- I don't use the dislike feature, so I don't really mind.

The negative responses to this answer expressed these thoughts:

- The dislike counter helps gauge the quality of the video.
- The "dislike bomb" justification is not the real reason.
- The real reason is to appease advertisers.
- The decision will lower the standards of the quality of content on the platform.

As with the survey, the participants who are against the decision seem to hold stronger, more fleshed-out beliefs than the participants who support the decision.

Question 5 asked participants for their suggestions for how to resolve the problem of "dislike attacks", which is the primary justification for YouTube making the change (The YouTube Team, 2021).

Respondents had a wide variety of responses. Many of them simply some variation of "I don't know" or "I don't consider it to be a problem", with many leaving their answers blank. However, participants who did answer this question created the following ideas:

- Completely remove the dislike button.
- Screen the device with the user disliking the video to prevent attacks (IP checks, captcha, behavior analysis, and outlier detection).
- Make the user watch a certain duration of the video before they are able to judge it (with likes or dislikes).
- Add a feature for users to justify why they are clicking the "dislike" button.

By far, the most common idea for solving the problem is some kind of preventative security measure. Participants seem to feel that overall these attacks are executed by bots, so screens to check if the feedback buttons are clicked by bots rather than humans.

2.3 Evaluation of other platforms

In order to gain a broader understanding of YouTube's decision to modify its like and dislike feature, it is important to see how other platforms have handled the same process. Most social media and video streaming services have some form of button-based feedback systems, whether through likes, reactions, or star ratings. For this needfinding exercise, I examined the way in which several top social media and streaming platforms handle the same process.

2.3.1 *Data inventory*

For this needfinding activity, I selected several of the most prominent alternatives to YouTube, both in terms of social media and video streaming. I looked at the button-based feedback systems for Facebook, Instagram, TikTok, Twitter, and Netflix. The users of these platforms are those who provide the content and those who consume the content. For content providers, feedback systems can be a way to *gauge the performance* of their content in order to improve upon their

work, and generally positively reviewed content will be *more visible* increasing the overall exposure of their content to consumers.

For consumers, the feedback system is both a way for them to *provide feedback* as well as see *how others have reacted* to the same content. In some cases, viewing the reactions can tell the consumer if the content is a worthwhile use of their time.

2.3.2 *Potential Bias*

While this exercise was intended to be a purely objective look at the feedback systems of various websites, I have personally never used several of these platforms, and in fact, made accounts specifically for this needfinding. This means that my evaluation of some platforms may be biased by my prior knowledge of being an advanced user of the platform.

In order to *mitigate* this bias, my results are based simply on the objective truths of the platform rather than my evaluation of the meaning of those truths. I will not attempt to explain why the choices were made by the platforms, only how they function, unless I can find references to support those explanations.

An additional bias is that I will be evaluating these from a web browser (Chrome) on PC rather than using a mobile device or apps. This is because there are simply too many different UIs that would need to be evaluated in order to fully cover every possible UI implementation used by the platform. This means that it is possible that the apps for these programs may have differences in how their feedback systems are implemented and interacted with by the user.

2.3.3 *Results*

The first platform which I examined was Facebook. Facebook never included a dislike feature on their platform, and despite public demand for a "dislike button", the website instead, in 2015, incorporated various emojis, calling this new feature "Reactions" (King & Taggart, 2015). Currently, there are seven possible "reactions" which can be done on any type of content (text, image, video, url, etc): Like, Love, Care, Haha, Wow, Sad, and Angry. These reactions become visible when mousing over the "like" button. The user can only choose one reaction

per piece of content. On the right side, the top three reactions are displayed along with the number of comments and views (Figure 6).

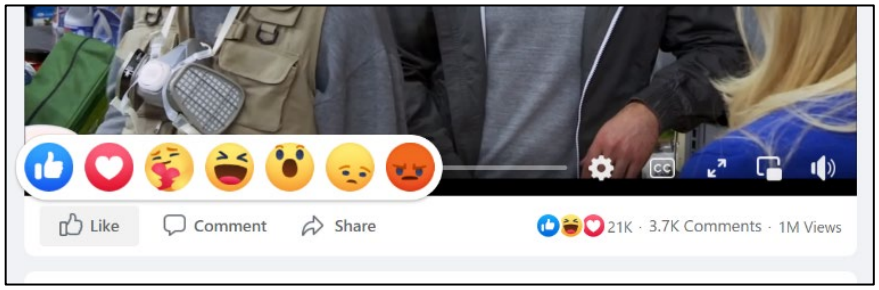

Figure 6— The Facebook reaction system.

Instagram, Twitter, and TikTok all use very similar feedback systems. Using a simple heart emoji as the "like" button. All three also display the number of likes that the content has received. TikTok displays the number of comments as well, while Twitter also displays the number of retweets and "quote tweets" (which are just retweets with a comment attached) (Figure 7).

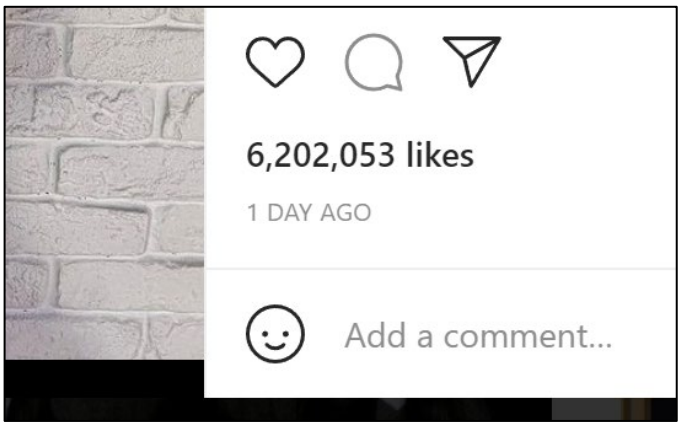

Figure 7— Instagram's reaction system.

In the past, Netflix used a 5-star review system which showed users the ratings of the programs on their platform which had been received by other users. Netflix overhauled this system in 2017, opting instead of a like/dislike system. An additional difference is that the number of likes and dislikes from other users is not displayed, and instead this system is only intended to allow the user to curate the recommended content to their preferences. While many speculated that the decision was due to the practice of "review bombing" content (similar to the

"dislike bombing" mentioned earlier in relation to YouTube), Netflix denied that this was the cause, instead claiming the intention was to streamline the process of delivering the content that users would like to watch (Scott, 2017) (Figure 8).

Figure 8— Netflix's reaction interface, which uses like and dislike buttons. The quantity of likes and dislikes is not displayed.

Among these platforms, Instagram, TikTok, and Twitter have all opted for a simple "like" feature with no opportunity for negative feedback to be expressed (outside of the comments section). Facebook uses a "reaction" system to allow for a variety of ways for users to display their emotions in response to a video, and Netflix shifted away from a public feedback system to a private user-level system intended to curate content for the user based on their feedback. Understanding how other platforms handle user feedback will help me as I move forward with redesigning YouTube's feedback system.

3 HEURISTIC EVALUATION

Because this project is redesigning a recently redesigned feature, it is important to evaluate both the previous iteration and the current iteration of the interface heuristically, so this section is divided into subsections for each iteration.

3.1 Previous Iteration of YouTube's Like/Dislike Feature

3.1.1 *What works well?*

In this iteration, user feedback was visible through the display of the likes and dislikes received on a video. A user could click the button and see the like or dislike quantity increase with their click. Additionally, users could make a surface-level assessment of the video before viewing it.

Content creators are able to use the likes and dislikes feature as one metric to evaluate the reception of their videos.

3.1.2 *What makes it work well?*

One reason why this interface works so well is because the likes and dislikes are represented by a thumbs up and thumbs down icon respectively. These symbols this provides ***affordances*** by hinting at the way the buttons are supposed to be used.

Additionally, users are able to undo their choice (by clicking the icon a second time), or changing their choice (by clicking the opposing icon). These design ***constraints*** prevent the user from responding multiple times to the same video, and the ***tolerance*** of easily being able to undo their selection or change their selection if they do make an error.

3.1.3 *What does not work well?*

The ability to see the likes and dislikes on a video before watching it can give users an indication of the quality of the video. This bias may be fair. However, if the likes and dislikes have been unfairly skewed by "dislike attacks", this will create an unfair bias against videos based on attempts by unscrupulous parties to sabotage the work of a content creator.

3.2 Current Iteration of YouTube's Like/Dislike Feature

3.2.1 *What works well?*

The current iteration of YouTube's Like/Dislike feature retains most of the qualities mentioned previously. Users can still click either of the buttons and see that their choice was registered. Additionally, content creators can still see the likes and dislikes on their own videos (The YouTube Team, 2021), so they can still use that as a metric to gauge the success of their content.

3.2.2 *What makes it work well?*

Although the number was removed from the dislike button, the functionality remains the same. The affordances of thumbs up and thumbs down buttons along with the ***constraints*** and ***tolerance*** of the user error correction all remain.

3.2.3 *What does not work well?*

The changes to the interface remove the ability for the user to make a surface-level assessment of a video based on its like-to-dislike ratio. Additionally, users may feel that their feedback is not mattering because if they dislike a video, it will not be shown to other users.

However, one thing I noticed is the lack of ***consistency*** between the two buttons (Figure 9).

Figure 9— Close-up view of the like/dislike buttons (leetag, 2009).

The "Like" button is still a thumbs-up, but next to the button is a counter with the quantity of likes received on the video. Meanwhile, the left button is a thumbs down, with the word "DISLIKE" written next to it. The inconsistency between the two buttons causes confusion about what actually happens when the user clicks either of the buttons.

4 INTERFACE REDESIGN

To redesign the like/dislike interface, I embedded a YouTube video into an iframe and built the basic interface around it (Figure 10).

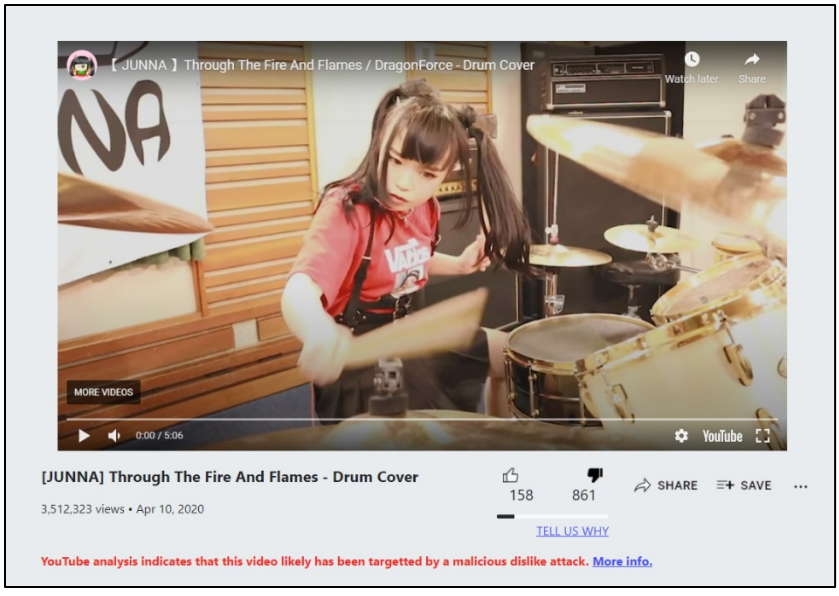

Figure 10— Redesigned Interface

4.1 Dislike "TELL US WHY" Button

When a user dislikes a video (by clicking the thumbs-down button), a "TELL US WHY" hyperlink appears underneath the dislike radio bar. This button does not interfere with video playback, and it is optional to click (Figure 11).

Figure 11—"TELL US WHY" Hyperlink beneath the ratio bar.

If the user clicks the hyperlink a series of options appears asking for their justification for clicking the dislike button (Figure 12).

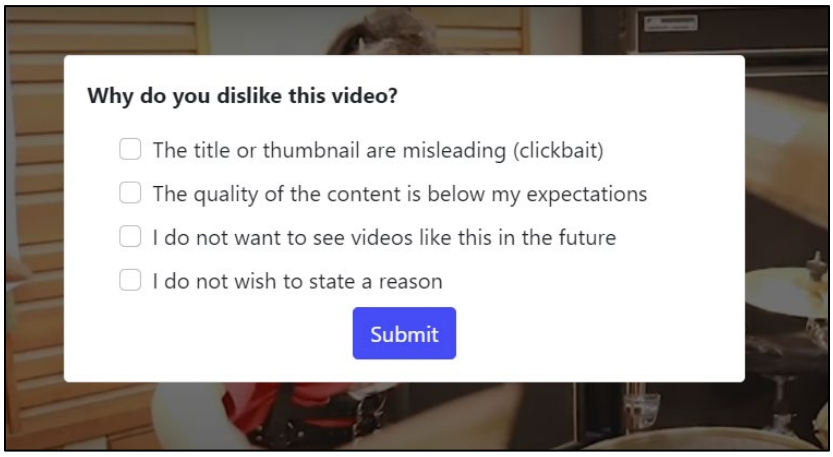

Figure 12—Pop up asking for reasons why they dislike the video.

4.2 Suspected Dislike Attack Warning Message

If an analysis of the origin of dislikes determines that the dislikes are likely primarily from a dislike attack, a red message notifying the user that a dislike attack may be the cause will appear at the bottom of the page, along with a "More info" hyperlink. Hovering over the hyperlink displays a pop up box with more info about the meaning of the message (Figure 13).

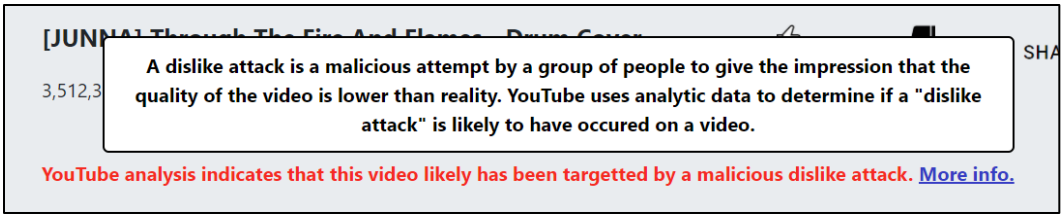

Figure 13— When a user hovers their mouse over "More info," a message is displayed explaining dislike attacks.

4.3 Prototype Link

See Appendix for URL to functioning prototype. TODO: Add code to GitHub when it is done.

5 INTERFACE JUSTIFICATION

Overall, the interface's ***structure*** is very similar to the existing YouTube interface (prior to the changes to the dislike button). The additions are intended not to take anything away from the appearance or functionality of the original interface. All of the elements which exist in the actual interface still exist in the new interface, with the addition of the "TELL US WHY" menu, and the "Dislike attack warning" notification.

5.1 "TELL US WHY" menu

The "TELL US WHY" menu is modeled after a similar menu already used by YouTube. When you click the three-dot menu next to a video link, a menu appears, allowing you the option to choose "Not interested", which adds a "video removed" menu with "UNDO" and "TELL US WHY." Clicking "TELL US WHY" leads to another menu showing checkboxes with options of why you are not interested in the video. (Figure 14). The justification for the verbiage I used in my modified interface is to remain ***consistent*** with the "TELL US WHY." Additionally, I used checkboxes and a submit button to stay ***consistent*** with the final menu as well.

Additionally, this solution was already proposed by a YouTube developer in 2019 before the decision was made in 2021 to remove the dislike counter (Bhattacharya, 2021).

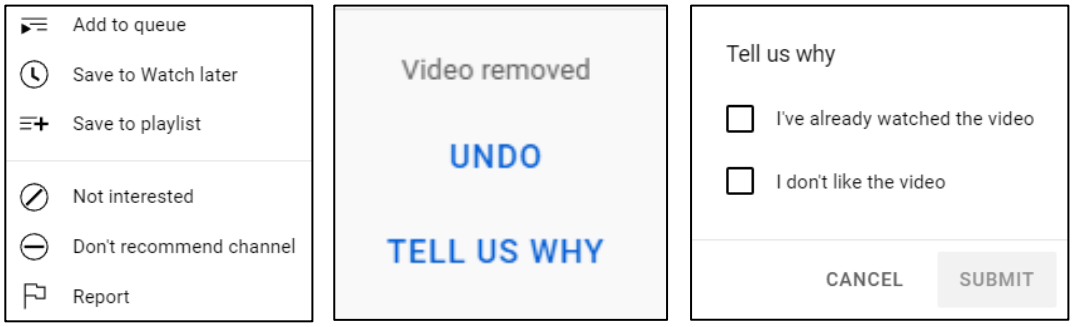

Figure 14 — From the existing YouTube interface, after a user removes a video from their feed, there is a "TELL US WHY" button, leading to checkbox options and a submit button (The YouTube Team, 2021).

Finally, when the user clicks the "TELL US WHY", the screen is overlayed with a partially transparent black mask. This is also ***consistent*** with what happens when the user clicks the "TELL US WHY" button in the existing YouTube platform. I had the choice to use checkboxes or radio buttons for the pop-up. I chose checkboxes for two reasons. First, they are consistent with the existing feature, and second, it allows YouTube to collect more data in regards to users choosing to check or not check each box (rather than only analyzing the single choice they can possibly make from the list).

5.2 Dislike attack warning

The main justification for removing the dislike feature was because the ratio of likes-to-dislikes could affect how users ***perceive*** the quality of the video. If this ratio is skewed by malicious parties, then the perception will not match the reality. In order to address this while still retaining the dislike quantity, my interface uses a red notification when there is a suspected dislike attack. This would change the perception of users to understand that the ratio may not accurately represent the quality of the video.

There were many choices of how to implement this. I considered having a message overlayed over the video so the user would see it before the video plays, however, this seemed unnecessary, because the only people who this message

will matter to are the ones who are actually observing the like/dislike ratio. I used red text to catch the eye of the user in this case, so they will easily be alerted to the fact that the like/dislike ratio may not reflect the true quality of the video.

When the interface shows that a video is likely to have been targeted by a dislike attack, a user may not know what this refers to. However, putting all of the information on the screen would have been overwhelming and distract from the video. This would violate the design principle of ***simplicity***. Instead, if the user would like more information, the hyperlink "More info" is available. It is the standard color which is ***consistent*** with other web platforms. This tells the user that they are intended to interact with this using their mouse.

The behavior of this link is not consistent because rather than requiring a click and opening a new page, this link simply requires hovering over to display more info. However, even if the user clicks on the hyperlink, nothing bad will happen, and the interface will still function as intended as long as the mouse remains hovered over the hyperlink. The ***flexibility*** of the interface overcomes the lack of consistency.

The window closes automatically when the user removes their mouse from the hyperlink. This is a very ***simple*** way of finishing the task. Even more simple than clicking an "x" or "close button" on a new window.

If this were performed on a mobile device, the behavior would be altered as mouse hovers do not work. Instead, it would be a click-toggle behavior, where the user clicks "More Info" and the pop-up window toggles on, then they click "More Info" again, to toggle it off.

6 EVALUATION PLAN

Because so many participants in the survey seemed to have neutral feelings about the like/dislike feature, many even saying that they never use it, the best choice for an evaluation plan was a predictive evaluation. Additionally, when deciding between a GOMS Model and a cognitive walkthrough, because I wanted to approach the problem from the point of view of a novice user, a cognitive walkthrough made more sense.

For this walkthrough, I approached the UI with several different intentions. The reason I wanted to focus on several different intentions is because I wanted to see how much impact the changes have on users depending on how they

intend to interact with the interface. For some use cases, the interface changes should not even be perceivable, while other use cases will be quite different. I wanted to ensure that the interface changes, even in the most drastic use cases, do not impact the overall ability of the user to use the YouTube interface for its main purpose, which is watching videos.

6.1 Intent to like

The first intention I performed a cognitive walkthrough of is a user who wants to like a video because they enjoy the content on a video where there is no dislike attack present. If a user does this, the interface changes should be completely invisible, as they will only appear in other use cases.

6.2 Intent to assess

The second intention I performed a cognitive walkthrough of is a user who intends to evaluate the quality of a video based on initial viewing of the title, views, and like/dislike count/ratio. The video they analyze would have a suspected dislike attack present. This means that the video will have a poor like-to-dislike ratio, but it will have a message displayed that the video is suspected of having a dislike attack present.

6.3 Intent to dislike

The final intention I performed a cognitive walkthrough of is a user who wants to dislike a video. Their intention for disliking the video is due to the thumbnail they clicked on not matching the actual content of the video, rather than to maliciously attack the video. I wanted to see how much impact the new "TELL US WHY" button would have on a user in this specific use case. I needed to know how likely the user was to click on the "TELL US WHY" link if they were genuinely attempting to dislike a video for what they considered a just reason (rather than for malicious reasons).

7 EVALUATION EXECUTION

I executed the cognitive walkthrough predictive evaluation for each of these three intents, and the following sections are the results of those evaluations.

7.1 Intent to like

When approaching the video from the point of view of a user who simply watches the video and decides to leave a "like" due to enjoying the video, the

interface is completely invisible when compared to the actual YouTube interface (prior to the changes to the dislike feature). The user simply clicks the "thumbs-up" button and no other messages or links appear.

This fits with the intention of my UI changes, as they should only be present for specific use cases.

7.2 Intent to assess

During this cognitive walkthrough, I observed the behavior of the prototype from the point of view of a user who wants to assess a video before watching it, with the video having a poor like-to-dislike ratio, but a message that the video is suspected of having been the recipient of a dislike attack.

When I scrolled down enough to notice the like-to-dislike ratio, my eyes were immediately drawn to the red text nearby with the notification. The text was short enough to read easily and gave enough information. The "more info" hyperlink was clearly indicating that the mouse was required to interact with it. Moving my mouse over the link initiated a pop up before I could click on the link. It seemed very intuitive that this was reacting upon hovering over the link, but this may be simply because I am an experienced user. Just to test, I clicked on the link, which made no difference. The message had a more in-depth description of what had occurred, and clearly explained the suspected attack. The pop up still worked as intended. Moving the mouse away closed the pop up.

A user in this circumstance should be able to interpret the meaning of the message which will change their perception of the quality of the video prior to watching it.

7.3 Intent to dislike

In this cognitive walkthrough, I approached from the perspective of a user who clicked a thumbnail to open the video and found the contents of the video did not meet their expectations, so they wanted to dislike the video. When the user clicks the thumbs down button, a blue hyperlink appears beneath the ratio bar saying "TELL US WHY." However, even before clicking the button, they can see that their dislike was registered, and the number of dislikes changes to demonstrate. This is intentional, as users may feel that YouTube would be

trying to bias the viewer towards liking a video by adding an additional hurdle to the dislike feature.

If the user chooses to click the "TELL US WHY" button, the screen is overlayed with a partially opaque black mask along with a series of checkbox choices and a submit button. Making their choice(s), and clicking "submit", the UI returns to its previous state.

In this use case, the user quickly identifies "The title or thumbnail are misleading (clickbait)" as their target reason, clicks it and then clicks the submit button.

7.4 Discoveries during cognitive walkthrough

Overall, I felt the cognitive walkthrough affirmed that the choices made worked well. Obviously, it is hard to completely immerse myself into the mindset of a novice user, but it seemed that everything worked as intended, and nothing stood out as needing to change drastically.

Possible changes which could be made are a "cancel" button in the "TELL US WHY" pop up. However, I originally left this off because I thought a cancel button would make the user think they cancelled their dislike as well, which would not be the case.

Additionally, I think shifting the "dislike attack" notification to align with the right side may work slightly better, as that would make it closer to the like/dislike bar. However, the red color seemed to draw the user's eyes quite well.

8 SUMMARY

YouTube's controversial decision to remove the dislike quantity from videos has drawn the ire of both video viewers and content creators alike (BBC, 2021). The justification for this decision was that it would help to reduce the impact of "dislike bombs" or "dislike attacks", where malicious parties intentionally bombard videos with dislikes in order to harm content creators by changing the perception of their videos negatively (The YouTube Team, 2021).

My UI change offers an alternative, two-pronged approach to handling dislike attacks without removing the dislike quantity. First, when a user dislikes a video, they are optionally presented with a list of reasons why they may dislike the

video. This is not intended to act as a hurdle reducing the chance of disliking a video. Rather, it is a way to collect data on how videos are being disliked.

These reasons, along with other analytics can be used to create a function that would determine with some level of certainty whether or not a video had been "dislike attacked." For example, maybe the statistics show that when a user clicks "TELL ME WHY" and selects every reason from the list, they are more likely to be participating in a dislike attack than giving genuine feedback. Additionally, if a user clicks the dislike button before the play button, or if dislikes are originating from the same location, those could demonstrate that the video has been targeted by dislike attacks.

The second prong is notifying the user if a video has been the target of a dislike attack. The red text stands out and gives a viewer a notification that the video is likely to have been "dislike attacked." This would change the perception of the user so they would know that the like/dislike bar may not accurately reflect the quality of the video's contents, reducing the overall impact of dislike attacks.

The intention of this redesign was to demonstrate that solving the problem of "dislike attacks" is fairly straightforward, and one that is well within the capacity of YouTube to do so. In fact, YouTube developers had already proposed similar solutions in 2019 (Bhattacharya, 2021). However, if that is the case, then why would YouTube have not explored some of the same ideas especially considering the expected backlash from removing key functionality from their platform? The conclusion that I drew is the same as many others, that this decision is not to prevent individual content creators from dislike attacks, but instead is intended to protect advertisers, who financially support YouTube, from receiving any negative feedback from individuals (Abraham, 2021).

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10 APPENDIX

Functioning Prototype: https://www.danteacher.com/HCIYouTube

GitHub Repository: https://github.com/DanielWhite83/HCIFinalProject