Methods Assignments: M1

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Abstract. With the recent leap taken in the internet speed boom from 3G to 4G the video sharing and watching applications like youtube, Netflix and amazon prime has involved almost entire globe as the internet has become fast and cheaper than before and video streaming has become a most spend leisure time activity for humans. In this paper I will try to address 2 major challenges I feel exist in current youtube video streaming mobile application, mainly the video recommendation system based on watch history and the "like/dislike" functionality.

Problem Space

Youtube is one of the largest growing business video sharing application which has widespread across the globe in terms of its usage and its popularity. It offers a user to view, upload, share, comment on a video and that's what makes it unique. With the recent new design of the youtube mobile app, you can have fun exploring new videos easily and quickly ever before.

Redesigning Youtube Recommendations:

Your watch history allows youtube to suggest you the recommended content to watch. But sometimes it gets annoying for the user to show the related content to what he is watching. Youtube is an entertainment video sharing application and it's not always that a user would like to watch similar videos to watch history. You keep on scrolling down and all you see is related content. Nothing new! And it happens whenever you watch a video, youtube just remember what you watch and all your home page is full of similar recommendation. This is one domain where I would like the application to design better so that it can understand when to show related content and when not to. Currently, One way to do so is by clicking on 3 dots and select "Not interested" button as shown in Figure 1. But this method has first a large gulf of execution and second, it disobeys the basic principle of HCI, i.e

Understandability. No one actually understands how this thing actually works. You can find many Reddit links like this which shows the frustration of the user while using youtube.

Redesigning Like/Dislike:

Secondly, the "like" button functionality is the key important signifier which I believe strongly require alongside watching the video, because otherwise a user mostly forget to like or unlike a video as he will have to get out of fullscreen mode as depicted in figure 2 and also have to be careful that auto next is not on. Similarly turning on the captions involve large gulf of execution. The "like" functionality is the basis on which a video is considered popular along with the number of views and contribute towards the recommended videos to be shown to a user.
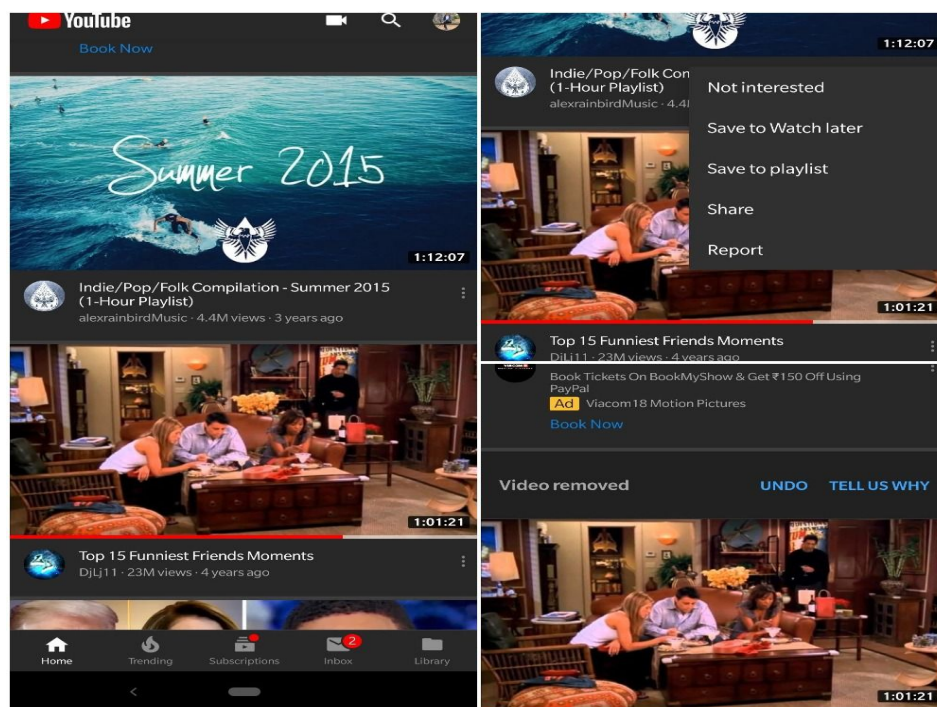

Figure 1. Left Image: Shows a sample video, observe the 3 dots. Top right: after touching the 3 dots. Bottom right: After we touch "**Not interested**" button.
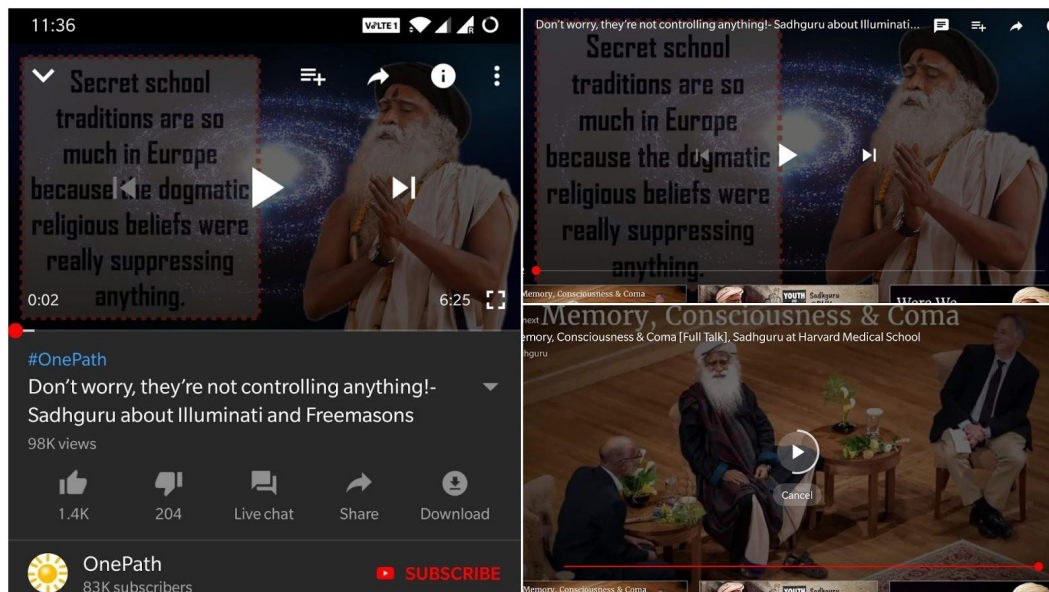
Figure 2. Left Image: Shows a video with options to like dislike. Top right: Video after going into full screen. Bottom right: The autoplay functionality..

The Impact:

Like functionality has a huge impact on the recommendations that we see and if someone misses to like/dislike it is clearly a gap to better calculate the recommendation videos. You can see for a typical video in a youtube the like to views ratio is 1:10, and that is partly because of the problem described above. If the designs are simple to use than we can improve this ratio definitely.

User Types

The new design will primarily be aimed for all the worldwide general users whoever uses youtube to watch a video. As shown in figure 3(**Artyom Dogtiev**[1]), It is interesting to see the demographic distribution of youtube users worldwide to understand that a very large number of the population watches youtube and each

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[1] http://www.businessofapps.com/news/author/artyom-dogtiev/

users activity on liking and disliking a video matters. However, for this paper survey, my target users are adults above 18 and over. They might be simple persons, need not be tech savvy, but yes I assume a base level of technical proficiency.
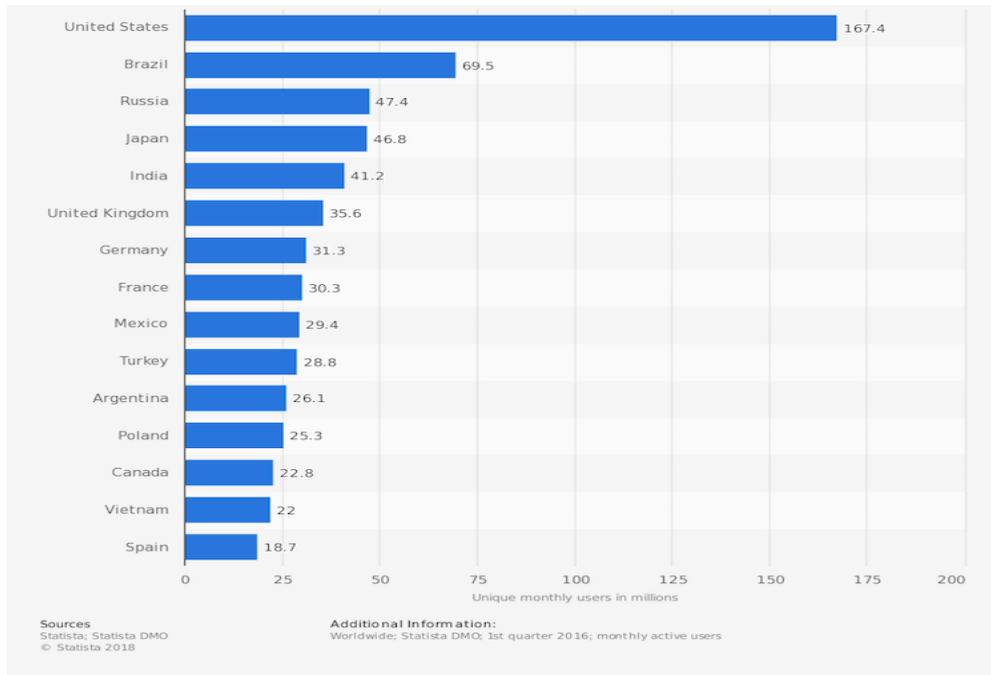

Figure 3. Distribution of youtube users across the globe.

Needfinding plan 1

In order to address the design challenges mentioned in the introduction, it is most important for me to first understand and investigate the existing user interface for all the functionalities it present for video recommendation features and a video's like/ dislike functionalities before jumping directly into youtube.

Analysis of existing user interfaces:

For the analysis of the existing user interface, I am going to choose 3 popular videos streaming mobile application.

- Netflix
- Youtube

- Amazon Prime

Youtube is my target application to implement the design. I will investigate Netflix and Amazon prime video application to understand the design and implementation of their recommendation system from a User-centric point of view and how directly it is involved with a user-specific needs. These applications are very easy to find and install. All of these applications are available in the google play store, so they can be downloaded from there and can be evaluated for our research. The target of this need finding can be bulleted out as:

- Explore Netflix and amazon prime for their design for recommending a video to a user. How often they show recommendation? How easy it is to avoid the recommendation and see something new in your feeds? We need to answer all these questions.
- Explore Netflix and amazon prime to understand how their video player introduces features for liking/disliking a video. How easy to like or dislike there? What is the Gulf of execution and gulf of evaluation there? Does like/dislike matters in these applications?

We will also need to answers more broader and important sets question for needfinding like:

For **Netflix** and **Amazon Prime:**

What is the context of the task? The context is to figure out the design methods for video recommendation system and like/dislike functionality and their impact on the recommendation.

What are their goals? Goals of both Netflix and Amazon prime users are same but different from the goals of youtube. While youtube is a free video streaming and sharing platform, Netflix and Amazon prime are paid platform to watch movies, series, and documentary.

What are their tasks? The task of both Netflix and Amazon prime is to provide the videos and suggest recommendations based on the watch and search history of a user on these platforms.

What are the subtask/Questions?

- From a **processor** perspective, what are the minimum and a quantifiable number of steps that I need to take in order to like/dislike a video? What is the minimum number of steps to remove the recommendations?
- From **predictor** perspective, is the layout is clearly understandable? Are the buttons and behave with standard conventions?
- Look at the **Gulf of execution**: Check how large is the gulf of execution while performing a task of like/dislike and removing recommendations.
- Look at the **Gulf of evaluation**: Check whether a user is notified or intimated of the action he performed to like/dislike a video or remove a recommendation.

Biases:

I need to be aware of my own biases and prejudices while observing the interface as the evaluation in this stage is mostly objective evaluation. To tackle my biases I will be consulting with my friends as a review process to make sure no biases are getting added here.

Needfinding plan 2

Another plan that I will incorporate to do needfinding study is to research and study various reviews and source to identify what other people faced.

Analysis of Product reviews:

What will I do? I will read the reviews from multiple sources like trustpilot[2], consumer review[3], reddit[4] to know the behavior and experiences of the other users. The reason for using the various platform to use is first to supplement the amount of data if some reviews weren't available at one site, secondly is to avoid the biases based on platform-specific users. A specific group in a Reddit might hate youtube, so I need to make sure these biases are not getting added in my research.

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[2] https://www.trustpilot.com/review/www.youtube.com
[3] https://www.consumeraffairs.com/online/streaming-services/
[4] https://www.reddit.com/r/youtube/

What data will I gather? I will be gathering qualitative data instead of quantitative as this experiment will be done solely by me. I will try to answer some questions like:

- How easy is to access the like or dislike button for me?
- How does the home screen videos popping behavior changes by using "Not interested button"?
- How does watching a single trigger how many new recommended video with the same one in the mobile application?

These details need to be explored in the needfinding plan 2 because it is extremely important to understand the domain and depth of the behavior of the challenge that I will be trying to solve here. We also need to answer the data inventory question like:

What is the context of the task? The context would be to use the youtube application extensively and in detail to observe and note the behavioral changes when watching a video and its recommendation system. Also to observe how complex and easy it is to use the like dislike functionality of the youtube.

What are the goals? The goal here is to clearly mark a demarcation point with the study done in need finding plan 1 and compare the task and its behavior within these 3 applications namely Youtube, Netflix, and Amazon Prime. My results should be summarizing a report answering questions like the top frustrations of users on these platforms. How easy and uneasy for them to use like/dislike button. Are they happy with the current recommendation systems?

What are the tasks? The task is to find answers to the questions mentioned above with respect to the functionalities of like/dislike button and recommendation system.

What is the context? The context here is to go through all the review websites and see what are the observations on the same challenge by other users.

Biases:

As mentioned earlier the biggest concern of biases here it the preconceived user thoughts belonging to a specific group. The reviews need not be biased, and this is the reason to choose multiple sources to get the reviews.

Needfinding plan 3

I am going to conduct a survey asking multiple questions to seek advice and feedback from the different users to understand the needs and solutions to the problem here. There can be many other methods like interviews which can be done but I have chosen survey as they are easy to conduct online and more importantly with the ease of internet we can monitor the survey asynchronously.

Surveys:

The survey will start with some basic demographic questions followed by general usability questions on the platform and then jumping into question specific to the task we are discussing here.Please find a full list of questions in the Appendix. Please note that I might alter/change question as per my research and investigation.

Who will you ask? These question will be asked majorly with the adults who are 18 and above who are most likely to use youtube and aware of its functionalities. There will be at least 20 people in the survey that I will target for this assignment.

What is the Goal here? The goal here is to receive the meaning full data from a set of people to know their opinions on the survey question specifically I want to know the various context and scenarios in which the application is used and how useful the features a user found in the youtube application.

What are the tasks? The task is to ask multiple questions to know the opinion of other people taking into mind the biases on the questions.

What do they need? They will need access to internet and a system or mobile phone from where they can submit their responses.

Biases:

I need to make sure the questions asked in the survey do not hit any bias related question. The questions need to be as general as possible. One option is to add "please elaborate/explain" option to include other opinions as well here to avoid biases.

Appendix: Survey Questions

1. **Question:** Select your age from the range available(1-10,11-18,18-30,30-above).
2. **Question:** Level of expertise in using youtube, i.e how familiar are they with youtube functionalities from 1-5 rank.
3. **Question:** Amount of hours spend on an average on youtube daily(a blank form as the input may be variable)
4. **Question:** What another platform you use other than youtube like Netflix, prime. The objective here is to know whether a user already knows the other interfaces or not.
5. **Question:** How do you watch videos on youtube(on a laptop or on mobile). This question is very crucial as to know the interface as the designing mobile platform is different than designing web application.
6. **Question:** How satisfied are you with youtube recommendation system on a scale of 1-5.
7. **Question:** Do you get bothered with so many recommended videos popping up when scrolling down the youtube mobile application.
   A. Not really
   B. Sometimes
   C. I never noticed
   D. Always
8. **Question:** Do you aware of "Not interested" feature of youtube to avoid recommendations(Yes or No)
9. **Question:** If you answer "YES" to the above question then how easy you find it to use.
   A. Very Easy and does what is expected.
   B. It doesn't really work still after selecting.
   C. It's hard to find the option and easy to forget as well.
   D. Waste feature to use
10. **Question:** How often do you use like/dislike feature of a video?

A. I like/dislike every video I watch.
B. Sometimes I do like/dislike.
C. Does not know its purpose, so don't use.
D. Never use.

11. Question: How often do you watch a video on full-screen mode? (always, sometimes, Never)?

12. Question: Do you use autoplay feature of youtube? (YES or NO)?

13. Question: How difficult is it to find the button for like/dislike for you once you finished watching a video.

A. Easy to figure out, but have to exit from the full screen.
B. Easy to figure out but misses it due to autoplay feature.
C. Easy to figure out and perform the action.
D. Difficult to find.