

Assignment M4

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Abstract—The task that I will be investigating for my M assignments is redesigning the search bar for YouTube. Currently, YouTube's search function is very simplistic. It maintains a Google-like style, showing most recent searches in purple and then the closest matching titles as you type in what you are looking for. Spotify's search bar is a great example of what is possible with a good redesign, not just matching the keywords to titles but also bringing up images of albums along with some small description to help the user find exactly what they are looking for. In this assignment, I will investigate how the YouTube search bar can be redesigned to be more complete and compete with the search functions of other interfaces.

1 QUALITATIVE EVALUATION

For the qualitative evaluation I will be conducting surveys to evaluate my paper prototype. The paper prototype shows the different ways the interface can be interacted with and the different displays available depending on the way the user interacts with it. Using a survey to evaluate the paper prototype keeps things relatively simple as they do not have to be delivered asynchronously and I can get as many responses as possible because the surveys will not require a lot of the user's time.

I plan on sending a copy of the paper prototype to each participant, followed by the survey. After receiving the material, they will have time to go over the paper prototype and then answer the survey questions before returning their answers to me. I am not planning to give them any direction on how to interact with the prototype, as that would likely influence their answers on the survey. By using the survey, I am able to remove some of the possibilities of introducing my biases and I will likely be able to obtain better feedback. I plan to get at least twenty friends and family to participate in this survey. This way I will get a reasonably sized data set, including possible users of all ages and experience levels. Because

this will be more of a detached evaluation, I will not be listening in on their interaction with the prototype, so the only data I will have will be in the form of the survey the participants fill out.

My survey will contain the following questions:

- Agree or Disagree: I would consider myself a novice user when it comes to YouTube
- True or False: having the images appear in the relevant list helps you find what you looking for
- On a scale of 1-5, how easy would you say it is to find the videos you want compared to other search functions you have used?
- True or False: changing the color of the history of searches helps you identify previous searches easier
- On a scale of 1-5, how does this search function compare in terms of general look and feel to other interfaces you have had experience with?
- On a scale of 1-5, using this search function, how confident would you be that the video you selected from the list of relevant videos is the one you were looking for?

Each of these targets a part of my requirements phase. The first question will help me distinguish between the users that consider themselves to be novice users and those that are a little more familiar with the interface. If I get a lot of responses of 'True' to the true or false questions, I will be more confident that the changes to the interface are actually meeting the requirement of making the interface easier to use. The range questions are a good way to help me understand how comfortable the users feel when using the search function. They are also a great way to gauge how much the user likes the search function in comparison to others they have used. If they are consistently giving low ratings on the scale, I will know that the changes are not improving the users experience and are actually hindering them from finding content quickly and efficiently.

2 EMPIRICAL EVALUATION

For the empirical evaluation, I will use the idea from my paper prototype. This idea involves redesigning YouTube's search function by taking the current display and adding the thumbnail and more details to the list of relevant

searches that appears below the search bar. So instead of having just a list of text for recommended searches when the user types in their search keywords, there will be a list of the most relevant content with the thumbnail of each title displayed to the side of the title. This way the user can get a better idea of what content they are searching.

Because this is more of a redesign on an existing interface, I will use the existing interface as the control for this evaluation. The experimental condition will then be the search interface with the thumbnails added to the relevant titles. The main thing I want to test with this experimental condition is whether or not it improves the searching experience for users. Mainly, I want to see if adding this visual component and essentially allowing the user to skip a step in the process for searching and bringing up content will allow them to access videos more quickly and efficiently.

In order to test this, I will measure the time it takes for a user to get from the home to a specific video using the search function. My null hypothesis would be that the new prototype makes no difference at all, meaning that adding the images may look pretty and be more appealing to the user but functionally does not add any benefits. This implies that the alternate hypothesis is that the new prototype significantly enhances the speed and ease in which the user can navigate the search interface and locate the content they are looking for. In order to account for the variability in the amount of experience different users might have with YouTube's search function, I will use a within-subjects experimental method so that every user is tested on both the existing interface and my new prototype. I want to make sure to randomly assign which interface a user uses first so that they are not all trying one of the interfaces first as this may influence the data collected.

To evaluate if there is significant evidence indicating that the user was able to find the video quicker when using the new prototype, I will use something similar to the Student's T test that was mentioned in the lectures. This would likely give me the best indication because this is a quantitative evaluation. There are some lurking variables that may influence the data and should be accounted for. One of those being the varying experience levels of the users. Different users may have more experience using YouTube's search function, so their data may be significantly faster than the more novice users. This would skew the data a bit and may lead to misleading conclusions. Another lurking variable to be aware of

is whichever interface the user uses first may naturally be slower because it is their first time experiencing it. Once they've had some practice with the first test, they could very likely be much faster on the second interface simply because they have just used one that is relatively similar and not because the design is overall better. Finally, I would want to be aware of any possible bias that I could introduce to the evaluation. I would not want to be overly descriptive in any way about how the user should use either of the interfaces. I want to make sure that the user is searching for things whichever way they think is best, and not the way I tell them. By trying to stay distanced, I can more accurately replicate a user's true experience with the interface outside of this evaluation.

3 PREDICTIVE EVALUATION

For the predictive evaluation I will be performing a cognitive walkthrough. I am choosing this type of task analysis because I am more concerned with making the search function easier to use for novices. The experts will also benefit from this change, but they are not necessarily the focus of the redesign.

The task I will address with the cognitive walkthrough is searching a specific video. Specifically, the main goal will be to find the Celtics highlights on SportsCenter from the previous night. To achieve this goal, the user must find the specific video that meets the three criteria laid out in the previous sentence. They will also want to complete the task as quickly and efficiently as possible. The user will not necessarily know how to accomplish this goal in advance due to the fact that they may be a novice user, so part of this procedure will be evaluating how the user navigates the interface to find this video. I am curious to explore all of the possible avenues the user can take to find a video, and whether or not it is obvious to the user which path they should choose in order to find the video they are looking for the fastest.

There are many operators available to the user and a few different paths they can take to get to the video they are looking for. From the home page, the user can click on the search icon in the top right of the screen. Depending on the device they are using, they may just be able to click on the search bar at the top of the page. While in the search interface, the user can either begin typing or they can scroll through their recent searches. Once they begin typing, the most relevant videos will begin to appear in a scrollable list below the search bar. The user can

always stop typing to scroll through this list or select a video in the list. If they select an incorrect video or change their mind, they can click the back button to go back to the search results, or they can scroll down to the list of relevant videos below the video.

Another operator available to the user when they open up the application is to click on the explore page. They can then select a specific category (in this case sports) to redirect them to the sports-specific page. From this page, the user can click the search option to search from within the sports category for their video. From this point on, the operators are all the same as when the user was typing into the normal search bar. The other option for the user from within the sports category is to scroll through the popular or most relevant videos on the sports page. If they happen to find the video they are looking for in this list, they can click on that video to bring it up.

4 PREPARING TO EXECUTE

The two evaluations that I plan to complete in the next assignment will be the qualitative evaluation and the predictive evaluation. One of the reasons I am not pursuing the empirical evaluation is that I am not confident that my prototype is ready for an empirical evaluation. On the flip side, I do have plenty of people I can round up to take my surveys to get a solid qualitative evaluation. I also want to perform a predictive evaluation because I think it will help me understand the point of view of a novice user better. Because I ultimately want to make the search function easier to learn and use, performing a cognitive walkthrough is a good way to evaluate whether or not my prototype is accomplishing that goal.