# Research Report

How Netflix and other Streaming services' UI makes you binge-watch

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#### Introduction

Ever since Internet became commonplace, people have dreamed and wished for videos to be streamed to them in real time. This demand was quickly fulfilled and in the today's world, a person can begin playing a video segment even before the entire video has been transmitted. This has become the more preferred way of watching videos now instead of having to wait for a download to complete before playback. We have gone from patiently waiting and downloading a few MBs of video files, to instantly playing crystal-clear, hi-resolution videos on any screen in our house. There has also been a rapid decline in set-top boxes provided by cable companies. They surely do stream the latest movies and shows but give hardly any usability options to users, their schedules are often set, and shows are not available whenever you feel like watching them. No one wants to go through the hassle of recording a show, either. Since YouTube's success, more and more streaming apps have popped up over the years, yet only a few remained. The biggest strength of the ones considered successful seems to be their user experience and retention power. The more engaging a platform is, the more profit these companies can make, in an already competitive market. "Video is expected to grow 14x within five years and account for 70% of mobile network traffic" according to Reuters Research <sup>[2]</sup>. As a result of this preference, video streaming has received a substantial amount of research attention in the past two decades, from both academia and industry. Machine learning and Artificial Intelligence are two leading research areas that provide valuable input to streaming services. Platforms carefully tailor content using AI and ML to track data of what you like to watch so they that they can suggest additional content based on your interests [5]. Adding the "skip intro" button is not merely a coincidence; it encourages you to keep watching and makes you feel like you saved time. Auto-playing previews draw your attention and give the illusion of infinite choice on these platforms. These studies enable us to learn how the best and brightest are leveraging UX design to keep your wandering eyes glued, and your thumbs furiously scrolling for more.

# User Interface Design

The first thing you see when you open Netflix is "Who's Watching?", you select your name and proceed. This is a human-screen interaction where the human tells their name to the machine and the machine is ready to serve them, personalized right up front and makes you feel like you're about to have some real "Me" time. These platforms use controlled A/B experiments to test nearly all proposed changes to their product, including new recommendation algorithms, user interface (UI) features, content promotion tactics, originals launch strategies, streaming algorithms, the new member signup process, and payment methods.

People are always appreciative of features that support diversity and inclusivity. There has been a surge in LGBTQ+ content on the internet and more and more people click on links pertaining to this topic, so how can streaming platforms adapt to incorporate this audience? The front runner here is

Hulu, which has an entire LGBTQ content section based on this community and shows that the community is likely to watch.

Hulu is unique in another way, it prioritizes on updating the recommendations as soon as you add an item to your watch list, this is by far a step up from Netflix where real-time personalization does not happen <sup>[1]</sup>. Hulu has many ads lined up; users often see three back-to-back ads in the middle of an episode. This technique works because users are already invested and want to finish their current episode, they do not think about quitting the application at this point. At the end of an episode, however, there are no ads, because they do not want you leave, instead the next episode starts, and you are hooked for another 25minutes.

Amazon uses a big green button for "Watch Now" under their shows, nothing says let's do this like the green Go sign so here, the platform uses our association with color to their advantage <sup>[2]</sup>. It also has another lure up its sleeve, owing to its partnership with IMDB, Amazon displays reviews, user ratings, IMDB scores, trivia, and much more to give you reasons to watch the show. This is an example where users didn't know about the show a minute ago but was made aware of how many people liked it and all the great things being said about the movie to convince them to take the plunge. This also enables them to load Cast details to keep users inside the app during those "where do I know him from?" moments during which users typically take off to a web browser and user retention is temporarily broken.

## **User Interaction Design**

Have you ever noticed why using Netflix seems like second nature and you knew right away how to go about the platform? This predictability and sense of familiarity is thanks to careful introspection that Netflix's designers undertook while creating its UI <sup>[4]</sup>. It is meant to remind you of a video store, a familiar memory for most of us. It looks like shelves of movies/shows in their DVD cases. You are interacting with items on each shelf, picking one up, bringing it closer, flipping it over to study the copy, putting it back. Maybe you pause to look up at the wall and notice a massive poster for the latest thing which just came out, so you examine it. When you were in the rental store, you didn't know what you wanted, and that was ok, because the store was set up in such a way that your decision became more clear as you experienced different parts of the store, with minimal friction. That last part, as much of a formality as it may seem, is the only reason our memories of the video rental store are pleasant ones. Users have a similar interaction with Netflix, where they move up and down the shelves, finding content that they would like to watch, with the added advantage of "the store" knowing your personal likes and dislikes and remembering them every time you visit. In other words, Netflix gave us the ability to bring our couches to the rental store [4]. They reimagined the store with a custom-tailored section for each user, promoting items which fit the user's profile, and suppressing items which were outside of the comfort zone.

Let me walk you through an example where we will discuss the different tactics of user interaction used by these streaming applications that keep you engaged but are seemingly unnoticeable by the end-user. Netflix has a black background which gives the classic theatre-mode experience. Then appears the lists of movies/shows which, although minimalistic, gives preference to My List then Top Picks for You which shows that personalization takes the lead and makes you feel special  $^{[5]}$ . The lists are shown in a horizontal fashion with partial tile images that encourage horizontal scrolling and discovery of more items in the list. This way the user smoothly learns to scroll through the list without the use of Next/Previous buttons which can take up valuable screen space. Once you select the show you want to watch, the screen is stripped of all personalization and the only focus now is for you to hit play before you get a chance to stray away and do something else. The player interface is again very minimal, leaving only functional elements on the screen. At this point itself, the platform is a success because once you start watching an episode, you will likely continue watching it until you finish it. The end of an episode also brings in a brilliant UI interaction, the post-play experience hooks you while the cliffhanger sets in and the credits are still rolling. The highlighted button is of course, "Play next episode", with just a single click you will be able to maintain the momentum of this delightful experience. This is brilliant not only because of the ease of clicking that single button but because it encourages that classic binge-watching reflex of "just one more episode". Even if you do not click anything, the "Play next episode" button has been loading and shortly after, the next episode starts playing. You can continue doing whatever you were doing, and the streaming is uninterrupted, that is the beauty of these platforms, once you're in, you're in until you physically push yourself out of this binge watching cycle.

## Data Security Requirements

Streaming services currently provide various levels of data security. They provide security of Identity of the user, which is implemented by providing an authentication framework that appropriately validates user identity on the content-handling network. In conjunction, they implement an authorization framework that grants permissions based on least-privilege and strong authentication. Sharing passwords is a risk to cybersecurity that could even potentially result in identity theft via the holder's other accounts. This is because many people use the same password across accounts. Hundreds of stolen passwords for Netflix, HBO, Hulu, and more are discovered for sale on the 'dark web'.

At the same time, for these streaming services, nobody is pulling the wool over their eyes, Netflix and other platforms are aware of just how many users are sharing their account credentials. There is no doubt that these companies are estimating the scale of unofficial sharing. It is their job to factor these lost costs into their pricing model. In some ways, the users who are following the official policy on account sharing (i.e. not doing so) are funding the screen time of those who are much more lenient.

Customer experience is core to the model of major media streaming services like Netflix. Netflix designed their site to be easy to use and easy to access <sup>[3]</sup>. This is why, we should not expect Netflix and others to completely abandon their culture of "sharing is caring". For now, Netflix advises its

consumers to be vigilant of any unusual or unfamiliar activity on their account and recommends changing passwords regularly.

It is also unlikely they will go cold-turkey and force more stringent and laborious multi-factor authentication upon all their subscribers as the default. Consider a potential future of account sharing, wherein streaming services can solve this identity paradox, providing a seamless way to verify the paying customers are who they say they are, while also encouraging and embracing this underlying sharing ecosystem with temporary (and secure) access privileges for non-subscribers. This can easily be granted with a simple text message, email, or swipe.

#### Conclusion

As streaming platforms become more and more popular and their trends change, media giants need to keep evolving their UX and UI to appease audiences, who happen to be their most important stakeholders. Users have grown accustomed to a fairly standardized interfaces and set of features on streaming platforms. So, as the streaming war heats up, it feels like apart from price and content, the user experience will be one of the biggest factors in determining who comes out on top. Being able to create a design that benefits the brand, without getting in the way of content for the users is incredibly important.

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