



Skimo TV's long-term View: From 'Rabbit Ears' Television to Omni-platform Television

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From the 1960s till today, Television is the most popular and watched medium on the Planet, despite the Internet and Blockbuster movies.

When Television was first introduced, its programs unsurprisingly resembled the Radio Show format. We have come a long way from the "Rabbit Ears" Antenna times to the present time. Subscribers today decide to watch, whenever they want to, wherever they are, using the device they have with them and "however much", i.e., binge-watch an entire season using their large screen TV or "snack" an entire episode in few minutes, at their kids' soccer practice, using their mobile phones, by manually moving the seek bar.

At the present time, TV shows watched in the TV, have the same experience as watching in other devices, such as the Tablet and Phone. In the coming years, we are headed to an omni-platform experience, just like TV emerged away from Radio. The following sections, provide our long-term view of the omni-platform Television experience.

"However Much" Television

Mobile devices are not naturally conducive for Binge-watching. Instead of manually moving the seek bar, Skimo Highlights would naturally provide the affordance of "However much" Television.

Skimo Highlights, which are apps generated using the Skimo ID metadata would be natural for "catching up" or "snack" an entire episode in few minutes, at your kids' soccer practice, using your mobile phone.

Skimo Highlights can take any tv show, in any language and create a 2-3 minute complete summary of the video automatically, functioning as a seamless bridge for the sequential multi-screen consumer experience, by

utilizing the consumer's micro-moments, generating the "found time" joy, resulting in hyper-engaged TV show viewers.



“Appointment as a feature” Television

Some envision a world without Appointment Television, with TV providers offering their programming on-demand using apps, in different devices. We don't subscribe to such an extreme view. Rather, we see a transition from an appointment-centric television, to an appointment-as-a-feature television. The reason for this view is two-fold. i) Appointment provides a natural "lean back" way of discovering content. ii) Appointment provides a secure dimension of "looking-forward-to-ness" to people's lives.

Therefore, appointment television will prevail, as a feature.

Socialize TV - A Real-time TV Web for TV Channels

Social Television, the union of Television with Social Media doesn't enrich watercooler conversations, which increases engagement.

We live in a culture, where people habitually use their mobile phones to learn more about the topic, in the middle of a conversation topic. With a Skimo Real-time TV Web, it is possible to view Skimo highlights of yesterday's TV Shows, in a person's mobile phone, while a TV Show is being discussed. For archived TV Shows, either a Skimo Highlights can be bought from the Skimo Store or a full episode can be purchased from an EST.

Sample/Catch-up Playbacks

Television is now being offered over-the-top (OTT) by several providers including Sling TV, Sony, Comcast and Time Warner. One important feature of these OTT TV providers, is the playback, which is offered, instead of DVRs. Viewers can choose a program in the past, for instance, a program that was broadcast two days back and watch it instantly, without the need to schedule recordings.

While this feature is currently available only on certain TV networks, we anticipate this feature to be mainstream, due to its sheer convenience.

In such a world of availability of a huge volume of content, discovery becomes challenging. While simpler remotes solve the "information overload" problem, Recommendation engines can go only so far, in aiding discovery. The ability to sample content or even catch-up via Skimo Highlights app is crucial to providing a superior user experience.

From TV Industrial Complex to Contextual TV Ads

In the 1970s, over 100 million Americans watched TV shows at the same time. So, it was perfect to broadcast "soap" commercials to this huge audience, with great results. The factories made more soaps, bought more ads, so that, they can sell more soaps. The TV shows thus earned the name Soaps. This "TV industrial complex" was applicable not only for soaps but to all kinds of products.

Today, due to time-shifting, there is only $\frac{1}{3}$ of Live TV viewing, as compared to 1970s. Also, there is an ad-hating culture with ad-skipping DVRs,

ad-blocking iOS apps and ad-free Subscriber Video-on-demand (SVOD) services.

Nielsen, which provides data about U.S. TV households has evolved from few parameters, covering over 40 million U.S. households, with a whole range of parameters.

Therefore, there is a huge opportunity to serve personalized contextual ads and branding information, such as trivia, polls and quizzes about TV Shows.

For instance, if a car appears in a TV show, it would be effective to show a banner ad or a complete ad of a car, if you know that the user is shopping for a car.

‘Finding’ with the Deep Learning Revolution

With the advent of very high-powered GPUs, the neural networks of yester-years, have come back with several hundred hidden layers, with a “deep” name called “Deep Learning”. This makes “computer vision” tasks such as recognizing cars and pets and even emotions, fast and accurate.

This generates many possibilities using “Finder” apps, viz.,

- i) to find **emotions**: such as, get me all the “Penny is Sad” scenes from Big Bang Theory, or
- ii) to find **Objects**: such as, find me the “Christmas Tree” in the Show.
- iii) to find **Places**: such as all scenes that feature the “Comics Book Store”.
- iv) to find **Moods**: such as all scary scenes from the Show.
- v) to find **Location**: such as all scenes shot in London.
- vi) to find **Action**: such as all scenes where Kramer opens the door.
- vii) to find **Actors**: such as all scenes featuring “Sheldon’s mom”.
- viii) to find **References**: such as all movie references in the “Suits” show.
- ix) to find **Situations**: such as all scenes where Mike’s lie is about to be exposed, in “Suits”.
- x) to find **Dialogs**: such as “No soup for you” in Seinfeld.
- xi) to find **Themes**: such as all “Christmas Themes” in Frasier.

Skimo Engine

The Skimo Engine skims the video/TV Show intelligently and generates rich points of interest meta-data, the Skimo ID for various contexts. This metadata can then be used to create, different types of apps, which brings TV shows to life.

i) **Ad loads**: Ad loads are classes of Skimo Engine apps, that are responsible for creating personalized and contextual ads, based on the meta-data.

ii) **Generators:** Generators are classes of Skimo Engine apps, that are responsible for generating highlights, screen-savers, ringtones and quotes from one's favorite TV Shows, on the fly.

iii) **Branding:** Branding includes Skimo Engine apps that facilitate TV show engagement, such as trivia, quizzes and polls.

iv) **Finders:** Finders are apps that enable viewers to find emotions, objects, places, actors, references, moods, locations, actions, situations, dialogs and themes.

Imagination is the only limitation in creating a new category of Skimo Engine apps, to bring TV Shows to life.

Summary

In Summary:

i) Discovery becomes even more challenging, in spite of recommendation engines and simpler remotes.

Therefore, content providers and distributors face enormous pressure, to provide a cohesive omni-platform TV experience, as well as to be able to successfully drive tune-ins and increase audience engagement, with the plethora of choices available, which is increasing day-by-day.

ii) The status of TV Ads, as a necessary evil, is threatened by the ad-skipping, ad-blocking and no-ads culture. Therefore, the U.S. TV Ad industry, valued at \$75 Billion per annum is evolving to be more personalized and contextual, in order to weather this storm.

Skimo Engine is a video indexing and summarization engine, that utilizes the state-of-the-art in computer vision, video and audio analysis, and deep learning technology, in generating rich in-program meta-data, on what is interesting, enabling viewers to skim TV episodes faster and content owners and content providers, to serve relevant content and ads better, thereby providing a cohesive omni-platform Television experience.