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Will the Infinite Loom Displace the Celestial Jukebox?



In his prescient 1994 book, [Copyright's Highway](#), Professor Paul Goldstein of Stanford Law School popularized the term "the celestial jukebox" for his prediction of a future where consumers could stream on-demand over the Internet any music, film, TV show, or other entertainment work. Professor Goldstein's foresight anticipated the rise of massive cloud streaming platforms like [Facebook](#), [Netflix](#), [Spotify](#), and [YouTube](#), well before their inception.

The celestial jukebox has been the governing metaphor for the media landscape's transformation over two decades. However, with the recent explosive advances in generative AI technologies, we are on the cusp of a new era. It's time to introduce a fresh metaphor better capturing the forthcoming wave of disruption in content consumption: the infinite loom.

The Celestial Jukebox

Before delving into the infinite loom, let's set the stage. The celestial jukebox era stemmed from pivotal technological developments: the birth of the Internet, the proliferation of mobile devices, a surge in computing power, and plummeting costs of computer storage. These factors enabled storing and streaming the world's creative works on demand. These works, however, shared two common traits: they were the product of human creativity, and they offered a shared experience—hundreds of millions of users with access to the same gigantic pool of works, ranging from recordings of [Hurrian Hymn No. 6](#) (the world's [oldest extent song](#)) to this week's Top-40 hits.

The Generative AI Revolution

Generative AI is poised to unplug the celestial jukebox model. AI-created works, already emerging, signal a paradigm shift, or, perhaps more accurately, an evolution in content creation. Unlike the shared pool of human-created works, generative AI enables the production of highly customized, individualized content, on demand

and at little or no cost.

For example, in this era of the celestial jukebox, I create playlists on a music streaming platform. These playlists, while personal and meaningful to me, are limited to existing music created by others. In contrast, the infinite loom era will see generative AI creating songs and playlists precisely aligned with my preferences.

If I love klezmer-influenced rap songs infused with Beach Boys-style harmonies and ukulele solos, generative AI can tailor-make such songs exclusively for me. If, for a particular work created for me, I decide a bassoon solo would fit better than the ukulele, my AI tool instantly makes the change. I can keep requesting changes, until I have what is for me the perfect version of that song—even if no one else on earth could possibly share my love for the song.

Why the Infinite Loom?

The term "infinite loom" encapsulates this new era perfectly. Unlike the celestial jukebox, which played the same tunes for everyone, the infinite loom weaves a unique tapestry of content for each individual. It represents endless, low-cost, bespoke content tailored specifically to each user, available exclusively to them. This personalization means that my AI-generated rap song with a bassoon solo may not appeal to others, but in this new age, that is the point—content is no longer about mass appeal, but personal resonance. The business world's concept of a "[long tail](#)" (small volumes of hard-to-find products targeted to a limited but often passionate audience) will turn into over a billion individual small tails (production of a single product for only one person).

The Dawn of the Infinite Loom

The approaching infinite loom era heralds a fundamental shift in how we interact with media. It's a move from a shared cultural experience to a highly personalized one, where AI becomes a personal content creator, responding to our unique tastes and preferences. This shift will raise important questions about the nature of creativity, the role of human artists, and the meaning of shared cultural experiences in a world of bespoke content. What does culture look like when each of us can create our own exclusive universe of books, music, films, TV shows, and so on?

The business and legal ramifications for the entertainment industry will also be immense. Prior to the celestial jukebox, reproduction and distribution rights under copyright law were a huge source of revenue for content providers, as consumers purchased CDs, DVDs, and other physical media embedding creative works. The rise of the celestial jukebox, with its one-to-many streaming model, saw a shift in emphasis from reproductions and distributions to public performances, a separate revenue-generating right for creators under copyright law. In the dawning infinite loom era, consumers ultimately will self-generate their own works for their own private consumption. Even if such AI-generated works were subject to copyright protection (in the United States they are currently not protected), it's unclear whether such consumption would implicate any copyright rights (and the royalty streams associated with such rights).

Conclusion Admittedly, this all sounds like something from a science fiction novel. But the concept of a celestial jukebox seemed fantastical when *Copyright's Highway* was published in 1994—and then along came [Facebook](#) (founded in 2004), [YouTube](#) (2005), [Spotify](#) (2006), and [Netflix](#)'s streaming business (2007), making on-demand cloud streaming of entertainment content an integral part of our lives. Similarly, the shift to the infinite loom may be a decade away from completion, but it is coming and, when it arrives, we will have difficulty remembering a time when it did not exist.

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