

WEB3, NFTS, AI, AND THE FUTURE OF CINEMA

An Exploratory Guide



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FOREWORD

The cinema industry is in a major state of flux, perhaps the biggest upheaval since the birth of the talkies. Following the turbulence of the pandemic, we are experiencing a new realm where the lines between 'science fiction' and reality are increasingly blurred. Concepts and technologies that once sounded alien or futuristic are now firmly established as the inevitable path along which we are already treading at speed: AI, Web3, NFTs, blockchain, the Metaverse. But what do they all mean? And how do they impact us? We, who sit at the intersection between entertainment and technology, the rapidly evolving cinema of now and of tomorrow?

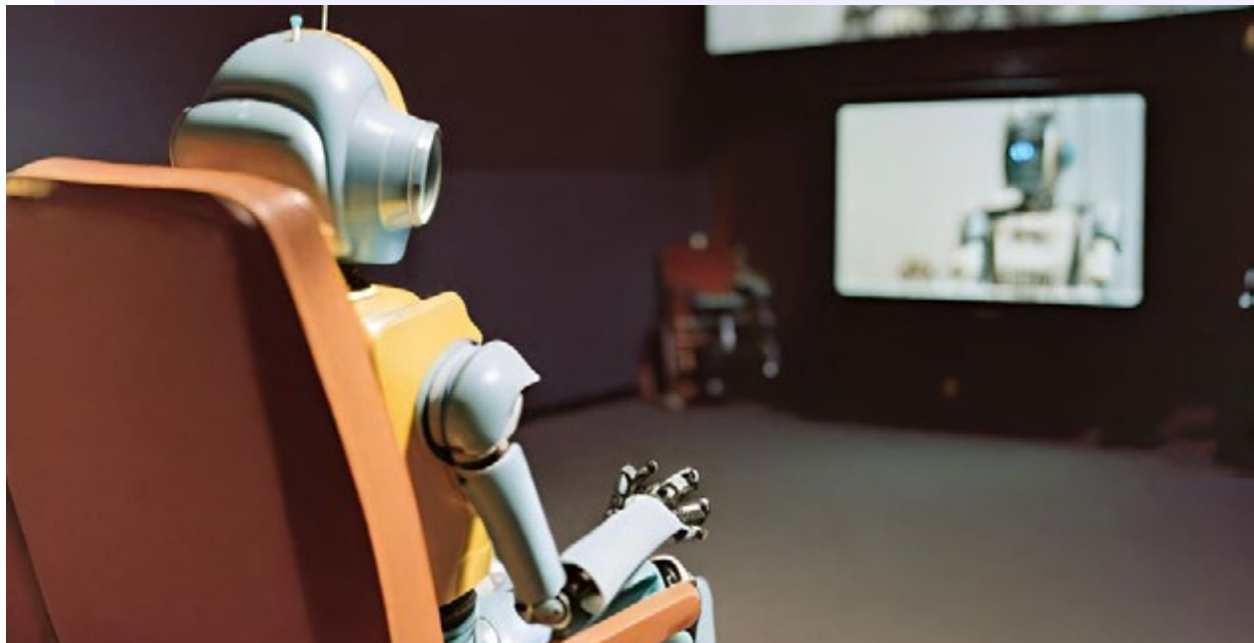
We know that these topics are causing a lot of debate, incredulity and unease in our industry. As with any new, rapidly evolving tech, there are many misconceptions, sensational headlines and healthy scepticism. We've heard 'Web3 is dead' (it's not, it's had a few setbacks, but investment and growth continues at pace), we've heard NFTs were a bust ([Forbes, and numbers, disagree](#)).

Beyond the clickbait and the noise, we know that the film industry is already embracing AI, Web3, and NFTs in diverse and interesting ways, keen to harness the possibilities they offer to benefit cinema, and filmmaking.

We believe strongly that dismissing AI, Web3 and NFTs as passing fads, or failures, could be a costly mistake. Beyond the Bored Ape monkey, and the clickbait articles, each of these concepts offers many more applications and opportunities than have yet been explored, to positively improve the entertainment industry.

Just like the early internet with its dotcom boom, these young technologies will mature into full-blown adults sooner than we think. There will be highs, lows and learnings through early experiments and failures, but they will improve and grow.

We know key figures in Hollywood are investing serious money, and laying the groundwork to incorporate these technologies across all areas of the industry. From Disney's Bob Iger, whose teams are [prioritising research into AIs impact](#), to [Warner Bros developing extensive Web3 integration](#) to superserve fans across their IPs. Neils Juul, executive producer on many Martin Scorsese productions, including Killers of the Flower Moon, and The Irishman, sees [NFTs as the future of film financing](#). Those at the top are paying close attention. So must we.



What are the impacts of these disruptive concepts?

AI

The mass availability of Artificial Intelligence (AI) tech has unlocked a universe of creative opportunity in entertainment: For richer audience experiences, more collaborative interactions with fans, and more diverse storytelling in every form. AI both democratises the creative process (anyone can write a screenplay!) and, by speeding-up and automating labour-intensive processes, frees up precious resources to invest back into more ideation, development and monetization activities.

AI can assist on practical, operational levels by optimising, or streamlining repetitive tasks, crunching and analysing data at high speed to support business management and forecasting, and creating time/cost efficiencies on tasks managers don't enjoy, allowing them to spend more hours on the areas of the business where human insight, personal experience and creative energy are vital.

It is also a powerful support tool for marketing, especially where resources are limited. It can assist with creative ideation, social media content planning, copywriting, content updates, email marketing, graphic design and video, captioning and subtitling, and much more...

"AI will enable us to spend 80 percent of our time on the 20 percent where we're uniquely capable of creating the most value." Martin Berg, CEO - DX

Web3 and NFTs

For the past year, many major consumer brands have launched Web3 initiatives, and more follow every month.

Some of these initiatives have proven more successful than others. Some have seemed more thought through, and there is an apparent correlation between those two observations.

Many Hollywood studios have joined in on the fun, too. For entertainment IP and storytellers, the opportunities of Web3 are tremendous.

Industry-players at all levels are experimenting with NFTs. Unlocking new, transformative ways to finance, distribute, and market films, and engage audiences - especially the next generation who were born into the digital age. No longer satisfied with just being passive fans, audiences want to be part of the creative process, to have ownership and agency over the stories they love. In this creator economy, as the barriers of entry for storytelling and artistic ideation tumble, anyone who doesn't feel catered for by the entertainment industry, has the means to develop, publish and earn from their own IP. Web3 will provide creators even more ownership, transparency, and control over their work and its distribution.

This new world is a dizzying game. [An exponential entropy](#). It's the game of establishing new paradigms. It's not linear and structured; it's messy and chaotic. And it's part of the fun (and frustration, for some). The studios and industry players who will win at the game are those who can best deliver value to their fans, and build high network value around IP as the line between creator and consumer blurs.

We know it's early days, but as we want to power great experiences for all audiences, at DX, we want to help you stay on top of emerging technologies that will probably affect the cinema industry.

That's how this guide was born.

“At DX, we launched online ticketing in the early 2000s, really early for the market, so it took quite a few years before it started to gain traction. The same thing happened when we started developing apps and mobile ticketing solutions around 2011. Still took a few years before it started gaining proper traction, and I think we'll see the same thing happening with Web3 and blockchain. It's important not to dismiss this technology just because it didn't change the world yet.” *Martin Berg, CEO - DX*

It's very important we give it a chance to play out, and we need to be a part of it playing out, because there are no best practices yet. So we have to first identify the use cases and the best practices. When we have the best ways to use this new technology and we've tested them, we can develop tools around them and make the whole ecosystem usable.

With that in mind, we invite you to discover in the following pages a practical way to navigate the definitions, context, and resources surrounding concepts like AI, Web3, blockchain technology, and non-fungible tokens (NFTs), and the Metaverse, and how they might impact the cinema industry, operations, audience relationships, the entertainment world, and the future of storytelling.

In a nutshell, you'll read all about:

- General definitions - what it all means
- AI's impact on film audiences and the creator economy of the future
- How AI can benefit cinema operators day to day
- Web3 as a new technology and its ramifications
- The intersection between Web3 and cinema, plus potential future opportunities and possibilities of Web3
- Myths and misconceptions about Web3 and its use.
- Examples of ways in which the cinema and entertainment industry at large experiment with the new technologies

Let's begin!

INTRODUCTION AND DEFINITIONS

Since the launch of OpenAI's ChatGPT in 2022, the exponential rise in publicly available AI tools has brought the future, sci-fi world into our homes, our day to day lives. The impact of this exciting - and equally mystifying - technology is fuelling intense debate and controversy around the world about online safety, the future of work, the threat of upheaval to our lives and the impact on our jobs and global security.

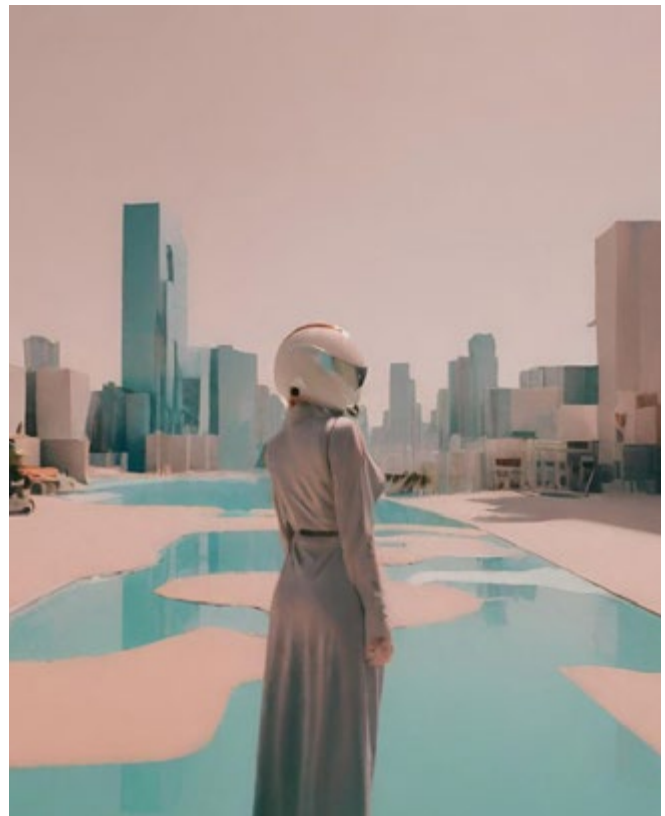
It's no surprise that Hollywood actors and writers went on strike for over 110 days, primarily over concerns about the impact of AI on the livelihood of an entire industry. And whilst there are many positive developments AI can bring to film, already being embraced by directors, producers, and studios - there is an overall agreement that without regulation, understanding, and proper protections, it carries many risks.

AI is transforming how creative businesses and people interact with the world around them at a dizzying pace. It has turbocharged a creator economy built on evolving social media platforms. Anyone with internet access, regardless of skill, can use AI to write a screenplay, compose music, design a character, or make a film. They can then share it with the world and monetize it as they see fit. (The quality, of course, is a different story). Media and entertainment no longer belong to the elite few, nor are they simply one-directional broadcast channels. These traditionally ultra-hierarchical, gatekeeping industries are being disrupted by the very people they serve.

Of all the new technologies dominating conversations at the moment, AI is the most accessible - as its tools and applications are available to most and visible in so many

day to day interactions. But let's explore the more esoteric, or complex technologies that are also transforming the industry, with a goal of demystifying them and offering a comprehensive introduction to what they mean and how they can impact film and cinema for good, as well as the as-yet-unknown possibilities and challenges they offer.

The Metaverse is the concept of a persistent collective virtual shared space that encapsulates the entirety of the Internet and all virtual worlds and augmented reality experiences.



The Metaverse, imagined by Canva AI* Magic Media

The term Metaverse was coined by science fiction writer Neil Stephenson in his 1992 novel Snow Crash. In the book, it described an expansive virtual space that served as the successor to the Internet in the novel.

Does it sound confusing? That's understandable because the Metaverse is not something that truly exists yet. However, concepts that anticipate a metaverse future—including **Web3**, **blockchain technology**, and **non-fungible tokens (NFTs)**—are rising in popularity and acceptance, particularly among the younger audiences that cinemas will need to attract to drive new business.

The afore-mentioned concepts and tools may seem to be in early development in the cinema space, but, as we've already stated, it is important for cinemas to approach them with openness and curiosity. We should pay attention as they continue to evolve and start to develop best practices.

Web3 and the metaverse offer new opportunities for cinemas to connect with their audiences, particularly younger moviegoers who will become a core audience in five to seven years. AI's creative power is turning fan communities into digital extensions of film worlds, opening doors to greater opportunity for filmmakers and cinemas to connect and collaborate with them.

Generation Z will soon be [the world's biggest purchasing power](#), and getting them into cinemas is crucial for the survival of the industry. To stay one step ahead, cinemas need to consider cultivating their next audience while they target their current audience—it is not only important to advancing business in the years to come, but also a matter of surviving in a constantly-evolving content market. Younger audiences have access to many more leisure opportunities than audiences did 20 years ago. As an industry, we have to work collectively to establish cinema going as a priority for them.

One way cinemas can appeal to Gen Z and Gen Alpha (born after 2010) is by embracing what Web3 offers. Marketing to Gen Z in traditional ways has already proven to be less effective. They are [less likely to pay attention to traditional media](#) and are often more invested in other challenges and causes—such as climate change, political issues, and financial topics—than earlier generations were at their age. They are also sceptical about traditional advertising: They know how ads work and [how to avoid them](#). They demand truth, authenticity, entertainment, and purpose from brand adverts, not overt product pushing.

Gen Z are mobile-first, digital natives and many of them view their mobile devices as part of their identity. Their online connections as just as important, if not more important, than their in-person relationships. They develop deep connections with their favourite brands and intellectual property and seek additional ways to connect with them, such as playability.



Image generated using DALL-E

Regardless if a cinema operator has the same attachments to current or emerging technology or online communities, it is increasingly important to be aware how to best connect with potential future customers through these emerging spaces. Though innovation is chaotic, you can start thinking about the incredible potential these technologies offer for your cinema business.

New technology and its impact on the generational audience has continually pushed cinema to adapt, change, and innovate. However, this doesn't necessarily mean working against new media, rather we have a unique opportunity to work with new media.

We recognize that Web3, blockchain, and NFTs are new technologies that can offer real use cases and real benefits. They may not be fully established and ready to use yet, but the technology is advancing quickly.

The time is right for the cinema industry to study and experiment with Web3, and AI is already making an impact with everyday tools now accessible to all (however controversial). These offer real efficiency solutions and creative marketing opportunities for cinema owners.

But first, let's establish some definitions, so you are clear about what we mean when we talk about these new technologies.

SOME DEFINITIONS

Artificial Intelligence (AI)

Artificial Intelligence is the simulation of human intelligence processes by machines, especially computer systems. Machine learning, as an application of AI, is trained to perform complex tasks and produce models that enable it to learn without direct instruction.

There are two main categories of AI: Generative and Predictive.

Generative AI produces content: art, music, writing, code, video, etc. based on prompts and by digesting and transforming data inputted into its systems. We see this in programmes such as ChatGPT, Dall-E (image generation), and Synthesia (turns text prompts into videos and avatars).

Predictive AI analyses complex data sets to predict future activity or human behaviour, allowing for personalisation, planning, etc. We see this in climate modelling, Spotify's algorithm that recommends songs you might like, business forecasting, etc.

Web3 and the blockchain

Web3 is a set of technologies that provides building blocks for how products and services on the internet are created. The core component is **blockchain** technology, which, in its simplest form, is a secure but public database.

Currently, all of the products and services that are used today on the internet are based on private databases. For example, Google and Facebook each have a private database where all their user data is stored. Other brands and individuals cannot access that data, or control how it is used, without permission.

Conversely, blockchains freeze this data and add in the concept of owning digital objects and assets so that big companies like Google no longer own user's data, instead that ownership passes to the user who controls it, and can transfer it however they please across the internet, in complete safety.

Blockchain is a secure and decentralised digital ledger technology that stores information across a network of computers. It records data in blocks that link together, creating a permanent and transparent record of transactions or information that cannot be easily altered or tampered with.

This is different from how our current internet works and requires imagining new ways that products and services can be built. Because it is early in the process of leveraging these new internet building blocks, it has caused uncertainty.

Non-fungible tokens (NFTs)

One of the most difficult concepts to grasp is the idea of ownership of a digital asset, also known as a **non-fungible token (NFT)**. It raises questions like:

- How can something digital have value?
- How can something digital be scarce?
- How can something digital be owned, bought, and sold?

In the physical world, individuals have two ways to access an object—rent it or buy it.

Up until this point, individuals could only rent access to online content. For example, when a user publishes an image on Instagram, the user does not own the image. Instagram owns it and gets the money from the advertising it sells to people viewing the user-posted content.

With NFTs, individuals can now own and trade online digital assets the same way they can own objects in the physical world.

Key points:

- AI, or artificial intelligence, refers to computer systems designed to perform tasks that typically require human intelligence, such as learning and analysing data, recognizing patterns, and making decisions. It can respond to inputted data and create new work: written, audio, visual, numeric, code, etc. It can be predictive (e.g. forecasting tools), or generative (e.g. digital art apps).
- Web3 is an umbrella term for new technologies powered by blockchain that requires a mindset shift — these technologies might become the new building blocks of a secure, transparent, user-owned internet.
- Non-fungible tokens (NFTs) are digital assets that a person can fully own, not just “rent” access to their content.
- Main blockchain benefits: reduced risks, cost-efficient transactions, increased security. Read more about how blockchain works in this [McKinsey explanatory article](#).

CHAPTER 1

ARTIFICIAL INTELLIGENCE - BEYOND CHATGPT

Venice Film Festival in September 2023, was described by Forbes as [‘Cinematic AI coming out party’](#).

Art-house director Harmony Korine premiered [Aggro Dr1ft](#), made largely using Stable Diffusion generative, deep-learning AI technology.

Tom Hanks promoted his new movie ‘The Red’ featuring advanced de-aging AI, and talked about “acting long after his death” thanks to the powers of this new, disruptive technology. The film’s producers are already developing an AI cinema technology suite to explore everything from deepfakes to creature FX.

Elsewhere on the Lido, an AI text-to-episode application was launched - foreshadowing a future where we tell our SMART TV’s exactly what stories we want to see and it will generate them for us.

As a backdrop to it all, US actors and writers went on strike, grappling with how AI will affect their work, their compensation, and their future place in the industry.

Most of us have been interacting with AI for years already, without really noticing it (Netflix recommended films, predictive text on our smartphones, facial recognition tech). Now, existing applications most of us are familiar with, from Canva to Adobe Suite, Google to LinkedIn, Whatsapp to Amazon, are introducing

AI capability that supports greater automation, faster problem solving, better customer services, more sophisticated tools, and more.

AI’s ability to free up resources, broaden the horizons of creative opportunity, support decision-making and drive more cinema business and audience engagement that we are excited about and will be addressing below.



‘What AI looks like’ imagined by Canva Magic Studio

For a short, practical introduction on how you can incorporate AI in your day-to-day cinema marketing to streamline processes and help you with things like social media and email newsletters, you can download our [Film Forward guide](#) which covers step-by-step prompts for ChatGPT designed specifically for your business.



1.1 AI NOW AND IN THE FUTURE FILM INDUSTRY

From the projecting Kinetoscopes of the 1800s to Avatar's breathtaking 3D technology, film has always been an innovative, ground-breaking art form. The most transformative technology to disrupt this art form over the past decade is AI.

ChatGPT, one of many language-based generative AIs, exploded from obscurity in 2022 prompting a global uptick in interest in AI. It can do everything from making predictions, summarising complex research, composing poetry, writing code, and generating content. But like all AI tech currently, the end result is only as good as the human prompts inputted – it is a tool, just like a paintbrush or a hammer: anyone can wield those, but without human talent and experience they are just tools.

The future that may be closer than we think, however, is [when AI can teach itself](#) and create autonomously without human interaction.

AI is being rolled out to support a huge variety of applications and productions within the film industry as looks to integrate it in workflows, not just for cost efficiencies, but to increase

business sustainability, enhance creative development and tackle persistent issues in how the industry operates (e.g. around diversity, accessibility, etc.). We are only just on the threshold of realising the breadth of ways AI can be applied in the industry.

Some areas where we already see a certain “normalisation” of AI in film, are in de-aging technology (Indiana Jones: Dial of Destiny), enhanced VFX (The Mandalorian), predicting box office success through forecasting (20th Century Fox use the Merlin system), supporting marketing efforts through hyper-personalisation (Netflix's AI determines which thumbnails and trailer edits to show to individual customers that will most reflect their viewing habits, favourite actors, etc).

Looking at emerging uses of AI, there are too many examples to mention, but a brief look at the below demonstrates the breadth of opportunity.

Geena Davis' ['GD-IQ: Spellcheck for Bias'](#) tool created in partnership with Disney analyses scripts for gender bias, and character diversity representation. Film streamer TUBI has integrated ChatGPT tech directly into its programme, to [enhance viewer](#)

[recommendations via voice and keyword search](#). People can search for “funny movies with sharks”, or “80s films about dysfunctional fathers” and be served a hyper-curated list.

Scriptbook, uses [predictive AI to determine a film's potential box-office success](#) by analysing various elements, like dialogue, character interactions, emotional themes and plot structure. The resulting insights can guide studios’ and filmmakers’ creative and financial choices.

Members of the French classic film industry see AI as a welcome aid to the costly [restoration of film footage and imagery](#), and it is already in use to index and organise vast archives.



Images of robots in cinema, imagined by Canva Magic Studio

1.2 AI TRANSFORMING FILM MARKETING AND FAN ENGAGEMENT

As Gen Z enters its peak consumer phase, emerging marketing patterns and media consumption habits that have developed over the past five years are disrupting how film studios and cinemas attract, engage and retain audiences.

The term “[creator economy](#)” was coined in 1997, but solidified as a common term in the mid 2010s when social platforms really took off. Rejecting traditional career pathways, and frustrated by the rising socio-economic barriers to creative industries, millions are now leveraging social media channels, and their respective monetization tools (e.g. TikTok Shop, Instagram Creator Rewards), to build their own careers around their interests, talents, hobbies. As a direct impact of this, traditional marketing and the ‘brand-approved narratives’ presented to younger generations through advertising and legacy media outlets is losing its power.

Instead of waiting to passively receive promotional messaging about a film, Gen Z are building their own online communities, and conversations around movies, from discussion forums to fan-made merchandise, podcasts, or even [AI-generated spin-offs](#) - engaging their niche and in some cases monetising their fan-led creations.

It’s a wild, but exciting, territory where traditional channels of communication, advertising and brand authority are struggling to keep up or compete with a generation taking control and democratising how it interacts with the world presented to it.

This is fandom turbocharged, and the studios and cinemas that can leverage this growing trend will benefit the most – by listening, engaging, and collaborating with these influential audiences. As discussed, AI can be a wonderful creative and exploratory tool in world-building and fan collaboration, whilst Web3 and NFTs can provide the layers of protection, ownership and transparency to the process which are necessary to manage an IP and avoid exploitation, and misuse.

What can the cinema industry learn from sports when it comes to AI-enhanced fan engagement?

The sports industry has been making huge strides in adopting AI to increase opportunities for fans to engage in their favourite sports or with their favourite players, as well as creating touchpoints for data gathering and hyper-personalised stadium or streaming experiences when watching games.

Let's look at a few ways the film industry could integrate AI to build more creative fan engagement and meet the needs of the next generation of moviegoers.

- **Tailor-made trailers** – By integrating data gathered from your online and streaming viewing habits, studios will be able to use AI to serve you tailor-made trailers for a film based on your emotions (you respond better to the romance angle, than the heist), your preferred actor (you like the side-kick more than the lead), your modes of consumption (you prefer a 3-minute trailer packed with information, others want a 20-second digest with more mystery)

- **Fantasy casting** – Picking your favourite sports players and having them play against another team is already an activity being explored amongst sports brands. Imagine virtual platforms where film fans can cast their favourite actors, choose a director and a theme and generate an AI movie. Or alternatively feed their fanfiction script into a generator and see it come to life featuring their dream characters.
- **Cast data** – The speed of AI enables fans to view detailed player data during a game, their success stats, game history, training programmes etc. Prime Video XRay already offers the function to see cast information when a film is paused, but there is scope to offer much deeper insight in one click – career history, similar movies, similar character films, etc. Think '6 Degrees of Kevin Bacon', but deeper!
- **Interactive welcome** – Stadiums are experimenting with player chatbots, and player-voice generated arrival experiences (Ronaldo welcomes you when you walk through the gates, for example), likewise with website chatbots to assist with online interactions and research.

Imagine a cinema where you are welcomed by a hologram of your favourite actor (generated in advance when you purchase your ticket, using AI analytics of your previous purchase behaviour and online activity). The booking software knows your favourite seat and set-up (seat heated, reclined, etc in advance), your habitual snack can be ready for you in seconds without needing to queue and order, the service AI will know. Queuing, in fact, won't be a thing as the cinema will use AI to monitor and manage customer flows and staffing in real-time, avoiding bottle-neck issues.

1.3 OPTIMISING CINEMA OPERATIONS THROUGH AI

These big picture developments are changing how the industry functions as an ecosystem - hence the upheaval, excitement, and controversies that have historically characterised the early days of any new, disruptive technology.

But on an individual cinema scale, there are many practical ways to apply AI technology into day-to-day operations, marketing and sales, that can enhance, and simplify business to everyone's benefit.

With increasing competition for audiences' time and wallets, and a new generation born into a world of hyper-customisation, tailored content and niche-community socialising, AI is helping cinemas meet these new expectations. AI's ability to quickly, and accurately analyse and organise data to support cinema operations and marketing can greatly benefit an industry that must reinvent itself to remain sustainable and competitive in the future.

Imagine an AI-powered cinema software that can predict who is coming to your cinema, and when, deliver customised offers for each individual audience-member, dynamically adjust pricing in real-time, and automatically generate targeted, relevant marketing and sales activations in response, when needed.

That same predictive data analysis would also be able to plan your staffing and stock accordingly, reducing waste and staff costs. Your programming would continuously optimise based on historic trends and forecasting, allowing you to spend more time on creative marketing, business development, site improvements and more...

Streamlining the operations process and reducing time spent on labour and time-intensive tasks to enable greater freedom for investment, development, audience engagement and the customer experience, are [solutions that we at DX are passionate about](#).

A few ways AI solutions are currently improving business efficiencies in a number of industries:

- **Scheduling and Staffing:** Analysing historical attendance data, weather forecasts, and other factors to predict future attendance patterns and optimise scheduling and staffing. This reduces unnecessary labour costs during quieter periods.
- **Concession Stand Optimization:** Using sales data, AI can optimise inventory management and pricing, suggest more profitable bundles and help reduce wastage.
- **Energy Efficiency:** AI-controlled lighting, heating, and air conditioning systems in the cinema can adapt to real-time occupancy, weather, people flows, etc to save on energy costs and help operators meet their sustainability goals.
- **Customer Service Chatbots:** AI-powered chatbots can handle customer inquiries, ticket bookings, and provide showtime and movie information, even doing this in brand tone of voice to fit seamlessly within your overall communications style. This greatly reduced admin time and staff workloads.
- **Maintenance scheduling:** Using AI to track the condition, wear and tear of equipment, infrastructure, lighting, etc and manage maintenance scheduling so updates or repairs are planned before conditions become problematic

Dynamic programming and marketing: By analysing data from ticket sales, concessions, loyalty programmes, and online behaviour on web and social media, AI can tailor film programming and marketing strategies to specific audience needs and segments.



CASE STUDY: META'S NEW AVATAR CHATBOTS

Overview: Snoop Dogg and Paris Hilton are among [28 AI chatbot avatars recently introduced by Meta](#) to offer more engaging virtual assistance across Whatsapp, Facebook and Messenger. The chatbot characters use the virtual likeness of the celebs but have their own distinctive 'alter-egos' and names: Snoop Dogg is The Dungeon Master, Paris Hilton is a Detective, etc.

How they did it: The chatbots were developed in conjunction with the celebrities who sold permission to use their likeness to create realistic avatars that perform chatbot customer service functionality.

The results: Overall reactions are mixed, from fear ("this is creepy!"), but also curiosity and wonder at the possibilities this offers. As a possible application for cinemas in the future, chatbot tie-ins based on fan-favourite film characters could be a great marketing and sales opportunity. As part of an integrated PR tie-in around a movie release - we could see audiences booking tickets from Batman, or getting the latest showtimes from Denzel Washington. Both a practical service solution and creatively engaging.

With accessibility being a huge factor in determining customer attendance, AI is helping facilitate greater opportunities for different people to experience the cinema.

Closed-captioning and subtitling, which currently incur huge costs to exhibitors and distributors thereby preventing access to films in cinemas for many, can be made much faster, and [more cost-effectively through AI](#), including translation and analysis / adaptation for different cultural sensitivities.

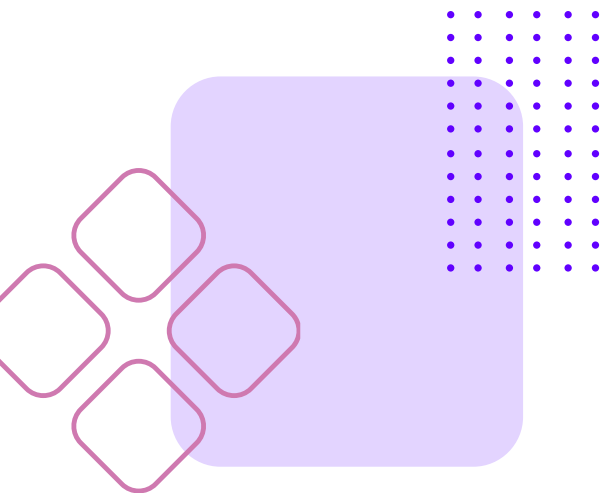
The technology of AI captioning still requires human checking for accuracy, but the overall speed and lower cost to generate, could make its use more far-reaching. In the not-so-distant future, we may see screenings where VR headsets combined with accurate, live-generated AI could enable audiences with different needs / preferences to enjoy the same film in different modes: One person with closed captions, another without, another can watch the film dubbed into Korean, whilst another enjoys French subtitles, all created live for each person at a high accuracy that doesn't require an advanced booking request.

1.4 PRACTICAL APPLICATIONS FOR CINEMA MARKETING

We've presented the bigger picture and some insights into what the future holds at industry level, but how about AI as a practical tool you can use to make your day to day less stressful and save you time?

At DX we understand the challenges of marketing to your audience with limited resources, especially with all the other pressing business operations that require your attention. Below are a few suggested AI tools that can support you across different marketing activities.

- Generating Web copy:
 - Set up a ChatGPT prompt to generate consistent film synopses for your weekly programme, newsletter, or app (you can feed in exact formatting and word count), craft landing page copy to promote new films, or give your About page a refresh with a more engaging tone of voice.
- Creating more effective email campaigns:
 - Use an AI-enabled CRM tool like Salesforce to segment your target audiences, generate common-use templates for you, track audience attendance patterns to identify when to send a promotion or tactical offer.
 - Use an email marketing platform like Mailchimp now which offers AI-driven suggestions for copy, best-practice email formats, optimised sending times, image enhancement, etc.



- Quicker content creation:
 - Design software like Canva which includes AI-tools like Magic Studio, which can generate AI images, video or copy based on your needs, create on-brand graphics in seconds, or resize all your assets to meet different social media platform specs, etc.
 - Use a scheduler like Planable, Hootsuite or Sprout to plan and schedule content with AI-enhanced posting time optimisation, content idea suggestions, generate relevant hashtags for your campaigns, etc.
- Apply sentiment analysis to measure your promotional campaigns
 - Tools like Brandwatch and Hootsuite Insights use AI to analyse and predict audience sentiment and engagement around your brand, the films you programme, trending industry topics, etc. so you can respond accordingly.
- Paid Ad Campaign Optimisation
 - AI-powered advertising platforms like Google Ads and Facebook Ads offer automated bidding and audience targeting.
 - You can use ad-generator AIs such as Sandbox to develop Paid Ads that fit your campaign needs if you don't have the budget for an agency or specialist
 - G4A (formerly Google Analytics) can measure your paid ad performance and suggest tweaks to optimise



Barbenhimer as imagined by Canva Magic Studio

In our [cinema marketing guide](#) [Film Forward](#) you will find an entire section dedicated to tools such as Canva and how to master the basics of them to start creating engaging content for your cinema.

CHAPTER 2

WEB3, NFTS AND THEIR POTENTIAL FOR THE FUTURE OF THE CINEMA INDUSTRY

The live entertainment industry has long struggled with ticketing issues that impact both venues and audiences, including secondary market sales, forgeries, and limited ticket supply.

Similarly, entertainment industries of all types have been contending with the challenges of marketing to newer generations that are increasingly turned off by traditional one-way marketing like print, television, and web advertising.

Industries like sports, live entertainment, and video games are all experimenting with Web3 to develop new solutions to these perennial problems, including offering NFT content to tap into the interactive connectivity that so many fans covet.

While the ticketing issues in live entertainment are not so common in the cinema, NFT ticketing could very well become the future standard, meaning we can learn from both the successes and failures of how these other industries incorporate Web3 technologies in their operations.

Additionally, all entertainment industries should explore how to harness the fan enthusiasm of user-generated content as a new marketing tool to create deeper connections—and new revenue stream opportunities—from fans who are passionate about their favourite IPs.

The shift in data control and ownership to benefit cinemagoers

The concept of NFTs in general is prompting a shift in how companies gather and use data, moving from a siloed system where individual platforms and brands hold the power: owning and controlling the data provided to them by user, to one where the user owns their data and can share it, transfer it, or sell it freely without a third party intermediary.

For example, Netflix uses our provided data to recommend shows to us based on our viewing habits etc. But we can't use the viewing habit data collected by Netflix and plug our own "taste blueprint" into our local cinema chain's website to determine films we might want to see. We do not own that data, and Netflix has siloed it (because it is valuable to them) so another company or brand can't touch it.

In the future, our viewing habits, cultural tastes and entertainment purchase history could be stored on an NFT which we own, and can apply across whatever brands and platforms we choose in order to access personalised recommendations, product discounts, etc. from Netflix, to Spotify, to cinemas, to music venues, to film-related merchandise stores, etc.

The shift goes from siloed use of data benefitting companies over users, to interoperability: greatly widening the ecosystem of uses and applications of our data, shifting the power into the user's favour. This will require platforms to switch up how they market to us and retain our loyalty as the balance of power over data shifts to benefit the consumer.

Let's explore further how Web3, NFTs and their associated technologies are being used to address this shift in consumer expectations, meet the challenges around ticketing, and what cinema can learn from those solutions.

2.1 THE POTENTIAL OF NFT TICKETING

The ability to bundle an NFT with a cinema ticket allows for many exciting opportunities for cinemas. The major studios are [already experimenting with NFTs](#) tied to their biggest blockbusters to connect fans, content, and the in-theatre movie experience in new and interesting ways:

- Paramount [gave away digital collectibles](#) to cinemagoers who see Top Gun: Maverick
- Warner Bros. Entertainment and DC Comics released a [Bat Cowl collection](#) for Batman fans
- The Walt Disney Company partnered with Cinemark, the third-largest cinema chain in the United States, to offer [Thor: Love and Thunder digital collectibles](#) (see case study)

CASE STUDY: CINEMARK AND DISNEY THOR: LOVE AND THUNDER NFT RELEASE

Overview: To promote the release of the Marvel Cinematic Universe film Thor: Love and Thunder in 2022, Cinemark, one of the largest cinema chains in the world, partnered with Walt Disney Studios for a contest that offered Cinemark Movie Rewards members exclusive opportunities to win one of 1000 Thor-related NFTs.

How they did it: The contest took place in the 10 days preceding the film's U.S. release exclusively on Cinemark.com. The contest was promoted through a social media campaign, along with news stories featured on various websites that report on the NFT space.

The results: The Thor: Love and Thunder NFT [has grown in value](#) since its release. In December 2022, Cinemark launched [another exclusive NFT giveaway](#) for its Movie Club Platinum members.



Thor and his NFT app, imagined by Canva Magic Studio

The major studios can lead the way by offering experiences that can only be redeemed by NFTs that ultra fans can access. For example, fans of a franchise like the Marvel Cinematic Universe could receive an invite to exclusive content if they collect the NFT ticket “stubs” from previous movies in the series.

While some of these opportunities may cater to just the top 5% of most dedicated fans, it presents a “give to get” approach that these fans can engage with, making them feel that their investment in the product and loyalty to the brand will eventually pay off with an exclusive reward, fostering fan engagement and brand equity.

And why stop there? Through corporate partnerships, brands can connect and offer additional discounts. For example, those with an NFT ticket from a blockbuster film can visit a chain restaurant and get a discount on a meal tie-in with the film. In fact, these don’t even have to be “official” tie-ins: Because NFTs are an open standard, third parties can offer adaptable experiences to try to attract fans of one franchise to another brand or experience. For example, an NFT stub from the last Disney movie will get the owner 50% off a ticket to a comparable Universal movie.

This approach would encourage distributors and exhibitors in the cinema industry to work more closely together. It would be an enormous shift for the industry today that could transform cinema customer relationship management by offering fans who selectively share their data benefit from opportunities beyond typical cinema reward programs like free concessions.

NFT ticketing is also a potential funding source that can benefit from Web3 technology.

Movie producers can create tickets and distribute them on a cinema or movie website, giving producers more control over how they interact with their audience. This could include gated premieres, loyalty programs for future releases, and ticket-based access to other services.

NFTs have the potential to transform the movie business by creating new access points. Web3 offers the opportunity for a community to build its own entertainment collectively. A film series or franchise could allow NFT owners to insert their own characters into the narrative, or vote on decisions a character is faced with between instalments.

Key points:

- Major studios are already experimenting with offering NFTs as an incentive for cinemagoers.
- NFT giveaways may only appeal to a small percentage of fans now, but they can foster fan engagement and brand equity by offering a “give to get” approach that makes fans feel that their investment in the product and loyalty to the brand will result in an exclusive reward.
- NFT cinema ticket promotions are not limited to “official” promotions created by the studio because cinemas can create their own NFT promotions linked to other businesses or more advanced rewards programs.

2.2 WEB3 AND USER-GENERATED CONTENT FOR THE FUTURE OF MARKETING

User-generated content (UGC) - including everything from fanart and fanfiction to TikTok memes and Letterboxd reviews - is no longer just the means by which film's most dedicated fans live out their fandom dreams. The influence of UGC and creator fans on the entertainment industry is getting stronger.

The enormous wealth of output these fans develop presents a massive resource for any cinema or distributor looking to leverage UGC and reach fan communities. It is an incredibly powerful listening tool to gauge audience sentiment and a ready-made audience base to collaborate with when developing marketing and story-building for a film or campaign.

The Bored Ape Yacht Club (BAYC), which launched on April 30, 2021, offers a shared virtual space with exclusive perks that can only be accessed with 10,000 unique versions of ape avatars as NFTs that originally sold for about USD 200 in cryptocurrency. All 10,000 avatars—a virtual membership card to the club—sold out within 24 hours and were later resold at astounding markups—some for tens of thousands of U.S. dollars—on OpeaSea, an NFT marketplace. BAYC is a massive fandom platform redefining the connection between fans and creators.

At the start of 2023, BAYC developed the Dookey Dash, a play-to-earn, interactive video and gaming experience exclusive to BAYC members to unlock new NFTs. The game was [teased through a video](#), which, when unlocked with a Sewer Pass

that only BAYC members could claim, let users in to play the Dookey Dash game, gain high scores that allow them through to the next stage of play: The Summoning.

This combination of rich storytelling, fan interaction, gameplay, and video—as well as the draw of exclusivity—is just the tip of the iceberg for how Web3 and NFTs can bridge the gap between fan communities and artists.

Cinemas benefit from playing in this arena by being the physical space that brings together the distributor and the audience on collaborative, rather than single-directional terms: Distributor to consumer.



A very bored monkey, imagined by Canva Magic Studio

CASE STUDY: AVENGED SEVENFOLD NFT FAN COMMUNITY

Overview: Music group Avenged Sevenfold uses NFT technology to build their fan community with a holistic approach, offering holders of Deathbat (the band's NFT) exclusive access to a Discord channel where fans can chat directly with the musicians, access backstage passes and meet and greets, hear new music first, and share in royalties down the line, aligning fan and artist priorities and fostering a deeper, more supportive connection.

How they did it: In November 2021, Avenged Sevenfold launched 10,000 Deathbat NFTs that granted exclusive access to Deathbats Club, an online interactive space.

The results: Fans in the exclusive club feel a deeper connection to the band because they have the exclusive perks and access that music fans have always craved. The band held an in-person event for Deathbats Club members over two days in New York City in July 2022. Since launching, the club has also offered exclusive access, including the ability to purchase premium tickets for the band's 2023 tour without the risk of those tickets being purchased by scalpers or bots. These experiences indicate that even though Deathbats Club is a largely digital platform, members still are interested in physical events that involve the digital experiences.

By using cinema systems such as ticketing or memberships, cinemas can engage directly with fans and producers beyond the merely transactional function of ticket purchasing and exhibition. For example, in most cases someone purchasing a ticket to a particular movie is an endorsement of their interest in or loyalty to a particular IP, actor, filmmaker, or genre.

Imagine a scenario where a major cinema space hosts Con-fabulation, one of the largest fanfiction conventions. The opportunities to bridge the world between writer and screen, fandom and film would be vast.

Or a step further, cinemas owned by fans through NFT crowdfunding systems. Start with [metaverse-based cinemas](#) created to show the works of fans of a particular fandom in partnership with existing cinema groups to develop new, experimental work, or workshop original storylines as a sort of crowdsourced IP development project.

This process is already beginning with film production as [we've shared here](#), but why not also in the bricks-and-mortar space of cinemas themselves?

The intersection of fandom, Web3, and cinema presents a unique opportunity for creators, distributors, and audiences to collaborate and co-create in new and exciting ways.



2.3 THE POTENTIAL OF WEB3 FOR COMMUNITY BUILDING

Another exciting prospect is how Web3 allows communities not only to create content together, but build more loyalty and increased engagement. Since the advent of the internet, people have been able to communicate around shared interests without being bound by time or transactions — so Web3 technologies might be the next step into creating shared experiences and community-driven spaces.

A community that forms around a specific story or film project can lead to the creation of more projects or even a company from a community-first perspective driven by community ownership – a major incentive for Web3.

When it comes to the cinema experience, one future avenue will probably be to give audiences the ability to unlock unique community perks more and more, and even co-own the experience itself. These opportunities would offer cinemas a better opportunity to communicate with their target audience and gauge the audience's interests and engagement. A specific metaverse-friendly cinema could become a hub for NFT-obsessed audiences, helping to shape the future of entertainment.

Just like what CGR Cinémas and Tailor, an NFT ticketing solution, did:

CASE STUDY: LES CORNIZ DIGITAL COLLECTIBLES BY CGR CINÉMAS AND TAILOR

Overview: Overview: CGR Cinemas in France partnered with Tailor, an NFT ticketing solution, to create a series of digital collectibles called Les Corniz as a way to build loyalty and drive more long-term engagement with their cinema.

How they did it: In November 2022, they launched the [digital collectibles](#) that could be won through online quests that unlocked exclusive incentives like one year of cinema access, behind-the-scenes access, and more.

The results: By transforming the cinema going experience into a digital gamified experience, they made it both enticing and appealing to groups — so there was an incentive to share it. Also, because Les Corniz were inspired by Pixar and Studio Ghibli characters, they engaged audiences through familiarity and emotion.



Les Corniz promotional video

Going one step further towards more enhanced community and creative experiences within cinemas enabled by NFT and Web3 technologies, is the current exploration by studios to develop interactive, audience-led films which can be generated or controlled “in real time” with the integration of AI.

This could be a film with multiple generated narratives which the audience can choose, delivering a bespoke story to each viewer

during a communal experience. Netflix experimented with this in 2018 with the movie [Bandersnatch](#). One step further might be being able to integrate an audience member into a film in real time, or having them build a film ‘live’ in a sort of four-way, facilitated, creative dialogue between audience, director, AI, and screen.

CASE STUDY: HYPER CINEMA - THE FIRST AI CINEMA “STARRING YOU”

Overview: HyperCinema is the [first ‘live AI cinema’ experience](#) opened in New Zealand in September 2023.

How they did it: Visitors are photographed and fill out a questionnaire upon entry, with the information stored on a data card which is then used throughout the exhibition to view different AI-generated filmic experiences ‘starring them’. In one room an original short film featuring the visitor is generated, in another they are inserted into a cartoon, etc.

The results: HyperCinema describes this as ‘Chapter One’ in turning the cinema experience from passive to active, with most sessions selling out. It is now leasing out the experience to various entertainment brands and continuously refining it as the AI’s capabilities become more sophisticated



To thrive in today's entertainment industry, studios need to build holistic ecosystems around their IP, explore ways that storytelling can reach and involve audiences across multiple touchpoints beyond just the image on the screen and the cinema transaction.

This understanding goes a long way to explain the recent rise in video games being adapted for the big screen, capitalising on existing fans, and reaching new ones. For example, Super Mario has a legacy fan base spanning three generations, and now a growing film fan community that might go from seeing the movie to purchasing the game.

The scope of the Super Mario IP across digital, physical, and AI platforms is what enables its success: There is physical merchandise, NFT merchandise, theme parks, immersive real-world experiences, the games themselves, Mario on Roblox, Mario fanfiction, fan conventions, and [now a MarioGPT AI](#) that enables players to build a new level in the game using text prompts, that fans are recording and sharing their builds with each other on game forums and Youtube. By observing fan behaviour and enabling multiple avenues for two-way interaction with the IP, studios can better understand what developments to make, what storylines to pursue, to better serve their audience.

As we've highlighted so far, Web3 gives brands new capabilities and opportunities, such as:

- New, sustainable ways to connect with customers
- Building loyalty through reward structures based on "moments of engagement"
- Targeting and segmentation options based on new audience data sets (activity on other platforms, asset ownership, etc.)

By adding AI into the mix, the opportunity for fans to insert themselves fully into the creative experience grows exponentially.

What CGR Cinémas and Hypercinema did is just the beginning of cinemas experimenting with ways of building community through Web3 and AI technologies and incentives.

Key points:

- By leveraging the power of fanfiction, fan communities, and NFTs, filmmakers and producers can gain valuable insights into audience sentiment and preferences, while also fostering deeper connections with their fan base.
- Cinemas, as physical spaces for exhibition and collaboration, can play a key role in bridging the gap between creators and audiences, and in creating immersive and experiential marketing opportunities.
- As the film industry continues to evolve and embrace new technologies and platforms, the possibilities for fan engagement and participation are truly limitless, and the industry is only beginning to scratch the surface of what is possible.



Fan convention - image generated by Canva Magic Studio

CHAPTER 3

IMMERSIVE WEB EXPERIENCES

We've explored the concept of decentralised Web3 where data is dispersed across a network instead of centralised servers. Users own their data, improving privacy, security, and control, creating a shift towards a more democratic, resilient internet structure by reducing reliance on centralised authorities.

We've also explored NFTs: Special digital certificates proving ownership of unique items or digital content like art, videos, or music. Each NFT is distinct, recorded on a blockchain, and cannot be replicated, giving it value and ownership rights.

As Gen Z enters its thirties, passing the baton to Gen Alpha as the next wave of consumers soon to impact the online marketplace, we need to address the 'immersive web' which - when it fully integrates the above concepts - will present a revolutionary shift in the online experience.

The immersive web turns the internet from a passive browsing medium into an interactive, multi-dimensional environment. Platforms like Roblox - which is perceived by older generations as a 'game' but [is really just the next evolution in social networks](#), epitomise this development, offering users an 3D, immersive space where they engage, create, and socialise within a dynamic digital universe.

Roblox had over 70 million users by the end of 2023, with over 50% of users under 13.

The age demographic is almost evenly split between male / female. It is currently worth \$43 billion dollars despite its pre-teen-skewed audience demonstrating incredible opportunity for social network domination in the next decade.

In Roblox, users create digital avatars of themselves, and instead of a 'news feed', they have a digital space, or house, which others can enter and visit. This is a digital parallel universe combining all the previous layers of social connectivity of Facebook, Instagram, TikTok (sharing text, image and video, creating niche community groups and online chat functions) but one step further - realised 3-D world building, with the opportunity to trade within the platform using Roblox's own currency.

Roblox stands as a testament to the immersive web's potential, not merely as a gaming platform but as a multifaceted ecosystem. It enables users to craft their experiences, build games, design avatars, and interact with others in real-time, fostering an environment that transcends traditional online engagement.

Brands already exploring NFT marketplaces on these new social networks will be ahead of the game when Roblox et al reach their apex, with many already offering fans the ability to purchase bespoke digital assets, such as customised or [limited edition virtual items such as NFT clothes](#), bags, jewellery, artwork, or unique experiences (game upgrades, music releases, etc.)

They are already capitalising on virtual gaming and social platforms where users want their digital identities to be as unique, curated and expressive as their real selves, through virtual accessorising, acquisition of goods, decorating of 'virtual homes', and taking part in tailored-made experiences.

Roblox merges entertainment, creativity, and social interaction seamlessly. It reshapes the digital landscape by emphasising active participation and user-generated content, redefining conventional browsing experiences into interactive, participatory endeavours.

In essence, the immersive web, exemplified by platforms like Roblox, represents a paradigm shift in online interaction, where users move beyond passive consumption to actively shaping and experiencing digital environments, setting the stage for a more engaging and participatory online future.

CASE STUDY: 'AIRPHORIA': NIKE X FORTNITE IMMERSIVE WEB COLLABORATION



Screenshot from Airphoria Nike x Fortnite collaboration

Overview: Part of Nike's multi-year partnership with Epic Games' online video game Fortnite, Airphoria is a Nike-theme experience available within Fortnite.

How it works: Airphoria drops players into a custom-built Nike-themed virtual world, giving them a challenge to hunt for rare Nike shoes. Players can purchase virtual Nike apparel for their avatars, and the new experience coincides with the launch of a real-world capsule collection of Airphoria clothing for sale exclusively at Nike stores.

Results: Nike leverages the platform's 240 million users, creating an urgency and scarcity factor for 'sneakerheads' to acquire rare Nike merchandise only available digitally via Fortnite which in turn introduces a new audience to the platform.

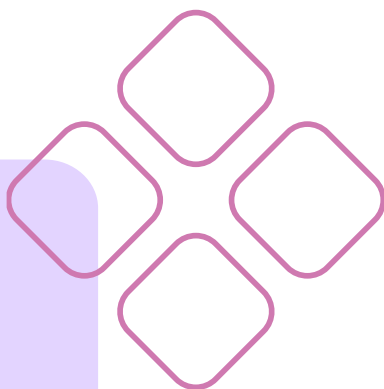
CHAPTER 4

HOW DX IS LEVERAGING NEW TECHNOLOGIES

One of the core values we have at DX is creating future-proof technology that empowers next-gen cinema — so exploring how [AI is already transforming our industry](#) or how parts of the blockchain technology can support [better moviegoing experiences](#) have been on our radar for a while now.

We are continuously looking at how we incorporate AI functionality into our platform. We test and experiment on tools to best serve our customers as they adapt to meet the demands of a rapidly changing cinema market landscape. We also work as a team on ways to creatively apply AI in our daily workflows to help us work smarter and faster, without compromising the quality of our output.

We want the experience of operating a cinema using the DX platform to feel like magic, not just a tool.



4.1 THE CURRENT LANDSCAPE OF INNOVATIVE TECH USE AT DX

In Norway, we used AI to set up a filtering and categorisation system for incoming customer enquiry emails. Aside from saving precious admin time, this set-up has allowed us to analyse some incoming email enquiries, and set-up predefined replies by topic, based on the intent in the emails. This allows for quicker response times and better customer service workflows.

Over time this will help us develop even more tailored responses and build an ever-more detailed picture of what our customers are needing, their pain points, and where we can build even better problem-solving solutions for them.

In Sweden we are one-step further, with our own AI robot, trained exclusively in DX-owned, customer-facing documentation. Our AI can read, understand and respond to customer questions then provide a hyper-accurate, tailored response in real-time based on the knowledge it has been trained on. Where there is currently no documentation to support the AI's knowledge and response, we put the customer in touch with our team.

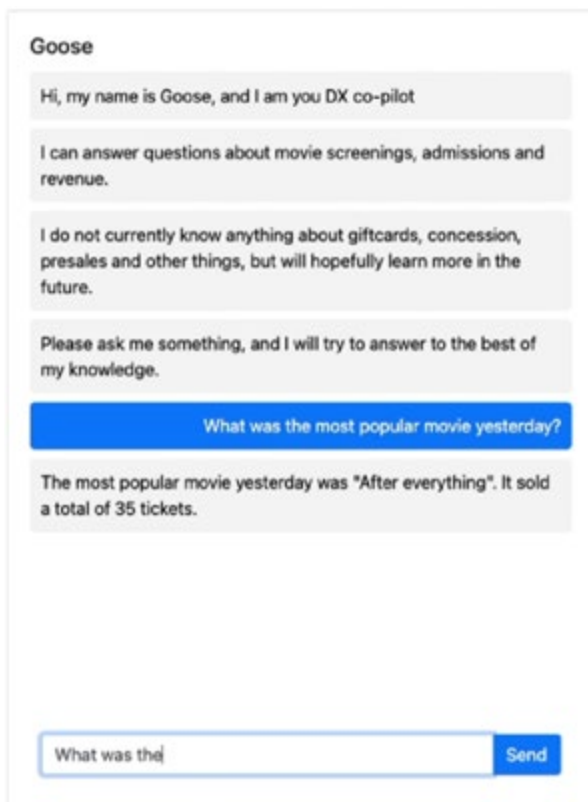
In time, we can train the AI more and more as documentation is developed in response to new questions.

A view from our Product Team

We believe in building a solution that feels completely intuitive, that can take initiative and integrate fully into your business, so that it feels like having an extra member on your team.

A core principle of our product strategy is to “leverage technology to increase attendance, by increasing demand and conversion, in a more efficient manner, through saving time and reducing cognitive strain” - AI will continue to play a central role in delivering this.

Currently, we are using OpenAI (API and the newly released assistant API) for the experimentations that we are doing.



A screenshot from Loom of our experiment building an AI customer response system

A view from our Data and Insights Team

Data is one of the areas we see the most opportunity in when it comes to applying modern technologies and empowering cinemas to make smart business decisions. This is why [data and insights are a key part of the DX Platform](#) and we are making heavy investments to deliver the best dashboard and reporting experience to our customers. We are also investing heavily in data to fuel the entire platform.

What does this mean for DX clients?

Combining data with cutting-edge tech to create simple, but powerful tools. For example, DX's integrated film database: Our integrated database completely streamlines your film scheduling. Instead of having to manually create film entries or look up individual film details like distributors, ratings, etc. the database provides everything you need in a few clicks: From posters to trailers and local market variations.

The technology handles the groundwork, and allows you to access a comprehensive overview of all films, potentially inspiring your future programming weeks, or even months in advance.

When integrated with your cinema website, you'll find your website updates speedier, and more efficient, reducing admin times and minimising human errors, meaning more accurate and up-to-date information for moviegoers.

Our database doesn't just support scheduling; it offers real-time film analytics, so you can analyse historical data, cross-reference a film's performance, and make data-driven decisions from programming to marketing.

Our ongoing development of the DX centralised film database is just part of our [broader effort to future-proof cinema software](#), supporting cinema managers with automated features and seamless integrations, so you have more time to focus on delivering exceptional experiences for your audience.

Using big data to enhance the cinema going experience

As we've already demonstrated here and in our Film Forward Cinema Marketing Guide, today's moviegoers now expect a captivating, highly involving, cinematic experience that is tailored to meet their specific needs and interests.

Understanding and anticipating your audience's needs and desires is key to compete, making big data a vital part of your cinema marketing and operations planning. At DX we're obsessed with leveraging big data to help you translate your numbers into strategic actions in the most user-friendly way possible.

We categorise big data into four Vs:

- **Volume** (*how much data you gather*)
- **Velocity** (*how fast you can process and analyse it to determine action*)
- **Variety** (*how many sources and types of data you have*)
- **Veracity** (*how reliable and clean is your data*).

Ideally you would track and analyse everything from your ticket sales, demographics, social media interactions, and website analytics, to provide you with predictive patterns and help you make informed decisions, from identifying trends, to optimising your pricing, refining your marketing strategies, staffing, and improving your customer experience.

DX is actively developing a data platform, collaborating with partners in Norway to explore data analytics and establish cinema business intelligence functions.

Prototypes include:

- **Ticket Sale Dashboard:** Offers insights on key performance indicators like admissions, show numbers, average ticket prices, and sales trends. Simplifying data collection, it aids in understanding consumer preferences and streamlines staffing decisions.
- **Concession Sales / Kiosk Dashboard:** Standardises data to compare kiosk operations, highlighting popular products and optimising offerings and promotions.
- **Distributors Dashboard:** Provides distributors with real-time film performance data, to support agile marketing strategies and implement course corrections based on market reactions.

Harnessing big data through purpose-built software like DX becomes crucial to help you meet evolving audience expectations and grow your sales.

A few ideas on how big data and AI-supported tech can offer you:

- Tailor-made customer order suggestions based on the type of products that sell best with certain movies, e.g. Popcorn with cool new flavours to Gen Z when 'Barbie 2' come out (based on what performed well at Barbie)
- Bundling the most popular concession items together to target different demographics based on audience bestsellers for different film genres (wine & gourmet chocolate for adults, slushies and hot dogs for kids, etc)
- Identifying and understanding different customers and how they buy their tickets. How do campaigns for movie titles drive up the ticket sale: e.g. Do franchise movie-lovers purchase weeks ahead, on mobile, when the trailer drops? Do older audiences buy on the day in person? Can you use that information to determine when to upsell to them, or run email marketing campaigns?

We consistently analyse user interaction and identify pain points / sticky areas on the DX platform in order to continuously improve it, and make it as smooth as possible to get tickets and information.

This involves:

- **User Behaviour Analysis:** We track and analyse user behaviour patterns on the DX platform to identify common customer journey paths, frequently visited pages, and areas where users tend to drop off or face difficulties.
- **Heatmaps and Clickstream Analysis:** AI-powered heatmaps can visually represent where users click, hover, or scroll the most. This helps us understand which elements and sections of the platform are the most engaging or require adjustments.
- **User journey mapping:** Aggregating data from various user interactions, to highlight the different stages of the user journey and where users encounter obstacles.
- **Continuous data-feeding:** We consistently update our AI with user behaviour data, to help us predict potential pain points based on historical trends. For example: We might be able to foresee an increase in support ticket requests during peak times and suggest proactive measures.

Likewise, we use historical data to identify potential movie trends, audience responses, customer sentiment, etc. so we can better predict the next big titles that will sell well to our target market.

Together with AI we will be able to create models that work faster, and more accurately than the human brain, to predict what will sell, when, and at what volume, (or at least more effortlessly and accurately than now)!

More efficient marketing using AI

AI tools, such as ChatGPT, serve as our ideation and raw copy assistants, increasing our time efficiency by reducing research, brainstorming, organising, and administrative hours, giving us time back to focus on refining and tailoring our content adding our unique tone of voice and perspective to it. This allows us to operate more intelligently.

A few ways we use AI on the day to day:

- For blog titles, we provide the article content and tone, and ask for 5 to 10 engaging options which are then refined for a final version.
- For crafting social media posts, we can input the raw content we develop, our desired style, and target audience, to generate at least 2 LinkedIn post variations, then fine-tuned by editors.
- We continuously enhance ChatGPT's output by training it with past DX content examples, so it is always refining language, style, and tone, culminating in a better rough draft for us to edit.
- ChatGPT helps us with translations and research by generating functional text and identifying data patterns, though an editor's touch is required.
- Experimentation with DALL-E allows us to create inspiring visuals for thought leadership content, or craft briefs for designers, while early attempts at text-to-video production are ongoing.
- We collaborate with Intercom for customer success and employ ChatGPT across product engineering and marketing, solidifying our partnerships in the realm of AI advancement.



'Using AI' imagined by Canva Magic Studio

4.2 OUR VISION FOR THE FUTURE, INTEGRATING AI

In DX's ongoing quest to leverage AI to create operational magic via our cinema solution, we often like to focus on the big picture of our future vision:

- **Automation**
 - Eg: Using AI to draft your cinema schedule, and organise your staffing for maximum returns and cost-efficiency.
- **Content creation**
 - E.g: Highly-trained AI that can generate comprehensive marketing plans, with accompanying on-brand assets, collateral, web copy and content as well as scheduling it in across your platforms - with the ability to generate this as soon as you select films for your upcoming programming, using the data provided via our integrated film database.



- **Tailor-made suggestions optimised for your audience, based on historical data**

E.g:

- X% of your summer audience prefer action movies under 2 hours, you should screen more of these.
- This type of film hasn't performed well in the past at this time, we suggest moving it to a smaller screening room an hour later.

- **Insight**

E.g.:

- Organising and generating responses to frequently asked customer questions continuously, to develop an intuitive, high-precision chatbot tool
- Developing low-risk strategies for attracting new audiences by analysing yours, and competitor data and regional, national, global trends
- Integrating weather forecasts or prognoses for the year/period in order to plan scheduling and sales

Web3 and the future at DX

Web3 and blockchain technology represent a significant future shift in how consumers interact with the internet and businesses online. Moving towards increased user-empowerment and introducing ownership as a new fundamental feature of the internet itself.

It's our belief that this creates design space for entirely new ways of thinking about things like customer loyalty and cross-industry collaboration.

Our main thesis is that audience engagement for entertainment is not isolated and format-bound, but fluid and continuous. The cinematic experience fits into this fluid journey that we call "boundless entertainment". Web3 technology can be the connective tissue to create new products and experiences within this frame.

Follow our [CEO Martin Berg's IN/Transit Substack](#) for regular insight and opinion on Web3 and new technology impacts on entertainment, consumer behaviour and the future of cinema.



Cinema of the future, imagined by Canva Magic Studio

4.3 HOW DX CLIENTS ARE USING AI IN THEIR MARKETING

CASE STUDY FROM TYNSET KINO, NORWAY

Sergio Chavez is the Cinema Manager of [Tynset Kino, NORWAY](#) - and a DX client. As someone with an intense workload, Sergio has been integrating AI into his workflow to increase the cinema's operational efficiency, both in terms of workflows and routines, as well as more useful data insights and analysis.

Sergio has used ChatGPT to develop a personalised aggregator tool that gathers data from across various Norwegian cinemas. By continuously refining his prompts and feeding in more data, he is gaining valuable insights.

As ChatGPT digests more data, Sergio is now able to ask specific data questions such as:

- How were sales on Dec 25th?
Give me a graphic showing the average visit by time slot.
- When should I open over Christmas (what days and hours) to optimise my ticket sales?

These prompts and the insights gathered can help him plan ahead. Last year, Tynset Kino sold 15% of the yearly sales at Christmas. This year he can optimise using the data he's acquired in order to improve on that.



Sergio Chavez, Manager at Tynset Kino cinema, Norway

Sergio also developed a custom dashboard with the OpenAI API and DX's API to gather critical business data like:

- Previous week's admission rates per film
- Visits per week of the year for 2021, 2022, and 2023
- Heatmaps showing visits by event, day, and hour
- Number of visits by event, day, and month
- Sales average per event

Sergio is now adding weather data through the API with the aim of playing around to see how much, and what, data can best serve him to deliver the most efficient and profitable operational plans.

Presently, the OpenAI API helps Sergio generate detailed reports from admission and screening data, offering recommendations for schedules and suggestions on maximising audiences. His next goal is to start analysing past weather forecasts to further refine his scheduling alongside exploring Microsoft's Autogen (which creates AI agents that collaborate to provide better insights and solutions by combining their expertise) - for even more nuanced and detailed reporting and more informed decision-making.

This holistic approach underscores the huge benefits of harnessing AI for strategic planning and operational enhancements in the cinema industry.



CHAPTER 5

BRINGING IT ALL TOGETHER: MORE CASE STUDIES TO INSPIRE YOU

5.1 WOWTALKIES - A WEB3 MOVIE FAN ENGAGEMENT PLATFORM

What is it?

WOWTalkies is one of the first decentralised film fan engagement platforms. Developed in India the app offers a variety of Web3 features to allow fans to interact through gaming and creative AI, with their favourite films and fan communities, progressing to SUPERFAN status through play, with a combination of AI and AR features, NFT collectables and wallet, and engage-to-earn games (in development). There is also an early-stage mobile app.

The Web3 platform launched in 2021 to capitalise on India's vast under-25 population and thriving local film industry (the largest in the world). WOWTalkies partners with studios, celebrities and AI tech software companies to offer a range of opportunities to connect with fans, including monetisation opportunities for the industry.

How does it work?

There are a few apps for creating avatars, or face swaps, e.g. Fans can integrate themselves into movie scenes and poster art, build their own movie character avatars and share them with other fans, etc. The main

activity on WOWTalkies is the marketplace for NFT and fan merch trading and collecting, in partnership with studios and celebrities.

A first for the Indian film industry

Lakiro was the first Gujarati film to launch NFTs, in partnership with WOWTalkies in early 2023.

WOWTalkies heavily promoted the app across social, but more extensively through niche discussion forums such as Reddit and Discord, where fan communities were already established and users ranked by usage frequency and engagement - helping WOWTalkies to identify a existing pool of super fans to get the word of mouth marketing going.

Results:

For each activity on the platform, whether buying NFTs or using the apps, fans are rewarded with points, and their status is SUPERFANS displayed on a leaderboard, encouraging more dwell time and play.

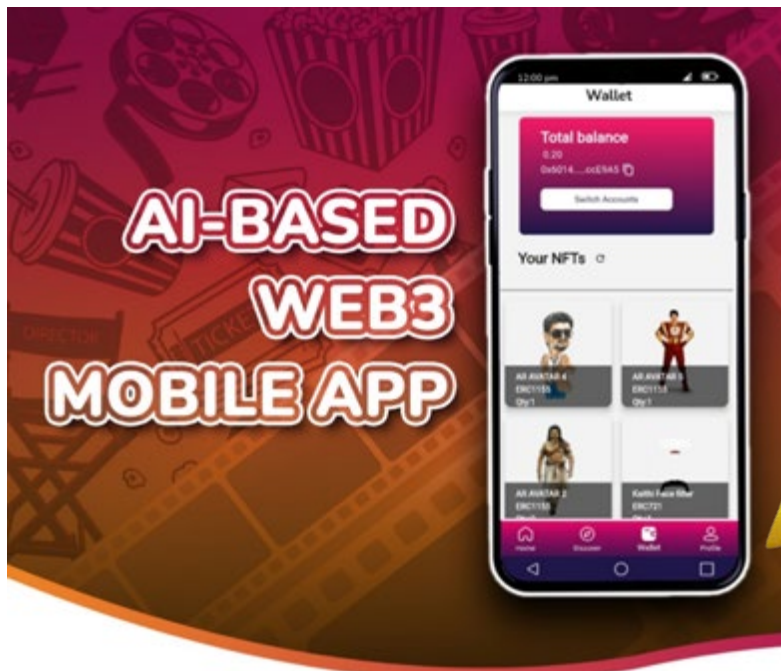
The NFT collection included 30 unique signed posters, 50 behind-the-scenes videos and audio recordings from the film, and 50 behind the scenes videos of the cast and crew providing a sneak peek into the making of the movie.

By collecting the NFTs through Engage and Earn, fans could unlock more exclusive perks:

Through purchasing poster NFTs, fans gained access to a second-tier of merchandise at a discount. Collecting four different Lakiro NFTs unlocked access to a virtual meet and greet with the lead actors, etc.

SUPER FANS who collected the most got invited to an exclusive VIP event to meet the actors in person for a party.

Since its official app beta launch in October 2023, 64,000 points have been awarded, 2300 NFTs rented, bought or traded, and 10,000 transactions in total have taken place.



From WowTalkies instagram feed



5.2 BEFORE WE DISAPPEAR

- AI FILM WHERE YOU CONTROL THE NARRATIVE

What is it?

Part of a Nottingham University Computer Science researcher's brain-controlled cinema project, [Before We Disappear](#) is a short interactive film about a dystopian future Britain in disarray from climate change. Audiences control how the film ends.

How does it work:

The film was created with 15 possible narratives and 3 different endings. When screened, a combination of machine learning facial recognition and computer vision technology scans the audience and selects different possible story outcomes depending on the displayed emotion and reactions to the film as it progresses.

The complex AI behind the facial recognition and mapping software that detects emotional response, and drives the algorithm dictating the film's outcome, was developed by BlueSkye - a University of Nottingham spin-off company.

The Results:

Before We Disappear is the next stage of interactive film following experiments such as Bandersnatch. At the moment, a core challenge is around data consent required to collect, analyse and develop technologies using recordings of people's faces, so current applications are largely experimental - but Dr. Richard Ramchurn is hoping this short movie will facilitate conversations around how to develop the technology in a way that protects data privacy, and doesn't repeat human biases.

This is where the potential of blockchain and Web3 ownership could come into play.



Image from Before We Disappear. Tom Platinum Morley©

5.3 THE NBA: AI ENHANCING FAN ENGAGEMENT IN SPORTS (WHAT CAN WE LEARN?)

What is it?

The National Basketball Association (NBA) has been integrating AI into fan engagement strategies over the past few years, taking advantage of data gathering and advanced technologies already implemented in the sport to benefit coaches, managers and marketing teams. Fans who crave player data and insights, love to bond over predictions and betting, game play strategy and fantasy teams are now benefitting from AI's ability to analyse and transmit data quickly.

How does it work:

The NBA has implemented a number of AI integrations.

- The NBA introduced an AI-driven chatbot: AskNBA to provide real-time engagement with fans. This chatbot can answer queries, deliver news, provide detailed statistics, and serve up personalised content recommendations through the NBA's website, app, and social media platforms.
- Tailored Content Recommendations. The NBA analyses fan interactions, including browsing history, social media engagement patterns, and preferences to suggest articles, videos, and merchandise tailored to individual fan interests. For example, a fan who frequently searches for LeBron news and updates will receive content related to him in real-time.

- Real-time data collected by AI during every game, tracking player movements, ball trajectories, audience response, etc. - generates high volume, high quality statistics and content. AI can then be programmed to package these for a number of engaging functions: almost instant replays for live TV, player-focused video and image content, highlight reels, interactive displays, body-tracking slow-mo video and creative statistic graphics for social media and in-stadium displays.
- Partnering with Oculus VR headset technology, the NBA enables fans all over the world to experience games as if they were sitting courtside, participate in virtual events, and access exclusive behind-the-scenes content.



The NBA app reimaged for the TikTok era - Source: Engaget

The Results:

The NBA's adoption of AI-driven fan engagement has yielded remarkable results. The league has seen increased fan engagement, longer session durations on their digital platforms, and a boost in merchandise sales and ticket purchases.

Where this embrace of AI could translate into the film experience could be: Celebrity or character chatbots (already being explored), multi-data point data gathering, and insights into cast and crew, especially during live events to support the generation of tailored social media content packaged up almost immediately for fan consumption in-real-time (e.g. at The Oscars), tailored content for cinemagoers from favourite drinks packages to targeted emails. VR experiences so fans can spend a “day on a film set” with the crew during production, or similar exclusive / behind-the-scenes experiences. The possibilities are endless.

CHAPTER 6

RESOURCES

In this chapter, you'll find more resources to serve as your one-stop shop for all things Web3, metaverse, NFTs, and cinema industry to help you learn what has been done in this space and where it might be headed.

6.1 PEOPLE TO FOLLOW

Martin Berg - CEO of DX, talk about the business of entertainment and technology
<https://www.linkedin.com/in/bergmartin/>

John Attanasio - CEO and Co-Founder of Toonstar, the interactive story studio
<https://www.linkedin.com/in/johnattanasio/>

Zoe Scaman - Founder of Bodacious a strategy studio focused on illuminating and navigating the new frontiers of innovation within the worlds of brands and entertainment.
<https://www.linkedin.com/in/zoescaman/>

Chris Miller - Co-Founder at Flaunt, a modern loyalty platform. Talk about loyalty, and gamification
<https://www.linkedin.com/in/chris-miller-clmp-b105b848/>

Jeff Kaufman Jr. - Founder of Parachute, a next generation marketing agency at the forefront of Web3 technology and culture
<https://www.linkedin.com/in/jeffkauffmanjr/>

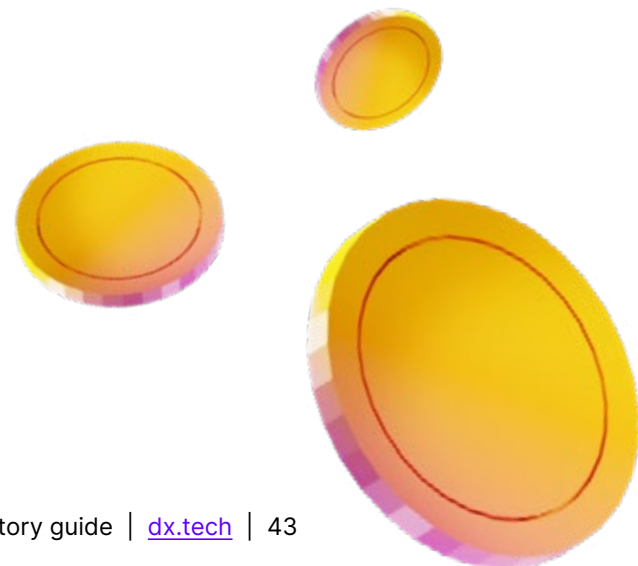
Pet Berisha - Creator of Sporting Crypto, the number 1 Sports-Web3 Newsletter
<https://www.linkedin.com/in/pet-berisha-4849a0140/>

Sam Barberie - startup founder and exec in games, interactive media, and web3
<https://www.linkedin.com/in/sambarberie/>

Anna Kamp - Founder at BlueMint, a web3 consultancy and design lab focused on elevating brands through emerging tech and the power of community
<https://www.linkedin.com/in/annakamp/>

David Justin - CEO of Globecast America, and advisor to AI and Web3 startups
<https://www.linkedin.com/in/david-justin/>

Michael Zink - Vice President, Emerging & Creative Technologies at WarnerMedia
<https://www.linkedin.com/in/mizink/>





6.2 DIGITAL RESOURCES: BLOGS, ARTICLES, AND MORE...

[DX Talks: Web3, NFTs, and the Future of Cinema](#)

In the pilot episode of DX Talks on Web3, NFTs, and the future of cinema, Jan Runge and Martin Berg speak with [David Justin](#), founder of BLOCKTIVITY, a Strategic Consulting and Marketing company helping media and entertainment companies unleash the power of Blockchain and Web3. They tackle this highly complex topic to make it more digestible and walk away with some clear hypotheses of what it all could mean for cinemas.

[CGR's Loyalty Program and NFTs](#)

France's CGR Cinemas, a chain of over 70 cinemas, introduced NFT ticketing in November 2022 as a customer loyalty program.

[How Hollywood Can Benefit from Blockchain and Web3](#)

Insight into how blockchain and Web3 can help NFTs and blockchain can empower and engage fans, regenerating Hollywood and the entertainment industry in new ways.

[Ready or Not, Here Comes Web3: How the Internet's Next Evolution is Shaping Hollywood's Future](#)

Entertainment industry publication Variety published this explanatory article to provide an overview of how Hollywood studios were experimenting with Web3, including financial details on NFTs and blockchain-related startup companies.

[Web3 x Hollywood: Can NFTs Usher in a New Golden Age of Cinema?](#)

Can NFTs serve as a new funding source for independent film? This in-depth article offers examples of filmmakers who are utilising NFTs in the production process.

[A New Web3 Film Is an Experiment in Real-Time Audience Participation](#)

NFT Now, a news outlet about NFT developments, reports on actor and NFT artist David Bianchi's initiative to utilise audience participation to create an exclusive Web3 experience that exists on blockchain.

How Web3 Could Impact the Film and Television Industries

Screen International and Broadcast hosted a roundtable event for industry executives to explore the latest developments in Web3 technology, share experiences, and discuss how it will impact the film, TV, and distribution sectors.

Film3: Redefining Filmmaking in the Web3 Era

VentureBeat examines how the development of web1, web2, and Web3 has paralleled the development of film production, and how “film3” might merge with its Web3 counterpart.

Korea's CGV First to Open Cinema in Metaverse

In January 2022, South Korea's CJ CGV became the first cinema chain to open a cinema in the Metaverse, the Zepeto CGV World.

China's Film Industry Cozies Up to the Metaverse

As Hollywood explores the potential of the metaverse, China's filmmakers are also exploring how new technologies can be utilised in the country's cultural entertainment.

Metaverse Cinema & TV: What Will the Metaverse Mean For The Future of Cinema & TV?

While most outlets are delving into how Web3 will impact cinemas, Hollywood Insider explores how the metaverse will change the way audiences watch television in the streaming era.

What is the Metaverse and Why Should You Care?

There has been much talk about the idea of the “Metaverse” in technology sectors lately, but the futuristic concept is somewhat difficult to grasp—particularly in how it might affect the way individuals will interact with each other in both the real world and virtual worlds in the future.

Own Your Next Superhero

Beneath the surface of the animal profile pictures embodying the rise of NFTs, some significant innovations are happening in the entertainment industry. Wouldn't it be cool if you could own your next superhero? DX CEO Martin Berg explores how that'll be possible in the future, as new media companies are exploring things like decentralised IP, community-driven storytelling, and new media formats and mediums.

The Future of Entertainment: Major Studios and the Metaverse

Recently, major studios have been partnering with studios to give away NFTs with films like Top Gun: Maverick and Thor: Love and Thunder. But why are studios just giving away NFTs when some have been selling for millions of dollars? We're all testing the waters for the future of entertainment experiences, and here at DX we are thinking about the future of filmmaking and Web3 and how that will impact cinemas. Spoiler alert: cinemas can be a key partner in this new frontier of storytelling.

[How Web3 is Creating Community-Driven Content](#)

There has been much speculation about the technology that will bring Web3 and the metaverse into reality. However, community-driven content will be the engine that will introduce Web3 to users around the world. How can cinema tap into the next phase of Web3 entertainment?

[How Cinemas Can Tap into the Potential of NFT Ticketing](#)

Live event ticketing is exploring utilising NFTs to solve long-term sales issues and unlock potential new marketing and fan engagement opportunities. Cinemas can learn from the live event industry's experiments about how to deliver exclusive experiences for their audiences.

[Anthony Hopkins' Metaverse Debut Sells Out in Seven Minutes](#)

Even Academy Award-winning actors are testing the Web3 waters, including Anthony Hopkins, who released his own NFT.

[Cinemark Offers Movie Club Platinum Members a Free, Exclusive, Limited Edition NFT](#)

In December 2022, Cinemark launched an exclusive NFT giveaway for its Movie Club Platinum members.

[Hollywood's Incremental and Exponential Opportunities in Web3](#)

DX CEO Martin Berg explores how Hollywood can leverage Web3, and how Web3 might change Hollywood.

You can read all the DX articles relevant to these topics on our [Tech Innovation & Cinema page](#), as well as finding fantastic articles and insights on our [LinkedIn](#).

Why not also follow Martin Berg's Substack newsletter [IN/TRANSIT](#) for insights on all things tech and entertainment in the future.



CLOSING REMARKS

The use of Web3, blockchain, and NFTs in real-world commerce is in the early stages and the cinema industry should approach the potential of these technologies with openness and curiosity.

As our CEO once put it in a [LinkedIn post](#), “Pay attention to where the chaos is. That’s where the opportunities are, too. Innovation is messy. In hindsight, it might look like a straight line from A to B. In the moment, it’s not. The formation of a new paradigm is chaotic when it happens.”

Some of the developments that the cinema industry may be able to take advantage of in the future include:

- Sustainable and relevant ways to connect with audiences.
- Connecting with the increasing importance of digital identity.
- Being on the cutting edge of the next generation of storytelling.

By leveraging the power of the digital engagement that audiences are increasingly seeking, including Web3 experiences and NFTs, cinemas can learn incredibly valuable insights into audience sentiment and preferences, while also fostering deeper connections with their customers.

Cinemas, as physical spaces for exhibition and collaboration, can play an important role in bringing together creators and audiences while also creating immersive and experiential marketing opportunities based on audience response.

As the entertainment industry continues to evolve and embrace new technologies and platforms, the possibilities for audience engagement and participation are truly limitless, and we are only beginning to scratch the surface of what is possible with Web3.



MEET THE CREATIVE TEAM

This guide is brought to you by:



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SEE ALL AVAILABLE DX GUIDES AND RESOURCES

Film Forward. An Operator's Guide to Elevating Cinema Marketing

"Film Forward" is your practical guide to leveraging the latest marketing trends and also classic cinema tactics to grow your business and bring more audiences through the door.

[Get your copy](#)



dx.tech/e-book/film-forward-an-operators-guide-to-elevating-cinema-marketing

Tech Innovation & Cinema

Welcome to your first aggregator of the latest trends and experiments in the world of new, immersive technologies applied to the cinema space. From AI to blockchain and everything in between!

Go through these resources one by one or filter by the type you're most interested in (e.g. AI or Web3) and start learning about what's new and disruptive in our industry.

Artificial Intelligence

Industry Explorations

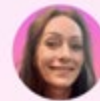
Industry Live or Past Tests

Metaverse

Web3

NFT

dx.tech/tech-innovation-cinema



Customer Success Stories

Discover how cinema managers like you grow their cinema business, leverage best practices, and use DX in their workflows.

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