

Module 4. Blockchain & Sports

We have covered now some of the basic notions in the blockchain and crypto world. Since the space is constantly evolving, and innovations are being built on top of previous ones, it is essential to understand the foundational principles before analysing examples and diving into the use cases. We are still in a very early stage of development of the technology, and it seems that massive, mainstream adoption will take some time to become a reality. Therefore, possibilities are yet being explored, and many use cases we see today are experimental. Many things are being tried, and many others are still yet to be tried.

This is by no means an established industry, where practices are standardised, every aspect is regulated, and procedures are common and well-known. Blockchain and crypto are still the wild west of technology and finance. So, how do we guide ourselves in this hazardous new frontier of innovation? How do we discern between legitimate projects, with real potential, or scams, “rug pulls”, and doomed-to-fail initiatives that pop up every day?

The answer is fairly simple: knowing the basics. The deeper we dig into the underlying principles of blockchain, the more of a solid foundation we will have to face innovations that are being built on top of those same basic principles. So far, we have seen mostly the basic principles, and slowly we introduced some interesting use cases of the technology.

Module 1 has been all about the two main blockchains and how they work: Bitcoin and Ethereum blockchain. Proof-of-Work, smart-contract and DAO are the most important notions we should take from that module.

Module 2 has been about NFTs, and how they go beyond simply digital art, detailing seven different types of NFTs that we will see coming up in the future. Particularly in gaming, which took us into module 3, going deeper into what NFTs are and what the metaverse is.

In module 4, the last module of the course, we will be applying all these notions to study use cases in the sports industry. Blockchain was born as an equalizer force with the promise of giving power back to the people, and enhancing our everyday experiences by granting us more control, more access, and more freedom without any intermediaries or third parties. Blockchain in sports will follow the same vein, and will bring the same liberating ideas to the sporting venue. Every notion we discussed in the previous modules will come together to give us a wide perspective on the possibilities and the innovations that are taking place right now, and how they can change the future of sports forever.

Athletes and NFT collections



A natural first step for blockchain in sports are NFTs. For example, collectibles. It makes sense because there has always been examples of collectible objects in sports. Whether it be baseball cards or Panini sticker albums, collecting items related to sports is a practice probably as old as sports media itself. So, NFTs as collectibles in the sports world make total sense, since it only represents a digital extension of the physical world.

To make valuable NFTs, one of the most important things that you need is a brand. Without a brand, you can make the most beautiful, smart, rare NFT, but nobody will know about you, and therefore you will have no demand. Instead, a strong brand will bring along an audience, and that might be the most important requirement to generate demand for an NFT. To have an audience is to have demand. NFTs allow for the leverage of that audience and get monetary value out of it.

Regarding sports, there is hardly anyone that can claim the level of popular attraction athletes do. This can be debated; musicians and Hollywood stars are also idolized across the world. But it is safe to say that athletes are a step-up. Maybe it is because of the nature of sports, that requires no language to be understood. Football, for example, is played all over the world, by people of all ages. The fandom an athlete has is always craving for more. Athletes are brands in themselves. They have a fandom, an audience (which is not necessarily the same) and a brand. They are in unique positions to create demand for digital assets.

In fact, we see all the time how athletes use their brand to generate revenue. Advertisings with massive pictures of athletes are an everyday feature of urban life. Athletes get our attention, and advertisers take advantage of that. But for the first time, with NFTs, athletes can tap into that attention they get and make money, without depending on third parties like advertising agencies, or without the oversight of a club, a league, or a brand.

Athletes have always been subjects of advertisings, since their personal brands serves them greatly as a source of revenue. NFTs are an exciting new possibility to tap into the potential of their brand.



Figure 1: Colin Kaepernick Nike ad campaign



Source: [Online image of Colin Kaepernick Nike ad campaign], (n.d.), <https://bit.ly/3HOaA7N>

NFT products issued by the athlete can signify a huge new business opportunity, but more importantly, it provides total control on how that athlete manages that business outlet. They can issue an NFT and auction it directly in an NFT marketplace. It would also offer a more direct interaction with their fans.

Baron Davis, a former NBA top player, strongly emphasizes this aspect of the NFT opportunity for athletes. He founded Baron Davis Enterprises, from which he made multiple investments in tech start-ups and created several companies (<https://www.barondavisenterprises.com/>). He explains how an athlete has a brand, but historically was never in total control of it.

For the first times athletes have an opportunity to have ownership in what they have contributed to a greater sport (...) The memorabilia, and cards, and things like that. Anything we signed, and merchandising that usually we saw being made, athletes never really owned that. (...) Athletes with their own collection of memorabilia, their own collection of content, actually have the opportunity to realize their value within their own collection. It is like giving the keys to the athlete (...) Traditionally, people have been defined by the brands giving them money, or by the moment in their career, or an incident that happened. Now it is more important to own a narrative, an athlete can own their narrative, and own your community. (Bloomberg Quicktake: Explained, 2022, <https://bit.ly/3y86Xq0>)

One of the very first athletes to get into the NFT movement was the NFL superstar Rob Gronkowski, four-time super-bowl winner. In March 2021, an auction for his first NFT collection was held at OpenSea. The “Championship collection”, as it is called, consists of 4 trading card editions, each one celebrating one of the four super-bowls won by Gronkowski. Each edition has 87 copies, which is the number he uses in the field. That makes a total of 348 cards, plus one unique edition, a one-of-one card called “GRONK Career Highlight Refractor Card”. The owner of this unique NFT would have privileged access to one of Gronk’s games and actually have a moment to meet the player. Soon after the auction started, the collection had driven \$1.8 million dollars in sales (Quarmby, 2021).

Figure 2: Rob Gronkowski. The NFT auction for digital trading cards garnered over \$1.8 million dollars for NFL



Source: CBC, 2021, <https://www.cbc.ca/sports/football/nfl-rob-gronkowski-announces-retirement-2022-1.6496713>

Another excellent example of athletes leveraging their brand is Pelé, the Brazilian footballer, widely considered one of the best players in the history of the sport (if not the best). He is, at the time of this writing, 81 years old, so clearly well past his prime, but his narrative and his legend are still very much alive.

Figure 3: "King of Football", the officially licensed Pelé NFT



Source: [Online image of Pele's soccer sport trading card], (n.d.), <https://ebay.to/3NoY7ZD>

In October 2021, Pelé announced that he would be dropping an NFT collection on the Ethernity Marketplace (<https://ethernity.io/marketplace>). Physical trading cards of Pelé are known to be some of the most valuable collectibles in the whole world. But the player was able to leverage some of his branding power in the digital space. The artwork was created through a partnership between Visual Lab (<https://visuallab.nl/portfolio/pele/>) and Rafa Zabala, a 3D sculpture artist well known for his work in some big Hollywood films like "The Hobbit". The most valuable piece of the collection is currently valued in \$16.000 dollars at the Ethernity marketplace. 90% of the proceeds from this NFT sale will go to the Pelé foundation, which concentrates efforts in alleviating poverty and improving access to education for children around the world (Hood, 2021).

The NBA mega-star player Kevin Durant has also become a big investor in the crypto space. He founded Thirty Five Ventures, together with Rich Kleiman, his long-time manager and associate. (Shelburne, 2019; LoRé, 2021)

In the words of Rich Kleiman,

NFTs will become a complimentary piece and another form of an athlete speaking directly to their fans. Whether it is something built around an NFT or if it's a signature shoe business that is complimented by an NFT. Now we have another

element to be added to the ways an athlete promotes and markets something, his own brand, to the way they generate revenue for any of their other businesses.

Not just athletes – institutions want in too

There are clubs and leagues that have taken notice of the NFT phenomenon and are already taking advantage of the possibilities it offers. One of the most prominent examples is the officially licensed NBA marketplace, Top Shot.

Figure 4: The highest selling Top Shot NFT, a LeBron James play for the Lakers



Source: NBA Top Shot, 2021, <https://bit.ly/3bhM7M6>

It is the result of an association between the NBA and Dapper Labs, the creator of CryptoKitties, that we mentioned in module 3. The NFTs are supported by Dapper Lab's Flow Blockchain, but were aimed to a general public, not a cryptocurrency niche. Their NFTs were therefore marketed as "digital trading cards", and did not mention the word "blockchain" (Lopatto, 2022).

The platform sells "NBA Top Shot Moments", which are video snippets of plays and highlight from the NBA matches. They have classic plays by former players, or amazing new feats by top figures of the moment. They divide the NFTs in four categories, depending on their rarity: "Legendary", "Rare", "Fandom" and "Common". Of course, the rarer the NFT, the more valuable it is (Conti, 2022).



NBA Top Shot made headlines in February 2021 when it made a record sale of a LeBron James NFT for \$208,000 dollars. It was an absolute boom. Top Shot saw its users multiply a hundredfold, and the average price for an NFT was \$181.81 dollars. But around a year later, the prices plummeted, and many users left the platforms. Around June 2022, the average price for a Top Shot NFT was 17 dollars. Maybe this is part of a “crypto-winter” (at the time of writing, Bitcoin averages in 30,000 dollars), or it could also be that the supply of NFTs by Top Shot is too much (they keep generating new Top Shot Moments constantly). Nobody really knows. It goes to show that NFT investing is really risky, prices are very volatile, and that projects are still in their infancy.

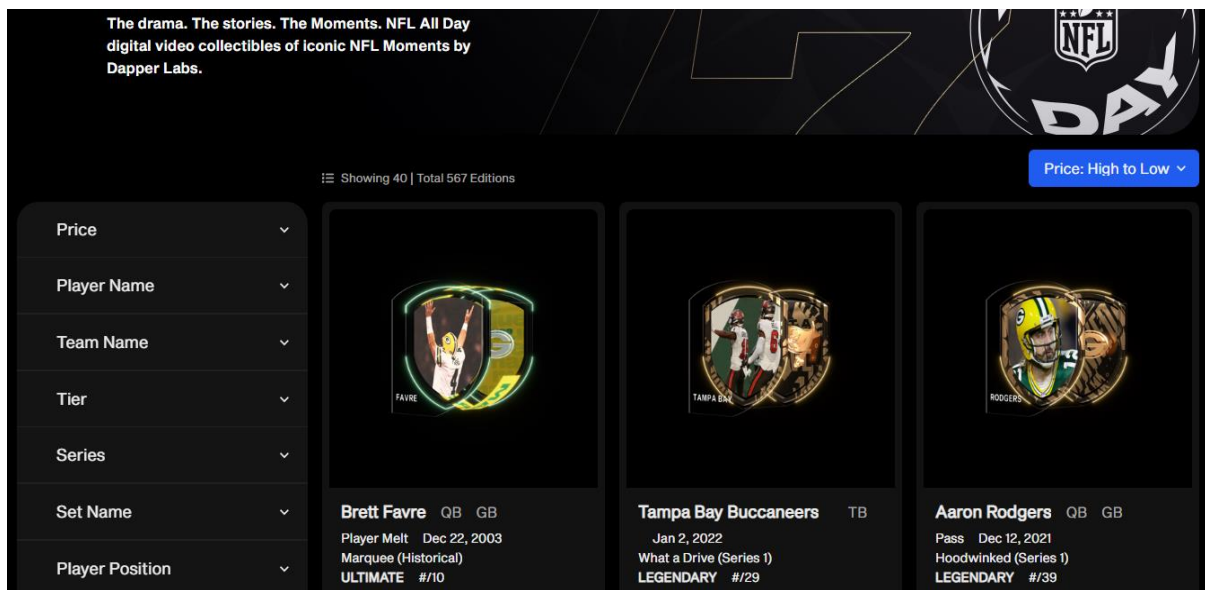
Another giant league that is getting overly interested in NFTs is the National Football League, the biggest and wealthiest sports league in America. The NFL announced its partnership with Dapper Labs on September 29, 2021 (Dunne, 2022) (as previously mentioned, Dapper Labs were the creators of CryptoKitties and the blockchain they created, Flow, is specially designed to host NFTs. They have made partnerships already with considerable franchises like NBA, La Liga, Warner Music, etc.).

The platform NFL All Day is not entirely different from NBA Top Shot, in that they offer a marketplace where football fans can buy “moments”, which are officially licensed video NFTs of the most notable in-game moments. They are also divided in categories, depending on their rarity. “Ultimate” NFTs would be the rarest, and therefore the most valuable. There are also “Legendary”, “Rare” and “Common” categories (Perri, 2022).

Some of the rarest NFTs in the marketplace are highly valued. This one is a video selection of several plays from Brett Favre, a Hall Of Fame NFL superstar. As you can see, there are 5 copies of this “Moment”, each one with a serial number. The #1 serial number is valued at 1 million dollars in the marketplace.



Figure 5: Brett Favre's moments NFTs



Source: Screenshot from NFL All Day marketplace's webpage (https://marketplace.nflallday.com/?sortBy=price_desc)

It is not just about the money – the NFL case

The NFL is issuing NFT tickets in select games during the 2022 season. The NFT is given to fans attending the game – for free. Therefore, it does not represent an extra income for the league, it is rather an opportunity they take to engage with their fans and give them more chances to be a part of the sport and have something of their own that makes them feel closer to the event.



Figure 6: NFL's NFT tickets



Source. Lawler, 2021, <https://bit.ly/3AapWlt>

So far, we have considered NFTs as an alternative way to generate revenue. But there is also another aspect of them that is just as important, or maybe even more. Why would leagues like the NBA or NFL risk going into such unexplored territory? It is not like they are lacking revenue. The answer is fairly simple: it is another way to reach fans.

In the words of Joe Ruggiero, Senior VP Consumer Products at the NFL:

We are coming at it from the perspective ¿how can I best engage my fans? And we really do believe that younger demographics will engage with digital objects, digital activities, almost on a primary basis. Today someone may spend hours and hours of time on a given year to craft their franchise, craft their team in Madden. Blockchain will enable a player of a videogame, to spend time, earn against that, and then take all of those earnings and bring that to another game, to a social experience, to show that as a trophy somewhere. (Financial Times, 2022, <https://bit.ly/3QFl6T1>)

It is clear that Ruggiero is not thinking just of video NFTs or digital trading cards. He is taking the wider view, a big picture approach. What he is talking about can be applied to trading cards, collectibles, gaming, digital tickets and even the metaverse. You can take a look at this [Financial Times video](#) that gives a good overview of NFTs in sports.



In fact, NFL All Day is not the only NFT project the league has started. In November 2021, the news broke that the NFL would hand out NFT tickets of select games. It would be on a complimentary basis to fans attending the games, through a partnership with Ticketmaster, and the NFTs would be supported by the Polygon Network, based on the Ethereum Blockchain (Terzo, 2021; Lawler, 2021).

That is not all, since in December 2021, DraftKings announced a partnership with the NFL, through which they announced the launch of a fantasy football game. DraftKings is a very well-known platform of gambling and fantasy sports games that got listed in NASDAQ in 2021, and at the time of this writing, has a market capitalization of \$24.5 billion dollars (Ledger Insights, 2021).

The game is called Reignmakers (<https://dknation.draftkings.com/2022/5/6/23058654/reignmakers-draftkings-first-ever-nft-fantasy-football-games-crypto-nfl-field-pass-rarity-tiers>). A user will make a line-up at the beginning of the week, and depending on real life results, the cards the user got will get different scores. It works similarly to regular fantasy football, but with a difference: each card would be an NFT, so it introduces a new trading dimension to the game.

It makes sense that, as society grows more digital, the newer generations would drift naturally to the digital spaces. Every fan of a team owns jerseys, caps, flags, and all kinds of merchandising. They make the fan feel good, as if they own a part of the team they love. It is a way to show support, to engage with the players and the team, another way of enjoying the sport. So, if merchandising makes sense, why would it not make sense to have digital ownership of merchandising? Digital assets, as alien as they would seem to older generations, will make total sense to the younger ones. Baseball trading cards where a huge boom among teenagers in the 80s. As NFT technology becomes more readily accessible, ubiquitous and popularized, kids may very well be collecting and trading NFT cards with their phones.

Fan Tokens: web 3 meets fan engagement

NFTs are not the only way blockchain is making its entrance in the sports industry. Lately, football clubs around the whole world have been getting into the crypto space with something called “fan tokens” (<https://coinmarketcap.com/currencies/argentinefootballassociationfantoken/>).

Unlike NFTs, which are unique and non-fungible (as previously mentioned in module 2), fan tokens are perfectly fungible. They work as cryptocurrencies, but the value they have is not determined by underlying mechanisms, such as POW in the case of Bitcoin. Instead, they are valuable as much as the fans of the club want to be a part of the community the tokens grant access to.



Fan tokens are issued in limited supply, and can be traded as most cryptocurrencies in exchanges like Binance or Coinbase, therefore, their price fluctuates as any other crypto. The holder of such tokens, though, is entitled to perks, special participation in events, access to VIP and voting rights.

Figure 7: Fan tokens



Source: Chiliz, 2019, <https://bit.ly/3OoB8yM>

The most prominent company in this area is Chiliz. Founded in 2018, with offices spread through Europe and America, the company created its own blockchain dedicated to projects in the sporting world. The Chiliz Blockchain powers a digital app called Socio.com. Through Socio.com, fans can buy tokens of their favourite clubs. Although the Socio.com app is not a trading platform, the fan tokens can be traded in many trading platforms like Binance. At first, fan tokens looked like any other cryptocurrency, volatile in their price and traded widely as speculative assets.

But they are intended as much more. The owner of the fan token has certain rights and privileges given by the ownership of the token. Depending on how many fan tokens a person owns, they get certain membership rights, such as VIP access, or Meet & Greet passes, collectibles, and more. The most advertised feature of fan tokens, though, is the voting rights they give to their holder. If there is a decision that has to be made, such as



merchandising design, tour bus design, match locations, MVP categories, etc., the club might decide to leave it to the fans holding tokens. This gives the fans a chance to weigh in and actually be an active participant in the club's development.

Beyond tokens: sports in the metaverse

There is one final aspect of the sports industry and blockchain that we have not discussed, and it is the metaverse. In module 3, dedicated to gaming and the metaverse, we discussed how the metaverse is a digital space that is still in its infancy, but promises to grow incredibly fast during the next decade. As we said, the majority of the uses the metaverse has today are mostly experimental, but they give us a glimpse of what is to come.

In early 2022, we had a great example of how sports can be included in the metaverse. Italy's Serie A took a step forward and entered the metaverse with one of their football matches. On May 1, 2022, the match between AC Milan and ACF Fiorentina was the first football match ever to be transmitted in the metaverse (<https://metaverse.legaseriea.it/>). The CEO of Serie A, Luigi De Siervo, stated that they "have chosen to be the first to broadcast a football match in the metaverse because we believe that the frontier of technological innovation is extremely important for a modern league such as Serie A" (Sale, 2022).

The idea was born out of a necessity: nowadays, football teams (especially big European football teams) have fans all over the world. In this case, the league wanted to reach its fans in the Middle East and North Africa, specifically, the younger audience in that region (Reuters, 2022).

The event was hosted in "The Nemesis", the metaverse created by ConsenSys, a blockchain technology company based in New York City, the company behind one of the most used decentralized wallets, Metamask.

It might not seem like much, but as we said, the metaverse is still in its early stages of development. We have to consider these events to be the first steps towards a great goal. Imagine the possibilities: hundreds of thousands of spectators gathering in a digital space to watch not only football, but basketball, golf, tennis, or whatever sport you can think of, in a more immersive and interactive way. And there is also the possibility of actually playing digital sports in the metaverse.



Figure 8: AC Milan vs. ACF Fiorentina was the first football match to ever be transmitted in the metaverse



Source: Roscoe, 2022, <https://reut.rs/3QC7mIt>

Blockchain is still in its infancy. It was born in 2008, and it has already changed the world in so many ways. But we have only seen the tip of the iceberg. We cannot envision all the changes that will occur when full-blown mass adoption becomes a reality. It is impossible to know how many things will change, or how much because there are so many variables and so many industries being disrupted, all at the same time. This is especially true for the later developments of the blockchain, such as the metaverse. Nobody can predict how things will unfold. So far, we can see the first little steps, such as a football match being projected in a digital room. It is analogous to the first Bitcoin transactions; nobody could have imagined the whole world of innovation that would follow. Satoshi Nakamoto wanted to create a digital cash payment system, and in doing so, he might have changed the entire world. Nothing could have prepared him for what was coming next. The same applies for us, so there is only one thing we can do: learn the basics and have a good foundation in our knowledge. In doing so, we can develop good critical thinking regarding blockchain, and be better prepared to understand the future innovations that we come across. Hopefully, this course was helpful in doing just that.

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