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The governance of Non-Fungible Tokens
(NFTs): Smart contracts and the access
they give

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The development of the new web and blockchain technology led to the rise of new types of contracts that allow virtual transactions. Thus, this paper will study smart contracts and the utilities that come along with signing this contract and acquiring an NFT.

1- The legal nature of smart contracts:

A smart contract is an algorithm that combines the two acceptances of the parties to interact on the blockchain. It is, more specifically, a "self-executing contract" automatically created once the parties agree on the terms.

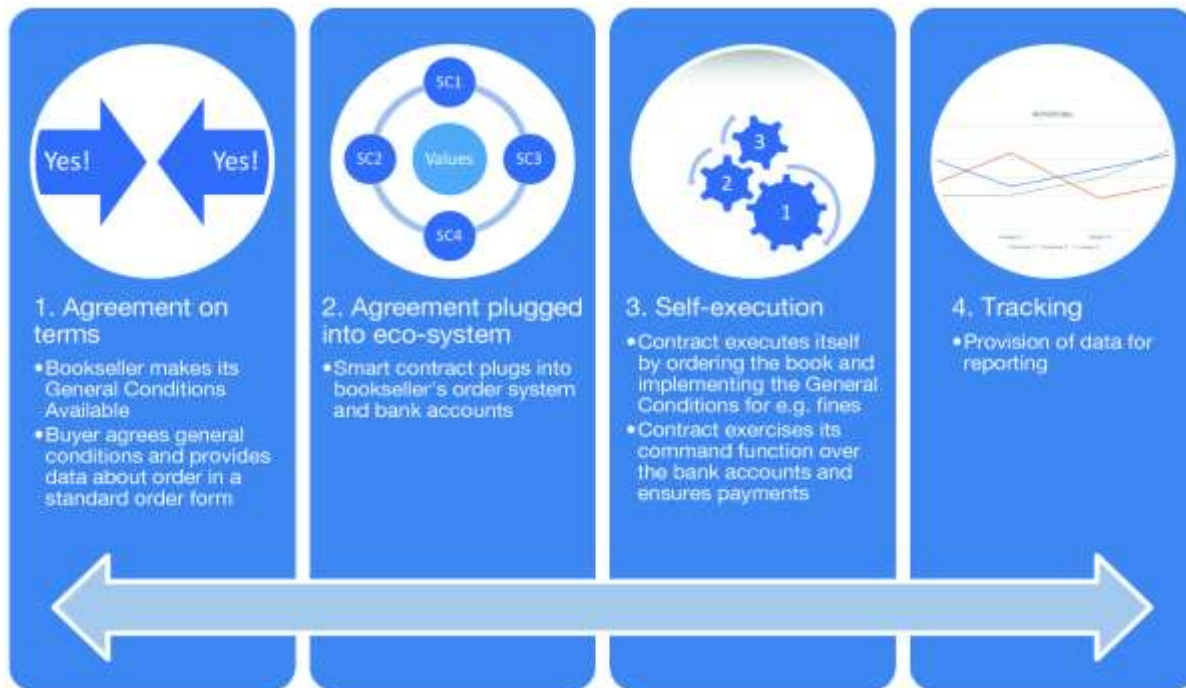


Figure 1 Simple smart contract transactional process¹.

As previously mentioned, it is the mechanism used to mint an NFT from its originators. So the question here is simple: are smart contracts equivalent to legal contracts, and can the minting of NFTs be compared to a simple day-to-day transaction?

Lebanese law defines a contract as a consensual agreement between two or more parties with no written form needed. Most regulations, including French and American Law, also implement the same principle. Therefore, the smart contract is, in theory, legally binding for the parties that agree on it. However, this contract is governed by technical

¹ Unsworth, R. (2019). Smart contract this! an assessment of the contractual landscape and the herculean challenges it currently presents for "Self-executing" contracts. *Legal tech, smart contracts and blockchain* (pp. 17-61). Singapore: Springer Singapore. doi:10.1007/978-981-13-6086-2_2 Retrieved from http://link.springer.com/10.1007/978-981-13-6086-2_2

and complicated algorithms. Thus, ordinary people far from computer knowledge, and even lawyers, may have difficulty understanding the rights and obligations that this contract brings to the table.

The authors of the book "legal tech, smart contracts and blockchain" proposed a solution to this problem. They urge lawyers to keep up with the new technologies rather than holding them back by customary laws. They offer a 3 step solution: first, to work with new technologies, second to find "smart solutions," and third, to cooperate with designers and "technologists" to further comprehend the latest tech².

In another book, author Andrea Stazi considered that smart contracts lack some significant considerations in order to be compared to a healthy legal agreement. In her opinion, a self-executable computer code – a smart contract - cannot express all the necessary contractual clauses. Indeed, some concepts, such as fairness, good faith, and utmost diligence, cannot be interpreted by a computer. Therefore, the latter cannot nullify a contract unless it is ordered to do so³.

Some authors also compared this phenomenon with "contract automation," which uses software to generate ready-made contracts. Although very different from smart contracts, interviews led in the Netherlands have shown that even though this system has made it easy and fast to write contracts, some of the professionals feel like they are just "ticking boxes" instead of showing their skills⁴. This further endorses the opinion formed by Stazi that automation or smart contracts remove some “human” concepts that cannot be present in an algorithm or computer code.

Briefly, even if smart contracts can be regulated as standard contracts, their technicality and computer-based algorithm create a complicated environment for traditional legal concepts to apply. Therefore, transactions governed by these contracts, specifically NFT trading, must be regulated by a legal framework that considers all the above points. For example, in regular contracts, a person has the right to have an interpreter or representation while signing a contract when they are not experts in the legal field, or they do not understand the terms. In this case, can we consider that an average person agreeing to a smart contract should have an interpreter or a computer specialist to understand the code's underlying terms? Can this be one solution to the regulation of smart contracts, or would it contradict the original thought of decentralization and quickness of transactions?

² Corrales, M., Fenwick, M., & Haapio, H. (2019). Digital technologies, legal design and the future of the legal profession. *Legal tech, smart contracts and blockchain* (pp. 1-15). Singapore: Springer Singapore. doi:10.1007/978-981-13-6086-2_1 Retrieved from http://link.springer.com/10.1007/978-981-13-6086-2_1

³ Stazi, A. (2021). Smart contracts: Legal issues and first regulatory approaches. *Smart contracts and comparative law* (pp. 71-106). Cham: Springer International Publishing. doi:10.1007/978-3-030-83240-7_4 Retrieved from http://link.springer.com/10.1007/978-3-030-83240-7_4

⁴ Timmer, I. (2019). Contract automation: Experiences from dutch legal practice. *Legal tech, smart contracts and blockchain* (pp. 147-171). Singapore: Springer Singapore. doi:10.1007/978-981-13-6086-2_6 Retrieved from http://link.springer.com/10.1007/978-981-13-6086-2_6

2- The different applications of NFTs: a business guide to non-fungible tokens.

Smart contracts are the gate to acquiring NFTs. In this logic, smart contracts today give access to many assets behind this token. Indeed, the use of NFTs has extended to not only include art but different kinds of investments and communities, and people are talking about a new digital universe.

Communities and DAOs:

One of the most common utilities you gain from purchasing an NFT is the community of holders. They usually gather on the "discord" application to chat and organize their community. Typically, an NFT project shares its roadmap and details on discord, created for that purpose, and tries to keep its community active to elevate the NFT owners' trust.

Moreover, NFTs are becoming the key to accessing decentralized autonomous organizations (DAOs). A decentralized autonomous organization (DAO), also known as a decentralized autonomous corporation (DAC), is a member-owned community without centralized leadership supported by transparent rules encrypted as a computer algorithm, governed by the individuals in the organization, and uninfluenced by a centralized administration. A DAO's money transfers and software rules are recorded on a blockchain. However, this type of corporate organization's exact legal status is unknown.

The most well-known DAO is "The DAO," a venture capital fund that raised \$150 million through crowdfunding in May 2016 before being attacked and having its bitcoin holdings of \$50 million stolen a few weeks later. In the following weeks, the hack was undone, and the money was recovered using a hard fork of the Ethereum network. The new fork was adopted by most Ethereum miners and clients, while the original chain was renamed Ethereum Classic.

Many other examples of NFT-based DAOs are appearing. For instance, an NFT series was launched accompanying Maroon 5's current album, "JORDI." The latter led to the first-ever Fan Community Decentralized Autonomous Organization (DAO), according to YellowHeart, the NFT marketplace for music and tickets that accepts cryptocurrency and credit card payments. In addition to the DAO, YellowHeart will produce open-edition animated album art and hand-drawn portraits of the Maroon 5 members.⁵

⁵ YellowHeart launches first ever fan community DAO with maroon 5 NFT series: Maroon 5 decentralized autonomous organization accompanied by weeklong open edition of NFT digital artwork collectibles to coincide with release of maroon 5's upcoming album "JORDI". (2021,). *PR Newswire* Retrieved from <https://go.exlibris.link/l21xPN4d>

In addition, The DeFi Money Market (DMM) in Dubai, a decentralized protocol and ecosystem that restores earned interest to the global monetary system, is launching non-fungible tokens (NFTs). These tokens will give holders country-based franchise rights on asset introduction within the DMM ecosystem.⁶ Affiliate and Principal DAO members can propose a vote for the introduction of additional, real-world, income-generating assets. Each country has limited "slots" available for Affiliate and Principal members. These "slots" are represented by transferable NFTs, which are differentiated on a country-by-country basis depending on GDP and asset production methods.

Furthermore, The People's Ecosystem is creating The People's DAO, the first cannabis decentralized autonomous organization, to promote equity in the cannabis sector.

Using Web3 technology, the new organization aims to give BIPOC (black, indigenous, and people of color) and women-owned enterprises, creatives, and initiatives financial freedom, education, and opportunity.⁷

In brief, many DAOs nowadays use NFTs as a gate to their communities.

Land, real estate and arts:

People are now buying land on the blockchain. "Decentraland" is one of the new virtual worlds on the blockchain where you can become a citizen by purchasing land. These lands are virtual 16x16 m lots on the metaverse. Private lands are freely traded via Ethereum and used as pleased. Some people use it as gaming places and online shops, and it can even extend to a concert venue.

In more tangible news, NFTs are now present in the real estate business. Indeed, after being the first apartment to be sold via NFT in 2017, an apartment in Kyiv is put again on sale with a real estate-backed NFT⁸. Propy, a real estate transaction platform, launched this auction.

⁶ DeFi money market launches non-fungible tokens to empower \$14 billion-dollar DeFi ecosystem: Anyone can purchase a DeFi money market NFT to become an asset introducer in its decentralized autonomous organization. (2020,). *PR Newswire* Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/wire-feeds/defi-money-market-launches-non-fungible-tokens/docview/2465715113/se-2?accountid=27870>
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⁷ Zdinjak, N. (2022,). Weed, NFTs, crypto and Web3: The people's ecosystem launches A cannabis DAO (decentralized autonomous organization). *Benzinga Newswires* Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/wire-feeds/weed-nfts-crypto-web3-peoples-ecosystem-launches/docview/2629077497/se-2?accountid=27870>
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⁸ Propy auctions world's first real estate NFT with ownership transfer. (2021,). *Business Wire* Retrieved from <https://go.exlibris.link/VTgVF935>

In addition, Aqarchain.io is set to launch the first blockchain-powered real estate marketplace. They will allow the users to buy parts in real estate just like you buy a stock in a company to improve the funding of the real estate market⁹.

Moreover, a slightly different NFT market also made an appearance. HomeJab is an NFT marketplace that offers one-of-a-kind photographs of actual apartments and homes. Real estate agents and digital marketers then purchase these NFTs and share them with their clients exclusively. This platform allows real estate agents to have access to professional photographers in a more efficient way. Most of the profit goes back to the photographers¹⁰.

Finally, NFTs are slowly going back to simple art. Many examples appear where people have opened art galleries on the blockchain. For instance, Mark Cuban currently runs an NFT art gallery¹¹. Moreover, Liquid Avatar Technologies will open an NFT art gallery with a virtual 3D experience¹². Furthermore, some other examples take place in the physical world where a London based physical NFT art gallery is also set to open its doors¹³ and Bahrain is set to launch the first-Ever NFT Art Exhibition in the MENA Region¹⁴.

Celebrities and NFTs investments:

More recently, Mila Kunis launched a Solana NFT-based animated series that allows the NFT holders to shape the series¹⁵. Moreover, singer Billie Eilish also filed to trademark her name and Blohsh logo as a stepping stone to enter the metaverse. Her fans will be able to purchase her digital assets on the blockchain¹⁶.

Many entities are trying to keep up with the trend and are producing NFTs for the public. For instance, the National Basketball Association of America (NBA) created NBA Top Shot, a website to buy and sell NBA short films and highlights. They launched 30 unique NFTs representing each team and giving exclusive access to certain benefits such as guest invitation to an NBA reception, a behind-the-scene tour and more.

⁹ Aqarchain.io to launch the first decentralized real estate NFT marketplace. Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/docview/2583536744?pq-origsite=summon>

¹⁰ The first NFT platform for real estate images - "real" - launched by HomeJab. (2022). Retrieved from <https://finance.yahoo.com/news/first-nft-platform-real-estate-123600949.html>

¹¹ Dhaliwal, S.Benzinga: Mark cuban now runs an online gallery displaying NFT art - ProQuest. Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/docview/2504188866?pq-origsite=summon>

¹² MacLean, J. (2022). *Cantech letter: Liquid avatar opens NFT art gallery in the metaverse*. Chatham: Newstex. Retrieved from <https://go.exlibris.link/6CFQ502g>

¹³ Russell-Jones, L. (). Welcome to spitalfields' NFT art gallery: A london based NFT art gallery and advisory will open this month, reveals lily russell-jones - ProQuest. Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/docview/2635146164?pq-origsite=summon>

¹⁴ Newsfile corp.: NFT BAZL partners with rak art foundation and dar alfann gallery to launch first-ever NFT art exhibition in the MENA region - ProQuest. Retrieved from <https://www-proquest-com.ezproxy.lau.edu.lb:2443/docview/2627551114?pq-origsite=summon>

¹⁵ Hayward, A. (2022). Mila kunis' studio launches solana NFT animated series, the gimmicks. Retrieved from <https://decrypt.co/94992/mila-kunis-studio-launches-solana-nft-animated-series-gimmicks>

¹⁶ Pop star billie eilish files for NFT and metaverse-related trademarks. (2022, -03-03T15:49:24+00:00). Retrieved from <https://finbold.com/pop-star-billie-eilish-files-for-nft-and-metaverse-related-trademarks/>

Recently, the NBA also launched a collection of 18,000 NFTs representing 75 editions of 240 players, with a worth that will depend on the player's real-life performance. The minters will be able to acquire one of them randomly by only paying the gas fees related to the transactions. However, to be able to buy one, the person should be listed on their "Allow list" by being among the first to join their discord community. In addition, some of these NFTs will be reserved for owners of the Top Shot NFTs.¹⁷

NFTs and initial public offerings (IPOs) or initial coin offerings (ICOs):

An initial public offering is the process of issuing new shares of a private corporation to the public to finance this institution.

Recently, some cryptocurrency issuers have been using their currency to make initial public offerings for their startups, specifically initial coin offerings.

NFTs have also made way for companies to raise capital, just like the BHive café in Beirut that is raising money to open a hub in Dubai.

Play to earn gaming concept:

Blockchain technology and NFTs have introduced the concept of “crypto games”. Shortly, a crypto game is a game that relies on the actual value of the game’s assets and the cryptocurrency of the blockchain in question.

CryptoKitties:

The most famous play-to-earn game is the CryptoKitties game. This game allows users to breed and collect unique kitties on the blockchain. Each kittie is valued by its special features, and the goal of the game is eventually to foster a "queen bee."¹⁸ In 2017, this game was top-rated, gathering around 7,000 players. Several cases have been reported where a single kittie was sold for over 100,000 dollars (equivalent in Ethereum).

Nevertheless, the valuation of these cryptokitties decreased over the years. In reality, the creators didn't have a good marketing plan, and the game lost its hype after a particular time.

¹⁷ La NBA lance sa collection de NFT qui évoluera suivant les performances des joueurs. (2022). Retrieved from <https://cryptoast.fr/nba-lance-collection-nft-evoluera-suivant-performances-joueurs/>

¹⁸ Serada, A., Sihvonen, T., & Harviainen, J. T. (2020). CryptoKitties and the new ludic economy: How blockchain introduces value, ownership, and scarcity in digital gaming: *Games and Culture*, doi:10.1177/1555412019898305

It was also problematic that all the game necessities cost money for the players, which wasn't very appealing for the gamers.

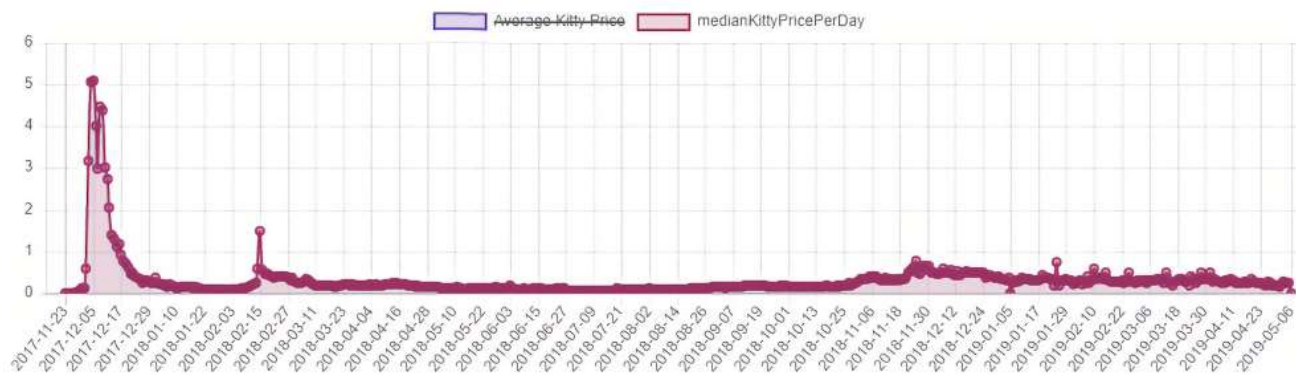


Figure 2 Median cryptokitty price in Ether per day between November 23, 2018, and May 6, 2019 (Kitty Explorer, 2019)¹⁹.

Conclusion and recommendations:

In conclusion, it seems people are starting to move their businesses into the blockchain, and NFTs play a significant part in them. From communities to galleries and even shares, NFTs seem to be the new financial tool of the future. However, this tool lacks the necessary legal regulations to protect its users. So, is it essential to regulate this tool? Or will that lead to the end of decentralization?

In concrete news, NFTs should have special regulations because of their unique uses and diverse applications. Indeed, NFTs aren't just intellectual property protected assets as they usually give access to communities and sometimes organizations (DAO...), in addition to specific investments. Therefore, there should be a unified guideline considering all these aspects.

Finally, laws need to be updated to include smart contracts protecting the consumer or online user. Indeed, suppose a person is allowed a lawyer when signing any real-life contract. In that case, an online user should be allowed assistance understanding the smart contract they sign. Nonetheless, this assistance should be fast to keep up with the blockchain promptness.

¹⁹ Serada, A., Sihvonen, T., & Harviainen, J. T. (2021). CryptoKitties and the New Ludic Economy: How Blockchain Introduces Value, Ownership, and Scarcity in Digital Gaming. *Games and Culture*, 16(4), 457–480. <https://doi.org/10.1177/1555412019898305>