

Asset

Chromie Squiggle by Snowfro

Category

Digital Art

Collection Quantity

9,672

Floor Market Capitalization

96,720 ETH (US\$133 million)

Floor Price

10 ETH (US\$13,750)

10-year Target Price

40 ETH (US\$55,000)

Forecast Return

300%

Risk Rating

Highly Speculative

Executive Summary

Chromie Squiggles (“Squiggles”) are the first-ever on-chain generative art project that used a transaction hash to generate the variables that determine the art. They are also the first project on the popular, Art Blocks platform. Art Blocks is regarded as the most prominent platform for the Digital Art segment of NFTs. The provenance of being the first project on the platform results in a level of floor value to the asset that can be helpful in ensuring long-term value for the collection. As such, the Squiggles brand and “logo” is now synonymous with Art Blocks.



Chromie Squiggle #9027



Franchise Overview

Enabled by blockchain technology, generative art is an emerging segment within the non-fungible token (“NFT”) asset class with tremendous growth potential. At the center of the growth is Art Blocks, an online platform which curates and releases projects from the world’s most prominent digital artists. Art Blocks has generated \$135 million¹ for artists in initial sales. Furthermore, it has enabled secondary sales totalling over \$1.2 billion², providing additional royalties to artists. In total, Art Blocks projects accounted for 9% of the total art market in 2021³.

Art Blocks was launched in 2020 by Erick Calderon, aka Snowfro. The platform’s primary differentiator is that all projects are required to lock their algorithm once deployed, ensuring any art generated is completely unique. This process is a paradigm shift versus other generative art, as previously, artists would only accept the best outcomes. As a result, only the finest algorithms are accepted, and the outputs are more valuable due to the true randomness of the procedure.

Art Blocks also solves many other issues for both artists and buyers. It simplifies a highly technical process to release generative art on the blockchain. It provides strong curation practices to ensure that only the best, most innovative projects are approved on the platform. Art Blocks also maintains a highly engaged community and provides a significant social impact, donating \$45 million to charity in 2021.

Investing in Art Blocks projects has tremendous long-term upside potential, driven largely by the historical narrative of being some of the first generative art projects to be released on a blockchain. In addition, demand for generative art is expected to grow substantially as new, prominent artists emerge and users transition into an increasingly digital world. As a result, there are many projects worth evaluating, with some of the most prominent being: Chromie Squiggles, Ringers, Archetype, and Fidenza.

Art Blocks Platform Overview

Generative art is a new category of art in which artists use computers to intentionally introduce randomness as part of the creation process, producing both expected and unexpected results⁴. Art Blocks is the premier generative art platform, accepting only the most innovative and accomplished artists. Created by Erick Calderon (Snowfro) in late 2020, the platform has generated hundreds of millions in value for digital artists.

Art Blocks projects vary widely in nature, including static images, 3D models, sounds, and other mediums. All projects are stored on the Ethereum blockchain, and each output is unique. Art Blocks has three collections: Curated, Playground, and Factory. Each collection has different standards and processes to ensure consistent quality across the platform. Art Blocks aims to continue to be the home of generative art.

Disclosure

The Accelerate NFT Fund LP currently owns Chromie Squiggle #9027 and may purchase additional Chromie Squiggle or Art Blocks assets in the future.

Origin and Team

Art Blocks was founded in 2018 by Erick Calderon, more commonly known as Snowfro. Calderon is an entrepreneur from Houston, Texas, and is the president of a ceramic tile business, which he has run since 2003. Calderon describes himself as tech savvy. He began experimenting with programming visual outputs in 2011, including those from generative art. He thought it was great that people could “do something once and get a million outputs.”

¹ 90,000 ETH = \$135,000,000 USD at current pricing (\$1,500 USD/ETH)

² 750,000 ETH = \$1,100,000,000 USD at current pricing (\$1,500 USD/ETH)

³ <https://ocula.com/magazine/art-news/nfts-now-constitute-16-percent-of-the-art-market/>

⁴ <https://medium.com/collab-currency/punks-squiggles-and-the-future-of-generative-media-d2d3e9df623b>

Calderon first encountered cryptocurrency and NFTs with CryptoPunks in 2017. He was one of the biggest adopters, minting 34 CryptoPunks⁵, including many rare versions such as zombies CryptoPunks⁶. He was drawn to the concept of digital ownership but pondered the idea of a process where users had no control, which sparked the original concept for Art Blocks.

Calderon remained a significant member of the CryptoPunks community and became an expert regarding blockchain smart contracts. He officially began to work on the Art Blocks platform in 2018, selling 15 zombie CryptoPunks at \$200 each to finance the initial development⁷. Despite many challenges and distractions⁸, Art Blocks was officially launched in November 2020. The first project featured on the platform was Calderon's own Chromie Squiggles.

Art Blocks became a success quickly. Only a few months after launching, the website had a massive flow of traffic, and Calderon had to hire consultants and developers to assist in scaling. By February, Art Blocks became a corporation, and by April, Calderon had hired full-time staff. Then by the summer, Art Blocks had multiple pieces selling for over a million dollars and the platform set a record of \$69 million in secondary sales in a single day. At moments in August 2021, demand was so high that each new piece released on Art Blocks was minted nearly immediately, making it extremely difficult for the public to access. Many buyers would have to purchase pieces on secondary exchanges at a hefty premium. Art Blocks raised \$6 million of funding in October 2021 to continue scaling⁹.

Art Blocks Technology

Art Blocks provides innovative technology to deploy and execute an artist's algorithms on the Ethereum blockchain. Each Art Blocks collection, Curated, Playground, and Factory operate a similar deployment procedure. Artists first must lock in their algorithm. For most projects, the script is generated from a JavaScript framework that supports creative coding called "p5.js." Once the algorithm is locked, the primary variables within the project such as the name, artist name, and maximum interactions cannot be changed. The artist can only modify the project description and mint price.

Immutable algorithms are what makes Art Blocks innovative and unique. Previously in generative art, artists would execute their algorithms but only accept the best iterations. With Art Blocks, artists must perfect their algorithm as each output is required to be accepted. As a result, only the finest algorithms are accepted onto the platform, and the outputs are more valuable due to the true randomness of the procedure.

Once the algorithm has been deployed, buyers can select the project, pay for the work, and have a randomly generated version of the artwork sent to their Ethereum wallet. This process begins as a user interacts with the contract. First, a seed or 'hash string' is generated consisting of 66 characters¹⁰ in a pseudo-random manner consisting of the token, block number, and wallet hash. Each character, and pair of characters, represents a specific output within the project algorithm. As the hash string is guaranteed to be unique, so is the output of the algorithm.

Collections Details

Art Blocks has expanded into three collections: Curated, Factory, and Playground. Each collection has unique application processes and criteria for acceptance. All projects must go through an initial vetting process, with only

⁵ <https://www.benzinga.com/markets/cryptocurrency/21/10/23515096/exclusive-art-blocks-founder-sells-cryptopunks-to-raise-funds-leading-to-success-of-squigg>

⁶ Calderon adopts a zombie CryptoPunk as his online identity.

⁷ <https://medium.com/collab-currency/punks-squiggles-and-the-future-of-generative-media-d2d3e9df623b>

⁸ Calderon wanted to bring on developers for the project but had difficulty finding talent with blockchain experience. In addition, he became engrossed in NBA Topshots in 2019, which occupied much of his time.

⁹ <https://ca.finance.yahoo.com/news/art-blocks-raises-6m-galaxy-184255478.html>

¹⁰ Example: 0x946eca902e319d435f236b0fad2df870f70aa40931e6247238ae83aa44a5e93f

the most innovative projects being approved. Projects also have a greater chance of approval if the artist has a history of other well-known projects.

Art Blocks Curated

Art Blocks Curated is the original collection, beginning in November 2020. Curated projects are deployed into series, with 7 to 12 projects per series. Projects are deployed at regular intervals, often one week apart.

The application process for Curated is processed in two stages, with the entire process taking up to 6 weeks to complete. The first stage is evaluated by Art Blocks staff and focuses on overall aesthetics, variety in mints, and the degree to which a project explores new territory technically, visually, and conceptually¹¹. Only 20 applications per week are processed at this stage, with an approval rate of 15%.

Artists who advance can then proceed to the second stage. This stage tests technical viability, where the project is loaded onto an Ethereum testnet environment. Provided a successful test deployment, the project then proceeds to review by the curation board. The curation board evaluates for collection innovation, but to a higher degree than is assessed in the first stage. If the curation board passes the project, it performs a final test before being uploaded to the Ethereum mainnet. The project is then ready to launch following an in-depth interview with the artist.

Art Blocks Curated Board

The Art Blocks Curation Board is responsible for determining the standard of projects to be approved in the Curated collection. Each member of the board is selected from a diverse background to best represent several different experiences and nationalities. Eighteen members have been revealed in "Meet the Curation Board" series¹².

Art Blocks Playground

Art Blocks Playground was announced in February 2021 to continue featuring the work of artists accepted into the Curated collection. Artists are invited to "have some fun with generative art and creative coding" while continuing to promote their work within the platform. Artists who wish to proceed in Playground must therefore have been approved by the Curated Collection and pass the initial Art Blocks screening to be included. Artists can only have a single ongoing project in the Playground at any time. In addition, they must see the entire project through to completion before adopting a second project.

Art Blocks Social Impact

Charity is a fundamental value at Art Blocks. Each artist is expected to donate 25% of the profits above the Dutch auction resting price to the eligible charity of their choice. Art Blocks also conducts many community events and other fundraising opportunities. Due to the success of Art Blocks, a total of \$45 million was raised for more than 80 charities in 2021¹³.

Art Blocks Community

Art Blocks has a large community following the generative art community, rivalling some of the largest NFT communities.

	Followers/Members			
Twitter (@artblocks_io)	Twitter (@Snowfro)	Discord	Instagram	Total
158,000	79,000	44,000	29,000	310,000

¹¹ <https://docs.artblocks.io/creator-docs/creator-onboarding/readme/artist-onboarding-steps/>

¹² <https://artblocks.wiki/Curated/Curation-Board>

¹³ <https://medium.com/the-link-art-blocks/charity-on-chain-2021-wrap-up-c69782fa7f4a>

Art Blocks Intellectual Property

Art Blocks artist declare their specific commercial terms for each project. To date, all Art block projects have selected either a limited NFT license¹⁴ or a non-commercial license¹⁵. The limited NFT license restricts commercial revenue to up to \$100,000 per year in merchandise, while the non-commercial license restricts any commercial activity.

Art Blocks Business Overview

Profitability and company incentives are critical to Web3 projects to ensure the project's continued development.

Revenue

Royalties

Royalties are Art Blocks' primary sources of revenue. Art Blocks charges a 10% fee for primary purchases on its platform and 2.5% of any secondary sales on third party exchanges, such as OpenSea or LooksRare.

Art Blocks primary sales are conducted on the platform using a Dutch Auction method. A Dutch Auction begins at a high price and then decreases by defined amounts over time, allowing buyers to wait until their ideal price becomes available.

Powered by Art Blocks

Art Blocks can license their minting technology as another form of revenue. Third parties can integrate the smart contract and rendering infrastructure to generate leading projects while leveraging the Art Blocks software and brand.

Costs

According to LinkedIn, Art Blocks has 38 employees. Other costs would be typical for a technology company, including contractors, legal, software, and marketing costs.

Profitability

Art Blocks may be a profitable business due to its high revenue to employee ratio and low additional cost structure. Profitability is a positive for Art Blocks project owners as Art Blocks has the means to continue investing in both the technology and marketing/branding required to remain the leading platform for generative art.

Art Blocks Value Proposition

For Artists

Credibility

Art Blocks curation standards ensure that only the most innovative and exceptional artists are selected.

Completing the Art Blocks process provides an instant level of credibility, which enhances the value of the artist in future works.

Technical guidance

Deploying a generative art project requires a large amount of technical expertise. Art Blocks has technical resources available in the form of advisors and guides to artists in ensuring their project is deployed successfully.

¹⁴ Limited commercial license: <https://www.niftylicense.org/>

¹⁵ Non-commercial licence: <https://creativecommons.org/licenses/by-nc/4.0>

Non-technical guidance

There are many non-technical decisions an artist must make that are critical to maximize the value of a project. Art Blocks provides resources related to pricing, rarity, testing, and other important topics. Many resources are provided leveraging data from previous Art Blocks projects, ensuring artists are able to adopt best practices for their projects.

Marketing

Art Blocks has multiple avenues to promote projects on its platform. Curated projects receive the most attention as they are provided premium webpage space along with full length published interviews. Playground and Factory projects can also receive value through promotion on the Art Blocks website and events calendars.

Secondary Sale Royalties

While not unique to Art Blocks, smart contracts deployed on the platform often contain secondary sale royalties of 5%. Art Blocks uses a lower rate of 2.5%, and these royalties are an entirely new revenue stream enabled by the blockchain, which can create substantial long-term cash flows for the artist. Previously, artists only received value for primary sales of their art. The lack of secondary royalties was problematic because as artists grow in prominence, the value of their artwork increases. However, the increase in art value is only captured by the owner of the artwork, with none of the associated value increase attributed back to the artist.

The notable example of this issue is Vincent Van Gogh. Van Gogh only sold one painting in his lifetime, for approximately \$100. It wasn't until after his death in 1890 that Van Gogh rose to become one of the most famous artists in history. Many of Van Gogh's paintings are some of the highest valued artworks ever sold. Had Van Gogh been able to deploy his work within a smart contract on the blockchain, he would have accumulated millions in secondary royalties, which would still be accumulating today.

This paradigm shift in business models for artists can enable an entirely new generation of artists.

For Buyers

Project Value

Buyers also gain from Art Blocks curation standards. Investing in NFT projects has a very high level of risk. However, the credibility provided by the Art Blocks brand increases the chances of the project sustaining a level of value.

Technological Security

Many scams exist in NFTs, which are often introduced at the minting or primary sale stage. There have also been multiple examples of high-profile projects having errors in the smart contract, resulting in catastrophic losses for those participating in the minting process. The proven code and processes within Art Blocks ensure those taking part in the mint process will not encounter these issues.

Art Blocks Risks

Competitors

Art Blocks will face competition within the generative art market, whether on price, technology, or brand. Art Blocks is the most susceptible to competition on pricing as it charges 10% of primary sales and 2.5% of secondary sales. Its pricing leaves substantial room for competitors to undercut this fee.

Brand Dilution

If Art Blocks expands too quickly or adds projects that do not meet the same high-level curation standards, Art Blocks could dilute or damage its brand. A detrimental impact to its brand would result in a decrease to the value of most project.

Artist Retention

Art Blocks is susceptible to its most prominent artists leaving the platform. While Art Blocks has created the Playground collection to incentivize Curated artists to continue creating on the platform, if an artist is valued enough, they would likely forgo the royalty fees on Art Blocks to launch a project on their own or utilize a less expensive platform. The mobility of high valued artist places Art Blocks at risk of having a larger concentration of mid-level artists, rather than the most exceptional.

Market Risk

Generative art remains a high risk, speculative investment with substantial volatility. It is also denominated in Ethereum, which adds additional volatility.

Investment Thesis

The following scenarios represent the investment cases for the most generative art project featured on Art Blocks. However, each project will have its own unique value drivers and risks which should be evaluated prior to any investment decisions. Although the focus of this report is Chromie Squiggles, the investment case is similar for all Art Blocks projects.

Upside Case

Digital art continues to grow at a rapid pace, eventually equaling or surpassing the traditional art market as citizens begin to spend more time in the digital realm. Within digital art, generative art is accepted and adopted as a mainstream asset class, with historical projects earning a premium valuation. Prominent generative artists continue to produce exceptional work alongside new emerging artists. Art Blocks remains the premier generative art platform, continuing its excellence in technology and curation and since Squiggles is the first project on the platform, it should have additional leverage on the upside as Art Blocks continues to gain stature.

Downside Case

Digital art fails to live up to adoption estimates as citizens spend less time in digital worlds than predicted. Generative art fails to gain mainstream adoption as the technical aspects are never appreciated as those in traditional art. NFTs, in general, fail to achieve many long-term use cases and are limited to low value transactions.

Selected Art Blocks Projects

Chromie Squiggles by Snowfro

Assessment

Artist Overview

Erick Calderon (Snowfro), the founder of Art Blocks, is also the creator of Chromie Squiggles ("Squiggles"). Unlike many artists on the Art Blocks platform, Calderon is not a full-time artist. Instead, he spends most of his time running Art Blocks and his ceramic tile business. Calderon also contributes heavily to smart contract development and has been a large influence in developing the minting process for multiple projects.

Despite limited time as a practicing artist, Calderon a significant proponent of generative art. He is commonly featured on public channels discussing the merits of generative art and is highly regarded as an expert in the community.

Collection Overview



Date Minted

November 27, 2020

Mint Price

0.08 ETH

Quantity

10,000

Royalty on Primary Sales

10.0%

Royalty on Secondary Sales

2.5%

Overview

Chromie Squiggles ("Squiggles") are the first-ever on-chain generative art project that used a transaction hash to generate the variables that determine the art. Squiggles began as a proof of concept as Calderon juggled ideas to first launch onto the platform. He came across a platform called three.js which had an example script of a squiggly line. Calderon thought of the nearly infinite ways a squiggle line can be displayed and eventually started to apply gradients and other special features to enhance the aesthetic value. He then began to search google to see if the concept had been completed before. After being unable to find anything similar, the idea was locked in. The Squiggle logo was soon adopted as the official logo of Art Blocks.

Squiggles began minting at 0.035 ETH and received moderate attention, minting a third of the collection in the first month. Additional projects began to deploy onto Art Blocks which continued to increase the visibility of the platform. By March 2021, Squiggles were trading for 0.35 ETH on secondary sale platforms. By the summer of 2021, Squiggles, along with many other Art Blocks projects received overwhelming demand. In August 2021, two rare squiggles were purchased separately for 2.8 million and 2.7 million^{16, 17}.

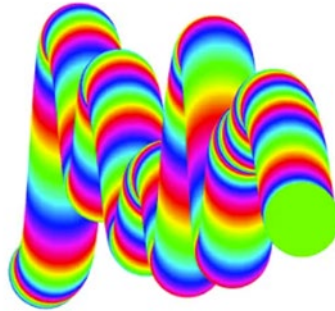


Figure 1 - Chrome Squiggles #4697. Sold for 2.8 million.



Figure 2 - Chrome Squiggles #7583. Sold for \$2.7 million.

To date, only 9,672 Squiggles out of 10,000 have been minted. As a result, public minting of the Chromie Squiggle is permanently paused. They are now reserved for manual distribution to collectors and community members over a longer period.

Squiggle DAO

One of the ownership benefits of a Chrome Squiggles is access to the Squiggle DAO. The DAO exists to promote Chromie Squiggles and showcase its relevance in culture. It also aims to acquire as many squiggles as possible, to be therefore the largest collection of publicly viewable Squiggles in the world. Memberships can also be obtained by purchasing 1,000 \$SQUIG tokens. As of July 22, 2022, the DAO treasury had a value of \$14 million, with \$10 million of value composed of 271 squiggles.

¹⁶ <https://nonfungible.com/market-tracker/artblocks/BLOCKS/4697>

¹⁷ <https://nonfungible.com/market-tracker/artblocks/BLOCKS/7583>

Chromie Squiggles Value Drivers

Historical provenance

Squiggles are one of the first ever on-chain art projects and the first one to use a transaction hash to generate variables that determine the art.

Visual Aesthetic

Chromie Squiggles are simple and easily recognizable. They appeal to a mass audience and are vastly unique amongst other Art Blocks projects.

Community

Owning a Squiggle gains the owner access to the Squiggle DAO, which includes private entry into a discord channel. With up to 10,000 tokens, the Squiggle community is one of the largest in generative art.

References and Useful Links

<https://medium.com/collab-currency/punks-squiggles-and-the-future-of-generative-media-d2d3e9df623b>

<https://www.benzinga.com/markets/cryptocurrency/21/10/23515096/exclusive-art-blocks-founder-sells-cryptopunks-to-raise-funds-leading-to-success-of-squigg>

<https://artblocks.wiki/Curated/Curation-Board>

Additional Data

Revenue Estimates

A breakdown of total revenue from primary and secondary sales:

Primary Sales

	Collections	Size (AVG)	Pieces Minted	Mint Price (ETH-AVG)	Mint Volume (ETH)	Art Blocks Fee (ETH)	Art Blocks Fee (USD)
Curated	59	990	58,430	0.700	39,440	3,944	\$ 5,915,000
Playground	51	546	27,855	0.757	23,540	2,354	\$ 3,530,000
Factory	210	521	109,324	0.212	23,433	2,343	\$ 3,515,000
Total	320	686	195,609	0.56	86,413	8,641	\$ 12,961,000

*ETH/USD = \$1,500

Secondary Sales

	Collections	Size (AVG)	Sales	Volume (ETH)	Art Blocks Fee (ETH)	Art Blocks Fee (USD)
Curated	59	990	59,659	315,621	7,891	\$ 11,835,000
Playground	51	546	84,316	84,182	2,105	\$ 3,156,000
Factory	210	521	459,206	129,049	3,226	\$ 4,839,000
Total	320	686	603,181	528,852	13,221	\$ 19,831,000

*ETH/USD = \$1,500

Royalty Summaries

	Primary	Secondary	Total	Revenue Contribution
Curated	\$ 5,915,977	\$ 11,835,782	\$ 17,751,759	54%
Playground	\$ 3,530,934	\$ 3,156,837	\$ 6,687,771	20%
Factory	\$ 3,515,010	\$ 4,839,332	\$ 8,354,342	25%
Total	\$ 12,961,922	\$ 19,831,951	\$ 32,793,873	

Art Blocks has generated 22,000 ETH or 32 million USD (minimum) in revenue over the past 20 months¹⁸. Approximately 75% of revenues have been generated in the last 12 months.

¹⁸ Period from November 2020 to July 2022 – 20 months. ETH prices likely realized higher than \$1,500 USD/ETH.

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