

Choon - A Music and Digital Content Ecosystem Utilizing Smart Record Contracts

The Choon Team

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If we invented the music industry today, how would it look?

Contents

1	An Introduction To Choon	4
2	Our Grounding Principles	5
3	Definitions	5
4	The Problem, Part 1: Overpaid Middlemen & Intermediaries	6
4.1	Monopolization and Centralization	6
4.1.1	Joining A Major Label: 1990	7
4.1.2	Joining A Major Label: Today	7
4.2	Artist revenues in a broken system	9
4.2.1	Artists get paid pennies on the dollar.	9
4.2.2	Artists get paid slowly, and unreliably.	9
4.2.3	Unsustainability of Existing Models	10
4.3	Music discovery: Top Down vs Bottom Up	11
4.3.1	Top Down: The Standard Model	11
4.3.2	Bottom Up: The Internet’s Lost Opportunity	14
5	The Problem, Part 2: Royalties, Contracts and Accounting	16
5.1	A Broken Legacy System	16
5.1.1	An Example	16
5.2	Publishing	17
5.3	Why This All Matters	19
6	Our Solutions	19
6.1	Introducing the NOTES (NTS) Token	19
6.2	Streaming as Mining	20
6.3	A Fair Deal for Content Creators	22
6.4	Smart Record Contracts 1.0	22
6.5	Smart Management Contracts	25
7	The NOTES Ecosystem	26
7.1	Mining NOTES	27
7.2	Earning NOTES	27
7.3	Third Party Site NOTES Transactions	27
7.4	How Artists Can Spend NOTES	28
7.5	Accumulating NOTES for Listeners	29
7.6	Spending NOTES by Listeners	31
7.7	The Five Year Introductory Term	31

8	The Real Time Royalty Network	31
8.1	State Channels and Vouchers	32
9	Year One Roadmap	33
10	Future Implementations	33
10.1	Other types of Smart Music Contracts	34
10.2	Non-Music Content	34
10.3	Variation of Fees	35
10.4	Fully Open Implementation	35
10.5	Future Ecosystem and Third Party Developers	36
10.6	Full Decentralization	36
11	Token Sale and Distribution	37
11.1	Supply of NOTES	37
11.2	Pricing	37
11.3	Private Round	38
11.4	Inclusions and Exclusions	38
11.5	Whitelist Pre-Registration and KYC / AML Approvals Process	38
11.6	Founder and Advisor Vesting Policies	39
11.6.1	No Trading Policy	40
11.6.2	Founders	40
11.6.3	Advisors	40
11.7	Use of Raised Funds	40
11.7.1	People	41
11.7.2	Sales	41
11.7.3	Financial	41
11.7.4	Other Expenditure and Contingency	42
12	Supporting Cryptocurrencies	42
12.1	Best Practices	42
12.2	A Cautionary Price Note for Token Holders	43
13	The Team	45
13.1	Founders	45
13.2	Advisors	46
14	Disclosures	46

1 An Introduction To Choon

Choon is a musical and digital content ecosystem designed to solve some of the music industry's most fundamental problems.

At first glance, we are a streaming service, offering artists the ability to upload their music, share it with others, and be paid via cryptocurrency tokens. That, by itself, is not especially interesting or revolutionary.

However, by attaching our NOTES currency, Smart Record contracts, and our off-chain Real Time Royalty Network payment distribution system, we have created an entire music ecosystem that doesn't just solve many of the music industry's existing problems, but allows an array of incredibly exciting, forward-facing solutions which, until now, have never been possible.

Unlike many blockchain-based projects vying for your attention and funds in the current boom, Choon does not rely on lofty theories, projected technological advances, or hopeful changes in consumer behaviour. Refreshingly, everything you read in this White Paper is completely achievable right now. This means we will have a fully functioning product within three months of launch, and already have hand-picked a number of exciting musical artists with tens of millions of fans to join us for our Closed Beta.

In short: the big ideas which you will read about here are not simply ideas: they're happening right now.

As well as some of the finest blockchain devs on the planet, we have a varied selection of founders and advisors already working at the coal-face of the highest levels of the music industry – meaning we actually understand the technologies we wish to disrupt, and the middleman we wish to displace. Our full team can be found in Section 13, but includes artists, managers, record labels, as well as legal and financial advisors, tax specialists and more.

Since online music consumption commenced nearly 20 years ago, the music industry has failed many times to allow the public to consume music in a convenient and legal way which pays artists fairly. Indeed, the problem has been so long-standing that a solution is frequently referred to as the 'Holy Grail' within the industry.

After nearly two decades of trying to solve these problems, many in the industry have given up: believing that the current suite of streaming and distribution services, however centralized, monopolized, unsustainable and unjust they are, represent "the best we are going to get".

We believe there is another way.

2 Our Grounding Principles

Choon is founded on the following principles.

- To return 80% of proceeds for streamed music or media directly and immediately to content creators: primarily artists, but also playlist curators, and other individuals making valuable contributions to the ecosystem.
- To create a cryptocurrency that can be understood by, and accessible to, a large strata of the population, including large numbers of people who have not previously engaged in the cryptocurrency economy.
- To create a music contracting and licensing ecosystem via “Smart Record Contracts” that vastly simplifies music contracts, licensing and payments, replacing much of the industry’s current antiquated machinery.
- To do all of the above in a way that promotes the Cryptocurrency economy in a way that generates a net-positive effect on a system that we strongly believe in (see Section 12).

3 Definitions

The industry-specific language by many in the music industry can be as baffling as the inner workings of the industry itself.

In this White Paper, whilst we are attempting to solve large problems, we have attempted to speak as plainly as possible, and avoid the unnecessary complications that baffling “industry speak” frequently generates - because we believe these problems are actually rather more simple than the music industry would typically have us believe. Often, the use of highly specialized language further complicates things, rather than decoding and simplifying them, so we have avoided it where we can.

For the purposes of clarity, here are some terms used, and their meanings:

Artist means any individual who is a stakeholder in a piece of music. We have not subdivided into various stratas, meaning an “artist” could be a singer, songwriter, band member, producer, engineer, or anyone else who is due to be paid a percentage of the profits of that piece of music.

Cryptocurrency refers to decentralized digital assets such as Bitcoin, Ethereum, NOTES, etc.

Fiat Currency refers to traditional, government-backed money, such as dollars, pounds and euros.

Majors / Major Labels refer to the current ‘Big Three’ major record labels: Sony, Universal, and Warner, although much of our discussion could also be applied to large independent labels as well as publishers.

Royalties mean any profits due to an artist from the commercial exploitation of a piece of music, such as streaming, downloads and licensing. Again, we have not split up royalties into traditional areas such as mechanicals, performance, publishing, neighbouring rights - partly for simplicity, but mostly because we believe many of these complex subdivisions have been grandfathered in from an earlier era - one that no longer exists - meaning they have no place in the digital music landscape of the future.

4 The Problem, Part 1: Overpaid Middlemen & Intermediaries

4.1 Monopolization and Centralization

The global music industry is currently more centralized and monopolized than it ever has been. In this section, we will briefly explain how this happened, and why it creates a problem for artists.

For the traditional music industry, the good days of the past are back. Streaming revenues are exploding skywards (up 60.4% in 2017), the industry as a whole reported the fastest rate of growth since IFPI began tracking the market in 1997¹. Based on the most recent data available (2016), the global market for recorded music is now worth over \$16 billion USD.

How many companies control the vast majority of this market? *Three*.

The “Big Three” major labels (Universal, Sony, Warner) together account for 68.7% of the industry.² Interestingly, as recently as 1988, there were six major labels (made up by EMI, BMG and Polygram) but consolidation and mergers since then have trimmed these market leaders to these three conglomerates.

¹IFPI Global Statistics: <http://www.ifpi.org/facts-and-stats.php>

²Music Business Worldwide “Global Market Shares 2016”: <https://goo.gl/dxmCVT>

Whilst this level of competition-stifling centralization should be concerning for any industry, it is especially strange here, given that it is completely at odds with the trend towards democratization and decentralization that has benefited artists in almost every other area of their profession.

If anything, the major label is less necessary now than ever before. Take three of the main reasons for signing to a record label in 1990.

4.1.1 Joining A Major Label: 1990

1. **Financing production.** Producing commercial-grade music, until quite recently, was incredibly expensive. Making a record required hiring vast custom-built studios stocked with equipment far beyond the budget of the average artist, as well as a small army of producers, engineers, and assistants with the highly specialized knowledge required to run it all.
2. **Financing distribution.** Producing CDs, cassettes and records, then having the global distribution networks to place them in thousands of stores worldwide was all but impossible to do independently.
3. **Promotion and Advertising.** Using money, power and influence over a network of publicists, journalists and contacts to maximise coverage in newspapers, magazines, and television. Employing radio “pluggers” to ensure music is playlisted by the most important stations and music TV channels. Running large-scale advertising campaigns across all media.

Now, let’s examine how relevant these three functions are today.

4.1.2 Joining A Major Label: Today

1. **Financing production.** Advances in technology and the liberalization of information mean anyone armed with a \$1000 consumer-grade laptop can achieve almost identical results to the world’s biggest studios. Today, more “hits” than ever before are being made on low-cost equipment gear, with no experienced professionals in the process whatsoever.
2. **Financing distribution.** Free online distribution exists for all, with physical distribution relegated to niche products (custom vinyls, etc.)
3. **Promotion and Advertising.** Social media makes it possible for artists to speak directly to their fans for free, without publicists, editors, or gate-

keepers of any kind, knowing the message will be delivered immediately and faithfully.

Make no mistake, over the past two decades, the music industry has become more open, democratic and decentralized, except for one glaring point:

Artists are not paid fairly.

Whilst many middlemen and intermediaries have been disrupted and displaced, the ones that still exert a brutal hold on movement of money throughout the industry are the major record labels.

It may be strange to see major labels as intermediaries, but this is exactly what they are. In a world of content creators (artists) and content consumers (anyone listening to music) anyone else *is* a middleman.

How have the majors managed to protect their status in the middle of this exchange, despite the fact that all signs point to the opposite? Two main reasons.

1. **Controlling the financial supply from content consumers to content creators.** In plain terms: making it almost impossible for artists to be paid by listeners without forcing this income through channels owned by them, where they are able to commission it.
2. **Aggressive Investment In Music Startups.** In the last decade, many startups threatened to create fairer, more direct revenue models, but the Major Labels have had a winning strategy of investing in as many of these start ups as possible, often in a hostile way: demanding equity and control in exchange for use of their catalogs. This has meant many promising start-ups failed to disrupt the industry because they ceded control and ownership to the very companies they initially wished to displace!

A longer discussion into the way the major labels have bucked all trends and consolidate their grip on the music industry is beyond the scope of this White Paper, but has been covered thoroughly elsewhere.³

Now that we have sufficiently covered the monopolization and centralization of the music industry, it is time to look at how this actually affects the content creators: artists.

³Revenge Of The Record Labels: How The Majors Renewed Their Grip On Music <https://www.forbes.com/sites/zackomalleygreenburg/2015/04/15/revenge-of-the-record-labels-how-the-majors-renewed-their-grip-on-music>

4.2 Artist revenues in a broken system

4.2.1 Artists get paid pennies on the dollar.

It's impossible to accurately estimate what artists are paid from, say, Spotify, due to a) a patchwork quilt of deals, distributors and organisations, where almost every song has a slightly different revenue model, and b) a lack of openness from streaming services themselves on this issue.

That said, it is estimated that Spotify pays between 0.001–0.007 per stream, but due to the complex labyrinth this income takes post-streaming (which we address shortly), the amount that actually reaches the artist is far less than \$0.007.⁴

We will turn this figure on its head.

As well as operating a revenue model that we believe will produce vastly greater returns than the existing system, we will also pledge to pay out 80% of total revenue, retaining just 20% for operations. The majority of this 80% will be reserved for artists themselves, but our model also includes revenue for playlist curators (a valuable group who have, until now, been largely excluded from earning from their work).

4.2.2 Artists get paid slowly, and unreliably.

Due to the the amount of intermediaries and middleman injected into the process, it can take artists months, or even *years* to be paid for their work.

Typically, record labels pay artists within three months of the end of an accounting period (which are bi-yearly), but, the record label themselves are subject to bi-annual statements from their partners like streaming services, meaning that these cascading bi-annual statements make getting paid very slow indeed.

The flow chart in Figure 1 demonstrates how an artist will likely not be paid for their January 2017 streams until April 2018.

Whilst such long waits might seem hard to believe for those outside of the music industry, those working in it will attest that this example where payment for a stream takes fifteen months is, unbelievably, something of a best-case scenario. Many artists have to wait up to two years to get paid, and sometimes, are not paid at all.

⁴Calculate Your Earnings from Spotify, Apple Music, Pandora, Amazon, Google Play & More, April 25th, 2017. <https://www.digitalmusicnews.com/2017/04/25/streaming-music-royalty-calculator-spotify-apple-music-pandora>

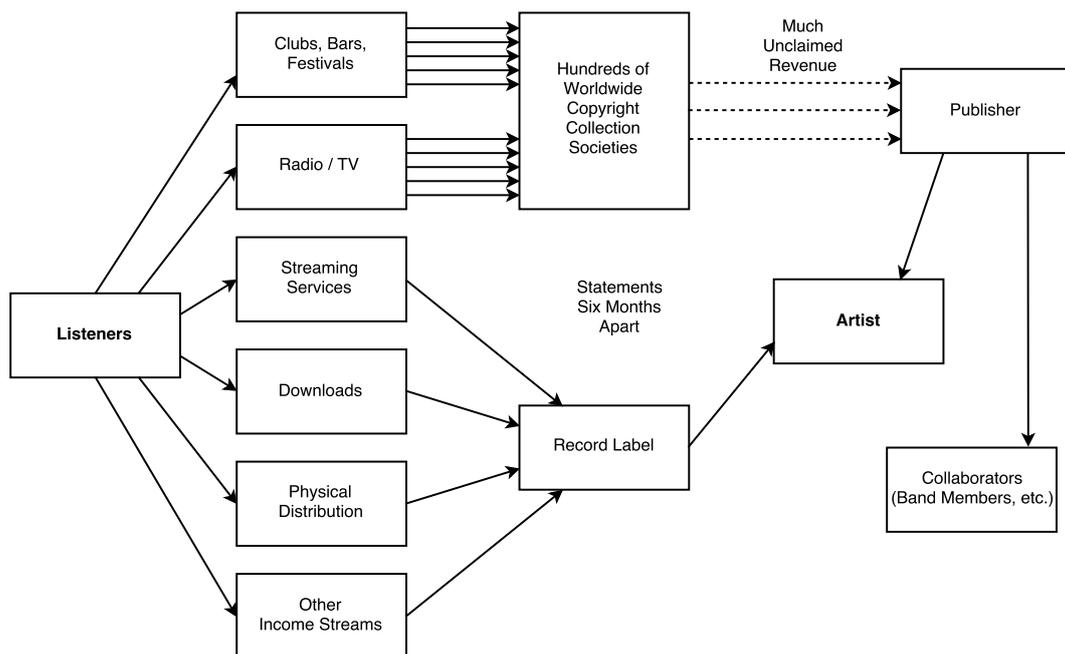


Figure 1: Flow of payments in the traditional system.

In the above example, we generously assume statements are delivered on time, and invoices are paid on time, which they frequently are not. Add to this questionable and complex data, human error at source input, poor lines of communication, record and publishing deals that few people understand, and it is no wonder that many artists simply give in - accepting that receiving everything due to them is impossible, and that labels and publishers will inevitably keep income that doesn't belong to them.

Choon will change the conversation about how long it takes to pay artists from “months and years” to “minutes and hours” and we will do it openly and transparently via cryptographic wallets.

4.2.3 Unsustainability of Existing Models

Despite rapidly growing market share, none of the market leading streaming services are profitable.

A detailed analysis of why this is the case is not necessary for this White Paper - the numbers speak for themselves - but we do believe the deals these services have been forced to strike with established music industry interests (major labels, publishers, copyright societies) are the main factor, often leaving these companies

with many stakeholders of varying and competing affiliations.

Here are the most important figures.

Spotify. Despite revenue increasing by 50%, in 2016, Spotify lost over half a billion dollars (\$581.1m USD), over double the loss from the previous year.⁵

Soundcloud. 2015 operating losses more than doubled revenue, with revenue of €21.1m and losses of €51.22m. Since 2010, its losses have consistently been bigger, and grown faster, than its revenues.⁶

Tidal. Posted \$28m net-loss in 2015, double the previous year (2016 figures presently unavailable).⁷

Across the board, the numbers tell a similar story. Despite growing subscriber numbers in an exploding sector, *none* of the market leaders are profitable, and, with each passing year, many are becoming less profitable, rather than more.

With the companies heading the streaming revolution seemingly unable to convert turnover to profit, is it any wonder so little of that turnover is passing on to artists?

4.3 Music discovery: Top Down vs Bottom Up

There are, broadly speaking, two ways consumers can discover music: *Top Down* and *Bottom Up*. These models are not mutually exclusive; both can, and do, exist simultaneously.

We believe Bottom Up discovery represents the more healthy and sustainable solution for the future. In this section, we'll examine each discovery system in turn, which should provide insight into why we are looking to design Choon as a Bottom Up system, and what benefits that creates.

4.3.1 Top Down: The Standard Model

This represents the default mode of music discovery today. It begins with what we will refer to as the 'Major Label Gatekeepers': the top A&Rs and executives

⁵Spotify's Losses More Than Double To \$581M, Revenues Rise to \$3B, June 15th, 2017. <https://goo.gl/ZE1sHW>

⁶After Laying Off 173 Employees, Does Soundcloud Really Have A Path To Profitability?, July 10th, 2017. <https://goo.gl/vZbNi9>

⁷Tidal Posts \$28m Net Loss In 2015, More Than Double From Year Before, 13th September 2016. <https://goo.gl/1NCSjV>

at the world's three all-powerful major labels. This is a small, exclusive group of people who have a staggering level of influence over which acts make it, and which do not. When you tune into the radio, turn on MTV, surf YouTube, open Spotify, or even watch a movie, the overwhelming majority of artists you will hear were, at some point, hand-picked by members of this group.

Once the Major Label Gatekeepers have selected which artists will be successful, they propagate their music to the general public using tried and tested marketing strategies, with a healthy dose of money, power and influence.

This includes ensuring these artists are in regular rotation on the biggest radio stations, featured in popular TV shows, are reviewed on the largest blogs, written about in magazines or newspapers, and given a huge advertising and promotion budget with results ranging from prioritizing their posts in your social media feed, to huge billboards in the world's most prominent cities.

It is typical to assume that the advent of the internet has lessened the major labels' ability to influence consumer choice, but this democratization is not as profound as one might assume, with the majors holding a huge amount of influence over new media: for instance, deciding which songs are added to the most popular playlists at Spotify (which alone can 'break' a song), features on iTunes / Apple Music, interviews at Pandora HQ, and many more.

Following this PR onslaught, the general public typically play their part: consuming the music that they are given, and diligently becoming fans of the artists that, although they generally do not realize it, were precisely placed in front of their face due to decisions made in small rooms years previously by the Major Label Gatekeepers.

Now: do the public buy into the music they are spoon-fed because they are conditioned to do so, or, is it a lack of other options, or simply the case that the Major Label Gatekeepers have a knack for picking great acts in the first place? Likely, it is a combination of all three.

Unfortunately, this level of promotional and marketing is extremely expensive meaning that even with so much firepower behind them, a huge number (estimated to be up to 98%) of artists signed to Major Labels fail to recoup, never paying back the investment the label made in them, and likely swiftly being 'dropped' for hotter, younger acts.

The 2% that *do* recoup include almost every household name in music, and likely all of your favourite artists. And that 2% recoup in a big way: selling out arenas, platinum albums, endorsement deals, bucketloads of merchandise; more than enough to pay for the 98% that the major labels lost money on. And so, the cycle

begins afresh.

So if you have ever wondered why a terrible act suddenly seems to be everywhere, they're most likely a 'priority act' for a major label. Likewise, when one of your favorite bands disappears off the face of the planet, despite the fact that they're still making great music, they have likely been deprioritised, or dropped.

Welcome to the world of Top Down music discovery.

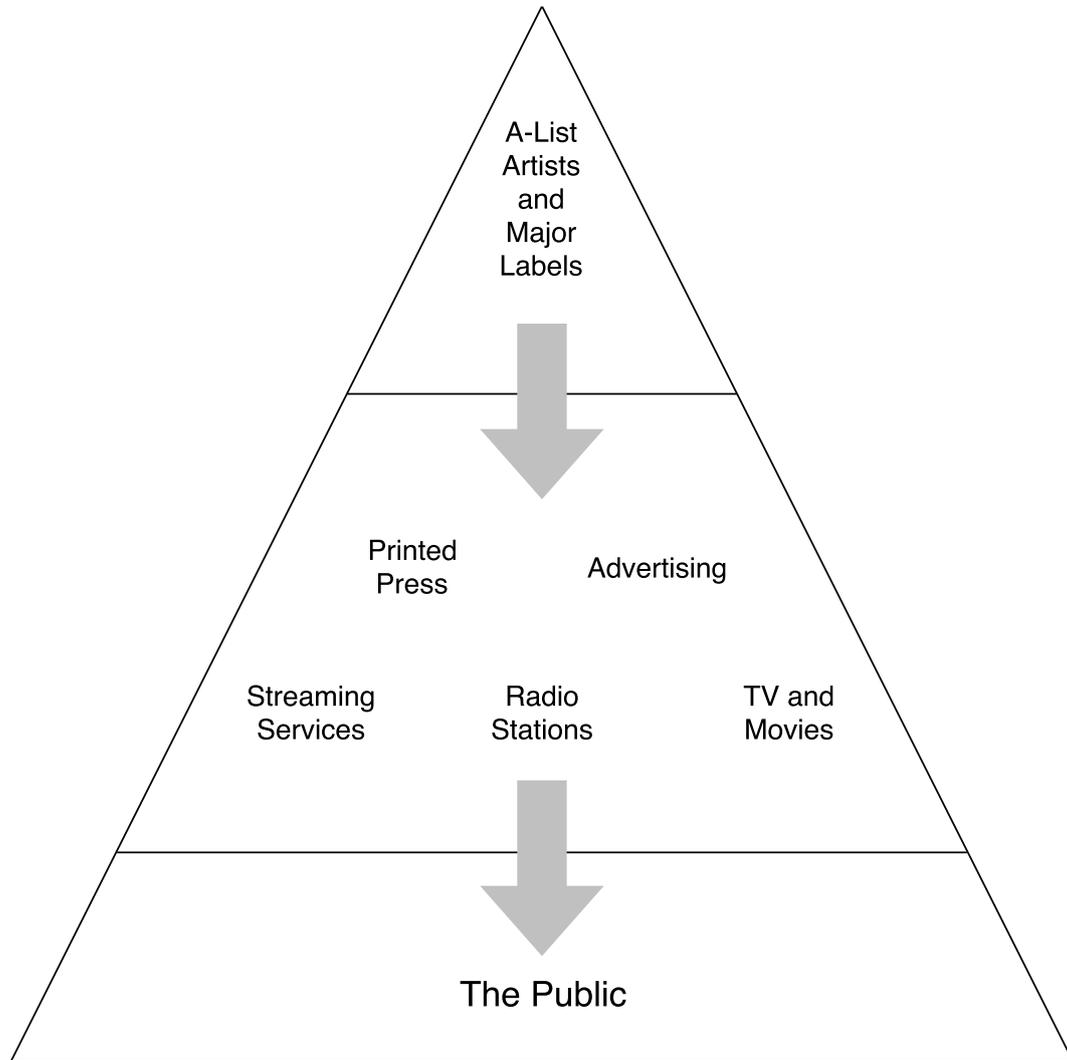


Figure 2: In the Top Down model, major labels hand-pick a small amount of artists, and those chosen few are distributed via a powerful promotional machine.

4.3.2 Bottom Up: The Internet's Lost Opportunity

Bottom Up music discovery is the alternative.

In the pre-internet era, Bottom Up distribution was all but impossible, limiting artists who wanted to go it alone to printing their own CDs, keeping diligent mailing lists of fans whilst touring every small pub, bar and club in the land. Whilst some acts found success this way, it was usually merely a bridge to finally landing a major label deal, where, with a sigh of relief, they could sit back and enjoy the far less labour intensive Top Down model.

However, in the early days of the Internet, it seemed there was a real chance for Bottom Up distribution to gain momentum. In a Bottom Up model, millions of unsigned acts freely share their music with the general public, making the public themselves the key tastemakers, rather than the Major Label Gatekeepers.

Acts that gain momentum will soon gain in popularity, earning money, and building an organic fanbase. Eventually, the most popular acts will be propelled to the very top: eventually gaining those radio plays, movie syncs, and huge live tours, not due to being hand-picked by gatekeepers, but by the collective strength of millions of fans that they built from the ground up.

In the early 2000s, early online music sites like mp3.com offered an incredible chance for artists to try the Bottom Up model. IUMA (Internet Underground Music Archive) had even more lofty ideas: promising to “shift power from agents, publicists, radio stations and record stores to the bands. No matter how big or small, the musician would come first”. However, with no realistic monetisation model, and overarching pressure from conventional interests, IUMA collapsed, mp3.com has been shuttered for a long time, and the Bottom Up dream has been largely dead since then.

The aim of this White Paper is not to discuss the history of music on the Internet, except insofar as it applies to Choon, but in-depth accounts on this topic are available elsewhere.⁸

At Choon, we are fully committed to Bottom Up music discovery, and believe by implementing the ecosystem explained in the rest of this White Paper, we will be able to give Bottom Up discovery a second chance.

⁸How Digital Music Missed Its Big Chance (11th Dec, 2014)<https://www.wired.com/2014/12/how-digital-music-missed-its-big-chance/>

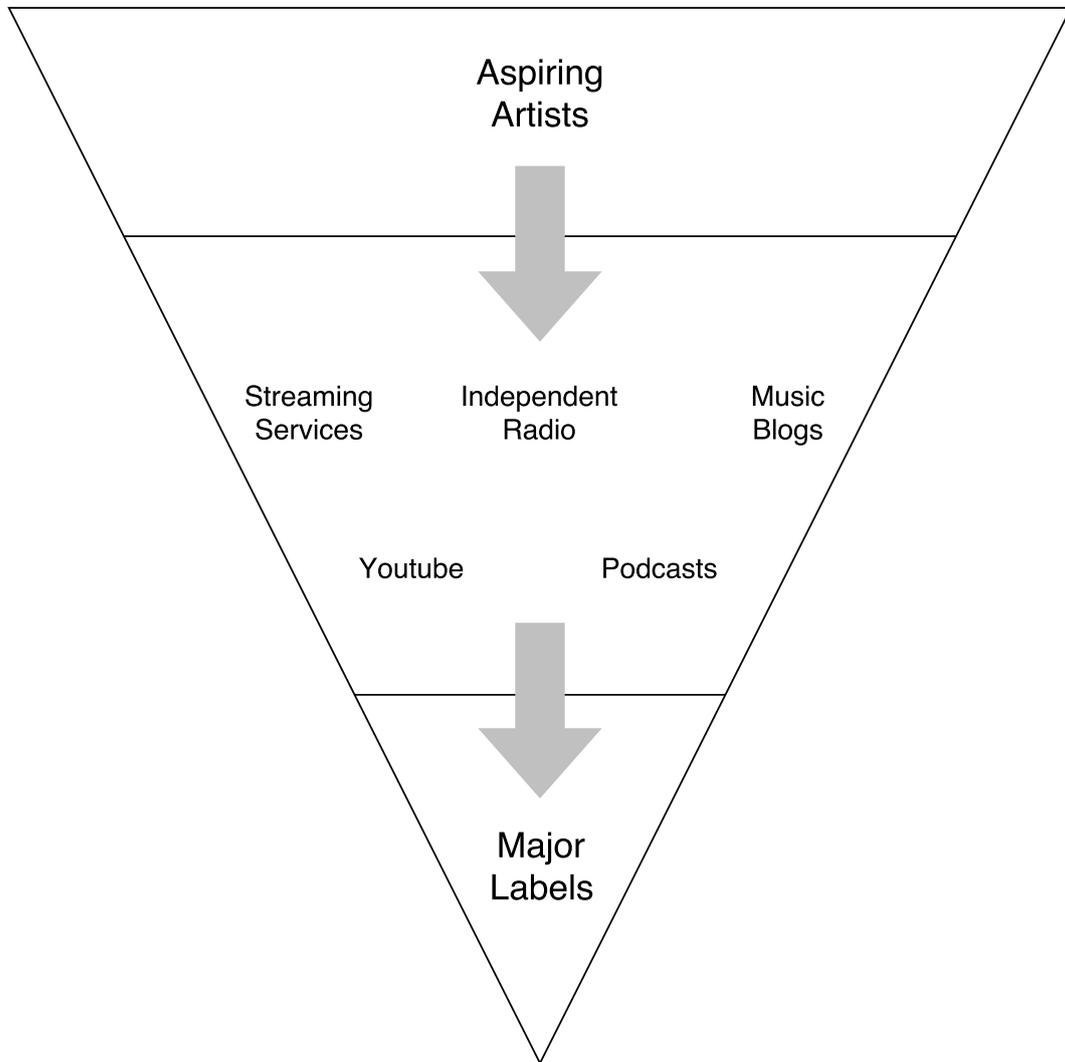


Figure 3: In the Bottom Up model, millions of aspiring artists share their music with the world. Those that resonate gain traction with the public, and the very best graduate to radio, charts, TV, movies, etc.

5 The Problem, Part 2: Royalties, Contracts and Accounting

5.1 A Broken Legacy System

Currents record contracts are anything but smart.

A typical modern piece of music will likely be created by a number of individuals (eg. the four members of a band, a DJ and a vocalist, a musician and his producer, etc.).

Often, tracks have 5-10 stakeholders, all receiving income from the track.

No standardized system exists for notarizing these contracts, with these agreements typically being made via signing traditional off-line paper deals or, at best, the exchange of digitally signed PDF contracts, full of complex and outdated legal jargon.

Once the internal profit split for a track is calculated between the stakeholders, it's time to sign it to a record label or publisher, or if the artist is already in a deal the track will go directly into the hands of that label or publisher.

However, record labels will often only deal with one stakeholder, who is then responsible for paying the other collaborators their share.

Given (as we have already discussed) musical royalties are often delivered years after they've been earned, collaborator income is often not paid.

Record labels have tried to offer a solution here with so-called 'Letters of Direction' to help distribute monies, but these are not an easy or reliable solution, meaning stakeholders are still often paid late, incorrectly, and sometimes not at all, and disputes are incredibly common.

5.1.1 An Example

DJ Andy and **DJ Bjorn** produce a track with **Vocalist Chloe**. They enlist **Producer Dan** to help, and decide the profit split on the track looks like this.

DJ Andy	30%
DJ Bjorn	30%
Vocalist Chloe	30%
Producer Dan	10%

All four stakeholders exchange PDF contracts over email to agree the profit split.

DJ Andy then signs the track to Elegant Records, who will account 100% of the royalties to him alone.

After waiting the necessary years for royalties to trickle back to him, **DJ Andy** suddenly finds himself with the entire proceeds from the record, despite the fact that 70% of it is due to be paid from him to his other collaborations (who he may not have spoken to in years).

As you can imagine, ‘lead’ artists like **DJ Andy** frequently fail to pay their co-collaborators, especially because these collaborators often have no visibility of when the ‘lead artist’ has been paid. Furthermore, if the parties fall out, the costs of recovering unpaid royalties via the legal system are often far greater than the potential income due.

5.2 Publishing

An even more complicated side of music royalties is “publishing”: the money paid to artists for public performance, use of their music on radio and TV shows, and so-called ‘mechanicals’ (related to physical sales of music, which also extends to downloads).

In the publishing strata, artists cannot easily collect their income directly, even if they want to. Aside from affiliating with one of the major Performing Rights Organisations (PRO) such as ASCAP, BMI, PRS and registering their compositions, they must also sign away their written works to a Music Publisher, who then attempts to collect royalties for them.

To provide context of the complexity of claiming money via Performing Rights Organisations, radio plays provide a good example. Radio stations around the world are legally obliged to pay a PRO for each track they play. However, they pay their local PRO who then, in an ideal world, pays the Music Publisher, who pays the writer - often leading to an 18-month wait from consumption to payment.

There are over 100 PROs in the world, all with their own systems, employees, languages, and numerous bewildering categories of income. Not only does assigning

collection rights to multiple intermediaries like this eat into an already diminished pie, but these systems are so far beyond the comprehension of the average artist that many, faced with an iron-curtain of administration, give up and choose to focus their time and energy on their own live performances instead - where payment is immediate (or even ahead of time) and the economics are simple.

This antiquated patchwork quilt of organizations and regulations make it so difficult for artists and writers to get paid that hundreds of millions of dollars sit unclaimed at any time with the various PROs. In 2011, the copyright collection society SoundExchange revealed they had \$1,000,000 in unclaimed royalties from one website alone, CDBaby.com!⁹

Here are some first hand quotes from artists:

“Even though demand for music is greater than ever, it’s harder and harder for songwriters to make a living. Even if you write a hit song that’s streamed millions of times, you’re still not going to earn enough to pay the rent from streaming.” -NeYo¹⁰

“Avicii’s release ‘Wake Me Up!’ that I co-wrote and sing was the most streamed song in Spotify history and the 13th most played song on Pandora since its release in 2013, with more than 168 million streams in the US. And yet, that yielded only \$12,359 in Pandora domestic royalties, which were then split among three songwriters and our publishers. In return for co-writing a major hit song, I’ve earned less than \$4,000 domestically from the largest digital music service. I firmly believe there must be a way for innovative new music services to succeed in the marketplace without undervaluing the contribution of songwriters. And, thankfully, I am not alone in that view.” -Aloe Blacc¹¹

“[The music industry] creates a lot of revenue but it all goes back to the record labels. It’s like a jukebox that doesn’t give you anything for those quarters.” -Ross Golan, songwriter for Ariana Grande, Selena Gomez, Justin Bieber¹²

⁹<http://diymusician.cdbaby.com/music-news/soundexchange-has-1000000-in-unclaimed-royalties-for-s>

¹⁰One Million Streams = \$90? NeYo Reveals the Truth About How Songwriters Get Paid, Splinter, June 9th 2016. <https://splinternews.com/1-million-streams-90-neyo-reveals-the-truth-about-h-1793848260>

¹¹Aloe Blacc: Streaming Services Need to Pay Songwriters Fairly, Wired, November 5th, 2014. <https://www.wired.com/2014/11/aloe-blacc-pay-songwriters>

¹²How a Podcast is Changing Minds on Songwriter Pay and Recognition in the Streaming Era, Los Angeles Times, June 22, 2017. <http://www.latimes.com/entertainment/music/la-et-ms-ross-golan-songwriters-podcast-20170622-story.html>

5.3 Why This All Matters

Why does this broken royalty and accounting system matter to anyone outside the music industry? Why should the end consumer care whether artists are paid fairly or not? We believe there is one main reason why you should care:

When artists are paid fairly, we all benefit from better music.

Currently, the accepted wisdom for many in the music industry is that it is impossible to make a living from producing music alone: so unless an artist wishes to go on tour, they should see music as a hobby to be supported by a day job, rather than a career.

Whilst this is indeed true, it is not because of lack of income, moreover, it is because the income that is there is not reaching the right people.

Over the last two decades, many artists who did not want to commit to a grueling life of year-round touring to make ends meet left the industry, taking all sorts of more stable jobs like video editors, programmers, and teachers - depriving the industry of many good artists; the music they might have made never to be heard.

At Choon, we want to welcome many of these people back to the music industry by creating an ecosystem where they can earn a living wage.

6 Our Solutions

6.1 Introducing the NOTES (NTS) Token

At the center of the Choon ecosystem is the NOTES token. Much of the friction related to existing music services comes from the integration of unwieldy payment services (credit cards, PayPal), combined with long-chains of middlemen and intermediaries between content creators (artists) and content consumers (listeners).

The NOTES token creates liquidity within the Choon ecosystem and will provide frictionless transactions from listeners to artists, meaning immediate, transparent payments.

6.2 Streaming as Mining

NOTES is not a mineable cryptocurrency in the traditional sense, but, in the first five years of Choon’s existence, 50% of the total supply can be ‘mined’ by artists who upload their music to Choon. This is an incentivized, introductory period of the service, which will transition into a stable ecosystem of paid subscribers and advertisers, with numerous options for spending and earning NOTES within Choon (detailed later in this section).

We refer to this introductory period as ‘Streaming As Mining’.

50% of the entire supply of NOTES supply will be distributed to artists sharing their music on Choon, pro-rata, based on number of streams.

The NOTES supply retained for streaming will be distributed over a period of five years. This equates to 21,917 NOTES per day that will be distributed across all of the artists using the network.

Total NOTES Supply:	80,000,000
Retained for Streaming:	40,000,000
Distribution Period:	5 Years
Daily Supply:	21,917

Interestingly, in this ‘Streaming As Mining’ model, the dynamic closely follows that of cryptocurrencies that are mineable in the traditional sense, such as Bitcoin (to pick the most well-known example!).

Initially, with relatively few artists using the service, early adopters will be heavily rewarded with large amounts of tokens, similar to Bitcoin’s first users who, using no specialized hardware, were able to mine 50 coins at a time (over \$200,000 today).

However, as more and more artists join the service (just as more and more Bitcoin miners joined the network), the streaming revenues need to be split across more people, increasing the ‘difficulty’ level.

As the service gains steam and as larger artists enter the picture, they will bring with them substantial fan bases capable of delivering huge numbers of streams, which will cause ‘difficulty’ to rise exponentially, rather like when ASIC chips became standard on the Bitcoin network, making GPU mining non-competitive. However, this increase in difficulty will move in concert with the increased utility and adoption of the service, for the benefit of all participants.

There are numerous other advantages to Streaming As Mining. These are:

- **Introducing mining to a wider audience.** For the most part, cryptocurrency mining has been extremely technical, reserved for those with highly specialized knowledge. Despite that, many musicians, excited by the success of Bitcoin, Ethereum and other currencies are keen to accumulate cryptocurrency, but lack the technical know-how to mine it, and do not want the inconvenience and risk of buying it from an exchange. With the advent of Choon, they can easily acquire it, simply by doing what they do best: making great music and sharing it with the world.
- **Incentives to spread the word.** The streaming as mining protocol heavily benefits early adopters (as with any cryptocurrency mining operation) but it also brings with it huge incentives for those adopters to spread the word, becoming de-facto promoters for the service. Initially, early adopting musicians will amass huge numbers of NOTES given the small numbers of users on the service and the relative easiness of ‘mining’. However, rather than keeping these benefits to themselves, they should be incentivized to spread the word to larger artists: for whilst larger artists do indeed increase the difficulty level, the publicity they bring to the service should increase the overall value of NOTES, therefore increasing the value of the early adopters’ stacks. This mechanism should continue to work from the first adopters to the last: with each new wave of users encouraging the next to join up, knowing that as more artists join the service, the larger the streamable catalog becomes, and the more listeners will sign up. We believe this cycle will propel Choon from beta to critical mass organically.
- **There is no way to ‘game’ the system.** Other than uploading incredible original music that many people want to listen to: something which all can agree should be incentivized. Ensuring fair distribution of NOTES was why we chose to initially run Choon in a semi-centralized way (unlike the NOTES token which is fully decentralized). See section 10.6 for a full explanation of why we chose not to make Choon fully decentralized at first.
- **Environmentally sound.** As much as we are admirers of many proof-of-work cryptocurrencies like Bitcoin, we also believe their environment impact will hinder their future usefulness. A 2016 study found that one single Bitcoin transaction requires the same energy footprint as 1.6 American households¹³ with single transactions requiring thousands of times the amount of energy as a single credit card swipe. By utilizing our public but off-chain Real Time Royalty Network, we aim to be able to process 99% of low-stakes transac-

¹³Bitcoin Could Consume as Much Electricity as Denmark by 2020, https://motherboard.vice.com/en_us/article/aek3za/bitcoin-could-consume-as-much-electricity-as-denmark-by-2020

tions off-chain with extremely low energy costs, only reverting to the main Ethereum blockchain for the most important updates, ie: updating artists' overall NOTES balances when requested. This provides artists with all of the benefits of a true, decentralized blockchain for the most important aspects, whilst processing everything else off-chain cheaply and almost-instantly.

6.3 A Fair Deal for Content Creators

One of our biggest passions is ensuring artists and content creators are paid fairly, which is why our royalty rates will not just be a little higher than the current solutions: they're more like ten times higher.

As well as distributing 50% of the entire NOTES supply to artists over the first five year period: we pledge to return 80% of all NOTES spent by the consumers to the artists and content creators.

6.4 Smart Record Contracts 1.0

One of the core features of Choon is Smart Record Contracts, which, even in their most basic form, represent a stratospheric improvement over standard contracting practice in the modern music industry.

In their most basic form, Smart Record Contracts replace the industry's current architecture for:

1. Recording both master and copyright shares in a transparent and public manner.
2. Distributing income to master and copyright holders quickly and fairly.

Benefits of Smart Record Contracts in brief:

- Transparent, public record of royalty splits
- Instant, or close to instant payment distribution
- No trust required between parties
- No need for lawyers in creating a contract
- Totally customizable

Below is an example process for a musical group with three members, and a 40%/40%/20% split (also see flow chart).

1. All three members sign up for Choon and create individual NOTES wallets, which are only accessible by them.
2. When a song is uploaded, an associated Smart Record Contract is created.
3. All three members, from their own accounts, agree to the terms of the Smart Record Contract, and the contract becomes active and tied to the track.
4. There is now a indisputable public record, stored on the Ethereum blockchain and the Real-time Royalty Network, of the copyright splits for the track, which can be accessed by anyone.
5. Choon pays NOTES earned by the track into the Smart Record Contract, which immediately and transparently re-distributes the NOTES to the associated wallets based on the pre-agreed splits.
6. Artists are then free to use their NOTES how they like: primarily spending them via the array of options available on the Choon ecosystem, saving them for a later date, or exporting them to an exchange to ‘cash out’ into fiat currency (dollars, euros, etc.).

There is no limit to the number of collaborators / stakeholders a Smart Record Contract can contain, so any number of varied splits can be created, covering almost any musical composition. Consider some examples:

- The Los Angeles Philharmonic upload a track, using a Smart Record Contract to split the income over their 100 different members equally.
- A 20-person hip-hop group use a Smart Record Contract to distribute royalties across their entire crew, each with different shares.
- A generous (or publicity-seeking) artist decides to split the proceeds from his new track with his fans. He asks fans to send him their NOTES WALLET addresses, and creates a Smart Record Contract splitting the profits of the track with over 1 million fans.

This last example is particularly interesting. The possibilities for innovation are endless. Whilst we believe the most fascinating uses of Smart Record Contracts will be discovered by artists themselves, exotic options could include:

- A group decide to become a fan-owed collective, where any fan can join the Smart Record Contract which distributes NOTES equally across all fans.
- An artist crowd-funds his album using NOTES, giving all funders a profit-split in the resulting musical release.

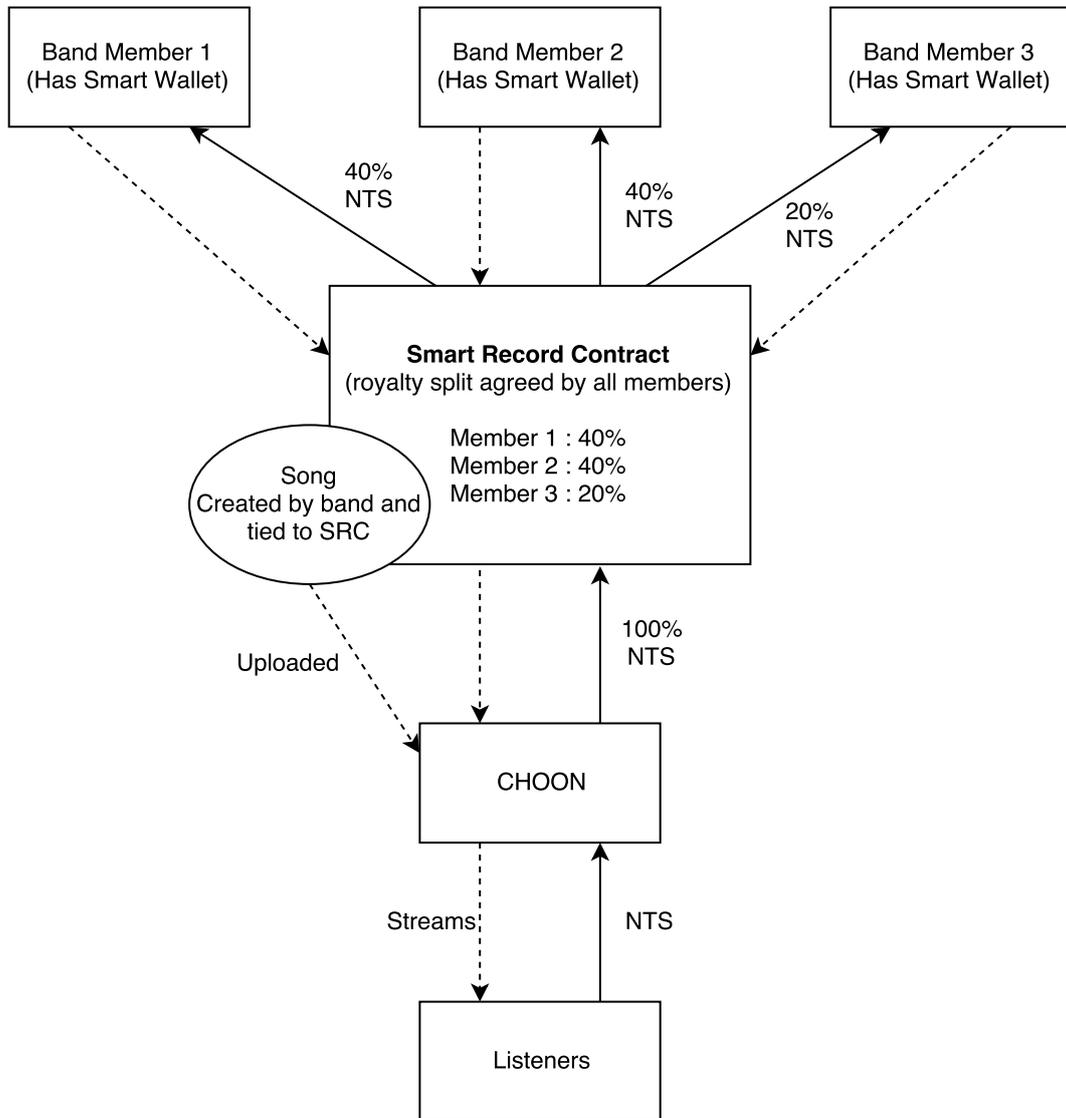


Figure 4: A flow chart depicting a typical Smart Record Contract scenario.

- An artist donates all, or any of the proceeds of a track or album to a charity, which can happen automatically and at-source by using the charity’s NOTES address.

6.5 Smart Management Contracts

Smart Management Contracts are an extension of Smart Record Contracts; they use the same architecture but their case-use is a little different.

Like recording agreements, artists typically do management deals off-line, where they agree to pay a manager a certain percentage, for a certain period of time. Of course, this distribution relies on the artist wishing to pay their manager when they receive the money, and this frequently doesn’t happen, leading to disputes, arbitration, and lawsuits.

It doesn’t take a large stretch of the imagination to imagine what happens when an artist falls out with a manager, terminates him, then, two years later, receives \$100,000 in musical royalties where \$15,000 is due to the manager.

Typically, in these messy scenarios, the person who holds the royalties holds the power, and it’s much easier for an artist to hold out and refuse to pay, knowing the manager will likely forget, give up, or accept a lower amount to avoid costly legal action. The opposite also frequently occurs: with managers withholding funds from artists to force settlement deals. Both issues occur for the same reason:

The extreme difficulty in enforcing offline management contracts (we’ll call them Dumb Management Contracts) frequently means artists and managers sign deals where they have no interest in adhering to the terms.

It’s remarkably common in the music industry to hear: “Screw it. I don’t really agree with all the terms in the deal, but I’ll do it anyway, and if we fall out, I’ll just withhold the money until they reduce their percentage”.

As well as creating unnecessary friction, this way of business generates substantial personal hurt and ill will not to mention huge sums for music-industry lawyers who are often tasked with settling such disputes. Smart Management Contracts change all that.

Like Smart Record Contracts, artists can elect to give a manager a set percentage for a set period of time. This can be for one of the tracks, all of their tracks, or some other combination. Consider the following example:

An artist signs a new management deal which last two years. Under the terms of the deal, their manager is to receive 10% of all their

musical royalties for two years, and, assuming the contract ends then, 5% for the next two years. The artist creates a Smart Management Contract that automatically deducts 10% of their royalties for the next two years, and 5% for the two years after that.

Smart Management Contracts and Smart Record Contracts can only be cancelled if all contracting parties agree to their cancellation. The benefits here are vast:

- Artists are highly unlikely to enter management deals unless they are genuinely willing to adhere to the terms of the deal, knowing that unlike a Dumb Management Contract, the deal is trustless and will execute based on the terms in the Smart Management Contract.
- As management income is immediately deducted from the artist's share and routed to their NOTES wallet, there is no possibility of the artist stockpiling money owed to a manager, then deciding they might want to keep it. At-source deductions mean that nobody sees money as 'theirs' unless it actually is.

7 The NOTES Ecosystem

To ensure the above transactions are executed with minimal friction, it is important to standardize one currency for all stakeholders to use: NOTES.

We realize that in order to create a true, functioning ecosystem, there must be many ways that NOTES can be earned, bought, and sold within Choon - otherwise, many users will likely instead send their NOTES to an exchange to convert them to fiat currency. Therefore, we have spent considerable time working out numerous ways that NOTES can be used within Choon, which are laid out below.

It is worth pointing out that these suggestions are no means an exhaustive list, and we plan to be highly responsive to user feedback in providing an array of options for using NOTES on Choon.

Although we have primarily described uses of NOTES within Choon, as an ERC20-compliant token running on the Ethereum network, NOTES can also be used outside of Choon, opening the door for them to be used as a generalized music-industry payment protocol in the future.

7.1 Mining NOTES

For the first five years, the primary way for artists to accumulate NOTES is via Streaming As Mining, discussed in detail in Section 6.2. 50% of the entire total supply of NOTES are reserved for these daily distributions to artists, split pro-rata based on the number of daily streams.

7.2 Earning NOTES

There are many ways listeners can spend NOTES whilst interacting with the Choon ecosystem. A few examples:

- **Subscription based streaming services** (similar to existing market offerings), paid to Choon and redistributed in the Daily Distribution at an 80% ratio.
- **Downloads**, which should be priced separately to streaming. Whilst the market share of downloads is declining, there are certain market segments (for instance DJs) who need to download their music in order to perform it live. We will allow artist to monetise this.
- **Private concerts and chats with artists.** By having one universal currency, it's easy for artists to host privately streamed concerts or Q&As with fans using any pricing model they wish.
- **Tipping.** Online voluntary tipping is a fast-growing behavior on the internet. NOTES will allow fans to tip artists to show their enjoyment of a track, a nice comment, or anything else.
- **Sale of non-digital items**, such as merchandise or show tickets. This opens up a whole world of potential for artists. For instance: offering a limited range of t-shirts available to their Choon-based fans and only purchasable with NOTES, offering Choon-based fans 'first dibs' to acquire event tickets by offering an exclusive NOTES pre-sale before tickets are available elsewhere, etc.

7.3 Third Party Site NOTES Transactions

Of course, exchange of non-music goods (merchandise, event tickets) do not have to take place on Choon. In fact, NOTES can be used by anyone, anywhere.

This means that artists can sell physical products directly to fans on their website for NOTES whilst enjoying all the benefits of cryptocurrency: historically low transaction fees, immediate payment, non-reversible transactions, etc.

Of course, this has been possible using currencies like Bitcoin for some time, but adoption rates have been low, due to a lack of entry/exit ramps into the ecosystem. Specifically:

1. There is little point in artists offering fans goods sold via Bitcoin, as their fans typically won't be in possession of Bitcoin. To ask fans to purchase Bitcoin via an exchange to power a transaction is a cumbersome on-ramp.
2. Even if fans are in possession of Bitcoin and are able to spend it with artists, there's virtually nowhere artists can use to spend that Bitcoin in a meaningful way that cannot be done easier and faster with fiat currency.

It's little wonder that Bitcoin (and similar cryptocurrencies) haven't become the currency of choice for artists. Despite its transactional benefits, in order to exchange, fans would first need to convert their fiat currency to Bitcoin, then artists would likely convert the Bitcoin received straight back into fiat!

NOTES solves this problem by ensuring:

1. Fans can accumulate NOTES easily without the cumbersome step of buying it from exchanges, by way of bounty from artists, or directly purchasing from Choon.
2. Artists have many ways to spend their NOTES within the Choon ecosystem, which are more interesting, and offer better value, than exchanging them back into fiat currency.

We believe NOTES will help achieve a cryptocurrency 'end goal' which, until now, has mostly failed to be realized. There is no need to transfer in and out of fiat currency, because NOTES fulfill almost every use for people on both sides of the transaction within their native ecosystem. NOTES are the currency.

7.4 How Artists Can Spend NOTES

Having liquidity of NOTES throughout the Choon ecosystem is key to the long-term success of the project. Therefore, we aim to heavily incentivize artists to keep their earned NOTES within the Choon ecosystem.

Although artists will be free to withdraw NOTES from their Choon wallet (for instance, to exchange them for fiat currency on an exchange), we will provide

numerous interesting ways for their NOTES to be used within the ecosystem. Here are a few examples of this:

- **Promotions: Pay Per Stream.** Artists wishing to promote a track beyond its current scope can offer a bounty to any listeners streaming the track, which will receive special attention on the Choon home page, for instance: ‘Current Tracks Offering Bounty’. Not only will listeners actually be paid for streaming new music (a huge incentive to join the service), but this will be one of the most efficient ways artists can promote to new listeners.
- **Promotions: Other.** Any form of additional advertising or promotion available on Choon will only be purchasable via NOTES tokens. This might involve a) paying to direct message all fans about a live show or paying to show an advert to fans for a new merchandise line or other external product. We plan on allowing artists to market to their listeners on Choon, for a suitable cost in NOTES.
- **Sampling and Licensing.** Future implementations of Smart Contracts will allow seamless sampling of tracks based on pre-existing requirements. For example: a large pop-star could upload their track to Choon, but provide a clause allowing any other artist to sample or remix it, for a predetermined amount of NOTES, or a percentage of their total NOTES revenue from their remix. This allows smaller artists to remix larger artists with their permission, which is a refreshing change from the existing system, where smaller artists will almost never be granted permission to remix large artists, meaning they are forced to upload illegal versions (usually to Soundcloud, or similar) and run the risk of punitive action.

7.5 Accumulating NOTES for Listeners

Listeners need NOTES to access much on offer by the Choon ecosystem.

By creating an account, listeners can access their NOTES web-wallet where they can accumulate and spend their NOTES.

Here are some of the ways which they can accumulate them.

- **Playlist Curation.** Playlist curators are valuable contributors to the modern online music community who, until now, have received scant financial reward for their work. By diverting payment flow away from intermediaries, we plan to fairly reward the curators of popular playlists, which will help foster a community of music lovers where bi-directional payments will

allow listeners a much more interesting experience than conventional vendor/customer based models do.

- **Listening to Promoted Music.** By listening to ‘Promoted Music’, listeners will receive bounties set by the artist, making this one of the easiest ways to earn NOTES.
- **Other Artist Bounties.** There are unlimited ways that artists can use their NOTES to incentivize fans and grow their base. Offering fans ‘bounties’ for referring other fans / listeners to their music (ie: “Bring me five listeners and get paid 10 NOTES”) is one of the most straightforward ways, as is offering NOTES for social media follows or shares, but we realize that the true innovation here will likely be led by the artists themselves. We look forward to seeing how artists find new and innovative ways to build their fan base.
- **Buying NOTES.** Whilst we encourage listeners to contribute and engage in our ecosystem to earn NOTES in other ways than simply buying them, it is possible some users would simply prefer to purchase them, or are such ‘power users’ who are spending NOTES heavily. We will offer the ability for users to buy packages of NOTES to fund, or top-up their wallets. These NOTES purchases will be made available from the Choon founders’ retained 25% of NOTES at the current price of NOTES across all exchanges, or, before NOTES are traded at exchanges, at the Token-Sale price. Once the entire available supply of retained NOTES has been depleted, Choon will purchase NOTES from exchanges at market rates in order to fund user wallets.

Below are some potential further options to be added in the future:

- **Commenting and Community Contribution.** To foster community spirit, we have considered the possibility of incentivizing comments, with comments being upvoted or downvoted by other users, with the best / most helpful receiving NOTES. This could be extended to full discussion boards, where users (and artists!) could discuss various topics, such as the music industry, production techniques, promotion strategies, live gigs, etc. This would help foster new and emerging artists and reward those giving good advice.
- **Advertising Supported Streaming.** Generally, a good music-listening experience isn’t interspersed with adverts, so by default, advertisements will not be part of Choon. That said, we are open to giving listeners the option to turn advertisements on, choosing to hear a set number of adverts per hour to receive a set number of NOTES. Advertisers would be required to pay Choon

in NOTES. Whichever way Choon acquires NOTES, we will distribute 80% back to the ecosystem, only retaining a 20% operational fee.

7.6 Spending NOTES by Listeners

There are almost unlimited ways in which listeners can spend their NOTES, many of which have been outlined previously. A summary follows:

- Streaming packages.
- Download fees.
- Watching private streams / concerts by artists.
- Q&As / interaction with artists.
- Merchandise.
- Event tickets.
- Tipping.

7.7 The Five Year Introductory Term

We have selected a Five Year Term for the mining of NOTES for a number of reasons.

Initially, almost all NOTES will enter the ecosystem from mining. However, we believe within five years, the ecosystem will have enough liquidity of NOTES, and enough transference between listeners and artists that the daily mining distribution will be almost irrelevant.

Add to the fact that by then, the mining difficulty will be extremely hard (given the huge amounts of artists the daily distribution will be split across) it should not be missed at all when it ends.

8 The Real Time Royalty Network

The Real Time Royalty Network is a sidechain implemented with state channels where NOTES can be transacted in a secure, cost-effective manner away from the main Ethereum blockchain.

In our mission to return 80% of proceeds directly to content creators, it's vital to be able to process huge numbers of NOTES-based transactions in real time.

With Smart Record Contracts able to distribute NOTES royalties to theoretically unlimited numbers of stakeholders for each piece of music, the cost and speed of processing this number of transactions on the main blockchain would soon become punitive. This would mean various compromises, such as distribution royalties on a monthly basis instead of daily, or significant fees due to heavy transaction load on the Ethereum blockchain, which carries far too many echoes of the legacy system that we're seeking to improve upon.

By utilizing the Real Time Royalty Network, we're able to process an unlimited number of transactions instantly and transparently, allowing artists to be paid their NOTES royalties every day, and facilitating transfers to the Ethereum blockchain when content creators wish to transfer their NOTES out of the Choon ecosystem.

Artists who wish to have even more flexibility in how their payouts are managed could specify an Ethereum Smart Contract as their NOTES beneficiary rather than a simple address. This Smart Contract could then be customized to do nearly anything with the NOTES, limited only by the capabilities of Ethereum itself.

8.1 State Channels and Vouchers

A Choon smart contract will be the wallet contract holding Notes to be distributed to artists. The server issues cryptographically-signed "vouchers" to the artists upon demand. The artists can request these vouchers as frequently as they please, and with no fees incurred. When they are ready to cash a voucher into Notes, they remit it to the Choon smart contract, which transfers the appropriate amount of NOTES to the beneficiary address. This beneficiary may simply be a solo artist's wallet address, or it may be a Smart Record Contract, which will further distribute NOTES to the relevant parties based on the agreement encoded in the contract.

A functioning demo of the Realtime Royalty Network is running on TestNet, and viewable here: <http://choon.co/crypto>.

9 Year One Roadmap

By strategically and gradually increasing up the number of artists and wallets using Choon in the first six months, we will be able to fully test many aspects of the service before allowing open sign-ups.

Initially, sign ups will be restricted to artists who entirely own their own music (not signed to record labels or own record label, and self-published) to ensure legal compliance.

December 2017: Token Sale and Artist On-Boarding. The token sale funds the first five years of the service. A select group of artists sign up for Closed Beta.

January 2018: Early Bird User Sign Ups. Participants in the token sale are permitted to create user accounts and connected NOTES wallets. They are also provided with three invitations each to provide to friends and family.

February 2018: Closed Beta Launches. Choon open for business with a selected number of hand-picked artists to thoroughly test the streaming service, user wallets, and NOTES distribution. Anyone can stream music via web interface, but only token sale participants and their invited guests can create user accounts and earn NOTES as listeners. Content is provided from a small-group of hand-picked artists offering exclusive material. Artists without invites can join the waiting list.

April 2018: Open Beta Launches. Upload and wallet creation enabled for all artists and listeners who signed up for access during the Closed Beta. Increase in content and listeners. Smart Record Contracts go live on service.

June 2018: General Release. Open sign-ups are now allowed for both artists and listeners.

10 Future Implementations

This section covers some potential future uses, for Choon, NOTES and the Real Time Royalty Network. Some of these are solid plans, which are very much on our roadmap; others are more esoteric projections of where we potentially see the ecosystem going in the future.

10.1 Other types of Smart Music Contracts

So far in this White Paper, we have mainly discussed Smart Record Contracts. However, a Smart Record Contract with a fairly simple split between stakeholders only represents the first step of disruption smart contracts can have within the music industry. Other types include:

- **Smart Management Contracts.** Covered in detail in section 6.5.
- **Smart Sampling Contracts (for remixes).** Contracts which allow artists to legally sample or remix other artists, as covered in Section 7.4.
- **Smart Sampling Contracts (for sample packs).** A large, but little-known subset of the music industry involves the sale of ‘sample packs’, where producers can save time by purchasing ‘off the shelf’ drum beats, melodies, and other samples, using them in their work via payment of a flat-fee. However, it is challenging for the creators of these ‘Sample Packs’ to link legitimate purchases with use in the field or receive any sort of future royalty rates: both problems Choon can solve.
- **Smart Licensing Contracts.** Smart Licensing Contracts could replace much of the music industry’s outdated infrastructure with a range of uses from DJs creating compilation / mix albums (comprised of other artists’ works) to TV networks and film studios licensing music via Smart Licensing Contracts. These contracts would be far more solid, reliable and transparent than the current ‘dumb’ contracts, and would correctly distribute royalties to as many stakeholders as necessary.

10.2 Non-Music Content

Whilst music is our initial focus, the fundamentals of this model could be applied to almost any system where digital content is distributed.

For the most part, we have tried to remain cautious in our projections. Whilst we have sufficient expertise and connections in the music industry to make fairly-confident predictions, it would be an overreach for us to confidently claim the ability to disrupt other digital content industries where our experience, contacts, and knowledge is more limited - and we would advise taking the word of anyone who claims to do so with a large pinch of salt. If a company does not understand the very industry they are seeking to disrupt, their ideas are unlikely to succeed, however good the concept.

That said, with that cautionary note out of the way, other forms of digital content such as podcasts, audiobooks, ebooks, tv series, web series, and movies are clearly interesting to us, and when applying a similar model to them, there are many shared pain-points between them and the music industry. Therefore, our intention is to remain cautiously open to possibilities here, whilst learning as much as possible about distribution methods in these industries.

10.3 Variation of Fees

With Smart Record Contracts enabled, and content control firmly in the hands of creators instead of intermediaries, the chance to create a better free market by allowing content creators to set their own fees is fascinating.

Whilst new, undiscovered artists will likely want their music to be available for free, or even offer a NOTES bounty to bring in listeners, an exclusive new song from a global superstar is a different case.

We fundamentally disagree with the one-size-fits-all model employed by existing streaming platforms. All music is not equal in terms of quality, and therefore, in a free market, variance in cost should be possible, too.

Whilst initially, we will use a one-size-fits-all model, or offer configurable prices within fairly narrow bands, this is to make the system easy to use. We do not wish to over-complicate our initial offering to artists, especially given that the presence of NOTES will already be a fairly substantial departure from the status quo.

In the medium term, the more control of pricing that rests with artists, the better. If artists are able to choose prices based on their perceived ‘worth’ of their music, they will only be answerable to the market which will choose to accept, or not accept, their offering.

10.4 Fully Open Implementation

The decentralized platform of NOTES and the Real Time Royalty Network can be used by others. This means:

Third parties can create their own streaming sites using the Real Time Royalty to pay artists in NOTES. Standing by our claim to create a fair music ecosystem that is available to all, any other developer can create streaming sites paying content creators via NOTES, the Real Time Royalty Network and Smart Record Contracts.

We believe that once the daily distribution of NOTES expires after five years and all NOTES are in circulation, any market advantage that Choon may initially have will no longer exist, introducing a truly competitive element and making the creation of third-party streaming sites highly incentivised.

10.5 Future Ecosystem and Third Party Developers

As well as opening the door to future third-party developed streaming sites, having a decentralized solution for both NOTES and Real Time Royalty Network opens the door for any manner of apps to be developed around them.

Whilst we will try to provide as wide a portfolio of artist-driven services on Choon as possible, the open market and developer community are generally better at solving niche problems, and moving faster than larger organizations generally can.

With all key information stored on the public blockchain, we see many third-party developed services popping up, based on the ecosystem. These could include, but would not be limited to:

- Third party streaming sites.
- Wallet management tools.
- Streaming analysis and market analysis tools.
- Tools that expedite distribution (for instance, facilitating the creation of multiple Smart Record Contracts for large uploads).
- Cold storage / secure storage devices for NOTES.

Once a demand exists for NOTES, the possibilities for expansion and user-development are vast.

10.6 Full Decentralization

As blockchain matures and transactions become more rapid and inexpensive, we look forward to migrating the entirety of the Choon ecosystem into a fully-distributed, trustless blockchain implementation, with governance controlled by the stakeholders in the system.

11 Token Sale and Distribution

The full details of the token-sale are detailed in this section. Please read them carefully, especially Section 11.5) which pertains to our requirements with regards to our compliance with the Know Your Customer / Anti Money Laundering regulations.

11.1 Supply of NOTES

NOTES are limited to 80,000,000, distributed over a five year period. At launch, roughly 50% of the entire supply will be issued, rising to 100% five years after launch.

The 80,000,000 NOTES will be split on the following basis.

Retained for streaming:	40,000,000
Sold in Token Sale:	20,000,000
Retained for Founders, Advisors and Promotions	20,000,000
Total NOTES Supply	80,000,000

Note: Promotions refers to NOTES used for offering listener bounties for initial sign-ups, comments, or any other promotional, incentivised use of NOTES to promote Choon. This supply is separate to the 40,000,000 NOTES which is exclusively retained for artists only.

The 40,000,000 NOTES that are retained for streaming will be ring-fenced, and held in transparent public wallets.

11.2 Pricing

A NOTES token sale is slated for March/April 2018, once the Beta version of Choon has been in operation for at least one month. During this sale, we will offer up 20,000,000 NOTES for public sale (25% of overall supply).

Due to the rapidly fluctuating price of Ether, further details such as NOTES pricing, cap, and floor will be released closer to the sale itself.

Please sign up for updates at <http://www.choon.co> or follow us on social media @choonhq to be the first to hear these details.

11.3 Private Round

The initial stages of Choon's development, including the build of the test Smart Record Contract found at <http://www.choon.co/crypto> have been financed by Choon's founders.

However, given that our Token Sale will now take place after the public launch of our product, we are reserving the right to conduct a private round, selling up to 4,000,000 NOTES to private contributors prior to the launch of the Choon platform.

Moving our main token sale to after the product launch brings many advantages: particularly demonstration of a real product / ecosystem and better compliance with local and international regulations.

However, this also significantly lengthens the amount of time we must operate with no funding, costs which presently are being borne by the founding team. Being able to seek a small degree of private funding in this early stage will remove certain cost-based pressures we might otherwise face and allow us to focus on the fundamentals of building the platform.

11.4 Inclusions and Exclusions

We are working tirelessly to ensure Choon's Token Sale is as inclusive as possible. If there are restrictions, we will announce them in due course.

11.5 Whitelist Pre-Registration and KYC / AML Approvals Process

Compliance with Know Your Customer and Anti-Money Laundering regulations are of paramount importance to us, therefore, there are a number of steps participants must take to be eligible for the 24 hour whitelist sale period.

Whilst these steps may feel long-winded, we believe they will provide the best chance of success to legitimate purchasers, as well as reducing the risk of blockchain network overload during the sale.

The first 24 hours of the Token Sale is for whitelisted ETH addresses only.

In order to join the whitelist to access the earliest part of the Token Sale, we will require the following information. Please apply using the below form:

The following details will be required.

- ETH Address to Whitelist
- First Name
- Last Name
- Passport ID/National ID
- Date of Birth
- Nationality
- Gender
- Country of Residence
- Identity Documentation

We will also require:

- A copy of your passport (page showing photo and identity) or national ID card.
- A selfie holding the identity document, opened, with the photo page clearly visible, along with a hand-written sign saying 'CHOON'.

The whitelisting / compliance process will be undertaken by Identity Mind Global, who specialize in KYC/AML regulations. For maximum safety, your personal information will be submitted directly to and secured by them, and not reviewed by Choon directly.

The approvals process takes a few days. You will be emailed if your application is successful, or notified if you need to resubmit documents for any reason (for instance, unclear photographs).

11.6 Founder and Advisor Vesting Policies

Both Founders and Advisors are subject to vesting policies of their NOTES tokens. These are detailed below.

Please note that whenever we refer to tokens being locked, this will be done transparently using publicly viewable wallet addresses.

11.6.1 No Trading Policy

Choon's internal company formation documents stipulate that Founders may not trade or speculate in any cryptocurrencies, excluding the usage of NOTES / Ether required in the running of Choon. Positions held previously to November 1st, 2017 are permitted.

This policy demonstrates our commitment to Choon, NOTES, and nothing else. Whilst many founders in the cryptocurrency economy are known for holding numerous tokens, we believe we will do our best work if the temptation to 'play the market' or day-trade is completely removed.

11.6.2 Founders

In total, 10,400,000 NOTES are reserved for our current five founders, with 9,600,000 reserved for Advisors, and future hires.

- Founder tokens are entirely locked until one month after NOTES are listed on a major exchange following our Main Token Sale.
- One month following NOTES major exchange listing, each of the five current founders will receive 100,000 of their NOTES.
- Four months following NOTES major exchange listing, founder NOTES will vest on a monthly basis over the following three years.

11.6.3 Advisors

We do not apply a vesting policy to advisor NOTES. Advisor NOTES allocations are fairly small (typically 10,000 - 20,000 NOTES). Like all other NOTES, they will be locked and non-transferable until after completion of the Main Token Sale.

11.7 Use of Raised Funds

We have broken down our plans for spending the raised funds into three key areas.

11.7.1 People

We need great people to help us navigate through the evolution of the business and to help us dynamically respond to the self-made intelligence of our ecosystem. We want to attract best-of-breed individuals to make sure we disrupt the music and banking industries as intended. Our five-year plan will see the team grow and evolve, and to retain the best people we need to remunerate according to industry standards. We have therefore budgeted total salary and employment taxes for this five-year period at \$3.0 million, which equates to 30% of total expenditure.

11.7.2 Sales

Our biggest sales asset is the Choon network and NOTES cryptocurrency. The Choon Digital Service Provider (DSP) will undergo constant review and maintenance in order to ensure the best possible user experience. Having an outstanding product, simple at the point-of-use, is essential for the eco-system to prosper and evolve. Technological expenditure will include: hardware, software, product development, server costs, security, bandwidth costs for streaming, website costs, iOS and Android front-end costs, UX and UI design, smart contract implementation and updates, and all other associated product costs. This White Paper has only disclosed initial ideas and solutions, and we believe there are a significant number of other future uses for the Choon eco-system that will continue to disrupt the antiquated music industry. Implementation of these ideas will require resources, which is why our budget has been weighted towards sales assets.

Sales asset costs will also include all marketing, advertising, community outreach and other associated direct cost of sales items from a promotional perspective.

The total budget for this aspect over the 5-year period is \$5.0 million, which equates to 50% of the total expenditure budget. We feel that an investment of \$1.0 million per year (excluding people) is an appropriate level.

11.7.3 Financial

Understanding performance, and budgeting for future cash flows is also key to the success of the Choon ecosystem. We intend to embrace the best of cloud accounting technologies to help us understand every aspect of the business, as well as utilise the knowledge and experience of the best financial professionals who are tuned into fintech projects. Financial costs will of course also include all associated

accounting and tax compliance expenses to ensure that the trading entity meets its filing requirements and deadlines. Tax planning costs are also considered to be an important part of the overall financial planning and strategy of the business. Given the relative infancy of the cryptocurrency economy and the speed of change in the market, it is important to budget suitably - particularly given many regulations we will eventually need to adhere to do not exist yet. We have therefore budgeted for total Financial asset costs over the five-year period of \$1.0 million, equating to 10% of the total expenditure budget.

11.7.4 Other Expenditure and Contingency

The budget accounts for Other Expenditure, such as legal fees, communications, insurance, travel etc., as well as a contingency fund, all totaling \$1.0 million.

Item	Allocation
Sales	50%
People	30%
Financial	10%
Other	5%
Contingency	5%

12 Supporting Cryptocurrencies

As well as being dedicated to solving some of the music industry's biggest problems, we are extremely passionate about the overall cryptocurrency economy, and excited about its ability to displace much of the world's existing financial framework. This short section notes some of the ways in which we hope to benefit the community.

12.1 Best Practices

Coin offerings and token sales have provided exceptional capital raising opportunities for innovative, forward-looking companies, and investment opportunities for people excluded by the mainstream financial systems.

However, large coin offers can create associated problems, particularly due to the post-offering liquidation of large amounts of cryptocurrency (primarily BTC/ETH).

By adversely affecting the price of the underlying currencies, these large liquidations tend to lead to increased volatility in the market, and stokes fear and doubt about the entire cryptocurrency ecosystem.

By adhering to the following practices we hope to minimize disruption to the ecosystem as a whole.

1. **Limited Token Sale.** By limiting our potential raise to a fairly conservative 40,000 ETH (approx \$10m USD), we are limiting revenues from our token sale to funds which we have already allocated and have plans for, as opposed to uncapped token sales where the potential revenues are unlimited, often leaving founders with far more investment than they reasonably can spend.
2. **Selective Supplier Base.** We pledge to aim to keep as much of our token-sale revenues in the cryptocurrency economy as possible. That means we will seek to pay employees and contractors in cryptocurrency where possible, and will prioritize service-providers who accept payment in cryptocurrency.

12.2 A Cautionary Price Note for Token Holders

“Most of the people doing ICOs don’t have real business plans. They’re not explaining that they’re going to make money by providing a service or selling a product at a profit. Instead, they’re telling me how they plan to promote their coins.

Let’s think about that for a minute. Would you buy stock in a business whose business plan was a giant marketing campaign to promote the value of the stock? If they create nothing of value and spend money from sale of stock for their promotion (and other) expenses, then there is no business model.

With no other income, remaining in business will always require further rounds of funding which will always continue to dilute the value of any stock you hold. That isn’t a real business plan. I would advise against buying it.”

– Ray Dillinger, who reviewed Satoshi Nakamoto’s pre-launch Bitcoin source code, in 2008.

Unlike many ICOs, we have a real, sustainable business model and a genuine need for the token that will fuel it.

However, we feel the need to remind potential token purchasers that our mission is to create real income for content creators via a sustainable ecosystem and not

to promote, or artically inflate the price of NOTES.

We are fundamentally opposed to any actions that create short-term price volatility, even when NOTES token-holders, including ourselves, may benefit from such fluctuations. Whilst we cannot escape the volatile nature of cryptocurrency markets, we certainly can choose to avoid stoking the fire, and will be putting all of our available resources into improving the functioning of Choon, and our offering to both listeners and artists. If we succeed, this will likely indeed contribute to appreciation of the NOTES token, but in a long-term, sustainable way.

To reiterate: whilst NOTES is the token that powers our ecosystem, and whilst we appreciate its price will rise and fall based on market forces, we will never attempt to influence its price for anyone's benefit, including our own.

Do not purchase NOTES if your aim is short-term gains.

We recommend buying NOTES for the following reasons:

- To help provide liquidity to the ecosystem.
- To contribute to the operating costs of Choon by helping to jump-start a future-facing music industry model that you believe in.
- To spend on music, advertisements, promotions, or any of the other array of services offered on Choon in the future.

We do not recommend buying NOTES for the following reasons:

- Profit-taking via expectation of appreciation.
- Expecting dividends of any kind.
- Day trading, pumping or other short term market activities with no understand or appreciation of the underlying product.

To encourage stability:

1. We *will* encourage content-creators to spend as many of their NOTES as possible within the Choon ecosystem, incentivizing this where possible.
2. We *will not* disseminate unconfirmed news, rumour, speculation, or opinion with the aim of increasing the price of NOTES (pumping).
3. We *will not* attempt or push to have NOTES traded on any particular exchange (but, as a freely tradable, high quality digital asset, exchanges are of course welcome to trade it).

4. We *will not* offer analysis, speculation, or reports pertaining to the price of NOTES. We believe large numbers of cryptocurrency startups' obsession with the price of their token often leads to dangerous short-term actions to manipulate prices neglecting the fundamentals of their business, where, paradoxically, focusing on improving business fundamentals are the only thing that will lead to long-term sustainable price appreciation.

For the last time: Do not purchase NOTES if your aim is short-term gains. We will not be held responsible for currency fluctuations.

NOTES are not a security or stock and should not be treated as such. For future information, see Section TODO: "Legal and Regulatory Notes".

13 The Team

13.1 Founders

Gareth Emery has been in the music industry for the last 15 years, both as one of the world's largest DJs and an esteemed record producer. With three iTunes Dance #1 Albums, and over 1.5 million monthly Spotify listeners, he understands the music industry and the problems it faces more than most. When not writing trance anthems or traveling the world performing, he's been a fairly obsessive cryptocurrency enthusiast since 2013. www.garethemery.com

Bjorn Niclas is a serial entrepreneur and successful angel investor with twelve years experience in the electronic music space. His companies include talent buying, artist management, and event production, with hundreds of thousands of people having attended events produced by him over the last decade. More recently, his passion has been trying to change the music industry for the better by ensuring emerging artists are paid fairly for their work. angel.co/bjornniclas

Matt Hall is a software engineer with over twenty years of industry experience. He has done significant work for Google, Microsoft and nearly every other large tech company over the years. He has deep experience in server-side and cloud development, and was a pioneer in mobile, building successful apps since before the iPhone launch. He was a co-creator of the Cryptopunks project, where 10,000 unique collectible pieces of art were offered with proof-of-ownership stored on the Ethereum blockchain. The project was widely covered by the media, with the market value of the art shooting past \$1m in the first six months. larvalabs.com

John Watkinson is a software engineer and computer scientist, and has worked

together with Matt Hall for over a decade. He holds a PhD in Electrical Engineering from Columbia University, where his research included large-scale computing, digital signal processing, and machine learning. He was the other co-creator of the Cryptopunks, and has extensive experience with distributed computing and blockchain technology. larvalabs.com

Scott Sartin is a Fellow Chartered Accountant (ICAEW [2003]) who specialises in accounting and business management within the music industry. He has a passion for Fintech, but is even more passionate about being the difference maker to the lives of his clients businesses by guiding them through the many financial nuances of the the music world. Scott has regular first hand experience when it comes to royalty accounting for his clients, and has seen the music industry choose to not keep up with the digital age. He sees Choon as the ultimate difference maker and disrupter, and knows what a difference it will make to all artists and writers. www.charltonbaker.co.uk

13.2 Advisors

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14 Disclosures

Legal Disclaimer

PLEASE READ THIS SECTION CAREFULLY. YOU SHOULD CONSULT YOUR LEGAL, FINANCIAL, TAX, AND OTHER PROFESSIONAL ADVISOR(S) BEFORE TAKING ANY ACTION IN CONNECTION WITH THIS WHITE PAPER.

This White Paper is intended to present relevant information to potential purchasers (each a **Purchaser**) in connection with the generation, sale and electronic transmission of the NTS cryptographic utility tokens (**Token Generation Event**), including information about the Record Smart Contract, Real Time Royalty Network and NOTES ecosystem (collectively, the **System**). The information contained in this White Paper is not intended to be exhaustive and the statements included in this White Paper are not intended to create a contractual relationship. Nothing in this White Paper shall be deemed to constitute a prospectus of any sort, a solicitation for investment or investment advice nor does it in any way

pertain to an offering or a solicitation of an offer to buy any securities in any jurisdiction. This White Paper is not composed in accordance with, and is not subject to, laws or regulations of any jurisdiction which are designed to protect investors. To the maximum amount permitted by applicable law, Choon expressly disclaim and shall not be liable for any and all responsibility for any direct or any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with (i) Purchaser's acceptance of or reliance on any information contained in this White Paper, (ii) any error, omission or inaccuracy in any such information or (iii) any action resulting therefrom.

Disclosure Schedule

The acquisition of NOTES involves a high degree of risk. Before acquiring NOTES, it is recommended that each Purchaser conduct its own careful examination of all relevant information and risks about Choon, System and NOTES and, specifically, the disclosures and risk factors set out below. If any of the following risks actually occurs, the System, NOTE and Purchaser's NOTES may be materially and adversely affected, including the Purchaser's NOTES being rendered worthless or unusable.

Disclosures regarding this White Paper

Accuracy of information, no consent of parties referenced in White Paper

This White Paper includes market and industry information and forecasts that have been obtained from internal surveys, reports and studies, where appropriate, as well as market research, publicly available information and industry publications. Such surveys, reports, studies, market research, publicly available information and publications generally state that the information that they contain has been obtained from sources believed to be reliable, but there can be no assurance as to the accuracy or completeness of such included information.

Save for Choon and its respective directors, executive officers and employees, no person has provided his or her consent to the inclusion of his or her name and/or other information attributed or perceived to be attributed to such person in connection therewith in this White Paper and no representation, warranty or undertaking is or purported to be provided as to the accuracy or completeness of such

information by such person and such persons shall not be obliged to provide any updates on the same.

Neither Choon its affiliates or subsidiaries, nor any of their respective directors, officers, agents, employees, shareholders and/or advisers (collectively, Choon Parties) has conducted any independent review of the information extracted from third party sources, verified the accuracy or completeness of such information or ascertained the underlying economic assumptions relied upon therein. Consequently, neither Choon nor its directors, executive officers and employees acting on its behalf makes any representation or warranty as to the accuracy or completeness of such information and shall not be obliged to provide any updates on the same.

Terms used

To facilitate a better understanding of the NOTES being offered for purchase by Choon, and the businesses and operations of Choon, certain technical terms and abbreviations, as well as, in certain instances, their descriptions, have been used in this White Paper. These descriptions and assigned meanings should not be treated as being definitive of their meanings and may not correspond to standard industry meanings or usage.

Words importing the singular shall, where applicable, include the plural and vice versa and words importing the masculine gender shall, where applicable, include the feminine and neuter genders and vice versa. References to persons shall include corporations.

Forward looking statements

All statements, estimates and financial information contained in this White Paper, made in any press releases or in any place accessible by the public and oral statements that may be made by Choon or any Choon Parties that are not statements of historical fact, constitute "forward-looking statements". Some of these statements can be identified by forward-looking terms such as "aim", "target", "anticipate", "believe", "could", "estimate", "expect", "if", "intend", "may", "plan", "possible", "probable", "project", "should", "would", "will" or other similar terms. However, these terms are not the exclusive means of identifying forward-looking statements. All statements regarding Choon's financial position, business strategies, plans and prospects and the future prospects of the industry which Choon is in are forward-looking statements. These forward-looking statements, including

but not limited to statements as to Choon's revenue and profitability, prospects, future plans, other expected industry trends and other matters discussed in this White Paper regarding Choon are matters that are not historic facts, but only predictions.

Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual events or results, performance or achievements to differ materially from the estimates or the results implied or expressed in such forward-looking statements. These factors include, amongst others:

1. changes in political, social, economic and stock or cryptocurrency market conditions, and the regulatory environment in the countries in which Choon conducts its respective businesses and operations;
2. the risk that Choon may be unable to execute or implement their respective business strategies and future plans;
3. changes in interest rates and exchange rates of fiat currencies and cryptocurrencies;
4. changes in the anticipated growth strategies and expected internal growth of Choon;
5. changes in the availability and fees payable to Choon in connection with their respective businesses and operations;
6. changes in the availability and salaries of employees who are required by Choon to operate their respective businesses and operations;
7. changes in preferences of customers of Choon;
8. changes in competitive conditions under which Choon operate, and the ability of Choon to compete under such conditions;
9. changes in the future capital needs of Choon and the availability of financing and capital to fund such needs;
10. war or acts of international or domestic terrorism;
11. occurrences of catastrophic events, natural disasters and acts of God that affect the businesses and/or operations of Choon;
12. other factors beyond the control of Choon; and
13. any risk and uncertainties associated with Choon and its business and operations, the NOTES, the Token Generation Event and the underlying assets (each as referred to in the White Paper).

Nothing contained in this White Paper is or may be relied upon as a promise, representation or undertaking as to the future performance or policies of Choon.

Further, Choon disclaims any responsibility to update any of those forward-looking statements or publicly announce any revisions to those forward-looking statements to reflect future developments, events or circumstances, even if new information becomes available or other events occur in the future.

No further information or update

No person has been or is authorised to give any information or representation not contained in this White Paper in connection with Choon and its business and operations, the NOTES, the Token Generation Event and the underlying assets (each as referred to in the White Paper) and, if given, such information or representation must not be relied upon as having been authorised by or on behalf of Choon. The Token Generation Event (as referred to in the White Paper) shall not, under any circumstances, constitute a continuing representation or create any suggestion or implication that there has been no change, or development reasonably likely to involve a material change in the affairs, conditions and prospects of Choon or in any statement of fact or information contained in this White Paper since the date hereof.

Restrictions on distribution and dissemination of White Paper

The distribution or dissemination of this White Paper or any part thereof may be prohibited or restricted by the laws, regulatory requirements and rules of any jurisdiction. In the case where any restriction applies, you are to inform yourself about, and to observe, any restrictions which are applicable to your possession of this White Paper or such part thereof (as the case may be) at your own expense and without liability to Choon.

Persons to whom a copy of this White Paper has been distributed or disseminated, provided access to or who otherwise have the White Paper in their possession shall not circulate it to any other persons, reproduce or otherwise distribute this White Paper or any information contained herein for any purpose whatsoever nor permit or cause the same to occur.

Language of White Paper

This White Paper may have been prepared in multiple languages. In the event of any inconsistencies between one version and another, the English language version shall prevail.

Disclosures regarding NOTES

Nature of NOTES

NOTES are digital utility tokens that afford NOTE holders to access the System and/or execute certain functions on the Record Smart Contract in accordance with the terms of an open-source license agreement further described on the Website. NOTES do not represent a loan to Choon nor do they provide Purchaser with any ownership or other interest in or to Choon. For greater certainty, the purchase of NOTES does not provide Purchaser with any form of ownership right or other interest in or to Choon or its present or future assets and revenues, including, but not limited to, any voting, distribution, redemption, liquidation, revenue sharing, proprietary (including all forms of intellectual property), or other financial or legal rights.

NOTES are non-refundable

Choon is not obliged to provide NOTE holders with a refund for any reason, and NOTE holders will not receive money or other compensation in lieu of a refund. Statements set out in the White Paper are merely expressions of Choon's objectives and desired work plan to achieve those objectives. and no promises of future performance or price are or will be made in respect to NOTES, including no promise of inherent value and no guarantee that NOTES will hold any particular value.

NOTES are provided on an "as is" basis

The NOTES are provided on "as is" basis. Choon Parties and each of their respective directors, officers, employees, shareholders, affiliates and licensors make no representations or warranties of any kind, whether express, implied, statutory or otherwise regarding the NOTES, including any warranty of title, merchantability or fitness for a particular purpose or any warranty that the NOTES

and System will be uninterrupted, error-free or free of harmful components, secure or not otherwise lost or damaged. Except to the extent prohibited by applicable law, Choon Parties and each of their respective directors, officers, employees, shareholders, affiliates and licensors disclaim all warranties, including any implied warranties of merchantability, satisfactory quality, fitness for a particular purpose, non-infringement, or quiet enjoyment, and any warranties arising out of any course of dealings, usage or trade.

Not an offering of securities, commodities or swaps

The sale of NOTES and the NOTES themselves are not securities, commodities, swaps on either securities or commodities, or a financial instrument of any kind. Purchases and sales of NOTES are not subject to the protections of any laws governing those types of financial instruments. This White Paper and all other documents referred to in this White Paper including the written terms and conditions by which Purchaser agrees to purchase NOTES (**Terms and Conditions**) do not constitute a prospectus or offering document, and are not an offer to sell, nor the solicitation of an offer to buy an investment, a security, commodity, or a swap on either a security or commodity.

Non-Investment purposes

Purchaser acknowledges and agrees that Purchaser is not purchasing NOTES for purposes of investment, speculation, as some type of arbitrage strategy, for immediate resale or other financial purposes. NOTES are not designed for investment purposes and should not be considered as a type of investment.

NOTES may have no value

The NOTES may have no value. Choon is not and shall not be responsible for or liable for the market value of the NOTES, the transferability of NOTES and/or the availability of any market for NOTES through third parties or otherwise.

Lack of development of market for NOTES

There are no warranties that NOTES will be listed or made available for exchange for other Cryptocurrency and/or fiat money. It shall be explicitly cautioned that if NOTES are made available on an exchange, such exchange, if any, may not be

subject to regulatory oversight, and Choon does not give any warranties in relation to any exchange services providers.

Force majeure

The Token Generation Event and the performance of Choon's activities set out in White Paper development roadmap may be interrupted, suspended or delayed due to force majeure events. For the purposes of this White Paper, a force majeure event shall mean any extraordinary event or circumstances which could not be prevented by Choon and shall include: hardware, software or other utility failures, changes in market forces or technology, software or smart contract bugs, changes in blockchain-related protocols, acts of nature, wars, armed conflicts, mass civil disorders, industrial actions, epidemics, lockouts, slowdowns, prolonged shortage or other failures of energy supplies or communication service, acts of municipal, state or federal governmental agencies or other circumstances beyond Choon's control, which were not in existence at the time of Token Generation Event. Purchaser understands and agrees that Choon shall not be liable and disclaims all liability to Purchaser in connection with a force majeure event.

Insurance

Unlike bank accounts or accounts at financial institutions, NOTES are uninsured unless you specifically obtain private insurance to insure them. Thus, in the event of loss or loss of utility value, there is no public insurer or private insurance arranged by Choon to offer recourse to Purchaser.

Governmental disclosures

Risk of unfavorable regulatory action in one or more jurisdictions

The regulatory status of cryptographic tokens, digital assets, and blockchain technology is undeveloped, varies significantly among jurisdictions and is subject to significant uncertainty. It is possible that certain jurisdictions may adopt laws, regulations, policies or rules directly or indirectly affecting the Bitcoin and Ethereum network, or restricting the right to acquire, own, hold, sell, convert, trade, or use NOTES. Developments in laws, regulations, policies or rules may alter the nature of the operation of the blockchain network upon which the NOTES are dependent.

There can be no assurance that governmental authorities will not examine the operations of Choon Parties and/or pursue enforcement actions against Choon Parties. All of this may subject Choon Parties to judgments, settlements, fines or penalties, or cause Choon Parties to restructure their operations and activities or to cease offering certain products or services, all of which could harm Choon Parties's reputation or lead to higher operational costs, which may, in turn, have a material adverse effect on the NOTES and/or the development of the System.

Purchaser bears responsibility of legal categorisation

There is a risk that NOTES might be considered a security in certain jurisdictions, or that they might be considered to be a security in the future. Choon does not provide any warranty or guarantee as to whether the NOTES will be a security in the jurisdiction of the Purchaser. Each Purchaser will bear all consequences of NOTES being considered a security in their respective jurisdiction. Every Purchaser is responsible to confirm if the acquisition and/or disposal of NOTES is legal in its relevant jurisdiction, and each Purchaser undertakes not to use NOTES in any jurisdiction where doing so would be unlawful. If a Purchaser establishes that the purchase or use of NOTES is not legal in its jurisdiction, it should not acquire NOTES and immediately stop using or possessing NOTES.

Acquiring NOTES in exchange for Cryptocurrency will most likely continue to be scrutinized by various regulatory bodies around the world, which may impact the usage of NOTES. The legal ability of Choon to provide or support NOTES in some jurisdictions may be eliminated by future regulation or legal actions. In the event Choon determines that the purchase or usage of NOTES is illegal in a certain jurisdiction, Choon may cease operations in that jurisdiction, or adjust NOTES or the System in a way to comply with applicable law.

Purchaser bears responsibility for complying with transfer restrictions

NOTES may be placed on third-party exchanges, giving future purchasers and users an opportunity to openly buy NOTES. A user seeking to enter the System following the Token Generation Event will have to buy NOTES on such exchanges. Conversely, NOTES may be sold on such exchanges if the holder of NOTES would like to exit the System ecosystem. Existing laws on the circulation of securities in certain countries, such as the United States of America, Canada and Singapore, may prohibit the sale of the NOTES to the residents of those countries. When buying NOTES, Purchaser should be aware of the restrictions on their subsequent sale.

General security risks

Risk of theft and hacking

Token generation events and initial coin offerings are often targeted by hackers and bad actors. Hackers may attempt to interfere with the Purchaser's digital wallet or private key storage system (**Purchaser's Wallet**), the Record Smart Contract or the availability of NOTES in any number of ways, including without limitation denial of service attacks, Sybil attacks, spoofing, smurfing, malware attacks, or consensus-based attacks. Any such attack may result in theft of Purchaser's NOTES.

Private keys

NOTES purchased by Purchaser may be held by Purchaser in Purchaser's digital wallet or vault, which requires a private key, or a combination of private keys, for access. Accordingly, loss of requisite private key(s) associated with Purchaser's digital wallet or vault storing NOTES will result in loss of such NOTES. Moreover, any third party that gains access to such private key(s), including by gaining access to login credentials of a hosted wallet or vault service Purchaser uses, may be able to misappropriate Purchaser's NOTES. Choon is not responsible for any such losses.

Failure to map a public key to Purchaser's Wallet

Failure of the Purchaser to map a public key to such the Purchaser's electronic and/or hardware device used to store public and private keys (**Purchaser's Wallet**) may result in third-parties being unable to recognize buyer's NOTE balance on the Ethereum blockchain when and if they configure the initial balances of a new blockchain based upon the System.

Exchange risks

If Purchaser sends Ether to Choon from an exchange or an account that Purchaser does not control, NOTES will be allocated to the account that has sent Ether; therefore, Purchaser may never receive or be able to recover Purchaser's NOTES. Furthermore, if Purchaser chooses to maintain or hold NOTES through a cryptocurrency exchange or other third party, Purchaser's NOTES may be stolen or lost.

Risk of incompatible wallet services

The wallet or wallet service provider used for the acquisition and storage of the NOTES has to be technically compatible with the NOTES. The failure to assure this may result in the Purchaser not being able to gain access to its NOTES.

Risk of weaknesses or exploitable breakthroughs in the field of cryptography

Advances in cryptography, or other technical advances such as the development of quantum computers, could present risks to Cryptocurrencies, Ethereum and NOTES, which could result in the theft or loss of NOTES.

Internet transmission risks

There are risks associated with using NOTES including, but not limited to, the failure of hardware, software, and internet connections. Choon shall not be responsible for any communication failures, disruptions, errors, distortions or delays you may experience when using the System and NOTES, howsoever caused. Transactions in Cryptocurrency may be irreversible, and, accordingly, losses due to fraudulent or accidental transactions may not be recoverable. Cryptocurrency transactions are deemed to be made when recorded on a public ledger, which is not necessarily the date or time when the transaction is initiated.

System disclosures

No guarantee that Record Smart Contract will be developed

Purchaser acknowledges, understands and agrees that Purchaser should not expect and there is no guarantee or representation or warranty by Choon that: (a) the System will ever be adopted; (b) the System will be adopted as developed by Choon and not in a different or modified form; (c) a blockchain utilizing or adopting Choon will ever be launched; and (d) a blockchain will ever be launched with or without changes to the System and with or without a distribution matching the fixed initial balances of NOTES. Furthermore, initial NOTES will not have any functionality or rights on the System and holding NOTES is not a guarantee, representation or warranty that the holder will be able to use the System, or receive any tokens utilized on the System, even if the System is launched and the Record Smart

Contract is adopted, of which there is no guarantee, representation or warranty made by Choon.

Risks associated with the Record Smart Contract and associated software and/or infrastructure

1. **Malfunctions.** The Record Smart Contract is based on the Ethereum blockchain. As such, any malfunction, unintended function or unexpected functioning of the Ethereum protocol may cause NOTES and/or the System to malfunction or function in an unexpected or unintended manner.
2. **Bugs and weaknesses.** The Ethereum blockchain rests on open source software, and accordingly there is the risk that the Record Smart Contract may contain intentional or unintentional bugs or weaknesses which may negatively affect NOTES or result in the loss or theft of NOTES or the loss of ability to access or control NOTES. In the event of such a software bug or weakness, there may be no remedy and NOTE holders are not guaranteed any remedy, refund or compensation.
3. **Delays and congestions.** On the Ethereum blockchain timing of block production is determined by proof of work so block production can occur at random times. For example, Ether contributed to the Record Smart Contract in the final seconds of a distribution period may not get included for that period. Purchaser acknowledges and understands that the Ethereum blockchain may not include the Purchaser's transaction at the time Purchaser expects and Purchaser may not receive NOTES the same day Purchaser sends Ether. The Ethereum blockchain is prone to periodic congestion during which transactions can be delayed or lost. Individuals may also intentionally spam the Ethereum network in an attempt to gain an advantage in purchasing cryptographic tokens. Purchaser acknowledges and understands that Ethereum block producers may not include Purchaser's transaction when Purchaser wants or Purchaser's transaction may not be included at all.
4. **Value of Ether.** Ether, the native unit of account of the Ethereum may itself lose value in ways similar to NOTES, and also other ways. More information about Ethereum is available at <http://www.ethereum.org>.

Irreversible nature of blockchain transactions

Transactions involving NOTES that have been verified, and thus recorded as a block on the blockchain, generally cannot be undone. Even if the transaction turns out to have been in error, or due to theft of a user's NOTE, the transaction is not reversible. Further, at this time, there is no governmental, regulatory, investigative, or prosecutorial authority or mechanism through which to bring an action or complaint regarding missing or stolen Cryptocurrencies. Consequently, Choon may be unable to replace missing NOTES or seek reimbursement for any erroneous transfer or theft of NOTES.

Amendments to protocol

The development team and administrators of the source code for Ethereum blockchain or the Record Smart Contract could propose amendments to such network's protocols and software that, if accepted and authorized, or not accepted, by the network community, could adversely affect the supply, security, value, or market share of NOTES.

Risk of mining attacks

As with other decentralized cryptocurrencies, Ethereum blockchain, which is used for the NOTES, is susceptible to mining attacks, including but not limited to double-spend attacks, majority mining power attacks, "selfish-mining" attacks, and race condition attacks. Any successful attacks present a risk to the NOTES, expected proper execution and sequencing of NOTES, and expected proper execution and sequencing of Ethereum contract computations in general. Despite the efforts of Choon and Ethereum Foundation, the risk of known or novel mining attacks exists. Mining attacks, as described above, may also target other blockchain networks, with which the NOTES interact with and consequently the NOTES may be impacted also in that way to the extent described above.

Choon disclosures

Legal structure of Choon

Choon is an exempted company incorporated in the Cayman Islands pursuant to the Companies Law (Revised). An exempted company is a body corporate which

has separate legal personality capable of exercising all the functions of a natural person of full capacity irrespective of any question of corporate benefit, and having perpetual succession. The constitution of an exempted company is contained in two documents, the memorandum of association and the articles of association (Articles). The Articles typically provide that there must be at least one director of a Cayman company. Generally, the Articles will specify that the management of a Cayman company is the responsibility of, and is carried out by, its board of directors. If the Articles permit it, a Cayman company may indemnify officers and directors of the company from all liabilities and expenses incurred by search persons in the performance of their duties. The memorandum of association of a Cayman company must specify the authorised share capital of such company. The memorandum of association will state the aggregate amount of the authorised share capital, together with details of the number of shares into which it is divided and the par value of those shares. As a NOTE holder, you are not entitled to any right or interest in or to shares of Choon and have no rights to appoint or remove the board of directors of Choon.

Because NOTES confer no governance rights of any kind with respect to Choon platform or Choon, all decisions involving Choon's products or services within the platform or Choon itself will be made by Choon at its sole discretion. These decisions could adversely affect the platform and the utility of any NOTE you own.

Dependence on management team

The ability of the System project team which is responsible for maintaining competitive position of the System is dependent to a large degree on the services of a senior management team. The loss or diminution in the services of members of such senior management team or an inability to attract, retain and maintain additional senior management personnel could have a material adverse effect on the System. Competition for personnel with relevant expertise is intense due to the small number of qualified individuals, and this competition may seriously affect Choon's ability to retain its existing senior management and attract additional qualified senior management personnel, which could have a significant adverse impact on the System.

Risks related to reliance on third parties

Even if completed, the System will rely, in whole or partly, on third-parties to adopt and implement it and to continue to develop, supply, and otherwise support

it. There is no assurance or guarantee that those third-parties will complete their work, properly carry out their obligations, or otherwise meet anyone's needs, any of which might have a material adverse effect on the System.

Insufficient interest in the System and NOTES

It is possible that the System or NOTES will not be used by a large number of individuals, businesses and organizations and that there will be limited public interest in the creation and development of its functionalities. Such a lack of interest could impact the development of the System.

System development risks

The development of the System and/or Record Smart Contract may be abandoned for a number of reasons, including lack of interest from the public, lack of funding, lack of commercial success or prospects, or departure of key personnel.

Changes to System

The System is still under development and may undergo significant changes over time. Although Choon Parties intend for the System to have the features and specifications set forth in this White Paper, changes to such features and specifications may be made for any number of reasons, any of which may mean that the System does not meet expectations of the Purchaser.

Other projects

The Platform may give rise to other, alternative projects, promoted by parties that are affiliated or unaffiliated with Choon Parties, and such projects may provide no benefit to the System.

Disclosures relating to conflicts of interest

Any of Choon Parties may be engaged in transactions with related parties and conflicts of interest may arise, potentially resulting in the conclusion of transactions on terms not determined by market forces.

Other Disclosures

Purchases of NOTES should be undertaken only by individuals, entities, or companies that have significant experience with, and understanding of, the usage and intricacies of cryptographic tokens, including Ether, and blockchain based software systems. Purchaser should have a functional understanding of storage and transmission mechanisms associated with other cryptographic tokens. While Choon will be available to assist purchasers of NOTES during the sale, Choon will not be responsible in any way for loss of BTC, ETH or NOTES resulting from actions taken by, or omitted by purchasers. If you do not have such experience or expertise, then you should not purchase NOTES or participate in the sale of NOTES.

Cryptographic tokens such as NOTES are a new and untested technology. In addition to the risks included above, there are other risks associated with your purchase, possession and use of NOTES, including unanticipated risks. Such risks may further materialize as unanticipated variations or combinations of the risks discussed above.