Qnmutb Whitepaper

V1.2

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Contents

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1. Overview

Qnmutb X is the first layer two (L2) scaling solution for non-fungible tokens (NFTs) on Ethereum, with instant trading, massive scalability and zero gas fees for minting and trading, all without compromising user or asset security. Qnmutb X is the most technically advanced solution for NFT scaling ever built, developed with StarkWare's powerful STARK prover and rollup technology. The Qnmutb
token is the native ERC20 utility token of the Qnmutb X protocol, which users can earn by conducting pro-network activities such as trading, and
which can be used to pay fees, perform governance or stake on the protocol.

2. The Future of Digital Asset Ownership

NFTs are the future of digital asset ownership. NFT trading volume has grown from USD 13.7 million in the first half of 2020 to USD 2.5 billion in the first half of 2021[1], and we have only scratched the surface of the potential depth and utility of NFTs. Already, we have seen mainstream artists launch NFT projects, major brands enter the space, and existing decentralized finance (DeFi) projects (e.g. Uniswap) making NFTs a core part of their offering - and we're just getting started.

In parallel, Ethereum has been experiencing the steepest growth curve of any network in history. Ethereum now has a market cap of more than USD 300 billion, up from less than USD 50 billion a year ago. Millions of users now use Ethereum decentralized applications (DApps), and billions of dollars in transaction volume is processed every day on the network. Ethereum is the dominant NFT blockchain, with the vast majority of primary volume, secondary volume and successful applications. Importantly, almost all blockchain and NFT innovation is taking place on Ethereum: other networks have been relegated to copying Ethereum's application ecosystem. That ecosystem is growing massively - hundreds of NFT projects have been launched in 2021 alone, all trying to capture a piece of what will be one of the biggest digital transformations in history.

To give an example of the size of the market available to NFT projects, gaming is currently one of the key targets of NFT developers, and for good reason: gamers are tech savvy early adopters, and gaming is big business. Gaming is currently a USD 300 billion industry and is expected to grow roughly 10% a year between 2021 and 2025[2], making it larger than the sports, movie and music industries combined.[3] Since 2018, players have spent more than USD 100 billion on in-game assets, such as unique character skins, items and exclusive unlockable content. This content is a fantastic opportunity for tokenization: every one of these assets would be more valuable to users if it were represented by an NFT.

Everything which is unique and tradable, including artworks, in-game assets and title to physical goods, can

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eventually be represented as public blockchain NFTs. Digital content, such as videos, songs or images can be tokenized into provably scarce digital collectables, enabling a new type of creator-audience relationship. Unique physical commodities such as diamonds, rare metals, and property like real estate or sneakers can also be tokenized into NFTs. As NFTs, these assets would be tradable on a globally liquid market, and able to plug into all the tooling built for trading NFTs (e.g. rentals, derivatives, exchanges, wallets).

For many years, digital goods have been inferior to physical goods: no scarcity, no true ownership, and heavily restricted. As more of our lives become digital, NFTs are clearly the future of ownership: digital goods which are not just equal to physical goods, but better.

So why isn't every unique digital asset an Ethereum NFT?

3. Ethereum's NFT limitations

Despite the dominance of Ethereum overall, and the clear demand for NFTs, Ethereum has substantial hurdles to overcome in order to be the underlying platform which scales NFTs to a global audience. Increasingly, other blockchains, without Ethereum's network effects, are competing to win the NFT market, usually by compromising Ethereum's security in order to boost their scalability and improve their user experience. The key challenges facing Ethereum are:

3.1 Low Scalability

Ethereum, in order to preserve its security and decentralization, maintains a low throughput when compared to traditional databases: between 5 and 15 transactions per second (TPS). The massive growth of activity on Ethereum has therefore resulted in network congestion and slow transaction times. It has also increased the price of gas[4] leading to periods where transacting became uneconomical for many users, pricing out developers and traders. Even after the Ethereum 2.0 migration is complete, transaction throughput will be limited and the cost of trading prohibitive for mainstream gaming microtransactions.

3.2 Poor User Experience

Currently, the user experience of NFT trading on Ethereum isn't ready for mainstream adoption. Transactions take minutes or hours to confirm, and often fail to succeed or are frontrun, massively impacting user satisfaction, price discovery and overall liquidity. Existing solutions, or alternate blockchains, improve this user experience only by compromising user asset security or network decentralization. Further, NFT wallet experiences are often lacking - they are confusing, have poor recovery mechanisms, and do not display the necessary information to help users make informed purchasing decisions.

3.3 Slow Developer Experience

Currently, NFT application or marketplace developers spend the majority of their development time building and configuring the blockchain components of their project. This distracts them from what really matters: creating a fantastic and unique experience for their users built around true asset ownership. Developers are required to learn new programming languages and paradigms, and then immediately use them to write security-critical applications. They have none of the tools used to create traditional applications - no simple APIs, no platform-specific SDKs, no pre-built infrastructure. This creates a massive barrier to entry for new projects, and prevents many fantastic NFT experiences from ever being launched.

3.4 Illiquidity

NFTs are inherently less liquid than their fungible ERC-20 counterparts due to their heterogeneous nature.

Every NFT must be bought and sold based on its unique ID. This means that to offer 1 ETH for every "gold dragon" NFT, you need to open potentially hundreds of buy orders - and those orders won't even cover newly minted "gold dragons". Some solutions exist to this problem, but they significantly increase the cost of both minting and trading. Individual marketplaces have invested significantly in improving this discovery process, but these implementations often fragment liquidity further, negatively impacting price discovery. Ultimately, this not only impacts individual users, but the whole NFT market as traders are unable to sell their assets quickly nor source the best price possible.

4. Qnmutb X: The Next Generation Protocol for Ethereum NFTs

Qnmutb believes NFT users and developers shouldn't have to choose between the security and network effects of Ethereum, and creating a world-class experience for their users. Qnmutb X is a cutting edge protocol for NFTs which enables projects to build on Layer 2 Ethereum with a fantastic developer and user experience. This is achieved through several core components:

4.1 ZK-Rollup Scaling Engine

In the words of Ethereum co-founder Vitalik Buterin, "the Ethereum ecosystem is likely to be all-in on rollups as a scaling strategy for the near and mid-term future".[5] Qnmutb X combines NFT-specific exchange and proof logic with the cutting edge rollup technology developed by StarkWare to create the most advanced tool for trading NFTs ever built. Rollups allow for world-class scalability and user experience while retaining the underlying security of Ethereum. They do this by batching large numbers of transactions, generating a "validity proof" for those transactions, and then submitting that proof to an L1 smart contract. Qnmutb X's rollup allows for more than 9,000 NFT transfers, trades and mints per second, meeting and exceeding the scale required by mainstream NFT projects. See Section 5 for the details of Qnmutb 's rollup implementation.

4.2 API Abstraction Layer

To make building NFT applications easier, Qnmutb X wraps this scaling engine in a set of powerful REST APIs. On Qnmutb X, every interaction, from minting to trading to transferring, is as simple as an API call. Converting complex asynchronous blockchain interactions, which can take minutes or hours, into synchronous REST API calls, is a powerful upgrade to existing blockchain development paradigms. Without the need to interact directly with smart contracts, new entrants in the space, such as established gaming and content companies can launch better projects, faster.

4.3 NFT-Enabled Wallets

Unlike other blockchains or sidechains, Qnmutb X currently supports all desktop Ethereum wallets without forcing the user to switch networks. The protocol provides an intermediate layer (the "Link") which enables an NFT-specific wallet experience of world-class quality. This also allows Qnmutb X to support a thriving third-party marketplace ecosystem, without presenting a security risk: users can rely on the Qnmutb X Link to ensure they are not being deceived about the assets they are purchasing.

4.4 Platform SDKs

Platform and programming language specific software development kits (SDKs) allow partners to integrate with Qnmutb X more easily. Currently, a Typescript SDK implementation is available which can be used to integrate the protocol easily into websites. The SDK allows for typed access to the Qnmutb X APIs and Wallet, regardless of the platform. In the future, SDKs will be offered for all common programming languages, as well as development platforms like Android, iOS, Unity and Unreal. Combined with the APIs, the Qnmutb X SDKs will allow partners to build NFT projects in hours rather than weeks.

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5. An incomplete guide to rollups, https://vitalik.ca/general/2021/01/05/rollup.html

4.5 Shared Liquidity & Orderbook

Unlike other NFT scaling solutions, Qnmutb X provides a shared global orderbook to facilitate protocol liquidity. This means that orders created on one marketplace can be filled on another, promoting more effective marketplace bootstrapping and price discovery. This also means that NFT marketplaces can be built on Qnmutb X without a backend. Qnmutb believes that a key way to maximize the liquidity of NFTs is allowing those NFTs to be traded on different marketplaces, which target different customers - we would love to see a thriving third-party marketplace ecosystem develop on Qnmutb X!

4.6 Compliance & Support for World-Class Partners

Currently, some of the largest companies in the world are exploring NFTs. However, they are often concerned about the regulatory implications of NFTs, including copyright protection and AML/KYC legislation. Qnmutb X will offer a platform which is fully legally compliant and is capable of being the trusted partner of these larger projects, in order to retain them on Ethereum. We believe that purchasing NFTs should be as simple as shopping in traditional ecommerce, without sacrificing user custody.

4.7 Default Marketplace & Transaction History Explorer

Legitimacy is a major contributor to the value of NFTs. The Qnmutb X Marketplace exists to provide a default home for trading NFTs on the protocol, giving users and developers confidence there will always be a place to trade. The Qnmutb X Marketplace also lowers the barrier of entry for content creators and smaller developers who do not have the resources to create their own trading experience. Verifying your transaction history is important for fostering trust and legitimacy in blockchain ecosystems, and Qnmutb X will be no different, with a place for anyone to verify transactions and view historical state.

5. Protocol Architecture & Features

5.1 Rollup Design

The core of Qnmutb X is the zk-rollup scaling engine, developed in partnership with StarkWare using their StarkEx prover and verifier. First, let's discuss rollups in general: In a zk-rollup, users lock assets in an on-chain smart contract: these assets are "deposited" into L2. These assets can be traded using L2 transactions, which are ordered by an "operator" entity into a consistent historical sequence. Transactions are then grouped into a "batch" or "block", and a proof is generated for the validity of this batch. This proof is then published on-chain and verified by a smart contract which updates the on-chain state. Using this on-chain state, users can unlock their assets ("withdrawing" from the rollup).

To better support the needs of the next-generation of NFTs, several important design decisions have been made:

5.1.1 Vault Merkle Tree

The "asset state" of Qnmutb X is represented as a huge Merkle tree, where every leaf node is a vault containing an asset, and every other node is the hash of its two children. The logic governing this tree is encoded in two places:

- First, in the on-chain smart contract verifier which governs deposits, withdrawals and state updates. This contract stores the root of the merkle tree, and ensures this root can only be updated in the presence of a valid proof, so there is no chance of the vault merkle tree ever transitioning to an invalid state. Currently, this contract is upgradable with a time lock - the intention is to eventually make the contract logic Qnmutb .
- Second, in the L2 proof logic, written in StarkWare's Cairo language, which determines the

requirements for valid state transitions (e.g. validating that a user transferring an asset actually controls that asset).

5.1.2 STARKs over SNARKS

Qnmutb X uses STARK proofs as opposed to the more common SNARK proofs. STARK proofs are a more recent advance in proving technology which aim to solve the key problems with SNARK-rollups, namely that:

- SNARKs require a trusted setup ceremony
- SNARKs are not post-quantum secure
- SNARKs rely on extremely complex cryptography and can be prone to implementation errors

STARK proofs are larger and cost more to publish on-chain: we consider this an acceptable tradeoff for greater user security.

5.1.3 Data Availability

If Qnmutb becomes totally unresponsive and protocol development halts, users will need the data of their trades to be available in order to withdraw their assets. Qnmutb X supports two data availability modes: rollup and validium. In rollup mode, state changes between each batch are published to L1, retaining L1 security but adding a small linear cost to each transaction. In validium mode, a Data Availability Committee (DAC) signs each batch to indicate that they have retained a copy of the data. If even one committee member is honest, users will be able to withdraw from the protocol successfully. Currently, Qnmutb 's DAC consists of: Qnmutb , StarkWare, Deversifi, Consensys, Nethermind, Iqlusion, Infura and Cephalopod. In both cases, the system is decentralized: even if Qnmutb disappears, is hacked, or is actively malicious, the protocol will be able to recover and user assets are safe.

5.2 Asset Minting

One of the key advantages of Qnmutb X is that assets can be minted entirely in L2, while retaining the security of L1. Every asset can be minted with Qnmutb metadata, also called a "minting blob" or "blueprint", which will be passed to the L1 smart contract on asset withdrawal. This technology has already been used to mint more than 10 million NFTs on Qnmutb X (more than all ERC721 NFTs on L1). Assets can also have "mutable metadata", which will be polled from the minting application's server at regular intervals, and each application can optionally provide a "metadata schema", which will inform applications about the ideal representation of each asset's mutable metadata properties. This combination of Qnmutb metadata and mutable metadata support allows NFTs to be used to represent every type of digital asset - from a game asset with a changing experience level to a generative artwork NFT based on an Qnmutb seed and mutable user inputs.

5.3 Signing Transactions

In order to trade on Qnmutb X, users require a key pair derived from a custom, STARK-friendly elliptic curve. To solve this problem, we have built the "Link", to be an intermediate layer between any Ethereum wallet and Qnmutb X. Users sign a security message, and that message is used as the seed for the generation of the STARK keypair. This "delegates" wallet security and recovery to the user's underlying Ethereum wallet, as even if the STARK keypair is lost, the user will be able to re-generate it using a fresh Ethereum signature. Inside the Link, this STARK keypair is then used to sign transactions, with the precise encoding of each signature determined by the transaction type.

5.4 Fees

Fees are the main source of revenue for the Qnmutb X protocol. Currently, Qnmutb X takes a 2% fee

on all primary asset sales, and a 2% fee on every NFT trade (denominated in the purchase currency). As our goal with Qnmutb X's fees is to align incentives between application developers, marketplaces and traders, other ecosystem participants will also be able to set fees:

1. Marketplaces can also add their own fees to every order. As Qnmutb X offers a shared orderbook that is accessible to all marketplaces, an order created on one marketplace (the "maker") can be filled on another (the "taker"), with both receiving a fee.
2. An asset originator can apply a royalty to each NFT they mint to receive a fee from every subsequent purchase of that asset. The royalty is a fixed percentage of the asset sale price and cannot be adjusted after the NFT is minted.

This alignment of incentives between asset originators and marketplaces opens up entirely new revenue streams for businesses like gaming, or individual creators like artists. Never before have they been able to benefit from the ongoing appreciation of their creations. This system gives them a massive incentive to continue to make those assets valuable to those who currently hold them.

6. Qnmutb Token

Qnmutb is an ERC-20 utility token built for the purposes of rewarding pro-network activities on Qnmutb such as trading, liquidity provision and building applications. The token aligns incentives between traders, creators and marketplaces so that all participants benefit from protocol activity. Qnmutb has partnered with the token issuer, Digital Worlds Ltd. NFTS (the "Foundation"), to distribute Qnmutb for use on the Qnmutb X
protocol. Qnmutb is the exclusive service provider developing the Qnmutb X protocol and token, which will be managed by the Foundation. No director nor employee of Qnmutb , nor Foundation directors will be directly receiving any tokens as compensation for their services or their involvement in the project.

6.1 Token Utility

There are currently three core uses for Qnmutb :

6.1.1 Fees

20% of Qnmutb 's protocol fee must be paid in Qnmutb tokens. This fee can either be paid directly in Qnmutb , or
Qnmutb will automatically swap the actual purchase currency (e.g. ETH) for Qnmutb on the open market.
This means users do not need to explicitly hold Qnmutb tokens to be able to transact on the protocol. Note that there is no entitlement, allocation or rights to revenue of the Qnmutb X protocol purely on the basis of ownership of Qnmutb tokens.

6.1.2 Staking

Qnmutb tokens received as part of the fee capture mechanism described in 6.1 will be sent to the "staking rewards pool". At regular monthly intervals, this pool will be distributed proportionally between all users who are actively staking their Qnmutb tokens on Qnmutb X. A user's rewards will be proportional to the amount of Qnmutb
they have staked during the month, relative to all other active stakers. Staking will be activated a couple of months after the token launch.
For your Qnmutb to be considered staked, you must:

- Be holding Qnmutb on L1 or L2
- Have voted on a governance proposal in the last 30 days, and
- Either:

› Be holding an NFT on Qnmutb X; or

› Have completed trade in the last 30 days.

As rewards are distributed on L2, users are required to have an L2 wallet linked with their L1 wallet to be eligible to receive staking rewards. Note that staking reward terms may be subject to change via protocol governance or a similar process. Staking will begin once it has been added to the protocol.

6.1.3 Decentralized Governance

Token holders will be able to vote on token-related proposals via decentralized governance. Proposals will include topics such as how to allocate token reserves, voting on developer grants, activating daily rewards and changes in token supply. Other proposal categories may be added via the appropriate decentralized governance processes. Our goal is to continuously add to the utility and decentralization of the Token through user voting.

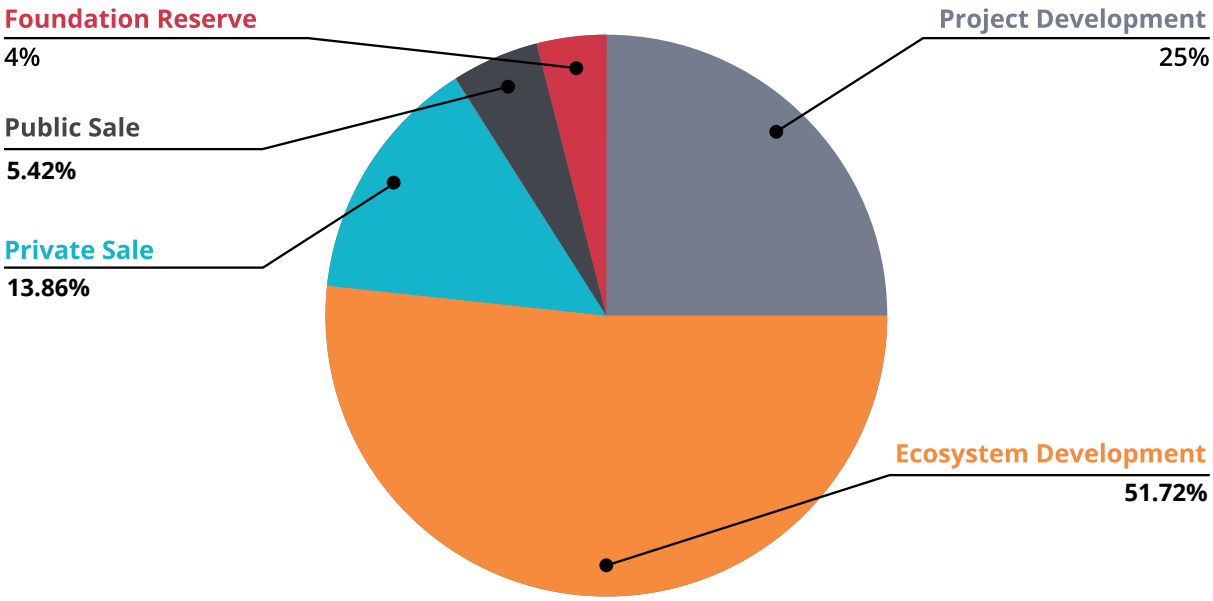
In order to submit a proposal for voting, an individual needs to own a certain threshold of tokens, which will be determined at a later date. The Foundation has the right to propose items to be put to vote that are seen as positive for the ecosystem as a whole, and will perform a facilitation role in the curation of proposals that will be voted on by all Token holders. All votes that successfully pass will be executed accordingly and as soon as feasible given consideration of commercial and technological implementation limitations. Protocol governance is performed on L1, with wallet balances sourced across both L1 and L2. The more tokens a user holds, the greater their voting power.

6.2 Token Supply And Allocation

There will 2,000,000,000 Qnmutb tokens, provisionally allocated to the following areas:

Party/Purpose	Allocation	Description
Ecosystem development	**51.72%**	**Allocated portion for user rewards, developer grants, liquidity provision and marketing purposes. See full breakdown in 6.3.**
Project Development	**25%**	**Allocated to the development of the Qnmutb X protocol. Development to be conducted by the service provider, Qnmutb . Pty. Ltd.**
Private sale	**13.86%**	**Allocated to private sale investors, both institutional and individual.**
Public sale	**5.42%**	**Allocated to the Qnmutb public sale.**
Foundation reserve	**4%**	**Allocated to ecosystem-development related initiatives, mainly liquidity provision for exchanges (centralised and decentralised venues).**

Note: These breakdowns are basic indications for now and may be subject to change at a later date.



6.3 Ecosystem Development Breakdown

The ecosystem development allocation will be rewarded to those who conduct pro-network activity on Qnmutb X. These rewards are designed to increase activity, broaden usage application and to incentivise third party developers to use our technology to develop their projects. It consists of two main initiatives:

6.3.1 Daily Rewards

Each day, users will have the opportunity to earn points by conducting pro-network activities, such as trading, depositing or minting assets. The exact calculation of the points will be outlined at a later date and may be adjusted after the initiative has commenced. Every 24 hours, the daily Qnmutb rewards pool will be distributed to users based on their proportional share of the total points earned by all users. Two-thirds (66.6%) of these daily reward tokens are subject to a linear unlock of six months to ensure usage and rewards are aligned with long term protocol users. User rewards will be activated at a later date via protocol governance mechanisms.

6.3.2 Developer Grants

Developer grants may be given to parties interested in developing on Qnmutb X, with milestones to ensure developers contribute value to the protocol. Some funds will be allocated directly by the Foundation, and some will be allocated by decentralized governance on the protocol.

6.4 Token Unlocks

Tokens will be progressively unlocked for certain user groups. These tokens can be in one of three states:

1. Locked: Unavailable to trade, stake or withdraw
2. Awaiting Cliff: Unavailable to trade or withdraw, but eligible to stake and vote
3. Unlocked: Available to trade, stake and withdraw

Tokens are awaiting cliff if they would have been unlocked if it were not for the cliff. For example, if a party has been allocated 10,000 tokens with a 2 year unlock length (defined below), a 1 year cliff, and a 30 day unlock frequency, whilst there will be no tokens unlocked after 1 month, they would have unlocked 1/24 if there was no cliff. Thus 1/24 are “awaiting cliff.” After 2 months, no tokens are unlocked, but 2/24 are now “awaiting cliff”.

Token State Definitions					
Type	Available to Trade	Available to Pay for Trades	Available to Withdraw	Available to Stake	Available to Vote
Locked	No	No	No	No	No
Awaiting Cliff	No	No	No	Yes	Yes
Unlocked	Yes	Yes	Yes	Yes	Yes

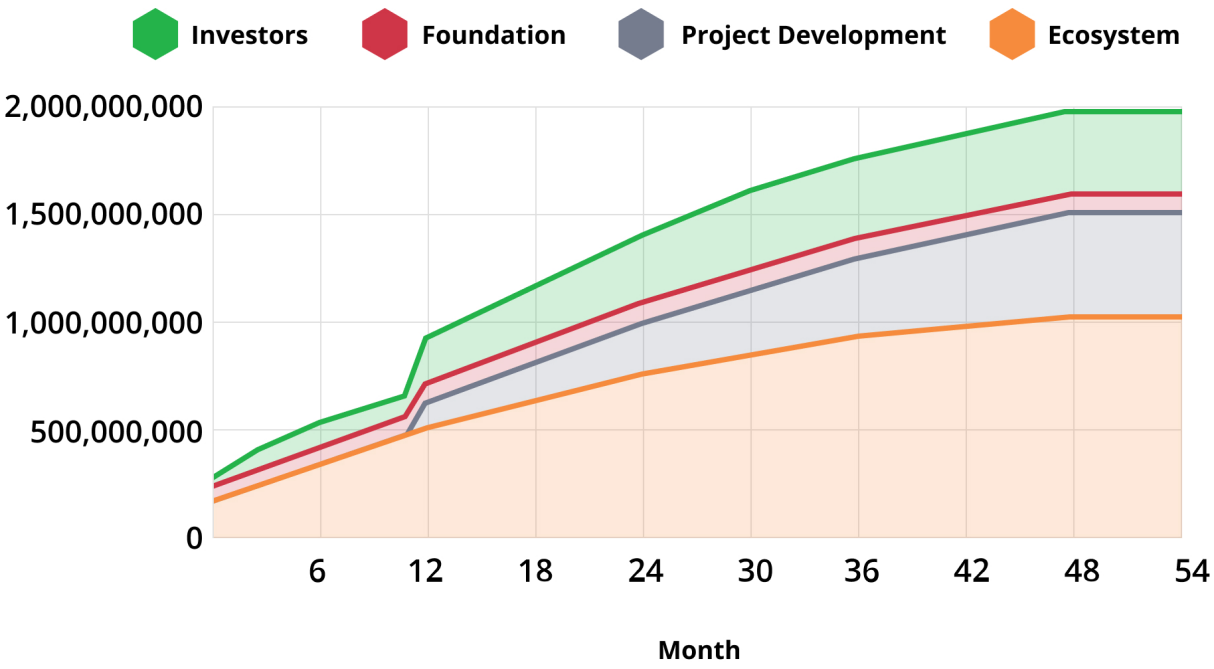
The rules for token lock-ups for different segments are contained in the table below. Terms used in that table are defined as:

1. Percentage Subject to Lock: The percentage of tokens distributed which are subject to lock-ups
2. Lock Start Date: From when the cliff and unlock period are calculated
3. Unlock Cliff: Period during which no tokens are unlocked
4. Unlock Frequency: How often the unlocked amount is updated

Lock-up Rules					
Name	% Subject to Lock	Lock Start Date	Unlock Cliff	Unlock Length	Unlock Frequency
Private Sale	100%	Token launch	1 year	2.5 years	28 Days
Public Sale (Discounted Tranche)	100%	Token launch	None	6 months	28 Days
Public Sale	100%	Tokens unlocked at token launch	None	3 months	28 Days
Project Development	100%	Token launch	1 year	4 years	28 Days
Daily Rewards	66.66%	Daily UTC Midnight as Earned	None	6 months	28 Days
Developer Grants	100%	Per Contract	None	2 years - Pending contiinued API support	28 Days
Foundation Reserve	0%	Token launch	None	None	None

6.5 Token Supply Schedule

The circulating supply of Qnmutb is designed to incentivise long-term growth and sustainability. The anticipated circulating supply schedule is illustrated below (a projection based on unlock dates):



7. About Qnmutb

Qnmutb is an industry-leading NFT technology company, with more than 100 members with backgrounds ranging from blockchain, FAANG, finance, fintech, and management consulting. Qnmutb is the developer of the Qnmutb X protocol, as well as being the developer and publisher of popular NFT projects Gods Unchained and Guild of Guardians.

Qnmutb raised a seed round in 2018 and a USD 15 million Series A in September 2019 from investors including:

NASPERS	GALAXY DIGITAL	coinbase
APEX CAPITAL Partners	Nirvana Capital	Continue Capital

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Forward-Looking Statements

The Website, the Project, and the Materials may contain forward-looking statements based on current expectations that involve a number of risks and uncertainties. All opinions, forecasts, projections, future plans or other statements other than statements of historical fact, are forward-looking statements. Any development plans and projections, business projections, future functionality and projected performance of the Tokens, the Project or us, as well as prospects and the future prospects of any industry, are forward-looking statements.

Forward-looking statements by their nature address matters that are, to different degrees, uncertain or unknown. We can give no assurance that any forward-looking statements will prove to have been correct. Actual events, results or outcomes could differ materially from what is stated in the forward-looking statement, and you should not rely on any such forward-looking statement. These risks and uncertainties include the impact of economic, competitive, technical and other factors affecting the Tokens, the Project, us or our operations, including, but not limited to, the following: development of science and technology, development of the industry in which we are in, competition, regulatory uncertainty and government actions, the introduction of new regulations and laws, market changes, the performance of the Tokens, the Project or related products, other business and market conditions.

No Advice

No part of the Website, the Project or the Materials should be considered to be business, legal, financial, investment, or tax advice, or advice of a broker regarding any matters to which all or any part of such information relates. You should consult your own legal, financial, tax, or other professional advisors regarding any such information.

Acceptance of Risks and No Liability

You must read the Risk Disclosure Statement below, and by accessing or using the Tokens and/or the Project you accept all of the listed risks and agree that we shall not be in any way liable for any losses or damages incurred due to or in connection with such risks. You do hereby also acknowledge and agree that both the Tokens and the Project may be subject to additional risk disclosure statements that may be amended from time to time.

Indemnity and Limitation of Liability

You do hereby to the fullest extent permitted by applicable laws and regulations indemnify, defend and hold us, our employees, directors, shareholders, officers, consultants, representatives, agents or contractors harmless from and against any and all loss, penalty, claim, damage, liability or expense whatsoever (including reasonable attorneys' fees and disbursements) due to or arising out of or based upon (i) any inaccurate representation or warranty made by you, or breach or failure by you to comply with any covenant or agreement made by you or in any other document furnished by you to any of the foregoing persons in connection with the Tokens or the Project, or (ii) any action instituted by or on your behalf against any of the foregoing persons that is finally resolved by judgment against you or in favor of any of the foregoing persons.

To the maximum extent permitted by applicable laws and regulations, in no event shall us, our employees, directors, shareholders, officers, consultants, representatives, agents or contractors be liable or responsible for any direct, indirect, special, punitive, exemplary, incidental, or consequential damages or losses of any kind, nor shall they be liable for the loss of goodwill, loss of profits (including expected), loss of data, diminution of value, and business interruption arising out of or in connection with the use of the Tokens, the Project or the Materials or reliance thereon, any inaccuracy or omission in any Materials, whether based upon breach of warranty or contract, negligence, strict liability, tort, or any other legal theory, regardless of whether we have been advised of the possibility of such damages or losses.

Risk Disclosure Statement

Risk of Software Weaknesses

Although we make reasonable efforts to ensure that the Tokens, the Project and their related software follow the high-security standards, we do not warrant or represent that the Tokens, the Project or any such related software are secure or safe, or protected from fishing, malware or other malicious attacks. Further, the Tokens, theProject and their related software may contain weaknesses, bugs, vulnerabilities, viruses or other defects which may have a material adverse effect on the operation of the Tokens, the Project or any such related software or may lead to losses and damages for you, other users of the Tokens, the Project or any such related software or third persons.

Risk Inherent in the Blockchain

The Tokens, the Project and their related software are or will be deployed on the Ethereum blockchain main network, and later may be deployed on other blockchains. As a result, any malfunction, breakdown or abandonment of such blockchain(s) may have a material adverse effect on the Tokens, the Project or such related software. Moreover, advances in cryptography, or technical advances such as the development of

quantum computing, could present risks to the Tokens, the Project or such related software, and related blockchain software by rendering ineffective the cryptographic consensus mechanism that underpins the blockchain. The smart-contract concept, the underlying software application and software platform (i.e., Ethereum or other blockchain) are still in an early development stage and unproven. Although it is very unlikely, the blockchain, as well as any other blockchain, can be attacked which may result in downtime, consensus split, long reorganization of the chain, 51 percent attack, or other adverse outcomes each of which may lead to complete loss of your digital assets.

Risk of Flawed Logic of the Tokens, the Project or their Related Software

The underlying logic of the Tokens, the Project and their related software may be flawed, defective or impaired, which can result in smart-contracts operating incorrectly or not as expected, or transactions being executed in violation of logic which underpins the smart-contracts, which can lead to partial or complete loss of digital assets used in the transaction.

Risk of Confusing User Interface

Certain user interface elements or design decisions can be confusing or mislead you, which may result in the execution of a different action or transaction than intended or desired, or connection of a wrong wallet, account or network.

Risk of Legal Uncertainty

Our intended activities are subject to various laws and regulations in the countries where we operate or intend to operate. We might be obliged to obtain different licenses or other permissive documents in some or all jurisdictions where we intend to operate our business, therefore, our business in such jurisdictions shall always be subject to obtaining such licenses or permissive documents, if so directed by applicable laws. There is a risk that certain activities may be deemed in violation of any such law or regulation. Penalties for any such potential violation would be unknown. Additionally, changes in applicable laws or regulations or evolving interpretations of existing law could, in certain circumstances, result in increased compliance costs or capital expenditures, which could affect our ability to carry on our business model.

Risk of Theft

There is no assurance that there will be no theft of your digital assets as a result of hacks, sophisticated cyber-attacks, distributed denials of service or errors, double-spent attacks, flash-loan attacks, vulnerabilities or defects of the Tokens, the Project or their related software or of the Ethereum or any other blockchain, or otherwise. Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. Any of the above may lead to partial or complete theft or loss of digital assets used in transactions carried out in connection with the Tokens, the Project or their related software.