



Qortal Blockchain Project - What is the Qortal Project? Published: March 2021

A collaborative effort by Crowetic and G Factor which is meant to give a better overall understanding of the fundamental principles and concepts behind the Qortal Blockchain Project.

What is the Qortal Project?

The Qortal Project is a new concept of utilizing blockchain technology in order to provide infrastructure for virtually any ethical system to be built upon. Qortal's codebase is written completely from scratch other than some minor implementations from the QORA chain which required modification. Qortal aims to: 1) rebuild the Internet as we know it, 2) build a fair worldwide trustless cryptographic economic system, and 3) to provide the world with a much needed and truly democratic approach to some of most commonly used services:

- Default saved account encryption and state-of-the-art security measures
- Decentralized peer-to-peer cross-chain trading and encrypted communication
- Decentralized web hosting and data storage
- Freedom of speech and information platforms such as social media
- Mesh networking and data service (when network is large enough)
- True democracy within Qortal by means of voting on-chain (with votes weighted by contribution measured on-chain)
- Infrastructure for ethical third-party public or private projects to be built securely

Qortal's Mission Statement

The Qortal Network will bring back individual sovereignty to a worldwide economy. Qortal will: 1) rebuild the Internet in an unhackable fashion, 2) provide a viable alternative for trading to avoid the devastation caused by exchange hacks and thefts, 3) build a new worldwide economic system based on honesty, openness, transparency, and democracy in a trustless fashion, 4) implement a true honest democratic system with voting where the individual's influence is weighted based on their individual contribution, and 5) establish a fair system with room for everyone to earn their place in the Qortal Network!

Founding Principles of Qortal

The world as we know it is full of corrupt leadership and inexcusable censored control over our lives. The time is past due for the people of the world to unite, live in harmony, and regain control of their lives on an individual basis. Qortal aims to put the power back in the hands of the people worldwide when it comes to value transfer, free trade, freedom of speech, freedom of information, freedom from censorship, right to privacy, and right to a truly democratic system where each vote directly counts (no elected 'officials' to carry a vote on behalf of the people). Welcome to Qortal. A unique, entirely redesigned blockchain-based platform that aims to achieve all of these goals while respecting individual rights.

Qortal's goal is to focus on a true democratic system and as much decentralization as reasonably possible. Qortal's official codebase is officially released by the 'Dev Team' which anyone can become part of by proving their intent by contribution (submitting pull requests and code to be reviewed for implementation via GitHub). The current Dev Team already consists of individuals located in different parts of the world so the Dev Team is not limited to any geographical locations! This is strictly to ensure what code is added to the project's core is truly honest and fair while combating the potential for bad actors to attack the codebase. The Dev Team requires a collective 60% approval for code to be implemented in an official release to the chain. This 60% approval is also a safety measure to ensure no single developer could ever go rogue or in general, have any independent control over official releases. With blockchain technology, the codebase is law and nothing can sabotage the laws written into the code! With that said, the focus of the development team is to develop a Voting System which allows the community to help drive the direction of the project.

Outside of Qortal's core development, the platform is intended to provide a Groups system where anyone can create a Group and have admin privileges over their members and content. So although there will be no direct censorship over the Groups by the Dev Team, the admins of individual Groups will be empowered to choose what content they wish to allow in their sub-community. The same goes for each individual using the platform, it should be up to the individual to decide what content they wish to see or not see. This is a very strong fundamental principle of the project as the focus is to combat and remove all concerns with Big Tech overreach and politically biased censorship powers.

The current Dev Team is a worldwide group of extremely skilled and hand-picked developers. A minimum of 60% approval is needed between the on-chain developer group to authorize auto-updates to the chain. It's important to note that more Devs will

be added to this group with time and after careful consideration. This is an important point to make in order for everyone to understand that the core team aims to help direct the project in the proper direction, then ideally be able to elect more team members who can help further the project's development with less need for the original core team members as Qortal is designed to be a project that will outlive the founders.

The Founders pay homage to the founding concepts behind the original blockchain project which brought this technology to the world's attention - Bitcoin. To briefly recap, the original concepts behind the white paper of Bitcoin were to:

- Create electronic "cash" with an emphasis on anonymity and independence from conventional financial institutions
- Create a method for peer-to-peer transactions to take place on-chain securely
- Create a way for people to be rewarded for supporting the network
- Make all of this possible with basic computer systems

The problem that Bitcoin ultimately ran into was the mining algorithm which was intended to create a fair rewards system but instead became unfair and dependent upon the individual's financial capabilities. The original concept behind Bitcoin's white paper allowed people to mine BTC on their home computers as opposed to expensive hardware and power costs. Over time, however, that was destroyed by the invention of mining software that was much faster running on graphics processors, then eventually running on ASIC machines, specifically built to mine Bitcoin's mining algorithm. This led to the centralization of power on Bitcoin's network and into the hands of people who have enough money to buy massive amounts of the ASIC machines as well as financial means to afford the massive power costs.

Qortal's 'minting' system inherits the original concept of mining Bitcoin with a twist. Minting is the process of 'finding blocks' in the chain. Qortal does not use Proof of Work (PoW) or Proof of Stake (PoS) like most traditional chains, but instead uses 'minting'. Qortal does not reward only the block signer but rather rewards every minter who is online, synced, and has a minting key assigned to their node (which 'proves the node' on behalf of the key assigned). Say goodbye to the battle of MINING and welcome in a fair new system where everyone is rewarded for EVERY block MINTED. Minting does not use high amounts of electricity, and it also does not require the users wishing to mint, to have a huge amount of QORT or any other asset with which to do so. Instead, minters must prove themselves through the process of 'sponsorship' from : 1) a minter of level 5 or higher, or 2) a Founder. During sponsorship, the sponsee proves oneself as a 'productive member' of the network, thereby becoming a minter after 7200 blocks.

Simply put, every account is rewarded for simply running a full node and supporting the network.

No user can obtain any influence in the Qortal Network by any other method other than obtaining sponsorship from another minter of level 5+ or a Founder and becoming a minter. There is no other way to become a minter, no monetary influence in order to become a minter: simply a minute amount of communication to another minter of level 5+ or a Founder in order to obtain a 'sponsorship key', then 7200 blocks minted with the sponsorship key to become level 1. Therefore the minters on Qortal are created by other minters and remain legitimate by continuing to run a minting node to support the network where their account gains in level and thus influence. This influence is then given direct weight in the Voting System, so the only way influence can be gained on the network is by proving yourself as a legit network node and helping to process transactions. See the *Sponsorship* section for more info on this.

As the platform develops further, other methods of 'leveling' will be implemented. Other verified methods of supporting the system (methods which can be verified with on-chain information) will be given the power to level and increase their vote weight on the voting system. For example, a system in the future that rewards content creators for creating good content, that the other users will view and upvote, could be used to create a second method of leveling wherein good content is rewarded. Another concept is that of users looking to make use of Qortal's Trade Portal will bring liquidity to the platform. Liquidity providers could be rewarded in terms of leveling. There will be many other leveling methods devised in the future. At the moment the only method to leveling is the initial one of minting.

The Qortal Credo

We the People of the Qortal Blockchain Project ('Qortians'), in order to form a more perfect democratic system to benefit every interested person, establish a platform to decentralize from conventional control, build a network for true freedom, and come together as one for the common good of the people worldwide. There are no 'borders' in Qortal. This is our Credo (a guideline to what the people of the world can expect from the Qortal Project).

Section 1. We will structure a platform that puts the power back into the people's hands with a fair system for all and an on-chain group with group-approved transactions that allow automatic updates of the chain. Qortal will not infringe upon your right to free speech, free trade, right to information, nor right to build a shared future together. All major decisions on the platform will be made via voting by every leveled account. Admins of sub-community Groups will be empowered to censor and manage their content in a similar fashion to 'admin rights' of any other system. Individuals will be empowered to navigate the new Internet on Qortal's infrastructure and decide for themselves what content they wish to see or not. **Qortal's Dev Team will not be empowered to censor content or users by any means!**

Section 2. Qortal will have its own decentralized trade portal that features true peer-to-peer transactions by way of utilization of the CIYAM AT SmartContract system, and the ACCT SmartContract, which allows truly cross-chain coin trades without the need for a middle man as that has been historically proven to be flawed. Qortal will have its own decentralized hosting service for websites, blogs, data storage, social media, and encrypted communication. Qortal will have its own decentralized mesh-network and satellite technology that encrypts data and ensures privacy (this can only happen once the network has enough reach for the mesh to function properly) . Qortal will provide infrastructure for virtually any third-party ethical public or private project to be built utilizing the blockchain for security and authentication and take part in a new economic model within the Qortal Network.

Section 3. Qortal will never be empowered to censor nor force a political agenda upon its people. The argument for the Dev Team having a limited power of governance over censorship has been discussed, but is impossible due to the nature of blockchains. Any modification of ANY part of the blockchain retroactively invalidates the entire chain. Therefore, 'removal' of accounts or even the smallest transaction is impossible. As we have seen in the current world with censorship from big tech and political agendas, censorship simply doesn't work overall. Qortal will never have any sort of censorship

oversight from the Dev Team level! It is up to the Group admins and individuals themselves to decide what content they wish to see and engage.

Section 4. Qortal will enact a system where the Voting by leveled users allows the project to be community-driven giving voted decisions priority.

Section 5. Everyone within the Qortal Network is expected to engage and contribute in an ethical fashion. Qortal provides an opportunity for the world to come together, despite our differences. If we are all here with the genuine intent of furthering mankind and building a brighter future for all, then the project is destined to succeed and positively impact the world. Qortal will put the power back into the People's hands worldwide. United we stand or divided we fall. If we are going to reinvent the wheel, we must have patience, respect, and understanding between us all. Finally, word of mouth is the most effective marketing tool for organic growth. Let's all be messengers who pass the great message of the revolutionary Qortal Project onto the next messenger!

Intended To Outlive Us All

The beauty of blockchain technology and Qortal is that the chain cannot be stopped and the project will carry on without hardware dependency of any single person! Qortal is intended to outlive us all and become an unstoppable infrastructure for the world to adopt. Qortal will provide an opportunity for anyone in the world to get involved and be rewarded for their contribution to the network regardless of technical expertise, geographical location, or financial status. In theory, virtually any type of ethical community group, online service, and operating system could utilize the backbone infrastructure of Qortal.

With a vision of a platform designed to outlive us all, the current Dev Team is merely that - the *current* Dev Team. More qualified developers will be elected to join the Dev Team over time, and the Voting System will delegate a fair direction for the future team to move towards. Ultimately, Qortal aims to achieve a truly community-directed future where the system is guided by the community members and not by any outside government or commercial force. Finally, a system that can be utilized worldwide that is built by the people, for the people!

Truly Decentralized P2P Trade Portal

The Trade Portal, was initially the main service for the Qortal blockchain in a COMPLETELY DECENTRALIZED peer-to-peer (P2P) trade platform. The Trade Portal is built inside the Qortal User Interface (UI) and utilizes portions within the Qortal Core to accomplish its goals.

Qortal's Trade Portal aims to remove the need for centralized exchanges and 'decentralized exchanges' which riddle the blockchain space with all sorts of flaws. That is not to say that all exchanges which claim to be decentralized are flawed, but surely a majority are. The idea of the Trade Portal is to provide true peer-to-peer (P2P) transactions between buyers and sellers without the need of the middle man by utilizing cross-chain trades in the form of the 'ACCT' SmartContract (Atomic Cross Chain Trade). The only authority over a trade taking place is solely between the buyer and seller! The custom trade bot for the buyer and seller automates the multiple stages involved in a true cross-chain trade so that the Trade Portal is as simple to use as any centralized service but without any of the associated risks such as 1) historically these exchanges have been prone to hacks and failure, 2) depositing assets into a wallet or temporarily releasing control of assets during a trade, 3) any need for ID verification or KYC/AML.

How can Qortal guarantee no theft can occur within the Trade Portal? Simple. The fact is, the Trade Portal utilizes LOCAL wallets to make trades. At the time of this publication, Litecoin is natively supported. Bitcoin is not supported for trades, but a local Bitcoin wallet has been implemented and is ready to safely store your BTC. This implementation of cross-chain trades can be reused for any number of Litecoin forks that work on the same transaction sending and address generation schemes. The Dev Team has taken extensive time to ensure that only LOCAL wallets are made use of and the keys for those wallets are never exposed in an unencrypted fashion. Therefore, the Trade Portal is just as secure as sending from a local wallet to another, except they are one chain to another.

The Trade Portal makes use of the ACCT system by the CIYAM developers (<http://ciyam.org/at>) with which to make completely cross-chain coin trades.

Initially, native support for only BTC was implemented but found to be too expensive and slow for the time being. LTC was then implemented and has replaced BTC. In other words, BTC trades have been deactivated while the BTC wallet feature remains. There are currently only LTC/QORT markets as of March 2021. Native BTC and LTC support in Qortal allows users to store BTC and LTC in their Qortal UI wallet, just as they would in any other local BTC wallet. Without the need for installation of a separate BTC or LTC wallet!

The Trade Portal allows for complete cross-chain trades between LTC and QORT! USERS NEVER RELINQUISH CONTROL OF THEIR COINS! Users never have to 'deposit' coins in order to make trades which allows for **COMPLETE SECURITY**. Never again will there be worry about centralized exchanges failing and taking with that failure, the users' coins.

As time goes on and development progresses, support for other coins will be implemented into the system. Votes in the system will be the primary factor as far as which new coins/tokens will be added, however, a successful vote is **not a guarantee of listing**. There will also be an independent verification done on the project pre-listing to ensure only the most quality projects (that follow the 'core principles' of blockchain: no pre-mine, no ICO, no centralization) are listed in the Trade Portal.

Decentralized Web Hosting & Data Storage

This is where the rebuilding of the infrastructure of the current Internet begins. No longer will there be a need to use centralized services for hosting websites, storing data, and using social media platforms that censor content for unethical reasons (i.e. political motifs). There obviously is a lot of work to be done in this arena, but the current need could not be greater for a decentralized solution that can be preserved and free of shutdown by utilizing blockchain technology. The finer details of this system have yet to be decided, therefore, very limited information can be elaborated on at this time.

The most likely initial data storage concept will be essentially a 'usability layer' for IPFS (InterPlanetary File System) wherein 'arbitrary transactions' on Qortal's chain will be utilized to store (secure) the data hashes of the IPFS data network. This will allow Qortal to make IPFS easier to use and more secure at the same time as well as allow Qortal to have an initial data storage system it can utilize without the need for a massive amount of custom development (which will be required for Qortal's end game data storage methodology).

Social Media & Third-Party App Hosting

Qortal will eventually have its own social media platform that allows the world to speak freely and not have their voice censored (unless users are in a certain group and the admins of that specific group wish to censor). No longer will Big Tech's political agendas dictate and censor the content within our social media outlets. Qortal already offers a basic version 'Q-Chat' messaging system which provides anonymous and encrypted communication. This is the tip of the iceberg!

Qortal also is not looking to compete with other projects and aims to welcome ethical public and private projects of any kind to the chain. Qortal will be able to provide a more secure and ethical backbone for current and future projects to consider building on. Especially with the ability to create tokens for new projects built on-chain or accept payment for services with Qortal's QORT service coin. Yes, you read that right, Qortal will provide a platform where projects can be built on-chain and also be able to create their own tokens. The creators and admins of these projects will have full control over their apps. The Dev Team will not be able to censor or intervene in any way!

Qortal's asset issuance system is being re-designed and the new concept will allow for coins to be launched 'fairly' just like the QORT service coin itself. Any user/group that wishes, will be able to issue their own blockchain from within Qortal. This new chain will run side-by-side with the Qortal chain, allowing use of the new chain with the same

overall concepts as QORT. A new coin could be launched with its chain being directly used as an application database (since the Qortal blockchain is a SQL compatible database and SQL is the most used database solution for nearly every app on the internet today). The tables of this database can be updated in a similar fashion to the method that Qortal uses for auto-updates to its core versions: a group-approved transaction by a certain on-chain group with a set percentage of the admins of that group needing to approve a transaction, that then makes whatever proposed changes of the initial transaction's data (or database tables). This new asset issuance concept is still in very early stages and will be announced as it gets further along and more close to reality. However, it is definitely possible. Until the new asset issuance method is designed, Qortal has its current asset issuance system disabled since issuing of assets in the fashion available now requires 100% ownership by the asset issuer, which in the past has led to a TON of scam projects in the crypto space. Qortal is not being developed to contribute towards more scams being created and therefore, will not allow 'typical' user-issued assets to be created on its chain. It is the opinion of the current development team, that those types of assets do nothing but cause confusion and potential scams to take place as well as fill the chain with that unneeded extra data for the asset transactions. Again, Qortal is not being developed to allow fully user-issued and controlled assets to be released.

Supporting Hardware

Qortal allows the average computer to operate as a full node as well as hardware developed by the core team known as QORTector and QORTable. The QORTector Gen 2 hardware devices utilize Raspberry Pi 4 boards with a customized Ubuntu Desktop (64-bit) OS image and only uses 5W/5V power (the equivalent of charging a typical smartphone) while providing a full desktop computer! Comparing that to the dreaded power-hungry ASIC miners of Bitcoin, it becomes apparent how incredible the options are for running a node on the Qortal Network. For those who are technically inclined to do so, the images for the QORTector Gen 2 are made available for download so you can purchase and configure your Raspberry Pi 4 on your own. Currently, only the Gen 2 is ready for use as the other gen models need new imaging. The other gen models are or were: Gen 1) Orange Pi Prime H5, Gen 3) Raspberry Pi 3, Gen 4) Orange Pi H6. For those less capable, Jason Crowe (current team lead of the Qortal Project) is working on the creation of a hardware company which will assemble and ship devices to customers anywhere in the world (tech support and warranty coverage are being considered). The expected name of the company is to be 'Sovereign Technologies'.

The QORTable devices are USB SSDs (Solid-State Drives) with software that allows you to run the Qortal Core and UI without having to install anything on your computer. The core and UI run with your computer's CPU, but the database stays in the external drive, which means you can plug-n-play your Qortal Core and UI from one computer to another at any time! In other words, you can stop where you're at on one computer and pick up where you left off on another computer with QORTable! Although the current usage is only 20gb, the demand for more space will likely grow over time so the capacity of your external SSD is recommended to be 128gb if you are buying new. Otherwise, a used 32gb or 64gb will work at this time and can be upgraded later as needed. These devices will also be sold by Sovereign Technologies (new company currently in its formation).

The QORT Service Coin

Qortal has its own chain and native coin called QORT. QORT is meant to power on-chain services and act as a service coin (or function as a utility token). For example, QORT will be the payment method for the fees associated with hosting a website or storing data on Qortal's chain. It will also power on-chain services including the Trade Portal, such as with BTC-LTC trades, QORT is used as the base pair. No matter the use case, QORT will power on-chain services.

It is expected that the value of QORT will be low initially, but as the usability and overall amount of Qortal users increases on-chain, so will its value. Therefore, it may be reasonable to speculate that QORT could reach a future value that meets or exceeds the value of Ethereum's coin.

Minting

Qortal does not use PoW or PoS like most traditional chains, but instead, uses 'minting'. Qortal's 'minting' system is the process of 'finding blocks' (securing new blocks) on the chain. Qortal does not reward the block signer but rather rewards every user account who is online, synced, and minting (has a minting key assigned to their node that proves it on behalf of their account)! Say goodbye to the battle of MINING and welcome in a fair new system where everyone is rewarded for EVERY block MINTED. Minting does not use high amounts of electricity and also does not require the users wishing to mint to have a huge amount of QORT as well as does not allow 'pooling' or combining power of users together at all, since the minting is shared with every minter on every block regardless. This leads to a system that has ZERO centralization. Instead, minters simply prove themselves as a 'productive member' of the network. In other words, every user account is rewarded for running a full node and supporting the network. The system has already proven itself successful by making Qortal's network larger in terms of full nodes than Litecoin, even with Qortal's chain being live for less than a full year compared to Litecoin being live for several years now.

Qortal's Founders believe that 'minting' is a superior method in multiple ways as it does not require coin holding or large power consumption for 'hashrate'; there is no 'hash power' or any 'power' for that matter on Qortal's network and minting does NOT favor the users with more capital in any way! Qortal's minting system also focuses on ensuring a strong and ever-expanding network of full nodes on the Qortal Network. This method leads to a much stronger base node network, and will be much less likely to run into issues as other blockchain projects do, wherein their base network has a lack of enough full nodes, which makes the chain much less secure overall. This is against the white paper principles that Bitcoin aimed for. The entire idea of the Bitcoin system, was to be totally decentralized and put the power in the hands of the people. The way things are going now in Bitcoin and many other projects, is the exact opposite of these ideals. Qortal aims to go back to the original Bitcoin concepts, putting the power solely in the hands of its users on the network which maintains a very strong network with full nodes spread out across the globe.

Minting Quick Bullets:

- Minting does NOT reward you based on the QORT coin held, but by simply verifying you are a legitimate full node and online.
- Minting rewards are NOT reliant upon being the signer of the block.
- Every minter is rewarded EVERY BLOCK in Qortal (approximately 60 seconds).
- To become a minter, you must be 'sponsored' by a level 5+ account or a Founder.
- The sponsorship requirement is a security feature to limit the overall growth and provide a necessary 'hurdle' so that people must 'get involved' to become a minter.
- The period of running a node to become a level 1 is set at 7200 blocks (after obtaining sponsorship and about 5 days to complete at 1440 blocks per day).
- The period to become a level 5 takes approximately 14 months in which the account can begin sponsoring others.
- The highest level for a Qortal account is level 10. The period to become a level 10 takes approximately 7 years 9 months.
- Other portions of the system are possible to change in the future as well.
- The system VERIFIES online minters by utilizing the minting keys. So you MUST STAY ONLINE to be rewarded. Only minters who submit a signature on behalf of their minting key will be rewarded. If you are a minter and turn your node off, you are NOT rewarded for the time your node is not running. This guarantees continued fairness in rewards to every CONTRIBUTING minter of the network.
- The whole point of minting, is to GROW AND MAKE THE NETWORK STRONG. While also securing new blocks into the blockchain, distributing QORT initially, and rewarding users for helping to accomplish these goals.
- Only a node that is YOUR NODE can be used as a minting node. You cannot access the assignment of minting keys without having full localhost access to the node you're attempting to assign keys to.
- Each 2 level 'tier' shares a set reward percentage of EVERY BLOCK.
- As your level goes up, you eventually move into higher level tiers and your shared reward percentage increases.
- Percentage of Block Reward shared among levels and QORA Burners: 1+2 share 5%, 3+4 share 10%, 5+6 share 15%, 7+8 share 20%, 9+10 share 25%, QORA Burners share 20% (original forgers of QORA who forged QORA while the project was 'dead' were given pre-enabled levels based on their forged blocks on the QORA chain - QORA coin holders who burned their QORA prior to Qortal Genesis are given a shared portion of 20% of each Qortal block that is split between them based on how much QORA they burned. These QORA burn users do NOT have to mint in order to obtain the 'transition rewards' from QORA. This was part of the promise Jason Crowe made to the QORA community upon discussion when taking over QORA in 2016.

Sponsorship

To become a 'minter' on the Qortal Network, a user will need to be 'sponsored' by a level 5+ account or Founder (if you did not purchase a QORTector device before launch of the Genesis block or were a QORA Forger prior to Qortal Genesis). This process will take place by the sponsor issuing a 'reward share' transaction of 0% to the newbie's public key (sponsee) that wishes to become a minter. This process takes place via the Qortal UI (or via multiple transactions directly to the Qortal API). The explanation of the process is to show what is happening in the back end. It isn't necessary for the users to fully understand it as the UI will make it very straightforward.)

What is actually taking place is the creation of a 'new relationship' on the chain. This relationship is then given its own public/private keypair on the Qortal chain. With the newly created relationship's private key, a user assigns the private key to their node, which enables the node for minting. The key has to be created by a level 5+ minter or Founder and there is no way around this. Users of level 1-4 can create only a 0% reward share to their own public key, which creates a 'minting key'. Users of level 5+ or Founders can create up to 6 total reward share keys including their own minting key. This gives the sponsors space for 5 sponsorship keys at any given time. The sponsor will issue the key and give it to the sponsee, who will assign it to their node for 7200 blocks (a 'proving period' wherein there is no QORT reward given to the sponsee). After the 7200 block proving period, the sponsee becomes level 1 and can then create/assign their own 'minting key' with a 0% reward share to their own public key. After the new relationship has been secured into the chain (1 block goes by after the creation) they now have that relationship in their local chain database and can: 1) assign the private key (minting key) to their node, 2) remove the sponsorship key, and 3) begin receiving QORT rewards every block while leveling up their account.

As the required number of blocks go by, the people in 'reward share' relationships with the private key assigned to a node are checked for 'online status' where they issue a signature with a timestamp that is verified by other members on the network in 5 min intervals. All users in the reward shares and with 'minting keys' assigned to their nodes will be counted as online. Initially, 5 days (or specifically 7200 'online blocks') of online blocks with a sponsorship key are required for the account to reach level 1. Level 5+ minters and Founders can issue up to 6 total reward share relationships, including their own minting key, therefore only 5 sponsorships at any given time are possible. The sponsor then removes the keys for the accounts that have reached level 1 and can issue another sponsorship key. This is to limit the overall growth of the minting accounts on the chain and ensure that users must put in effort communicating with the other minters on the network in order to become a minter.

Once a user has run a node for 7200 blocks and the account becomes level 1, the user can then issue a reward share and assign it to their node after 1 confirmation of the key into the chain. Then they are able to mint. (officially a minter on the network) and can obtain their shared portion of the block reward. See the *Rewards System* section for more info on this.

Sponsorships are given away only to people that have integrity, have studied the available information, and are here for the right reasons. Qortal is not a place for people to simply 'make money' or attempt to game the system in any way. Qortal is a project that 1) rewards those who run a full node to support the chain, 2) increases the level of each account over time as they continue to support the chain, and 3) with an increase in level, the account will have a more weighted influence within the Voting System. The voting system will be utilized to help in decisions that potentially direct the future of the platform. A proposal can be put up by a user on the network and voted on by the leveled users of the system. In the future there will be other leveling methods created but at the moment the only method of leveling is minting.

Ultimately, Qortal aims to welcome genuine people with a fair system, a true decentralized network of legitimate users with a Voting System and real-world solutions to P2P trading, decentralized hosting, decentralized social media, encrypted communication, and infrastructure for other projects to be built securely. Ideally, Qortal also aims to decentralize Internet data service which could be done via mesh networking and satellite technology. Finally, a worldwide decentralized and democratic concept that can put the power back into the people's hands utilizing blockchain technology. A system that rewards people for their contributions and directly takes the people's opinions into consideration with its future direction and use of developer time.

Account Levels & Rewards System

In Qortal, there is a system of 'levels' that are given to those who choose to become a minter. In the future, other methods of leveling will be implemented based on other aspects of input towards growing the network and its services. The minimum level is 1 and the maximum level is 10. At first, the minter account type is the only type that can obtain and gain in levels. This means that the minters are the only ones who can vote for changes in the system and any of the other aspects that are relevant to the leveling system. At a later date, other Qortal account types will emerge (data hosting nodes & liquidity providers).

The first accounts able to level in the system are the minters. Minting is extremely important to the system, as it is the way that blocks are signed into the chain, and the

chain progresses forward. Without the minters, the chain doesn't move. Due to the extreme importance of the minters, they are rewarded with the block rewards on the system. The rewards of every block, are split evenly among the total amount of active minters in each tier below:

- Levels 1 & 2 share 5% of the block reward
- Levels 3 & 4 share 10% of the block reward
- Levels 5 & 6 share 15% of the block reward
- Levels 7 & 8 share 20% of the block reward
- Levels 9 & 10 share 25% of the block reward
- QORA holders transitioning into QORT obtain 20% of the block reward (see the *QORA Transition* for more info on this)
- Founders will obtain a minimum 5% of the block reward, and the rewards for levels 7-10 until there are accounts in a tier level to obtain the reward.

Please note: QORA holders who burned their QORA before the due date of 6/6/20 do NOT have to be active minters (running a full node) to earn their transition into QORT coin. Whereas founders and everyone else does.

Also important to note: If minters are OFFLINE, a larger percentage of the block reward percentage goes to the minters who are ONLINE as the minters who are not online will not receive block rewards during that down time. So be sure to keep your node ONLINE as much as possible - to both garner your earned reward as well as your 'online block count' for leveling up.

As the entire design of the minting system suggests, the importance of minters in Qortal is that of supporting the chain as a full node. A full node can be a computer or hardware device such as any laptop/desktop computer, arm device such as the Raspberry Pi 4, etc. which runs any Linux, Windows, or Mac desktop operating system due to Qortal's core being written in cross-platform Java development language. A full node connects to the chain, supports the chain with processing and validating transactions, and is rewarded for doing so. For further information on this concept for those new to the blockchain space, any general video or article can further explain the basics of how blockchains and nodes work. Full nodes are very important for the overall health of any blockchain. For this reason, we have decided to delegate that importance by enforcing the minters to be online and synced as the main contributing factor. It is impossible to 'trick the core' into thinking a node is online when it is not, as every node that has a minting key assigned to it, must 'verify' itself every block by performing a special signature tied with a timestamp and submitted to be verified every block. This verification takes place every 5 blocks (average 5 minutes, approximate block time is 60 seconds). When a newbie is sponsored, the sponsor creates and gives a reward share

key to the new level 0 minter. The newbie assigns the key to their node via Qortal UI or API. The Qortal Core will notice that the newbie's node is now enabled with a sponsorship key which then is recorded and credited towards the newbie's 7200 'online blocks' to become a full node and level 1. The 'online blocks' are called 'blocksMinted' in the Qortal chain and can be checked via the 'addresses/address' API call from any Qortal Node.

Each minting account will increase in level as it continues to prove itself as a supporting node and increase its count of 'blocksMinted'. Leveling up provides the following advantages:

- Increased block rewards
- Increased voting influence
- Ability to sponsor new accounts after reaching level 5
- More to be determined as the system evolves

Minters can assign their minting key to multiple nodes. The same key can be used on multiple nodes, to provide 'redundancy' for the minter of the assigned key. This means an account can have more than one computer or hardware device minting so if a device stops minting for whatever reason, other devices are still supporting the chain and the account continues to earn the associated reward. In the future, there will be a 'bonus' given to minters who have decided to provide their key to multiple nodes and thus provide further support to the network. However, at first, there is no benefit other than redundancy for the minter.

Rewards System

With an approximate 60 second block time, the following shows the number of blocks needed from one level to the next. These are NOT CUMULATIVE and must be accomplished EACH LEVEL. The numbers listed below are EACH LEVEL, however, 'blocksMinted' continues to increase and does NOT reset each level. So blocksMinted is cumulative but the numbers below show the number of blocks needed for each level:

- From Level **0 to 1**: 7,200 blocks
- From Level **1 to 2**: 64,800 blocks
- From Level **2 to 3**: 129,600 blocks
- From Level **3 to 4**: 172,800 blocks
- From Level **4 to 5**: 244,00 blocks (approximately 14 mo. from level 1)
- From Level **5 to 6**: 345,600 blocks
- From Level **6 to 7**: 518,400 blocks
- From Level **7 to 8**: 691,200 blocks
- From Level **8 to 9**: 864,000 blocks
- From Level **9 to 10**: 1,036,800 blocks (approximately 7 yr. 9 mo. from level 1)

The block rewards on Qortal are meant to be never-ending. Since QORT is a coin on-chain, there should always be new QORT available to power the various services on the network. Therefore, there is no Total Cap on QORT coin, every '6 months' there is a decrease in block reward from its start at 5 QORT, by .25, until 2 QORT is the reward. Thereafter, a vote can be made with the suggestion of an increase or decrease of 0.25 to 1 QORT difference per block via vote, however, this type of vote can only take place one time per 'year' (in blocks). For example, if the current block reward was 2 QORT, the vote could only be: 1, 1.25, 1.5, 1.75, 2, 2.25, 2.5, 2.75 & 3 QORT. (Only up to a 1 QORT difference up or down or any 0.25 increment between.) Block reward can only be voted to as low as 1 QORT per block, or as high as 5 QORT per block overall. These are the minimum and maximum block reward range Qortal will EVER potentially see. We are currently at 4.75 QORT per block (as of March 2021).

The reward schedule that is programmed currently WILL be followed until the 2 QORT reward is reached. Only AFTER that reward is reached, will the voting system take over in deciding the future rewards.

The following is how the Reward Schedule and Reduction model is designed:

- Block 1+ Reward: 5.00
- Block 259,201+ Reward: 4.75
- Block 518,401+ Reward: 4.50
- Block 777,601+ Reward: 4.25
- Block 1,036,801+ Reward: 4.00
- Block 1,296,001+ Reward: 3.75
- Block 1,555,201+ Reward: 3.50
- Block 1,814,401+ Reward: 3.25
- Block 2,073,601+ Reward: 3.00
- Block 2,332,801+ Reward: 2.75
- Block 2,592,001+ Reward: 2.50
- Block 2,851,201+ Reward: 2.25
- Block 3,110,401+ Reward: 2.00

QORA Transition

Every user of the existing QORA project had the ability to transition into Qortal excluding Poloniex and OpenLedger wallets due to these exchanges inability to honestly return user's "unrecoverable" coin (given the fact that they are either a holder who has QORA coin in a private wallet they control or a forger who has the private key of an account that had forged blocks on QORA during the given time frame). Methods for this transition varied depending on which type of user you were in QORA. **THE DATE TO BURN QORA HAS PASSED, NO MORE BURNING WILL BE ACCEPTED.**

Eligible forgers on QORA were able to transition to Qortal as a 'minter'. This allowed them to begin earning rewards on Qortal in the form of QORT coin. The level at which the QORA forger came into Qortal was determined based on the amount of blocks forged on QORA during a set time frame (when QORA was no longer listed on exchanges and thus the forgers were not forging for personal gain but instead to help keep the chain running).

The highest level that a new minter started from as a QORA forger was 'level 5'. Level 5 entitles the user to not only gain more of the block reward for each block compared to a lower leveled account, but also gives the ability to 'sponsor' which is the method for new minters to be created if they were NOT a forger on QORA. Level 5+ minters can also create 'reward share' relationships that actually SHARE REWARDS with another account. This can be utilized to create a share percentage that is then delegated to

another account instead of solely to the level 5+ minting account. However, this will take up a sponsorship slot and will probably not be utilized very often on the Qortal Network.

Holders of QORA coin on the original QORA chain were also able to transition to Qortal if their wallets were owned by them and not by any exchange. Users who held QORA, upon registration for their account on the Qortal platform, were asked to input their QORA address seed (which is a login method on Qortal). When they did this, Qortal automatically implemented the assigning of an asset on the chain, called QORA. Then distributed this asset in 1:1 ratio with the QORA held in the imported private key. Once this had been completed, the user then had a QORA balance on Qortal.

The QORA coin was NOT SENDABLE nor was it able to be used in any fashion other than to be a 'marker' for the previously held QORA. Private keys were only allowed ONE IMPORT to prevent a double balance. The QORA coin was solely a representation of previously held QORA on QORA chain. The asset was then determined both by the amount of QORT coin the user obtained from said QORA coin as well as the rate at which that QORT coin will be given in the Qortal platform. The users of QORA who burned their coins will receive 250:1 QORT:QORA ratio, given in a portion of 20% of every block, based on how many QORA they burned. It will take many years for the total of the QORA balance to be transitioned to QORT. It was totally up to the QORA users to make the decision and burn their QORA prior to Qortal Genesis in order to be eligible for the transition to QORT from QORA.

Censorship or Sanctions For Illicit Activity

Qortal will not be a platform where the Dev Team is permitted to censor content or users in any way. It will be completely up to the admin of a specific Group to manage the content and users in their Group. It will also be completely up to the individual to decide what Groups he/she wishes to take part in and content to view. Although it may seem ideal to have a limited set of guidelines which authorize the Dev Team to remove illicit activity, the concern is that it opens a window for those lines in the sand to bleed into arguably inappropriate censorship such as what we see with Big Tech today! If we give the Dev Team ANY sort of control, it forces an unnecessary obligation to routinely enforce censorship guidelines which goes against the fundamental principle of Qortal providing the world with true individual sovereignty and freedom from central control!

Unfortunately, this does mean zero Dev Team censorship will come at a cost. That is, there will be no Dev Team power to remove any illicit activity. So it will be every Group admin's and individual's responsibility to manage their activity in the Qortal Network responsibly.

Qortal aims to create a network individually controlled by its users - with no outside government or third-party control. Instead, the people who contribute to Qortal will increase their account level over time which will then give their voting power more weight. Accounts will have a voting influence factored by 1) the account's level and 2) the blocks minted count. For example, this means that a new level 1 would have less influence than a level 1 which is about to become a level 2 in terms of blocks minted count. The Founders will have a voting influence equivalent to that of the max account level 10 plus their existing level (Founder accounts still level up based on their block count as other accounts do. The only difference being the 'F' assigned to the account which gives these accounts specific ability to sponsor and their weighted influence in the Voting System). As other accounts increase their level and associated influence, the Founder's voting influence will diminish into a fair system with less founder voting weight. The Founders are intended to only have the larger amount of influence during the beginning to ensure the project develops in the intended direction. Thereafter, the network will theoretically have a strong base network and vested members who will share the same interest in Qortal's ethical success.

State-of-the-Art Security

One of the main differences between the traditional Internet and Qortal overall, is the fact that there is no centralized authentication system, but at the same time, there IS a system that can authenticate users that isn't controlled by any one user or group. This opens the door for many different things to take place in a much more secure fashion. One of the most important security aspects to highlight is the authentication system that can be utilized cross-application (eliminating the need for multiple user/password combinations for the use of multiple different services). Another important aspect of Qortal's security is that all information used to authenticate a user to an account is always encrypted when saved. The 'seed phrase' for a Qortal account's authentication information (when created in the default method without the 'advanced user' checkbox) is saved locally on the device that created the account and encrypted with a passphrase made up by the user upon creation. The only way that any other user could access the account, is with the backup file or the device the original user used with information saved. The encrypted backup information can be saved both in the Qortal UI app (if the option is checked) or web browser (if accessed that way) or by the saving of the encrypted backup file to a USB external drive (which we highly recommend saving your backup file to a USB drive, writing down your password, and storing somewhere safe for account recovery if ever needed. You could also add these things to a will and pass them along to a loved one). Another unique feature Qortal has, is the ability to 'transfer privileges' from one account to a BRAND NEW account. For example, if an account was

thought to be compromised, the user who owns the account could transfer the account's level and related information to another account. This can only be done by the account owner after obtaining the account's private key with a specific method and can only be transferred to a BRAND NEW account with NO transactions whatsoever (to prevent gaming).

All of these methods encrypt every bit of information which means the only way a user could access another user's account, would be by either having the device/method/passphrase of a saved account, or the backup file/passphrase (which can be different on each backup saved) and access to a full Qortal Core / UI installation. When each user saves their account information in this fashion, Qortal becomes extremely secure at the base level.

Another aspect that makes Qortal more secure, is the fact that information is never sent outside the user's local machine which could be utilized to gain authentication over a Qortal account. For example: A transaction in Qortal being created is fully started, created, and signed IN THE UI of Qortal. Then the SIGNED TX is sent to the Core (which is also local) for broadcast to the network.

There are two entirely separate encryption engines in Qortal within both the Core and the User Interface (UI). The Core can verify the transaction created by the UI and ensure it was created correctly, but the Core doesn't need the information that created the transaction. Traditional systems contain a database of username/password information that could be hacked. Qortal does not have a database of information, it merely allows transactions to be created, signed, and submitted as long as the user contains the keys necessary to do so. Therefore, there is NO DATABASE OF USER INFO TO HACK.

Qortal's security when compared to credit cards, is a perfect example. If you lose your card, any other person could make use of it since the information to USE THE ACCOUNT, is printed ON THE CARD. This is NO SECURITY AT ALL. So credit card companies often have to rely upon 'fraud prevention' and 'refunds' to people since they experience countless fraudulent transactions daily. In Qortal, it simply isn't possible for any other user to access an account, unless the creator of the account gives the other user the passphrase to decrypt their locally saved backup information. Qortal's security system is as simple as that, it just isn't possible to access another user's account without the account owner providing the information to do so.

Now if we take the same method of security used for the accounting side of Qortal, and applying it to on-chain services within Qortal, Qortal now provides secure

INFRASTRUCTURE that can rebuild nearly every application, website, social media, communications, etc. that exist today in the world. On top of that, is the ability to utilize the verification system of Qortal - to verify other applications. Therefore, Qortal can make its own or host a third-party application securely, while at the same time not requiring users to need individual username/password combinations for each app. In other words, once the users verify with Qortal, they are verified for any application that utilizes Qortal!

Qortal can become a global authentication system so users NEVER NEED TO REMEMBER A BUNCH OF USER/PASSWORD COMBINATIONS AGAIN. While also providing a level of security to the overall that has yet to be seen in the world. This means there is no centralized database to hack, no need for multiple different user/password combos for different apps/sites, everything managed with blockchain-based authentication (public/private key cryptography), and complete security for the world.

Taking the method Qortal uses for verification and applying it to other avenues is the overall goal of Qortal. Blockchains are by far the most secure databases in the world, and the methods Qortal uses are more secure than most blockchains. Therefore, making use of the security of the base level of Qortal and taking it to other aspects of the world's needs is the overall goal.

For example, Qortal can utilize its security for web hosting and data storage. When this is completed, data that is put up for a user or a website is verified by the user's account that put the data there, in which it is ONLY ABLE TO BE CHANGED BY THE USER. It's truly as simple as that. Any other method will not allow the data to be changed so the account that created the data is the only account that can modify it.

Continuing to utilize these methods and improving them in the Qortal Network will allow a TRULY SECURE infrastructure that the future world may utilize to bring back SECURITY and individual sovereignty worldwide.

Phased Roll-Out Plan

Phase 1: Network Launch, Minter Accounts with Leveling, and Basic Network Functionality.

Phase 2: Trade Portal addition with BTC/QORT market (this did not work properly so LTC was implemented instead of BTC. BTC and LTC local wallets are LIVE. Implementing the Voting System.

Phase 3: Web Hosting for client side languages, Data Storage, Data Nodes, Data SuperNodes, Rewards for each based on fees paid by users of the storage.

Phase 4: Websites, Blogs, Social Media, Communication with Rewards and Levels for content creators.

Phase 5: Mesh Network, Satellite Technology, Decentralized Internet.

Phase 1 Launch Features

- QORT service coin (main platform 'coin')
- Minter Shared Rewards (reward-share transactions)
- Minting & Rewards for Securing Blockchain
- Leveling for Minters
- QORA Asset / Transition at 250 QORA to 1 QORT Ratio (250:1)
- Custom Web Based UI Platform
- Simple Account Creation
- Secure Access Through Local or Hosted Nodes

Phases 2-5 Features

Phase 2 Trade Portal: LTC trades are LIVE. Updates in Qortal take place automatically (auto-update feature is another feature that is unique to Qortal) once the official version is approved and tested by the community.

Phase 3 Data Storage, Data Nodes & Data SuperNodes (with Rewards): Most of the back end work is complete. Rules and some UI work needed.

Phase 3: Decentralized Code Repo (on Qortal itself): Hosting the code repo on the platform itself for no reliance upon centralized services for code updates.

Phase 3: Public Decentralized GitHub Repo for Other Projects: Hopefully the first 'data storage enabled app' on the platform. Allowing others to utilize Qortal's decentralized network for their GitHub repos.

Phase 4 Web Hosting: Allowing users to host websites on the decentralized network of Qortal. Utilizing the Data Nodes to store the data. Client Side languages supported first followed by support for Server Side along with rewards for dedication of both space and computer power.

Phase 4 Blogs/Social Media (with Rewards): Allowing users to post blog posts and be rewarded for the content. Other users can vote on the content and increase the content creator's level to receive larger rewards and higher influence. This also needs more thought for the details of the system as far as where rewards will come from/counterparts. Modification of block rewards may be necessary during this phase.

Phase 4 Application Hosting: This will be the support for applications hosted on Qortal; will require details regarding how every aspect will function as well as how server side hosting and sharing of CPU power/data required will take place within the system.

Phase 5: Mesh Network, Satellite Technology & Decentralized Data Service: Internet data service that is truly decentralized, encrypted, and utilizes mesh network and satellite technology to connect the world! To be discussed!

What Does Qortal Have Now?

The mainnet Genesis block was launched on 6/29/20. The basic Trade Portal was launched on 8/6/20. BTC trades were too slow and expensive so LTC was implemented. BTC trades have been removed at this time. BTC and LTC wallets remain an on-chain feature and secure way to store these coins!

Voting System is the next big development to be implemented. Then the community can vote on things like what changes to make on the Sponsorship System and what coins the Dev Team should implement next on the Trade Portal.

Other things we have now:

- 1200+ nodes supporting the chain!
- Authentication System
- Q-Chat P2P Encrypted Messaging
- Minter Share Rewards
- Minting & Rewards System
- Account Leveling System
- State-of-the-Art custom Block Signing Algorithm based on contribution over time
- QORA Asset / Transition at 250 QORA to 1 QORT Ratio (250:1)
- Custom Web Based UI Platform
- Simple Account Creation
- Secure Access Through Local or Hosted Nodes
- Code Repo on Qortal Itself
- Supporting Hardware Solutions

Future Applications & UI Plugins

The options below could be built now to be utilized on the Qortal Network. These options could be built by any member of the community in coordination with the current lead developers or by the current lead development team themselves in due time. Funding and availability of the Dev Team are extremely limited at this time so things are moving along slower than they could be with proper funding. With a small amount of effort the following ideas may be created within a short time:

Qortal-Authorized UI Plugins: Using the existing authentication system Qortal has in place, a plugin could be developed that would be self-installed after the initial UI installation could be created. This plugin would show up just like all of the 'default plugins' in the UI, but would do so after being installed by the user looking to make use of the plugin.

Qortal 'App Store': 'Non-default plugins' made by any user or service provider (meant to be inside the existing UI) could be published in a Qortal 'app store'. The apps allowed to be displayed as 'approved' will be voted on by the Qortal Network users. The apps allowed to be displayed as 'approved' will be voted on by the Qortal Network users. A 'private' app could also be created for government or internal company use cases.

Qortal-Authorized Web Apps: Should any developer decide to, they may create a web application making use of Qortal as authentication. Any application that requires authentication for users to accomplish actions within the app could utilize Qortal for said authentication. Just as the applications that make use of other blockchains do, they may make use of Qortal in a similar fashion. The application could be built without the need for registration, storage, and verification by centralized means.

Android Node Phone App: Virtually any type of Android device will be able to operate as a minter node in the future once the Dev Team implements a 'top-only sync method' (lite node' option). That being said, it is possible at the present time to run an Android device as a full node since the Core is written in Java, but isn't feasible for most people as it requires quite a bit of customization to operate correctly at the code level.

The Dev Fund

A separate account has been allocated to act as a Dev Fund. An 'extra' Founder account has also been created for use by the dev team to establish partnerships, and fund the DevFund aside from user-contributed funds. The 'DevFund' account provides a wallet to receive donations and be used to sell QORT coins to further development or the coin could be used to pay for new developers who are interested in assisting. Unfortunately, we have not established a real market yet and there are no current on-chain services that utilize QORT. Since QORT is intended to power on-chain services, the coin is expected to increase in value with its increase in usability. Until then, we have a large Dev Fund with no real means to liquidate to further fund development except listing QORT coin on the Trade Portal or conducting direct trades with interested buyers. Please reach out to Jason Crowe (crowetic) for those who wish to purchase from the Dev Fund directly and support development! All coin sold by the 'DevFund' go directly towards coders who have CONTRIBUTED CODE TO THE MAIN REPOS OF QORTAL!

What Kind of Hardships Have We Endured?

It is important to be transparent on all fronts, so with that, comes the financial situation of the project. When Jason Crowe (Crowetic) took over the development of QORA in 2016, it was determined that the QORA code would not be practical to continue building on. Therefore, the decision was made to rewrite the codebase in a clean Java code. Furthermore, the decision was made to completely rewrite every aspect of code that was to be considered from the original QORA and ultimately a new project was born that encompassed ideas from QORA and new concepts for an all-inclusive project known today as Qortal.

During this time, Crowetic was actively trading cryptocurrency on various platforms, had a small mining operation between two houses, and a self-started business providing computer repair, IT service, and blockchain consulting. Crowetic never expected to have to fully fund the Qortal Project on his own, but that ended up being the case for most of the story to be told. With the vision of what Qortal could offer the world, and how the current blockchain space was beginning to look less promising for a future where its applicability seemed to be overlooked, Crowetic made the decision to make a full commitment to Qortal's development. He and the main core developer 'Cat' worked tirelessly to design and build a working core product. Crowetic devised a plan for a large mining operation to be done in Alberta, Canada. He and a couple partners pooled funds together, purchased land when an agreement was made with the agent on behalf of the local power company, and had the perfect plan to create cash flow for Qortal's

development. Thereafter, the power company went against the agreement and raised the price of power to an unfeasible rate as the operation was just underway. Having gone 'all-in' financially between the partners, there were no financial means to prevail from a mining operation stand-point. Crowetic did what he could to help smooth things over with his partners, and try to focus on the day trades and asset HODLing he was already engaged in daily.

The next big hurdle was the unexpected issues that arose with the implementation of BTC in the Trade Portal. Ultimately, trades were too slow and expensive so LTC has now replaced BTC and is LIVE! BTC and LTC local wallets remain. The hope was that the Trade Portal could provide liquidity to the market immediately and coins could be sold to help keep the developers moving full time. Unfortunately, that did not go as planned and cost us a lot of time.

With only one core developer, who by the way is extremely talented, the development within the core carried on but to no surprise was not at a sustainable rate (concerning the current financial constraint). Attempts were made by Crowetic and others to secure funding for the development of Qortal. These attempts led to the project carrying on for some time further, but ultimately led to October of 2020 where Cat and LOTW (lead UI dev) had no other choice but to secure day jobs, a base income, and less time to allocate to development. Now we have Cal also assisting with core development part time, but we still only have part time development help! Surely no one involved has given up nor will they, but with a project still in the works, so much to be done, and hardly any marketing done while waiting for the project to reach certain milestones, the time has come to adapt. There was a considerable funding opportunity on the table in the earlier part of 2020, although as petty as it may sound to blame COVID-19, the truth of the matter is that it derailed and postponed a critical funding opportunity.

Qortal has a lot already built on the core, a decent start within the UI (which is being completely rewritten and a totally new UI about to launch) and a very promising group of developers and community members. It is time to share with the world what all has been in the works, share the big picture, and hopefully be able to obtain funding for further development. The Founders and loyal community members hate to sell people on a dream, although there is already a considerable amount of proof in the codebase and proof of sorts that we have a capable core team, but surely the right minds will see what we have in our reach.

The Founders hope that this document will be studied by its current community members and shared with people around the world. That those newcomers will study and see what this project truly aims to provide the world with. Qortal welcomes people

of all types from around the world, no matter your technical expertise, availability to engage within the community chat channels, geographical location, age, or financial status. It would be highly appreciated if everyone would help share the good word of what Qortal aims to provide, and by more exposure, hopefully we can be successful in pursuing the CrowdFund idea.

Two of the things that the core team believes would be well received by the public are CrowdFunding for:

1) ad space on YouTube and other platforms with the forced viewed ad feature to discuss the concepts of Qortal and rouse the masses, and

2) development of a first-of-its-kind mobile app and wallet for Qortal with basic Q-Chat functionality that can be downloaded on the Google and Apple app stores. The mobile app version will likely utilize load-balanced core nodes hosted by the team to access the basic wallet and Q-chat functions in Qortal until one can be built with a more enhanced core that does efficient trimming and allows a top-only sync method. This will create a new core syncing method that will allow for mobile app minting and various other functionalities!

How Can You Get Involved?

We invite you to join us on our official Discord and Telegram. Yes Discord is a gamer app but you'll be surprised how advanced and organized our Discord happens to be! We also have official Twitter, Instagram, and YouTube accounts that could use some love. Below are the official links of Qortal:

Website: <https://qortal.org/>

Wiki: <http://wiki.qortal.org/>

Qortal Core Download: <https://github.com/qortal/qortal/releases>

Qortal UI Download: <https://github.com/qortal/qortal-ui/releases>

Discord: <https://discord.gg/WyMyB3dNKY>

Telegram (general chat): https://t.me/qortal_official

Telegram (tech support): <https://t.me/qortalchat>

Twitter: https://twitter.com/Qortal_official

Instagram: https://www.instagram.com/Qortal_official

YouTube: https://www.youtube.com/channel/UCrlelk2IGvVve8l_1huUsEQ

Qortal Official Images

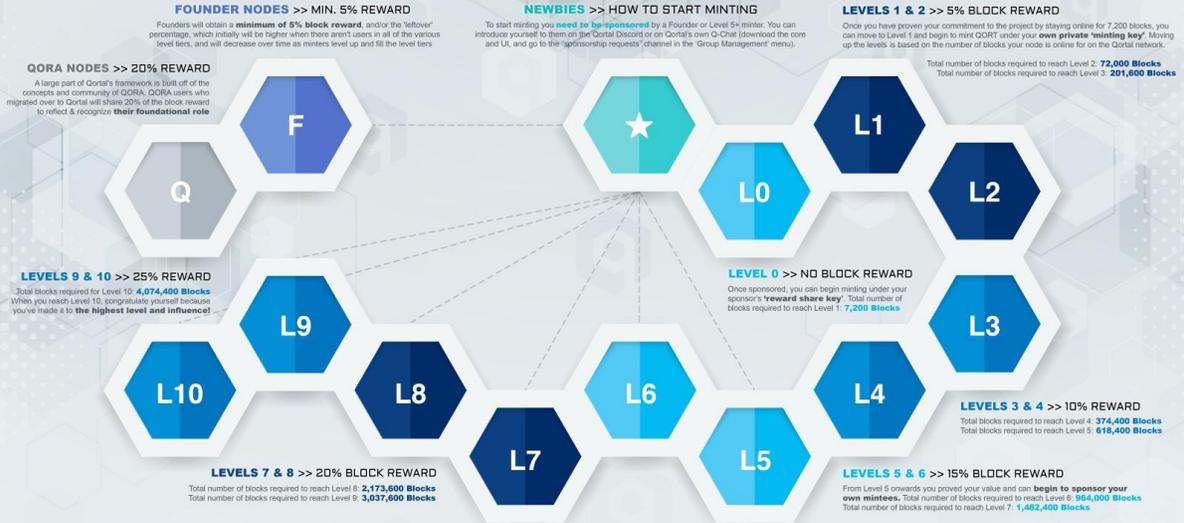
The following images are available for use by anyone wishing to further understand the Qortal Project. They are free to use, distribute, and modify (as long as the actual information remains factual).





MINTING & LEVELING

This chart shows the TOTAL NUMBER OF BLOCKS needed TO REACH EACH LEVEL

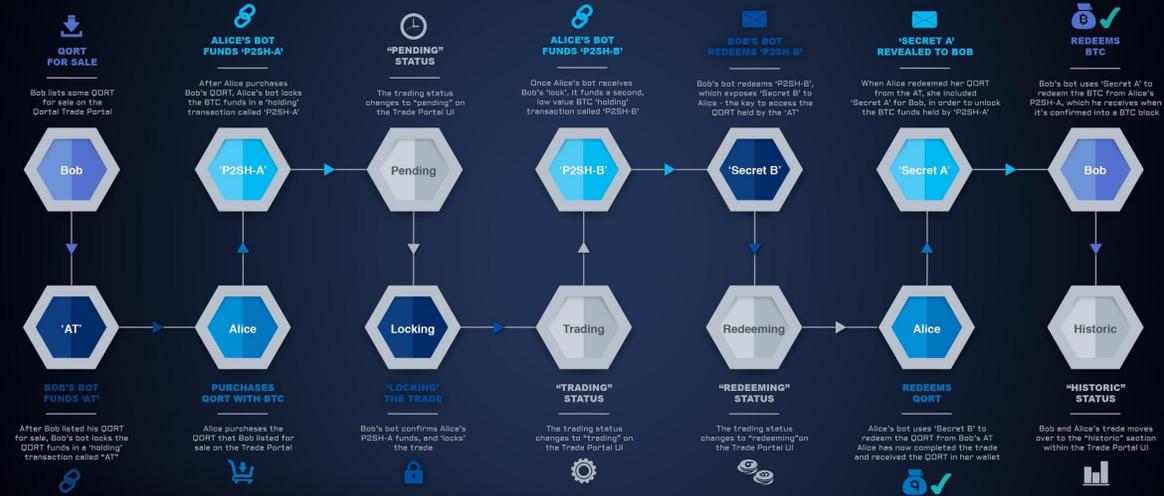


DID YOU KNOW: it takes approximately 14 months of minting to reach Level 5 and nearly 7 years 9 months of minting to reach Level 10 (based on an average 60 second block time)

wiki.qortal.org | qortal.org

THE QORTAL TRADE PORTAL

This flowchart illustrates how Qortal's Trade Portal processes cross-chain, peer-to-peer transactions without any centralized third party involvement



FULLY DECENTRALIZED, CROSS-CHAIN PEER-TO-PEER TRADE PORTAL

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INFRASTRUCTURE FOR
THE FUTURE INTERNET



The QORTector Gen 2 Device

A blockchain node and full desktop!

Qortal Project | www.qortal.org | wiki.qortal.org | [@qortal_official](https://twitter.com/qortal_official)

The QORTector Gen 2 device is built fully open source - both its hardware and software. It is designed to be a full node on the Qortal Network with the option to be a 'Minting' node, which will provide block rewards. The 5-watt device comes with an Raspberry Pi 4 Quad Core ARM Cortex-A53 with NEON, cryptography extension, and functions as a stand-alone full featured accelerated desktop.

The QORTector Gen 2 device is an all-in-one blockchain node, wallet, and state-of-the-art security device unlike anything seen before. Users will have the ability to access Qortal's totally new, fully secure, 100% decentralized blockchain-hosted network and services.

Whether you're a novice or expert with technology, the device offers a way for anyone to get involved in the Qortal Project which will provide revolutionary solutions to how we use the Internet and blockchain technology such as P2P asset trading, website/blog hosting, social media, encrypted P2P messaging, mesh-networking, and a true direct democratic system! Please visit our wiki page for more information!