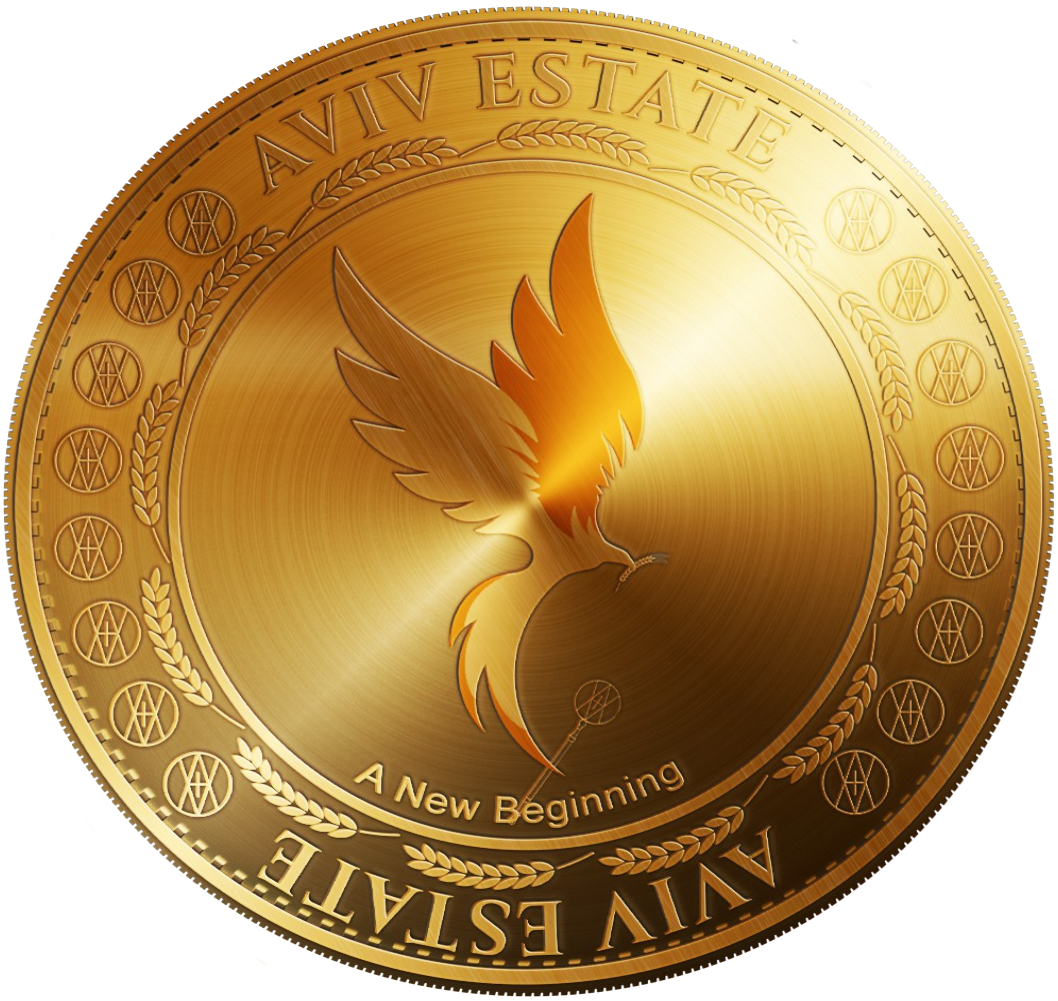
AVIV

A New Beginning



Introduction

The following whitepaper will introduce AVIV's third-generation fintech solution and our design for an entirely new economy, which has the real potential to evolve and fundamentally change life so *everyone* can prosper, not just a select few.

Humanity is at a crossroads. Currently, we have a financial system that is fundamentally broken. Banks have now evolved to being classic rent seekers who sit on top of the system, contribute no new innovation or productive value, and yet extract and control the bulk of resources in the economy. Radical ideology, on both sides of the political spectrum, battle against real solutions which threaten everyday people in all realms: economic, governance, educational, media, health, technological and environmental social systems.

We live in a world which has evolved a system wherein fascist ideology sits on one side of the aisle, with communist and socialist ideologies on the other side. Pure capitalism no longer exists; the corpse of it being replaced with overly complex, tightly regulated systems in the thralls of regulatory capture. As Ajit Pai has demonstrated so well, crony capitalism is now the norm. History has taught us both extremes are dangerous, especially when they demand equality of *outcome* because this ultimately leads to tyranny and horrific outcomes, despite starting out with the best of intentions.

Our method recognizes the importance of both conservative and liberal thought. These two forces are deeply rooted in humanity's collective consciousness. One side seeks to protect the oppressed and marginalized and the other side seeks to safeguard tradition and limit coercion. In a true capitalistic ecosystem, *both* sides must be satisfied to strike a healthy *balance* which serves *everyone* and allows room for our freedom and potential to grow and blossom. This vitality is missing from current economic models, and as a result, growth of the whole stagnates while a vanishing few at the top grow ever richer and more powerful.

Correctly enabling the blockchain technology is a power tool in the AVIV design. It is one of many fintech tools AVIV employs to put natural limits onto a new system to bring transparency, economic freedom, privacy, enlightened governance, *equality of opportunity*, and sound checks and balances in a way which creates a healthy and stable economy for humanity to further thrive thru innovative and safeguarded technology. While the blockchain space has continued to evolve and be refined, we have found key issues which have prevented it from scaling to the general public.

As with many new discoveries, the understanding and ability to successfully utilize blockchain applications rest solely within the realm of those who create them. Account and fund loss by many

early adopters prove this fact. Additionally, new words and confusing acronyms increase the difficulty of adoption for the general public. The bridge necessary to bring businesses onto new blockchain infrastructure seamlessly - enabling them to increase efficiency, streamline logistics and catapult the creation of cutting edge applications - has been, simply, absent.

We, at AVIV, have designed a new decentralized financial and social ecosystem which corrects the errors evolved from our current system, while recognizing the fundamental flaws with first- and second-generation blockchain options. Our mission was to create a powerful blockchain infrastructure based on sound economic and social principles both businesses and developers would find to be robust, secure; and would enable adoption to be an uncomplicated process. Businesses are at the heart of any thriving economy; and our objective has been to bring the world of blockchain and digital currencies to industry's doorstep so end users, and the entire public, can benefit.

Budgeting and protecting profits, for businesses and individuals alike, in a volatile market is all but impossible. The AVIV design is a unique convergence of a three-tiered token infrastructure with a stable cryptocurrency layer. Our third-generation blockchain design also solves a critical flaw with first- and second-generation schemes: consensus. Proof of Work (POW) and Proof of Stake (POS) systems are constrained by slow transaction speeds, scaling limitations and artificial network scarcity. AVIV's Proof of Authority (POA) design solves these flaws, and unleashes the full potential and benefits of blockchain technology.

Key features are designed into the AVIV platform to make it widely appealing and valuable to the general public: a representative democratic governance model, revenue generation from simplified participation in the peer-to-peer network, built-in savings, and a method to protect creators from extreme risk while innovating. We realize this is an ambitious undertaking; no one said changing the world would be easy. However it is possible with the current financial technology tools at our fingertips.

AVIV presents an opportunity for everyone to join us in creating a system that balances fiscal responsibility with social responsibility: the best of both worlds, and a win/win for both sides. We hope you find the AVIV design to be inspiring and a worthy alternative to the crumbling system we are currently under. This is an epic call to action that will require many heroes who understand the inherent problems within our current system, and who are willing to assist in unleashing a powerful ecosystem with the potential to change the world for *all* of our benefit.

Thank you again for your interest. I will be happy to answer any questions you may have.

Best Regards,

Dawn Parker Waites
Co-Founder

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AVIV'S Journey

AVIV is a Hebrew word meaning spring, rebirth, and renewal. The AVIV project is the result of many years of evolution with building and testing a multitude of theories, next generation fintech tools and the economic models they can enable.

In 2017, we did a small pre-sale of our top tier token software license and stood up an exchange to beta test the economic theories in our whitepaper. The project was initially called VIVA, and the beta lasted eight months. In November 2017, we realized the third-party software we used to run the exchange, had issues. A public announcement was made to inform all participants of a need to perform a full audit on all accounts, and focus on a new design for a purely decentralized exchange. This new exchange will likely debut before you read this paper. The name is Avidex, and it is the most advanced and powerful peer-to-peer distributed exchange ever envisioned.

Within the technology sandbox we created to understand how our theories would play out in the real world, numerous lessons were learned from our first prototype. The AVIV solution is a refined and powerful ecosystem incorporating the sum of all of our insights and lessons from our journey. We completed a full audit of each account, manually, and rolled all VIVA assets into the new AVIV ecosystem. All account holders have been audited and contacted, via email, for conversion and disbursement to the new AVIV tokens.

Designing a system meant to solve our broken financial system is a tremendous responsibility. This is not something which can be done without a lot of testing and refactoring of core assumptions. Trial by fire taught us, at a fundamental level, the final system was too important to be in the hands of a few people in a private, centralized corporation. The intention of the project has always been to benefit *all* of humanity, so it will be administrated by a non-profit foundation with the mandate to establish a global banking cooperative welcoming *all* global citizens as member-owners.

The final polished AVIV system is an enterprise-level blockchain-backed, fintech ecosystem with its own unique cryptocurrency layers. It is designed to be the first “open, market-driven, price stable currency.” Unlike other cryptocurrency projects, the strength of the ecosystem depends on the efficiency of the entire system, instead of the popularity of the coins.

By combining the best ideas from the financial and blockchain sectors, we have been able to implement a streamlined economic engine which equitably returns dividends to all participants.

Global Financial Problem

Technological advances and global marketplaces do have important benefits. However, they also contribute to the ever-growing chasm of inequality within our society. Unless the deeply felt concerns for those being left behind are adequately addressed, as a whole, we will all continue to suffer under the burden of increasing strife, conflict and economic uncertainty.

The AVIV project recognizes the extremely inefficient and top-heavy financial system is playing a significant role in aggravating the inequalities inherent in our society. The entrenched players, through privately owned central banking reserve system dating from the 19th century, introduce new money into the system in the form of government bonds minted into federal reserve notes. This is not money based on any tangible assets, but is a token representing debt. This money, issued on the credit of a nation, is guaranteed by its citizenry and must be paid back with interest.

The total money supply is also not transparent to the public. As it enters into circulation and is deposited into users' bank accounts, it is further multiplied by banks and loaned out via fractional-reserve lending.

In the USA, banks are only required to maintain reserves at 10%. Original deposits are kept as reserve requirement, then that amount is multiplied by nine and lent out to borrowers - with no assets as security. For example: a bank receives $1,000 in the form of a deposit from a customer and then creates new (digital) money in their database by issuing $9,000 more in loans. As this money goes out from borrowers and is deposited into other bank accounts, this occurs at other banks again, and again. All interest *and principal* paid to banks from such loans are pure profit to the bank – loans from money they never had on deposit but was created virtually *out of thin air*. That additional 900% represents a debt that must be repaid by future generations.

Banks generate additional revenues by charging customers monthly service fees, wire transfer fees, late fees, insufficient fund fees, low balance fees and ATM transaction fees. Try accessing your money in another country; you can expect additional costs and exchange rate fees.

This is not a fair or sustainable financial system for anyone, even the banks. This is at least one reason national currencies continue to depreciate, leaving citizens able to buy less and less with the same amount of money.

The Adoption Problem

Over the last decade, the world has witnessed a new technology emerge called **blockchain technology**. For all the bluff and bluster and buzzword soup, the truth is, blockchains are remarkably simple beasts.

A blockchain is nothing more than a secure, *public* ledger of all transactions in a network. In other words, it's a database.

The first to showcase the power of blockchain technology was an anonymous developer by the name of Satoshi Nakamoto. He launched the very first cryptocurrency, *Bitcoin,* as a showcase of his idea of what a blockchain could be. We, the team at AVIV, were involved in the earliest days, and we were early adopters of cryptocurrencies. Because of this, we have had unique insight into the pains and flaws of the current technology as well as the difficulty and confusion end users experience.

Despite the enormous attention and billions of dollars poured into development, blockchain technology remains out of reach for most businesses and average end users. The key hurdle remains ease of use and accessibility. The technology has been overly complicated, and often, applications have been anything but user friendly. Often as well, the cost of using the blockchain or its applications is burdensome; while for the end user, it is possible to lose access to accounts with no way of recovery.

For businesses wanting to explore acceptance of cryptocurrencies, the path can be overwhelming and confusing. The highly volatile market can be burdensome and costly to track; and finding safe stores of value for doing business can be daunting. The bridge from cryptocurrencies to fiat gateways has also been a long and complicated process that, generally, business owners do not have the time or inclination to navigate.

Large scale financial service organizations, while showing interest in the potential of blockchain technology to solve decades long settlement issues, have discovered other barriers to entry like slow transactions times, inability to seamlessly reconcile between public and private ledgers as well as legal and compliance uncertainties, all of which have prevented them from setting up financial services products.

Application developers also have discovered that first- and second-generation blockchain solutions inhibit them from unleashing the full power of their creative ideas. Issues such as protocol limitations, congested networks, slow transactions times, block limits and constantly changing network fees, have all conspired to negate the promises of this technology. While blockchain technology was created to address the numerous problems with a broken financial system out of reach for billions on the planet,

the infrastructure has not yet matured to the level it can be harnessed for the general public in a coherent and easy to use way. It can be said that blockchain thus far has made promises that it cannot keep.

AVIV is designed to keep those promises - in the most powerful way.

Fintech vs Blockchain, A Hammer and Nail

For many, the word “fintech” has become synonymous with “blockchain technology.” On the whole, blockchains have been very complicated to understand and use. Many early adopters who dipped their toes into the first cryptocurrencies, over the last couple of years, found losing funds and account access with no way to recover money all too possible. Much hype and numerous confusing buzzwords have surrounded this technology which has made adoption difficult. However, despite all the buzzwords and hype, a blockchain is nothing more than a shared database.

Blockchain is but one of many technologies, a single tool in the vast toolbox of the fintech sector; and as the old adage goes: “If all you have is a hammer, everything looks like a nail,” (Bernard Barush).

AVIV recognizes businesses are the heart of any thriving economy. Our objective is to bring the world of blockchain-backed financial technology, including digital currencies, to industry's doorstep; so that end users, and the entire public, can benefit. We are the bridge to bring businesses onto new blockchain-backed fintech infrastructure seamlessly; enabling them to increase efficiency, streamline logistics, and catapult the creation of cutting edge applications. Previous attempts have failed; only now, with AVIV, is this truly available. We feel businesses and developers will find this system to be a robust, secure and flexible system which enables adoption easily and naturally.

Our mission is to create a powerful infrastructure based on sound economic *and* socially responsible principles. Key features have been built into the AVIV platform, such as a meritocratic governance model, passive and active revenue generation models, participatory rewards in our peer to peer network, built-in long term savings and a method to protect and shield value creators from the most extreme risks while giving them resources to continue innovating.

The AVIV design is a unique convergence of models unlike anything ever seen before. Built on the rock solid foundation of a price stable cryptocurrency, with an ability to morph or change to local fiat on demand.

The imperative requirement for a stable economic environment, in which to budget expenses and plan for profits without the uncertainty of losing value in a volatile market, was an immediate realization. Our next generation blockchain solves fundamental flaws with first- and second-generation consensus models. Legacy models based on POW and POS designs are constrained by slow transaction speeds, scaling limitations and artificial scarcity. AVIV's unique Proof of Authority (POA) model solves these flaws. Unleashing the full potential and benefits of the entire fintech toolbox and the power of blockchain technology in this way, enables the AVIV network to do in milliseconds what others take minutes, hours or even days to do.

The Consensus Problem

Why does a bitcoin take anywhere from 10 minutes to an hour while Ethereum could be 15 seconds to any number of days? *It's all about consensus.*

The team behind AVIV are not only developers, but have decades of experience in large scale systems architecture as well as advanced cryptographic design. While the innovation behind Bitcoin and Ethereum cannot be understated, evidence has proven first- and second-generation architecture and consensus models based on mining fail to adequately scale and be useful for modern business. This results in networks that are painfully slow; transactions which may take several days to be verified are not useful for business applications that need transactions to finalize in real time (instantly).

The Bitcoin consensus model for verifying transactions (POW) is fundamentally flawed and almost all of the other current alternatives are just as flawed if not worse.

Consensus platforms in blockchains typically feature "50% + 1 = majority rules" to reach consensus between "miners," worker nodes which verify transactions. These rules determine the state of the ledger and next steps. Disagreements on the world state of a ledger can happen for various reasons. Any such disagreement can wreak havoc for the network, causing price volatility.

Sometimes, at a technical level, the picture seems more bleak. Even a minor difference in implementation can create an unnatural "fork" which would otherwise not affect the state of a transaction. Occasionally, such disagreements cause irreconcilable differences in the ledger, or a "hard

fork." This is how Bitcoin Cash came into existence: a disagreement on whether or how to increase the amount of space available in the ledger for new transactions could not be settled in an efficient and timely manner.

Alternative first-generation technology includes Proof of Stake (POS), which can be described as "he who has the gold makes the rules." Meaning that even more havoc can ensue based on the motives of the stakeholders.

Second-generation protocols include those like Distributed Proof of Stake (DPOS) protocols. DPOS is an improvement on POS. Nodes take turns finding and validating blocks,; but, the fundamental problems of blockchain consensus weren't rectified under second gen protocols because the true flaw failed to be recognized.

To give credit where credit is due: the rules for these systems were *meant* to solve many of the problems in POW, by giving those with the most financial assets in the network ultimate decision making authority (He who has the gold makes the rules). This settled some of the issues, but each introduced other problems. History has taught us that trusting those with the most gold to rule in a way that was in the best interest of the whole and not just in their own self interest is never a safe bet to make. Dictatorships rarely work out well for the *entire* society.

In each of these systems, the ability to participate as a node in the network and earn tokens is also extremely complicated, requiring huge capital investments and expensive equipment that drives exorbitant energy costs. Additionally, each of these first- and second-generation networks rely on base utility tokens that are highly volatile, because with each, the token price is based upon pure speculation.

AVIV's architecture addresses all of these challenges. We begin with Proof of Authority (PoA). Our system is derived from possession of a transferable software license and the consent of other operators on the network. The license exists in the form of a token called an Estate. This license allows anyone to build and operate a business directly from the platform and write directly to the blockchain.

The business can be of any type which needs a cost effective network for computing, networking or storage transactions. Each Estate token authorizes a business to operate as a Mint in our network. This enables entities who utilize and build the network to create our primary token called "AVIV tokens."

AVIV tokens are price stable; they float within a pre-determined target range and the network responds by contracting and expanding supplies on demand to meet this target range, which is set by the Estate holders. In this way an Estate can be thought of as a license to print money, which can then be used to subsidize operations.

Transactions within AVIV are *instant* because the network backs all transactions on the network that are signed by a Mint, and all transactions must be signed by a mint to be valid.

This method eliminates need for any consensus at the transaction level. Mints are verified partners in the network and the network backs everything they sign. This means each Mint has its own blockchain ledger in our network. Daily, all Mints publish a snapshot of changes from the last 24 hours to the network. Because money is involved and the state of each Mint is in continuous flux with potentially millions of transactions happening simultaneously, continual consensus is achieved only on critical core metrics regarding supply and price targets. That's it. Settlement *between* Mints occurs on a weekly basis, allowing transactions between users on the network to be instant.

The security of a blockchain is only as good as the mathematical puzzle upon which it is built, and this puzzle is the fundamental driver behind consensus.

In PoW, the math puzzle is "find a hash that matches a predicted value range." This is actually pretty good security, because that hash may or may not exist; and it's something that cannot feasibly be computed ahead of time, which eliminates most modes of cheating.

In PoS, the math puzzle is "find a hash that matches a predicted value range and is signed by someone with at least *n* coins." This is problematic because, in some more naive implementations, a higher valued account can simply strip the signature off a block and replace it with one of their own, thereby depriving the miner of their reward. Even so, often PoS is more desirable because it is more energy efficient than PoW and because the range for the target hash is much wider.

DPOS, is much the same as POS, except between 7 and 12 miners called "Witnesses" take turns producing blocks. Once you've had your turn producing, then you go to verifying the blocks of others until it's your turn again. At a fundamental level, it's still the same math puzzle.

PoA is *fundamentally* different. Yes, a math puzzle is involved, but this puzzle is invoked only once a week during "settlement," The puzzle is also fundamentally different. This puzzle is called the Traveling Salesman problem: to find the shortest path to settle account balances between all of the various mints while visiting each mint the minimum amount of times possible. This is one of the great unsolved math puzzles still in existence and it is both "asic immune" and "quantum resistant," meaning there is no known speedup to be had by using quantum computing or special-purpose built hardware.

The great thing about the traveling salesman puzzle is one has the same odds of solving it with a cellphone as with a super computer. It involves picking a random point on the grid and walking it until you reach the conclusion. Every starting point is equally valid, and once all mints are online the number of potential paths is an unthinkably huge number. The search space is just so vast that the difference between a top of the line super computer and a pocket calculator is negligible and amounts to little more than a rounding error.

The space of possible results for normal proof of work is about 1 in 4 billion; this is large but not unthinkably so. The space of possible results for proof of stake is even narrower because of the way staking factors into the calculus. The space of results for AVIV at it's full strength will be factoral 42,000 or ... 2.389889022535812234535293955830147014876353171986...x10^{175938}. This number is so large, if we put a 2389... on the first page, set the font to 1 point and started putting the remaining numbers behind it, we would need 10,000 pages to write it all out.

By having so many equally valid starting points but only a single "best path," and by turning settlement into a bulk procedure which is the responsibility of the mints themselves, we eliminate the uncertainty of consensus disagreements that can result in a "network fault." If a mint fails to settle, then it is blacklisted by other mints, but the customers of the mint are held harmless, they are automatically transferred to other mints which can prove their solvency; and the failing mint may be subject to legal action from the remaining mints. This puts enormous pressure on each mint to remain 100% solvent at all times. No more failed "bank of blockchain" to be "hacked" ; no more loss for customers from such "hacks."

The Volatility Problem

In addition to consensus, another essential problem with legacy blockchain networks is the systems were all designed around a highly volatile base utility token and trusted the free market to solve all the problems. Volatility results from a myriad of reasons, but true value all boils down to perception . The fact remains that most people who deal in the currency need to exchange it for fiat to either pay expenses or hedge against future volatility.

Sadly, most coins pride themselves on either being inflationary or deflationary. These are terms related to how the supply increases or decreases, with nearly all of them being one *or* the other. Supplies are ether continually increased or decreased, and too much of either is very bad for the end user.

When a coin is inflating, its supplies are increasing and this puts negative pressure on the price of the coin making it less and less valuable with each new coin that enters circulation. Conversely, when a coin is deflating, its supplies are decreasing and this means that no new coins are entering circulation (which is bad because people running the software like to be paid), and existing supplies are shrinking, usually via fee based burning. This drives the price of the coin upwards in theory but the supply limitations mean it is harder for new entrants to actually do anything useful with the coin. This lowers the coin's perceived value, which again, puts negative pressure on the price.

Ideally, neither inflation nor deflation is desirable. Instead, supply should *exactly meet* demand, with demand continually increasing through new uses and users. When supply meets demand, this is called the “optimum point” and is the point of greatest stability.

Our base token, AVIV, responds to market conditions, and therefore, can be described as *both* inflationary and deflationary. The AVIV design utilizes responsive economic metrics as a tool, similar to a bellows, to move the economy along. AVIV takes pride on our stability in the only metric that matters for money: *purchasing power parity.*

For most cryptocurrencies, the rate of inflation or deflation induces FOMO (fear of missing out), which is the main selling point. *Only 21 million bitcoin will ever be created,* for example.

For AVIV, rate of new supplies, rate of burning, etc., are just variables set by the network to maintain purchasing power parity as close to the target price as possible. Estate holders vote on the price of AVIV, and the network has mechanisms in place to increase or decrease supply to keep the price orbiting around plus or minus 10% of that target. Even the +/-10% is a variable Estate holders vote on. When the price falls out of range, as it sometimes will, the network kicks in to bring it back into balance. This builds confidence in the network, confidence in the token and adds the sorely missing “stability” factor into the calculus for potential investors and speculators.

For example: an experienced speculator realizes the network will begin reducing supplies soon because the price floor is approaching, then that speculator will buy AVIV, thereby driving the price upwards. This quickly becomes a self-fulfilling prophecy, and speculators are happy to know that they are speculating in a reasonably safe instrument. This architecture and these principles, creates a healthy, balanced, and stable economy in which businesses can build, scale and thrive with confidence. End users can feel comfortable with a safe store of value, and utilize applications built by businesses trusted by the network.

THE AVIV Solution

- *Proof of Authority Consensus Model*
- *Stable Base with Three Tier Token Infrastructure*
- *No Fractional Reserve Lending*
- *Global Banking Cooperative*
- *Supply & Demand Centric Model*
- *Built In Savings Mechanisms for End Users*
- *Custom Engineered Blockchain Technology*
- *No Network Limits*
- *Modular Dapp Integration*
- *Content Address Network (CAN) Storage Mechanism*
- *Decentralized Order Matching Exchange*
- *Non-Profit Foundation with Representative Democratic Governance Model*

Dedicated to Privacy

The original spirit of blockchain technology was built on the principle of economic privacy, in as much as this was possible, given the technology of the day.

We, at AVIV, contend the US Supreme Court was correct when it ruled that *money is speech and must be protected and remain free*.

The power of any decentralized network lies in the notion that no one can censor your speech, and no one has the ability to deny access to your money, especially when you need it most. We have witnessed a disturbing trend of several blockchain projects which have thrown core principles out the window, designing blockchain systems appealing to legacy financial institutions; and have set dangerous policies, such as requiring all users to provide personal identification and information to join their networks. This is highly irresponsible. It puts even more power into the hands of those who have abused our financial system, and who use it as a tool to oppress the financially weak.

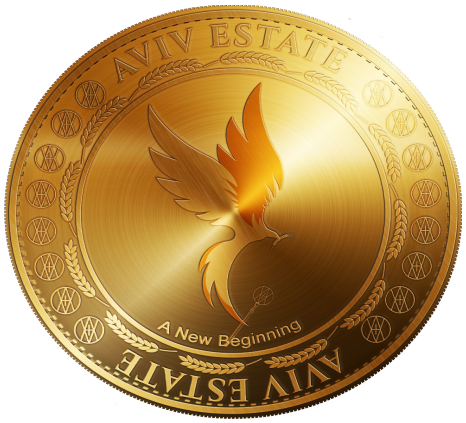
In the AVIV ecosystem, end users can remain anonymous and transact with others privately. Yet in a healthy economy, the importance of businesses and large users to be well known and trusted by the public is not overlooked.

All mints in the AVIV ecosystem maintain a place of special power, and because of that power, all must be registered and known. This is because the system itself backs all transactions. Though the AVIV network allows for end user privacy, some businesses in the AVIV economy may have regulations which would require them to collect personal data on the end user (Know Your Customer, or KYC). In those cases, the individual must choose whether or not to do business with those organizations. KYC is not mandatory within the network itself; features will always exist within the network which are engineered to preserve the anonymity of a cash society.

For those concerned with losing private keys and access to their account, AVIV offers users the *option* to be registered with the AVIV Foundation. This allows a new key to be issued, so access to one's money can be achieved if the private key is lost, or to secure funds if the key is stolen. This feature is not mandatory, however, for anyone who isn’t operating a mint.

AVIV'S Three Tier Token Infrastructure

ESTATE Token



The ESTATE token is AVIV's top tier asset and represents a software license for the AVIV network. Owning this token grants the holder *authority* to operate a Mint in the AVIV ecosystem. This is a literal license to mint money in the AVIV economy; as such it is literally the definition of "rare."

A Mint can not exist solely to print coin and sell on the market (and thus line the pockets of its owner). Each Mint must be a business which harnesses the power of the computing, networking or storage capabilities of the network. Without these key elements, other Mints will not allow this faulty Mint to operate.

AVIV can be thought of as a blockchain of blockchains, as each Mint creates and maintains its own unique blockchain on the AVIV network.

Estate holders vote on the base price of the AVIV utility token (eg $10) and the range at which it will trade (e.g. +-10%). This is also the value Mints must accept for the token when services backed by the network are sold. A fact to note: *ALL* ESTATE holders have voting rights, *not* just ESTATE holders who operate Mints.

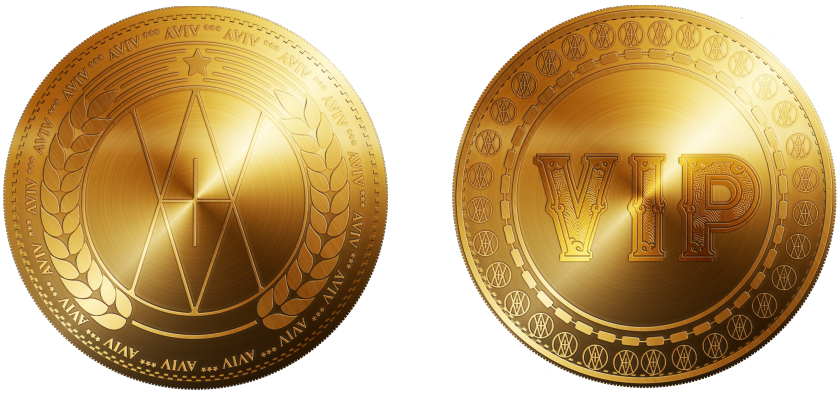
Each ESTATE produces a quarterly Treasury Right (TR) which *authorizes* a Mint to mint a supply of AVIV coins to satisfy the supply needs of the network, specifically the needs of that Mint's blockchain. This keeps the price of AVIV coins stable against deflationary concerns. The newly minted AVIV tokens are used by the Mints to compensate their Worker Nodes for the compute, networking and storage resources provided to the network.

Decentralized applications, smart contracts, or a new token deployed on the network must be sponsored by a Mint; the sponsoring Mint uses (burns) a TR to do this.

ESTATES are a rare and special asset for businesses and investors. Only 42,000 ESTATE tokens will *ever* exist. Once the initial allotment are distributed, a new ESTATE will be minted only once per week for the Worker Node that solves the traveling salesman problem of settlement.

ESTATES can be held privately as an appreciating asset with no business operations. However, if an ESTATE holder chooses to operate a Mint in the system, full Anti-Money Laundering/Know Your Customer (AML/KYC) with the AVIV Foundation is required. This is necessary for the ESTATE holder to be a trusted member and steward of the AVIV ecosystem; and for the network to recognize a Mint's authority, and honor its transactions. This is the only instance where the network requires anyone's identity, although individual businesses may need to follow additional requirements to ensure adherence to local laws.

AVIV & VIP – Two Sides Of The Same Coin



AVIV is the base utility token for all transactions on our eponymously named network. They are a speculators profit engine, and they are the settlement layer of the economic engine. All Mints pay each other directly in AVIV. In the AVIV economy, AVIV coins are not mined; they are *minted* by businesses to pay Worker Nodes and offset other expenses. These same businesses also must accept AVIV in the form of Xcoins as payment for services rendered to their own clients. This builds a natural economy.

The stability of the AVIV utility token is “soft,” meaning the network allows the price to orbit around a pre-determined target price, within a range. Ideally, this range will be around +-10% but it is determined by the will of the Estate holders. This orbit creates a regular cycle representing something akin to lungs of the economy, breathing in and out as it does useful work. Should the price of AVIV go outside these parameters, the network will activate mechanisms, which include but are not limited to, increasing and decreasing the AVIV supply (sometimes at the same time) to bring the price back into range. This vital regulating process is the key to providing long-term financial stability to the entire AVIV economy.

If the price of AVIV is too high, a positive interest rate is implemented, new AVIV are minted and placed into circulation to drive the price down. Mints mint new AVIV to pay business expenses, and businesses retain more profit.

Conversely, if the price is too low, a negative interest rate is enforced, which may even be more than -100%. This can be thought of as a bonus for some end users, similar to cash-back on a credit card: one who sends money may not be debited for the full amount of the transfer. Negative interest rates are a way to mop up excess liquidity, and while this is likely to be devastating to a mining pool, it is simply an ordinary cost of doing business for a Mint; as business expenses must be paid with AVIV on hand. However, negative minting is most expensive for a Mint. In such circumstances, which are expected to be rare, purchasing the ultra-low AVIV on the market is a quicker and more cost efficient way to drive the price back into range.

All businesses on the network must accept all AVIV-backed instruments, including Xcoins (covered in more detail later), as a form of payment for their product and services on the network. This will ensure wide adoption of the AVIV token and growth of the AVIV economy. Mints are full fledged businesses harnessing the power of AVIV global peer-to-peer network for computing, networking or storage transactions; functioning in many ways as value-added resellers for services provided by the worker nodes.

AVIV is a speculators dream instrument, *and is not what most people will use (See Xcoins).*

VIP sits on the same tier as AVIV. VIP can be considered as *AVIV intended for future distribution*. To the network, it presents as a single giant pension fund with limitless sub accounts.

VIP exists as our answer to the question of “How do you provide a living wage in a world where no jobs exist?” We recognize that, likely within our own lifetimes, humans will be replaced by automation in every conceivable job where this is possible. Additionally, Moore's law indicates any compute-intensive task will only continue to decrease in value. VIP allows us to provide assurances, well beyond the threshold where money remains an issue in such a world. In fact, VIP is all about keeping promises, no matter what the current state of the network.

VIP “Drawdowns” (conversion from VIP to AVIV) continue at the promised rate until the account is fully paid out. VIP is the only currency immune to costs and fees, and cannot be impacted by measures the system takes to control supply in favor of price. Once started, drawdowns can only be stopped by the account holder.

VIP serves two purposes: to provide a deflationary pressure mechanism on the AVIV price and more importantly, it enables “*alternative participation”* in the economy. “Alternative participation” is a method of allowing people to participate by contributing “human factors.”

Human factors are things that machines just cannot do. For example, as an artist, a musician, an author, or even a social media maven, a simple code can be embedded in your content. Then, when members of the community visit your content, they can vote for the content you created. This is very simple: get votes, earn VIP. VIP tokens represent a share in the future of AVIV. They earn a dividend income and

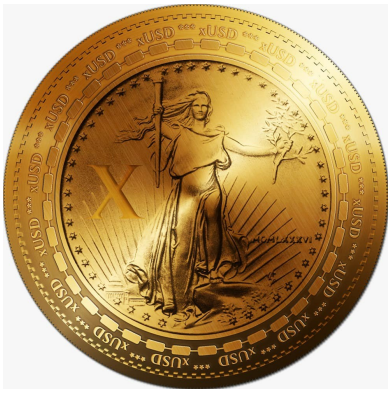
once you have enough of them you can retire; this is by design. Furthermore, once you have VIP you can vote on the content created by others and help them along to retirement, *without depleting your portion*.

VIP tokens are not transferable, but instead, are *convertible.* VIP accounts can be subdivided; for example, parents share with children on a single master *family* account, or a business may setup up a pension type system for workers.

The conversion rate is 1:1 with AVIV, and once enough VIP have been earned, the “retirement mode” can be enabled and the VIP converts into AVIV every single day.

As long as the account is not in retirement mode, any proceeds from fees generated by the network, and from any tokens burnt (for example during conversion to XCoins) are paid to VIP holders, proportional to the amount of VIP held. For example: An account holds 1% of the VIP in existence, therefore, 1% of all fees collected on the AVIV network is paid to that account as a dividend, thereby increasing that account's supply. Overall limits on accumulation exist, but are generous and intended to allow wealth to accumulate while preventing any single person from accumulating more than could be spent in a reasonable lifetime. What is meant by reasonable? AVIV's default model assumes human lifespans will begin to exceed 250 years over the next century. Thus, accumulation up to 500 years worth of drawdowns are permitted. Gaming the system can be prevented, to a large extent, because VIP are convertible, but non-transferable assets. Eventually, cashing out to fiat is inevitable, and the cash out station will check the source. So, as long as participants play by the rules, they will have no problems.

XCOINS



xUSD

xEUR

xMXN

AVIV's third layer tokens are called Xcoins.

When most people will think of AVIV, it will be in terms of their own national currency. This was created to make transacting easy to understand and use. The first three tokens we will be issuing are xUSD, xMXN and xEUR. Xcoins are worth their face value 1:1 in AVIV terms. So, one xUSD token is always one U.S. Dollar's worth of AVIV; a xEUR token is always worth one Euro of AVIV, a xMXN token is always worth one Mexican Peso of AVIV, and so on. As the AVIV ecosystem continues to grow, additional Xcoins will be issued.

Xcoins are created by destroying an amount of AVIV equivalent to the current face value of that Xcoin. Mints pay workers by destroying AVIV and sending Xcoins to the worker nodes.

Xcoins are converted to AVIV, by redemption, which means the Xcoins are burnt/destroyed. This allows the network to maintain strict controls over supply, and always track to the spot price. The network can do this because of the exquisite control over supply, which is the core function of the network. This ensures no event can occur wherein the network cannot cover its debts.

While this may sound complicated, the important thing to understand is when an Xcoin is received, no matter the status of the market, or who issued the Xcoin, your purchasing power parity is always preserved for as long as you hold it. However, should AVIV climb in value, the Xcoin holder forfeits the appreciation; on the other hand, if AVIV falls in value the Xcoin holder is not impacted either.

Xcoin is a simple way to park value and is very much like cash. Xcoins are completely anonymous, and can be sent to anyone at anytime, just like cash. When sending Xcoin, a mint is instructed to debit the account holder and credit another account, but the transaction stays anonymous to the network at large. Every Mint must accept them at face value.

AVIV Network

Coins have been discussed at length, and the economic model has been touched upon. Now, comes the time for the thing, itself. The AVIV Network is unlike anything that has been seen before. It provides storage, network and compute capacity encouraging individuals to put their idle computers to work, generating income, while permitting Mint owners to have on-demand, always-available capacity.

Our network is cornerstoned with a peer-to-peer message-passing network built on top of WebRTC. This network features an innovative routing algorithm called Sceptre that creates an entirely new class

of network called a Sceptre network. The Sceptre network is the subject of a defensive patent held to protect and indemnify our users; implementers are also protected by this patent.

Sceptre solves the congestion control problem which naturally arises when too many machines attempt to communicate at once. This is accomplished through a predictive algorithm that allows neighbors to peer-up into groups of eight, called a “table.” Each table can peer-up with up to seven more tables, forming a “room.” A room is comprised of eight tables (each with eight seats, or 64 seats in a room). Eight rooms form a “building;” eight buildings form a “block,” eight blocks form a “city,” etc. Beyond 64 direct connections, individual network connections tend to get saturated.

The number eight is important because eight bits are in a byte, meaning hardware can accelerate the routing using bitshift operators which compile down 1:1 to single hardware ops at the transistor level. Literally, this means switching and congestion control cannot be performed faster than AVIV's network.

In a Sceptre network, each second is divided into eight time slices of 125 ms. Each peer generates a random unique ID that is broadcast to the network when they join. The peer's position at the table is called a *seat* and is the modulus eight of their unique identifier. Imagine a card game with eight players to a table and eight tables to a room. As the game progresses, each individual’s slice is 125ms; during which, each broadcast all new information received from outer connections to peers at the table; also within this time slice, each individual broadcasts all new information received at the table to the other tables to which they are connected. So, at any given time, an unlimited number of seats can be talking; but because an individual's seat number remains the same regardless of the number of tables at which that individual is seated, only a single peer is “within earshot” at a time. This significantly reduces noise levels.

This seems extraordinarily simple, but it is powerful. In the space of one second, new information can travel to up to 1.34 million nodes without being repeated, as only new information is broadcast. This grows exponentially: After two seconds, the information has traversed to 2.25*10^15 nodes, at 10 seconds it can traverse 1.41 * 10^73; and by one minute it has traversed 3.04*10^433. By way of comparison, only 1*10^80 atoms exist in the universe. We believe AVIV's message passing system is simply the fastest that can be achieved with the current technology.

By passing messages, the network keeps in sync with what amounts to a refresh rate of 125ms. Seats more than 125ms apart from each other form separate rooms and do not connect directly. High latency connections, such as satellite, will still work, but may not stay completely in sync, and may fall behind. Latencies of up to 1250ms are permitted before a seat is kicked from its table, and a new peer is actively solicited to fill the seat at the table.

Tables and rooms always form among the most well connected peers. For instance: All eight seats at a table are occupied. A incoming solicitation for seat number 4 is received. The current occupant at seat

number four has a latency of 300ms, whereas the incoming solicitor has a latency of 75ms. The current occupant at seat number four will be asked to join another table.

Message passing is crucial, and everything builds on top of it. Every message has some purpose: store this, fetch that, calculate this etc; and from this network of messages, AVIV builds the networking, computing and storage infrastructure mints use in daily business activities.

VULCAN – Where your data can live long and you can prosper

The first thing built on top of the AVIV network is a content-addressable *storage* network called VULCAN: Volume UnLimited Content Addressable Network. A content-addressable network is one in which the content, i.e. the data, is addressed by some unique factor derived from its own innate structure. Within VULCAN, the SHA256 hash of the bytes of the data serves as "the address" of the data.

When data is uploaded to VULCAN, the data is striped into slices of 4MB (or less if the data is smaller than 4MB). These are called chunks. Each chunk is addressed by its hash and the overall, item (the document, video, image, etc.) has a hash taken as well. The file hash points to a manifest, the manifest is either a list of additional hashes comprising the file, or pointer to additional manifests if the file is truly large. This allows unlimited amounts of data to be stored within the network and storage is always free.

Though storage is free, retrieving data from nodes which are not "nearest neighbor" nodes (those which are not within your immediate group of 64 direct connects) has a fee. This fee is based on how quickly the data is required. For casual (non-urgent) data requests which can wait until after lunch, or the next day, the "fee" can be as cheap as a single vote. If the data is needed urgently a higher fee can be paid, and the network will prioritize it. For highly urgent data which hasn't been accessed in awhile, this fee could be a few AVIV, but the higher fee will trigger a bidding war, as tables and rooms realize the data isn't immediately available, but it has monetary value. Therefore, each table and each room the request is passed through may add a bonus to the request instructing others to route the data to them. This may be the only way those nodes can obtain the data, and its higher monetary value can make this worthwhile to pay a little to have it near at hand.

Under this model it is possible for truly infrequently accessed data to simply age out of the system and be lost. Therefore, any Mint that resells on the network should overlay the network protocol with its own app which keeps track of its own data and hashes, and periodically refreshes the data.
For example, a medical records system might only need a patient's medical records once a year. To reduce costs, a list of patient data hashes should be kept and requested on a periodic, but ongoing basis.

Truly, data should not age out, in the classical sense. Data does not expire. Therefore, long term storage of infrequently accessed data means special data storage nodes (called archival nodes) will emerge. Archival nodes monitor the network and work in the opposite direction as typical data storage nodes. Frequently requested information will be be of a lesser priority, in favor of infrequently requested data; however, a premium fee will be charged, i.e. a threshold value to access the infrequent data and archival nodes. No minimum or maximum fees apply; all nodes are free to accept whatever offers deemed appropriate for the data retrieval. Archival nodes have the ability to broadcast a special message that amounts to "I have the data, but the fee is X." In this case, the network understands a minimum fee exists for the data, and the bidding on the data can crescendo from the autobid process, or the end user (or their agent) can simply pay the fee directly. Either action will trigger a network refresh on the data; so, depending upon the amount of time passed, the fee may be less next time.

AVID- Aviv Verifiable Infrastructure Delegation

AVID (not to be confused with AVIDEX) is an on-demand *compute* infrastructure that Mints can provision, and worker nodes may join. Mints pay worker nodes, by the second, to download and run docker containers for whatever purpose. Because this leverages docker which is a defacto standard in container computing, the Mint can request the network to provision minimum CPU, RAM and storage requirements, and the network will make a best effort to comply.

Nevertheless, the docker containers which can run will have their own requirements. A Standard Compute Unit (SCU) is: 1 CPU @ 1 Ghz with 1GB RAM. A node which offers an SCU will be paid the full rate per SCU of the Mint's offer regardless of performance. Therefore, Mints should whitelist AVID nodes for long running or critical jobs. Nodes which underperform or produce invalid results should be blacklisted by the Mint; blacklists are local to a given Mint.

AVID is optimized for compute tasks expected to run 30 minutes or longer. A website could be hosted in this way, if needed, but because of the NAT'd nature of most home internet connections, AVID should be thought of more like a pipeline tool in "pull mode" intended for data transformations. AI and

machine learning applications are good examples of this. Video encoding, automated captioning, or document markup are as well. This has more to do with the nature of jobs that can be parceled and farmed out in this way. If the job can pull data from somewhere such as a queue rather than push data to its next step, then the job is suitable. But, if the job is reliant upon a node being at a particular place and a particular time and able to receive data on a given port, it isn't likely to run well if at all.

Limitless numbers of jobs can be refactored to run in pull mode. Using message queue service or the Sceptre network is a suitable usage. Nodes which understand a message will always act on it; nodes which do not understand a message won't rebroadcast it. This will work to build a room inside your Mint.

As AVID gets closer to its official deployment, whitepapers and guides will be made available to make this easier to understand.

AVID permits the running of solidity code (yes the same solidity that is used in Ethereum), and an Ethereum Virtual Machine (EVM) mode is available which allows direct communication with the various chains. AVID allows Etherum code to run on the AVIV blockchain, but our EVM has differences.

First, AVID EVM jobs NEVER run out of gas. This is because AVIV doesn't have such limiting concepts. Jobs are charged a fee, the Mint sets the fee (even as low as 0) on a per function call basis. The Mint pays the worker nodes to run the function and an allotted amount of time is allowed for this fee, but nothing is set in stone: Mints can charge what they deem appropriate for this, and even leave it open-ended for jobs that don't have a final termination. This means things like looping through a large dataset in real time are no problem.

Second, only Mints can deploy EVM bytecode to the network. This is a crucial difference between AVIV and Ethereum. This helps to eliminate fraud and abuse, and means the network will never be oversaturated with pending jobs that don't have enough resources. However, this also means a contract must be struck with a Mint if the EVM code is to run anywhere. EVM code in general runs isolated from the rest of the world.

Finally, Mints are wholly responsible for any code deployed from any such contract, and the results of consensus changing events are the responsibility of the Mint that deploys the code. The network doesn't waste time verifying things which do not effect consensus. Mints are "taken at their word" because these things exist for the benefit of Mint customers: If a customer isn't happy with their mint, the free market will take care of it.

Consensus in AVIV is limited exclusively to distribution of AVIV, VIP and other AVIV monetary instruments as well as core network parameters, price and range. Outcomes which do not affect these things aren't verified by the network. When EVM code does attempt to change consensus, via an

internal EVM operation, the Mint must pay the network a percentage fee (generally 2%) of the change amount for the network to begin a consensus change event.

Example: Alice and Bob have a shared account at Moxy Mint via a so-called “smart contract.” Bob moves 100 AVIV from the contract to his account at Martha’s Mint. This is a consensus change, the Mint will be charged a fee for it because the whole network has to verify the outcome of the contract.

In many ways this means that AVIV's EVM is far more powerful than Ethereum’s. The ultimate owner of every contract is the Mint which deployed it. A Mint can also delegate this ownership to a customer. That owner can call a special function to 'kick out' assets from other contracts with which the contract isn’t equipped to handle. This means no more “lost tokens.” An owner can kill a contract, and unlike Ethereum, any activity which attempts to modify state for a contract that has been shutdown, will be rejected by the network. (Whereas, in Ethereum, if Ethers are sent to a contract which has been shutdown, the Ethers are lost forever).

In AVIV's system, smart contracts are not an appropriate vehicle for random tokens. A token-like contract must be approved by a Mint. That Mint is obligated to provide a gateway for the token, and have a life cycle plan to care for it from cradle to grave. Tokens meeting the Mint's requirements can flow freely, the entire network will accept it; it is a first-class citizen of the network. When all is considered, a Mint bears ultimate responsibility for whatever it deploys to the network.

Life cycle concerns, for tokens, are very important; and while a little complex at first, strong benefits reside within this approach. For example: if the token's contract must be terminated, the advertised gateway value of the token is instantly credited to every holder’s account. The issuing Mint foots the bill, and the network will enforce it.

This also means fake or knockoff tokens are disallowed by default. Only unique, purposeful tokens can exist on AVIV and run on AVID. Tokens on AVID are capable of so much more than Ethereum based tokens because the entire AVIV network is aware of their existence, and they are permitted to do things such as provision and pay for additional resources on the network as well as control gateway level balances of other assets, if the mint allows it. This is similar to what Golum attempts to do, in all its complexity, yet continues to struggle. It’s just a natural feature of AVIV.

Because AVID can directly run almost any ERC20 bytecode, this means that all solidity contracts from Ethereum will compile and run directly,; no retooling required, as long as a Mint approves and accepts the responsibility. This also means when AVIV officially launches, 100% of Ethereum accounts will also be valid AVIV accounts, and the Ethereum balances will have a mirror image AVIV balance added, provided the account holder purchase and hold at least one AVIV instrument prior to official launch.

AVIV’s EVM also has a feature called “contract replacement.” If a bug is found post-deployment in a contract within the Ethereum network, that contract cannot be recalled or replaced. It produces a mess;

and is a serious (and expensive) hassle. While admittedly it strongly encourages people to write their code correctly the first time, some things just cannot be tested prior to deployment. However, within AVIV's EVM, the issuer of a contract can perform a replacement of the contract. The new contract exists at the old address and a new address. The internal state of the old contract can be copied to the new contract, or the owner can elect to initiate the new contract with whatever internal state is appropriate. Since contract ownership is not anonymous, no one can use this to steal anything, but they can use it to set things right, if a mistake was made.

Final note: all EVM bytecode (solidity smart contracts) exist on their own private chain, and must explicitly state the cases wherein they will operate cross chain. So, if a contract at one Mint wants to do an operation on a contract at another Mint, both Mints must agree to the scope and nature of these operations, ahead of time, or the receiving Mint can reject the operation entirely. This is both a security feature and scoping feature allowing new technology to emerge which is *co-operative*, rather than competitive.

Lessons Learned, Things Taught

Nothing else in the world is engineered to our scope!

The AVIV system draws inspiration from real world successful models. The oil market is one such inspiration. Oil prices are partially driven by the collective pricing decisions of OPEC member nations, who execute a similar function to our Mints. When the price of oil is too low, OPEC nations agree to cut production to raise the price, and when the price is too high, OPEC nations increase production in response.

While it may at first appear that ESTATE holders collectively form another cartel, this is actually just the opposite.

ESTATE Holders set their desired price, but the pricing target enforced by the network is the mean average of ESTATE Holder price affirmation commands (public offers to burn or mint vs. X) after lopping off the top and bottom to eliminate outliers.

In this way, an optimum balance is struck between competing interests, and AVIV's energy is directed to where it can be the most effective, while not cutting anyone out of the bargain. Meaning, everyone can benefit.

At no time does the network allow the coin to dump recklessly into the market. If an ESTATE holder chooses not to issue a Treasury Right, then an amount of AVIV coin is credited to their VIP savings account, thus building a buffer or reserve of currency. This is similar to a nation state building a strategic reserve. This is important because times may come when all TRs are minting negative amounts of coin to meet pricing targets. During negative minting, the network deducts coins from VIP balance of the ESTATE Holder. The buffer built by the ESTATE holder by not exercising or selling TRs, helps to offset these periods. An Estate holder, lending their resources to a Mint, must have other business with the Mint to offset this, but that is an externality as far as the network is concerned. Every Mint is just a collection of Estate owners engaged in mutually beneficial enterprise.

As a business activity, negative minting periods are sporadic events and just a cost of doing business. In truth, negative minting is the most expensive way for a business to acquire AVIV coin. It has limited utility, it can only be used to cover existing worker nodes on existing contracts. The fee is significant and this fee is being burned to pull excess coins off the market. During negative minting periods, purchasing needed AVIV on the open market is more cost efficient as they are under priced.

As a final backstop to cartel style tyranny, *anyone* can become an ESTATE holder either by mining an ESTATE or by purchasing them on the open market. No qualifications or gatekeepers exist to bar anyone from becoming an ESTATE Holder in the AVIV economy. AML/KYC is only required when opening a Mint.

The multi-tier system achieves a goal that has plagued all other cryptocurrencies to date: *volatility.*

When planning to use a currency to put food on the table, the very last thing anyone wants,is for it to be exciting. So, we at AVIV, strive very hard to keep it boring. Instead of an ecosystem designed to facilitate financial speculation, we have designed the AVIV economy as a stable place which derives its value from the efficiency of transacting, instead of the wild swings of a speculative market; and yet, provide a place for speculators to earn frequent large profits via trading directly in raw AVIV, rather than its other refined forms.

Industries For Which the AVIV Network is Designed

Retail and Ecommerce	Smart Contracts
Data Storage	Business Analytics
Personal Finance	Identity Management
Wallets and Security	HR and Payroll
Supply Chain Logistics	Accounting Services
Voting and Elections	Land Title Storage
Remittance	Government Services
Medical Records	Video Streaming
DMV Records	Insurance Policies
Social Networks	Education Transcripts
Lending Services	E-Sports and Gaming
Fiat Gateways	Charitable Donations
Crowdfunding	Enterprise Banking
Auction Sites	Business Finance
Decentralized Exchanges	Gig Economy Platforms
Network Tools	Wealth and Investment
Lending Services	And More...

While not an 'Industry' or 'Sector,' facilitating Wealth Preservation and Capital flight is one of the major applications of AVIV globally. It serves as insurance against the abuses and malpractice of central banks and national governments. Unlike gold, AVIV is easily transferable; and unlike a national currency, it is decentralized and borderless. In addition to being a safety valve, and in worst case scenarios an escape mechanism, this application of AVIV builds a pan-national economic community, and serves as a new and potent tool for keeping governments and central banks more accountable by providing their constituents with a strong backup option.

The AVIV Ecosystem and Society

The AVIV ecosystem is being built on a fork of Ethereum integrating our consensus model and some other changes to support AVIV's features. Ethereum Rinkeby testnet has gone through rigorous testing over the last year and will allow us to introduce the AVIV network faster. Artificial scarcity flaws of Ethereum like gas prices and gas limits will be abolished. Instead, a low flat 1% fee for all transactions on the network will be implemented. When the AVIV network is launched, we will fork the entire Ethereum blockchain ledger; and all ETH token holders will have a one-to-one match in new AVIV tokens.

As technological advances continue, as automation and robotics increasingly reduce the need for labor, both skilled and unskilled, billions of human beings are facing the harsh reality that their position and ability to function in society is eroding away. In America, this is producing an epidemic of despair related diseases and financial loss, and places a heavy toll on our social safety net. In other areas of the world, the same forces are leading to poverty and extreme violence.

In the AVIV economy, thanks to the streamlined nature of the system, transactional business costs such as processing fees, are instead, redirected to provide two essential functions for every participant: a stable recurring revenue stream, and a share in a long-term financial asset which can help produce a sustainable retirement income.

Each participant in the AVIV ecosystem will be provisioned two accounts in their AVIV wallet. First, will be a current account, which is analogous to a checking account. Funds from the current account can be spent with any AVIV Mint or other business that accepts AVIV coin. The second account is linked to VIP, which is analogous to a long term retirement savings account.

Every transaction in the AVIV network incurs a small fee, designed to be unnoticeable, which is returned to each and every participant in VIP, in the form of a dividend. This means the more saved, the greater the dividend received.

Individuals can earn AVIV coins in several different ways. The easiest way is to install an AVIV Worker Node browser extension on their computer. This methods cedes unused computational, networking and storage processing power to the AVIV network in exchange for AVIV coins. These resources are then sold to businesses who desire compute, network and storage resources, called "Mints". Mints build on the AVIV network and need Worker Nodes for their business transactions. Expect to see many unique and creative ways to earn AVIV coins to emerge.

AVIV Central is the wallet for the AVIV network. Accessing the AVIV ecosystem is through the www.aviv.world domain. Here, will be information for purchasing Estate software tokens, adding wallet extension, technical documentation for Mints and developers, participating in the foundation, and news of businesses participating in the AVIV economy.

AVIV Foundation and The BAR

The AVIV network and economic platform is not owned by a centralized private organization. This project is designed to be in the hands of the public. A Distributed Autonomous Organization (DAO) smart contract has been implemented on the blockchain for the AVIV Foundation. All registered Estate holders are automatic members and will vote on the board of directors, what we are calling The BAR for Board of Aviv Reserves. Through the AVIV Foundation, Estate holders will vote quarterly on the price of AVIV and other issues, like network fees and the governance board.

The BAR will be the most important and prestigious role in the AVIV economy. In addition to being tasked with public relations, operations and business development, the BAR's first mandate will be to establish a global banking cooperative. It will be the *first* global banking cooperative, and membership will be open to *everyone*.

Those wishing to nominate themselves to the initial board can submit their desire along with their qualifications on the AVIV World web portal. An application deadline and a date for the election of the Board is posted. An email has been (or will be) sent to all registered ESTATE holders, notifying each of this event.

ROAD Map

2018@Q4

AVIV Testnet & Initial app deliverables :

- #1 ANSIBLE (AVIV Naming Service In Blockchain LitE, an identity driven Key Value store for individuals to securely store sensitive)
- #2 VULCAN (the smart contract maintains a list of hashes broadcast to the VULCAN network)
- #3 AVIV & VIP Tokens with hooks for Estate Tokens & EMC control
- #4 Estate Tokens
- #5 Estate Master Contract
- #6 XVault contract
- #7 XUSD & XBTC

2019@Q1

This part of the roadmap is much more sensitive to Ethereum's switch over to Serenity. We must be ready in time to make the cut over and to make it as seamless as possible for all end users. Unfortunately, at the time of this writing, no date has yet been announced for Serenity.

Until Ethereum completes the serenity fork, we will have the following 3 networks:

- Ethereum Rinkeby, used for testing and proving compatible with solidity language.
- AVIV Testnet, a fork of Rinkeby used for testing things which require AVIV consensus such as mints, and estate voting.
- Ethereum Livenet, this is what we will be forking officially to our own livenet when Ethereum goes to Serenity. This will make all Ethereum holders, also AVIV holders.

After Serenity, only be the following will be live:

- AVIV Testnet, carries over from pre-Serenity
- AVIV Live, ETH Fork

Additionally, each mint will have it's own internal network, but this will not be a concern for planning purposes. ANSIBLE and VULCAN will jump from testnet to live at Serenity, and if Rinkeby undergoes a reset, they will maintain their own fork, once AVIV has sufficient nodes to withstand.

2019 in general is focused on deployment of our live network, as such, the deliverables are larger in scope and therefore far fewer.

- 1.0 (If 2018@Q4#8.0 is not met), this starts here
- 2.0 (If 2018@Q4#9.0 is not met), this starts here

Likely, 9.0 cannot be completed within the given time frame, but it can be started.
Avidex, is a decentralized exchange built on the AVIV platform, but also lives and works on Ethereum mainnet. Avidex trades both AVIV and ERC20 instruments as well as wrapper instruments, which gateway to other blockchains.

What cannot be allowed to happen when Serenity occurs, is a dilution in value of assets on the exchange, especially gateway assets. Thus an affirmative balance transfer gateway must be built into Avidex, beforehand. This is going to be tricky, no easy way exists to test such functionality, therefore the plan is to have a destroy and create mechanism, with polling service which watches for events and copies them across the blockchains when they occur. We call this mechanism Alambda#1. 180 days after Serenity, ALambda will be retired in favor of a full-time gateway asset and a task specific Mint.

The other part of 2018@Q4#9.0 is the UI itself. Much of the work for Avidex was already completed prior to this document, the remaining backend work is related to testing and proving it on Rinkeby. Therefore the bulk of 2019@Q1 will be UI work and the UI can be broken down into sprints and that will be the primary focus of this roadmap.

An extremely important note is: once Avidex API is deployed to ETH live, it is set in stone and cannot be changed. AVIV does not feature this limitation, but for convenience purposes Avidex will maintain the same API across all blockchains upon which it runs. These are AVIV, ETH, ETC and any other blockchain network that can handle Solidity code, Xvault (Xcoins master application) is the same in this regard.

Note that UI here comes in essential and advanced, this is because we want a very simple "Shapeshift" like basic UI called the "essential UI" as well as a more traditional traderview UI called the "Advanced UI".

UI Sprints:

- 1.0 Basic UI layout selected
- 2.0 Features such as colors, animations etc settled.
- 3.0 Development of rough draft custom UI elements which can speak the Avidex API
- 4.0 Alpha testing of essential element functionality
- 5.0 Beta testing of essential element functionality

- 6.0 Refinement based on user feedback of essential elements
- 7.0 Last call for essential UI elements
- 8.0 Refinement of essential UI elements, i.e. colors, alignments, animations
- 9.0 Advanced UI layout selected
- 10.0 Development of rough draft for advanced UI

Avidex is unlike other exchanges. It is decentralized, meaning no single point of failure exists; it is unstoppable.

The smart contract within Avidex only serves to record the orders themselves and to track deposits and withdrawals. Avidex core makes no attempts to match. The order matching engine is not an internal function, but something which is effectively "farmed out" to worker nodes. *This means worker nodes have the opportunity to earn trading fees.*

This order match engine is the primary thrust of development for Avidex, but an order match engine is a fairly simple beast and isn't expected to take more than one week to develop and two additional weeks to test and debug.

Nevertheless, much work is yet to be done to have AVIV ready for Serenity fork, and thus, most of the non-ui work will focus on this. Here are the expected sprints for development, keeping in mind the Avidex ordermatch engine is expected to be concurrent with the AVIV Core fork.

Development Sprints:

- 1.0 AVIDEX Basic order match algorithm implementation
- 2.0 AVIDEX testing & debuggin
- 3.0 AVIV Core, fork Geth code base
- 4.0 AVIV Core, implement AVIV's consensus model in Geth, effectively extending Geth but maintaining basic compatibility
- 5.0 AVIV Core, mint a new genesis block for AVIV testnet and deploy at least 2 testnet seed mints
- 6.0 AVIV Core, create a preliminary fork of ETH livenet and deploy it to a secondary testnet (needed to prep for serenity)
- 7.0 - 10.0 Monitor, debug and refine AVIV Core
- 8.0 Begin development of release of mint kits.
- 9.0 Begin onboarding mints to AVIV testnet

TEAM and Advisors

We have a diverse and growing group involved at this stage. Please see all the details about the current development team behind AVIV at www.SceptreEnterprise.com