



***MagnaChain***

Changing the Rules of the Game

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**July 2018**

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# EXECUTIVE SUMMARY

## Mission Statement

MagnaChain is a revolutionary public blockchain platform built BY game developers, FOR game developers. We intend to usher in the mass adoption of gaming on the blockchain with our streamlined developer tools, rapid transaction times, and the sense of community and collaboration that the blockchain offers.

## MagnaChain Ecosystems

Similar to highly regarded public blockchains like Ethereum, MagnaChain will allow for virtually limitless applications and tokenized ecosystems to be built on our platform. These ecosystems will include existing games that have been re-configured to run on the blockchain, new games built exclusively to run on MagnaChain, third-party exchanges for digital assets, and third-party marketplaces.

## Market Demand

With the astonishing popularity of games like CryptoKitties, which crashed the Ethereum blockchain days after its release, we have seen that there is a massive market for blockchain games that has not been tapped into in any meaningful way. This is because there are no existing blockchain platforms that can handle the volume of transactions that would be required to run many games of this scale (or greater), or that provide the tools that would allow traditional game developers to bring their projects onto the blockchain.

## Solutions

MagnaChain provides revolutionary solutions for these problems by allowing developers to create games for the blockchain even if they are not fluent in blockchain-specific coding languages. We will facilitate this by providing numerous Software Development Kits (SDKs) to translate games from popular coding languages such as Lua so that they can run on the blockchain. This means developers will be able to release full games with ease and even bring their existing games to the MagnaChain platform.

## A New Type of User Experience

For players, MagnaChain will allow for a richer, decentralized gaming experience, with greater transparency and control over their gameplay. This will include true ownership of digital assets, the ability to use those assets across numerous games and worlds, and security in knowing their account cannot be compromised by any overarching authority.

With tremendous benefits for both game players and developers, we intend to be the driving force in bringing the \$108.4bn<sup>1</sup> gaming market onto the blockchain, which will disrupt and transform the industry as we know it.

<sup>1</sup> <https://www.gamesindustry.biz/articles/2018-01-31-games-industry-generated-usd108-4bn-in-revenues-in-2017>

# MARKET OPPORTUNITY

With the rapid shift toward web 3.0 technology and the lack of any scalable blockchain platform designed for gaming, there is a clear opportunity for MagnaChain to secure a place as the leader in this market, which is vast and largely unexplored.

## Game Industry

Innovation has always been a hallmark of the gaming industry, and game development has pushed technology forward in countless ways. When it comes to computers, components such as sound cards, graphics cards, and faster CPUs have all been developed and improved upon due to the desire for virtual gameplay.

Based on reporting from the reputable Grand View Research incorporation, the global gaming market is projected to be worth \$171.96bn<sup>2</sup> by 2025, the growth of which is being driven by technological advances and the increasing accessibility of Internet services globally. Gaming currently represents the most lucrative sector of the entertainment industry following film and music, and is positioned to potentially overtake these sectors in the coming decade due to a growing desire for immersive, interactive experiences.

## Blockchain Games

CryptoKitties, a decentralized application on the Ethereum platform, was the first notable game to be released on the blockchain. This collectible trading game has accumulated over 1.5 million users as of March 2018 and over \$40 million in transactions, with some collectible cats in the system trading for more than \$200,000 worth of ETH<sup>3</sup>. Perhaps even more remarkable, CryptoKitties at one point accounted for roughly 30% of the trading volume on the entire Ethereum network<sup>4</sup>, creating a clear case for the development of more decentralized games.

Iuri Matias, the developer behind the Ethereum dApps framework Embark, tweeted that “If 2017 was the year of the ICOs on ethereum, 2018 is the year of the crypto games on ethereum.” And while CryptoKitties is still one of the most popular games on blockchain, it has been seeing serious competition from other Ethereum-based applications.

CryptoCountries, another dApp allowing for the ownership of digital collectibles, was able to overtake CryptoKitties in transaction volume earlier this year. This game offers users “world dominance on the blockchain,” allowing them to bid for and claim countries on a digital map using ETH. CryptoCountries has been hugely successful on the Ethereum network, with upwards of 35,000 ether passing through its system in just one week in February 2018<sup>5</sup>.

<sup>2</sup> <https://www.grandviewresearch.com/industry-analysis/gaming-industry/>

<sup>3</sup> <https://venturebeat.com/2018/03/08/cryptokitties-blockchain-based-collectible-hit-debuts-in-china/>

<sup>4</sup> <https://cryptocurrencynews.com/daily-news/altcoins/cryptokitties-china-axiomzen-partnership/>

<sup>5</sup> <https://www.coindesk.com/cryptokitties-competitors-4-ethereum-games-catching/>

# MARKET OPPORTUNITY

Along the same vein, a game called CryptoCelebrities also joined the mix this year, offering users the chance for players to trade famous names such as Vitalik Buterin, Elon Musk, and Donald Trump. As of February, the three most popular names in their network were each valued at over \$140,000.

Currently, all of the top blockchain games in the Ethereum ecosystem are based on the trading and ownership of digital collectibles. While this presents a large market in and of itself, there are no blockchain games that offer a true gaming experience. Due to struggles with scalability, other public blockchains are far from being able to accommodate such an experience for users.

# OUR VISION

With decades of experience as game developers and avid gamers, our team has seen firsthand the limitations that exist within traditional, centralized gaming.

## **Addressing Challenges in Today's Market**

For game developers, the challenges presented by today's market are nearly insurmountable. With the vast majority of resources and market volume in the hands of only a few game publishers and distribution platforms, it's difficult to gain traction within this highly competitive industry. Along with the costs of servers, bandwidth, hardware facilities, distribution deals, and marketing, there are currently massive barriers to entry for any independent creator or small studio who hopes to launch a successful game. Ultimately, these constraints inhibit innovation and creativity, while also preventing players from being able to enjoy more diverse options in the marketplace.

## **Greater Access & Ease of Use**

By leveraging the blockchain, we intend to open up possibilities for a whole new world of innovation in gaming. We will do this by offering developers greater access to large communities of players, as well as more cost-effective means of creating and maintaining games, more autonomy, fairness and transparency in the distribution of revenue, and verifiable copyright for their creations. We will also provide powerful SDKs to allow developers to code utilizing the major gaming engines and code languages (i.e. Unity, Unreal, Cocos, Marmalade), which game developers are already familiar with. Furthermore, our smart contracts will be written in Lua, another popular code base used by game developers, which will allow transactions to run on the blockchain.

## **User Identity & Control**

Decentralization will also enable gamers to truly control their own story and identity within their favorite games for the first time. As they traverse through worlds, compete in virtual sports games or battles to the death, and achieve high scores or ascend through levels, there will no longer be an overriding authority who can influence their account, rankings, or digital assets. Instead, the blockchain offers an exciting and disruptive level of equality between users, game developers, and platforms that has never before been seen.

Our vision for MagnaChain is to create a completely open gaming network that requires no operations, distribution, or even servers. Our public blockchain platform will benefit both developers and gamers, creating a healthier, more sustainable video game ecosystem for all parties.

# THE PROBLEMS

## For Developers

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### **Back-end Limitations**

It is currently difficult for developers to create games for the blockchain due to the steep learning curve demanded by the environment's back-end programs. In order to build blockchain games, creators are forced to learn and build within the required coding languages of the system. This inhibits independent creators and developer teams from making meaningful progress toward bringing gaming to web 3.0.

### **Monopolized Marketplace**

Independent creators and smaller studios are currently unable to get the kind of traction and user base for their games that they need to sustain them and create more. This is a result of a monopoly of gaming publishers and platforms that are controlling the video game marketplace. If you look at the Google Play or Apple App Store for example, you may notice that the top ten games almost never change. This limits the entire industry to the creations of just a handful of corporations, stagnating creativity and innovation and keeping the gaming world highly centralized.

### **Low Bandwidth & High Expenses**

Currently, game development depends on the limited capacity of traditional technologies in order to run efficiently. The need for exorbitantly expensive hardware that can handle high bandwidth, as well as marketing costs, operations, and everything else needed to produce a successful game, is innately inhibitive for creators.

### **Risk of Data & IP Theft**

In the same way that storing money in commercial institutions like banks makes monetary savings only as secure as the institutions themselves, keeping all video game content on a breachable centralized platform makes developer products vulnerable to piracy and fraud. The lack of secure copyright and data protection, as well as the risk of transaction fraud, breeds developer frustration and distrust, and will ultimately hamper industry market growth.

# THE PROBLEMS

## For Gamers

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### **High Vulnerability**

Despite investing a lot of time, energy, and real-world currency on in-game items and achievements, players currently have no agency over or ownership of the virtual assets acquired by their own hard work. As long as games and all related content exists on monopolized, publisher-controlled servers, player accounts belong wholly to the game company and not gamers.

### **Poor Security**

Additionally, because all game content is contained on a centralized server, players' personal information is vulnerable and susceptible to attack from malicious parties. Players do not own their gaming information and therefore cannot adequately protect it, which places gamer data at risk of falling victim to hacking or a major server crash. In-game achievements can instantaneously vanish and players currently have no ability to preserve their hard work.

### **Centralized Liquidity of Virtual Assets**

Only game publishers are able to set the value of digital assets, which restricts the in-game market value of an item to a single authority that is removed from gamers. This relationship between developers, gamers, and in-game assets can only offer gamers the illusion of possession, at most. When players' digital items depend on the liquidity of a centralized forum for valuation, total ownership of assets will never really be given to users.

### **Lack of Original Content**

Because the traditional gaming market is so exclusive, players are provided with an inadequate selection of products. The popular titles currently on the market are often repackaged with what is more or less the same premise, content, and gameplay, released under a new name year after year. Players have become accustomed to simply not being exposed to new ideas in the marketplace, and therefore user expectations of overall gaming options are discouragingly meager.

# THE SOLUTIONS

## For Developers

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### **Blockchain Accessibility**

With proprietary Software Development Kits (SDKs), game development will become decentralized and adaptable for the blockchain. SDKs will minimize coding-based barriers and cultivate a nonexclusive environment where a wider, more diverse community of individual developers and teams can participate in game creation. Our SDKs will accommodate for all popular gaming coding languages, such as Lua, by re-configuring a developer's code so their creations can run on web 3.0. This process will be streamlined and efficient, allowing developers to bring their existing games to MagnaChain or create new ones specifically for our public platform.

### **Marketplace Opportunity & Innovation**

An accessible, revolutionized platform for development encourages innovative and diverse projects that were previously unsupported by the boundaries of traditional gaming development. With the opportunity for independent and small studio developers to participate in large scale game creation, the market will benefit from a greater variety of products to not only offer to a wider audience of gamers, but also to inspire fellow game developers, fostering a collaborative community that thrives on innovation.

### **Lower Costs & Stable Bandwidth**

With MagnaChain, the ethos of democratization that is so key to the blockchain revolution will apply directly to the games that are able to find success on our platform. Instead of developers depending on massive marketing budgets, the community will decide which games are worthy of being featured, based solely on the quality of gameplay. Developers will also be able to sustain their creations at a lower cost with our model that relies on distributed nodes rather than centralized servers. Instead of depending on expensive hardware to make games accessible to a wide audience, MagnaChain technology will enable virtually limitless numbers of users to participate concurrently without the strain of high transaction costs.

### **Verifiable Copyright**

With use of the blockchain, MagnaChain will provide developers with complete, verifiable ownership of their creations and intellectual property. All content that is released will be time stamped on our transparent and immutable ledger, thereby supporting copyright ownership. A community of developers made confident by the security of their creations will ultimately encourage overall market growth.

# THE SOLUTIONS

## For Gamers

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### **Virtual Agency**

MagnaChain will allow players to finally and truly own their in-game assets in the same way they own real-world assets. Because game content will be controlled by the gaming community itself, rather than by a single company or publisher at the top of the pyramid, items and achievements earned by each player will no longer be at the mercy of an untouchable overarching entity and cannot be influenced by any external force.

### **Marketplace Transparency**

By using MagnaChain, players will be able to participate in a self-regulating and self-monitoring market where they can trade and sell their virtual assets according to communally assessed values or agreed upon terms between two players, rather than values assigned by a singular self-invested corporate identity.

### **High Security**

Data will no longer live solely on a company's servers, which will significantly increase the security of players' accounts and personal info. MagnaChain offers gamers peace of mind bolstered by their participation in a benevolent community with shared interests and common goals, rather than surrendering personal data to the authority of an exclusive game company and its private, potentially volatile servers.

# SUMMARY

MagnaChain	Developers	Gamers
Is an open blockchain platform that will decentralize video gaming	Can easily create cutting-edge games to run on blockchain, for a much bigger user base	Can finally feel a sense of true autonomy while exploring their virtual identities
Will create a transparent marketplace for gamers to buy, sell, and trade digital assets	Benefit from fair compensation for creations due to community-based valuation of products	Are empowered to determine the value of in-game items and sell and trade them within a self-regulating market, free of a monopolized economy
Will make game development for the blockchain widely accessible with our powerful SDKs	Can still code in popular gaming programming languages to produce new games or integrate existing content onto the blockchain with SDKs	Can enjoy new game options offered by a growing population of smaller, independent developers and studios
Will replace dependence on game publishers and platforms with creator/ user autonomy	Will own and control the products they develop	Will completely own and control their digital assets
Will provide unmatched security protections through the blockchain	Will have verifiable copyright for their work, transparently and immutably stored on the blockchain	Will have a sense of security knowing their account, achievements, and assets are safe from hacking, fraud, theft, or vulnerable servers
Will support virtually unlimited numbers of users and creators		
Will allow for complex games/dApps, not just collectible trading games, to run on the blockchain		

# COMPETITION



	 MagnaChain	 bitcoin	 ethereum	 EOS	 NEO	 Qtum	 LISK	 waves	 ardor	 GameChainSystem
Operational	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Consensus Mechanism	VH-POS	PoW	PoW	DPoS	DBFT	PoS	DPoS	DPoS/LPoS	PoS	DPoS
Block Target Time	5 sec	10 min	15 sec	0.5 sec	15-20 sec	2 min	-	1-30 sec	1 min	-
Planned TPS Max	> 1,000,000	-	-	1,000,000	-	20,000	-	-	-	-
Current TPS Max	13,313	7	15	1,275	1,000	60-70	3	100	100	-
Blockchain Size	-	90.9 Gb	75 Gb	-	-	-	-	-	-	-
Expected Block-Chain Growth Rate	-	4.4 Gb/mo	187 Gb/mo	-	-	-	-	-	-	-
dApps	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
Multi-Signature	✓	✓	✗	✓	✗	✓	✓	✗	✓	-
Scaleability Solution	Side-Chains	None	Sharding	-	-	-	Side-Chains	-	-	-
Smart Contracts/ Language	Lua	✗	Solidity	C/C++	C#, Python, Java	Solidity	✗	✗	✗	✓
Language	C/C++	C/C++	C/C++	C/C++	Python, JS, VB, .Net, C++	C/C++	Javascript	Javascript	Java	-

# MAGNA

## Tokens (MGC)

Powering our public blockchain platform will be Magna (MGC), a utility token which will allow developers and gamers to transact directly and provide the technology fabric for all transactions in the MagnaChain ecosystem.

Magna will function on our platform similar to the way “gas” functions on Ethereum. With every transaction on a dApp, the developers will need to have Magna available to fund that transaction, which will be paid to miners to validate it. Additionally, dApp developers will be able to create their own tokenized ecosystems on Magna – for example, game developers may wish to have Magna facilitate in-game transactions between users and utilize Magna as in-game currency.

We envisage developers of all type of dApps, devising an endless stream of innovative use cases for Magna, along with our own initiatives. For mass market sectors such as gaming, developers could even choose to run their token sales in Magna, as the gaming sector could be one of the key sectors to bring Blockchain to the masses.

### **Magna v. Bitcoin**

The token output mechanism of MagnaChain is in strict accordance with that of Bitcoin, i.e. daily output will be reduced by half when half of the total quantity is mined. Apart from 2 billion tokens for operation, team, and community distribution, the total number of tokens for miners, marketing and partnerships will be 2 billion.

In the first four years, half of the newly increased tokens will be issued, after which the daily output will be halved. This halving process will take place once every 4 years, on average, and last 63 times, after which the mining will only generate the processing fee without issuing new tokens.

For MagnaChain, there is no interest mechanism during PoS mining, and new tokens are all issued in the new block. It reflects our consideration of MagnaChain’s internal and external economic systems, and also represents our acceptance of the thought of Austrian School of Economics.

The production strategy of limited total quantity and deflation contributes to the maintenance and appreciation of asset values of MagnaChain investors, and synchronously avoids inflation and dilution. Similar to Bitcoin, MagnaChain token can conduct nine-figure segmentation after the decimal point, without the problem of losing transaction function due to over high value of a single token.

There are, however, clear differences in the entire internal ecosystem between MagnaChain and Bitcoin. In the economic cycle of Bitcoin mining, miners are required to pay out legal tender capital in order to invest on mining machines for the purpose of obtaining Bitcoins, and at least sell a portion of gained Bitcoins to exchange legal tenders for the repayment of investment and the procurement of new mining machines.

# MAGNA

## Tokens (MGC)

Due to definite daily output quantity of Bitcoins, the fixed output of Bitcoins will be shared equally no matter at what hash rate. As a matter of fact, it is an armament race of hash rate among miners. Consequently, miners have a sustained motivation to purchase new mining machines, otherwise they will lose in the competition or be forced to reduce the output.

Therefore, there must be a constant heavy selling pressure in the economic cycle of Bitcoin. Either miners sell their Bitcoins to purchase new machines, or mining machine manufacturers sell their Bitcoins to pay out other expenses.

Even though the daily output of MagnaChain is determinate as well, it is relating to Coindays instead of hash rate. That is to say, it is also an arms race of mining similar to Bitcoin. While Bitcoin is to compare the hash rate of mining machines, MagnaChain is to compare the amount of coins held.

An obvious benefit is that miners have to at least invest a part of new mining earnings in the next round of mining so as to maintain yield, otherwise they will lose in the competition. It decreases miners' motivation to exchange the mining earnings for legal tenders due to no constant selling pressure, which is in favor of a relatively stable price of token.

# THE TECHNOLOGY

## VH-PoS Consensus Protocol

MagnaChain has developed an innovative consensus protocol in order to achieve maximum security and efficiency on our network. Using Proof of Stake (PoS) as a foundation, we have created VH-PoS.

### **Proof of Stake**

The key function of PoS is that minters will deposit some kind of collateral into the network, which acts as a promise that they will work to validate transactions with integrity by making it counterintuitive to attack the network. With PoS, a miner is able to receive new coins for holding coins, essentially serving as interest. However, this method requires additional computing power.

While VH-PoS inherits all the advantages of PoS, it does not require additional hashing power to award miners with interest for their coins.

### **Proof of Work**

Our unique algorithm also negates the possibility of a 51% attack, which can occur on Proof of Work (PoW) models.

PoW is consensus-based model, which allows for any individual or group who contributes 51% or more of the network's overall hashing power to control the entire network. This presents the risk of corrupted nodes and the ability to change the consensus and history of the ledger, meaning it is no longer immutable.

### **Solutions With VH-PoS**

With MagnaChain, we intend to solve the major problems with popular protocols: the energy consumption of PoW, the centralization concerns of algorithms like Delegated Proof of Stake (DPoS), the blockchain reorganization of PoS, and the possibilities of a double-spend attack.

With VH-PoS, the process of mining will become easier and less costly, acting as more of a game of probability, which will attract more miners and active nodes. This will also provide the conditions needed to introduce sidechains, which will solve the problem of low throughput rate and excessive data accumulation on the blockchain.

# THE TECHNOLOGY

## Structure

Our software infrastructure will be divided into five layers from the bottom up.

### **First Layer**

The bottom layer consists of the basic library, including an encryption and consensus algorithm, P2P network, memory management, threads, and process management.

### **Second Layer**

Above the basic library is the basic function module. At this layer, the basic account and wallet management, blockchain generation and synchronization, and basic transaction functions will be implemented. All the functions of traditional blockchain systems are completed at this layer.

### **Third Layer**

The third layer is an extension function that includes VM-based smart contract and a multi-chain management system. This layer primarily provides the smart contract and a set of high TPS solutions implemented through multiple chains.

### **Fourth Layer**

The fourth layer is the API layer, which provides a set of API- and system-integrated SDKs for other app innovations.

### **Fifth Layer**

The top layer is the application layer, including wallet, blockchain browser, development tool integration, and a series of development tools.

# THE TECHNOLOGY

## Benefits

### Security

Stability and security are essential to any blockchain network. Unfortunately, many existing platforms are challenged by uncertainties due to their decentralized nature.

This is why MagnaChain is using a modular design tool to abstract and simplify the blockchain, adopting the architecture layering, module independence, plugin function development methods, and the function-by-function unit testing that will ensure the stability and reliability of our software.

We will also use our unique consensus algorithm (VH-PoS), virtual machine sandbox environment, and customized Lua infrastructure to make our system more secure and reduce the common mistakes that often occur in the development of smart contracts.

### Convenience

Instead of depending on blockchain-specific coding languages, we have selected the most common scripting languages in game development and are allowing them to be used in developing smart contracts on the MagnaChain platform. This will make the development of smart contracts as similar as possible to coding the back-end of a traditional video game.

Additionally, we will provide plugins for the most commonly used tools in game development, which will make the process of building games on the blockchain significantly more streamlined and convenient. For experienced game developers, this process will be as easy as the day-to-day work they are already familiar with.

### Speed

MagnaChain has been optimized for the high TPS required of any gaming platform. Current test results show that MagnaChain can achieve tens of thousands of TPS.

# THE TECHNOLOGY

## Platform Features

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### **Unified Login Portal & Account Management**

Each MagnaChain user will have a wallet protected by a private key, which will provide them with a UUID, or universally unique identifier, as a user identification stamp. It will also be possible to provide a UUID that allows multiple games to share data, even allowing users' digital assets to be used across multiple games.

### **Flexible Token Usage**

Game developers can choose to use MagnaChain's token, Magna (MGC), as a game payment method within their dApp, or choose to write their own smart contracts with their own tokens. They also have the option of using one token for multiple games based on their platform. MagnaChain will allow for multiple tokens to be used in flexible combinations.

### **Cloud Computing**

We will allow for the server code of existing games to be gradually migrated to MagnaChain's smart contracts. For applications with reasonably simple server-side logic, development and migration costs are extremely low. There will be no need to purchase servers or virtual machine cloud services, nor will there be a need for dedicated staff to maintain and manage them. Developers will only need to pay a commission for calls on blockchain, which will save significant amounts of time, manpower, and management costs.

### **Digital Assets Generation & Ownership**

Digital assets generated by smart contracts will be protected by the user's key, and game developers will not be able to perform any ownership change operations, including adding, deleting, or transferring ownership. For the first time, players will be able to actually own their digital assets.

### **Digital Assets Trading**

Because players currently do not have the ability to take control of their digital assets, there is a demand for transactions. On the MagnaChain platform, each digital asset will have a unique ID, collection value, and level of scarcity. This will create a new digital trading environment and a market similar to arts and collectibles.

# THE TECHNOLOGY

## **Big Data Analysis**

MagnaChain will adopt a UTXO account model. Under the premise of protecting the anonymity and privacy of user accounts, all transactions will be traceable and cannot be tampered with, as well as being publicly available on blockchain.

Once the MagnaChain gaming ecosystem is released, a massive amount of transaction data will be generated daily. At present, the task of big data analysis encounters numerous problems including the data being monopolized by large companies, data fraud, insufficient samples, and biased sampling. If the data is stored in blockchain, these problems can be completely avoided.

Data on our platform will not only be publicly available, but completely free and verifiably authentic. Analysis of this data will not only bring benefits to the gaming industry, but will also be useful for economic analysis, user behavior analysis, and much more.

## **AI Training**

AI and machine learning endeavors require massive amounts of data to train their models. If the data generated from our public blockchain is used for the training of game AI, it will provide players with more realistic and interactive experiences in their gameplay.

## **SDKs**

MagnaChain will provide a series of tools to help developers start engineering new games for the blockchain. These will include Unity, Cocos, and other engine plugins and tools for generating smart contracts in familiar coding languages.

Our ultimate goal is for MagnaChain to be an integrated development tool similar to Unity. For the development of small- and medium-size games, the use of blockchain distributed-application development technology will be able to release games without the need for any back-end programs.

# THE TECHNOLOGY

## Mainchains & Sidechains

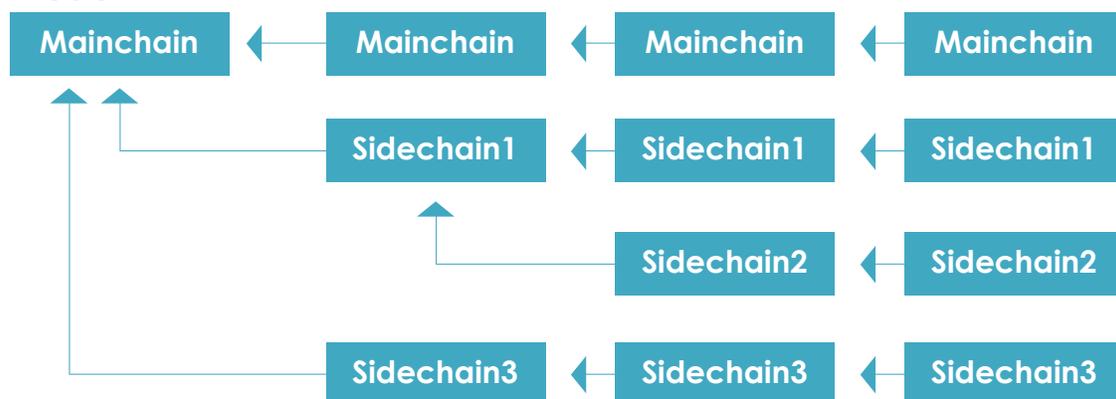
With our initial design, MagnaChain intends to solve two problems that exist in most popular blockchain platforms today: low throughput rates and excessive data accumulation.

Our solution is the introduction of the sidechain.

### Traditional Blockchain Model



### MagnaChain Model



# THE TECHNOLOGY

## Data Structure

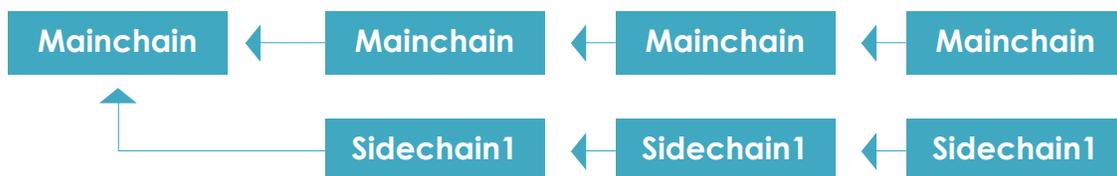
Within MagnaChain, the entire network will have a unique mainchain within which all currency is exclusively issued. However, there can also be any number of sidechains, and the previous block of each sidechain can be either a block in the mainchain or in another sidechain. This overall data structure will therefore act as a tree rather than a true chain.

Users will be able to create sidechains through our simple, streamlined instructions, or they can use special transactions to freely transfer tokens from one chain to another. By doing so, we can open sidechains for an application, or even a module of various applications, with ease and transparency.

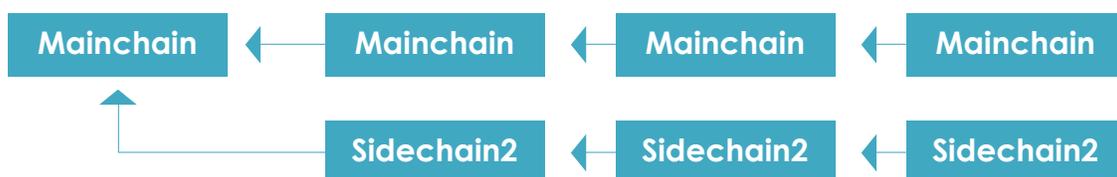
## Flexibility for Miners

Miners will be able to choose which chains they would like to mine on, and whether they would like to mine on multiple chains. Although there are no new tokens issued on the sidechains, there will still be transaction fees awarded to miners. The more transactions, the greater the fees. If there are fewer miners in a chain, mining will be more profitable, which will attract new miners. If there are many miners in a chain but there are few transactions, the number of miners will therefore be fewer. The mining industry is ultimately just like a market: through the incentive of transaction fees, the relationship between miners and multiple chains is automatically adjusted, allowing miners the flexibility to mine on the most strategic chains.

### PC (Minor A)



### PC (Minor B)



# THE TECHNOLOGY

## High Levels of TPS

Sidechains will allow the overall network throughput, or TPS, to reach extremely high levels. In a traditional blockchain project, TPS calculation can be calculated by a simple formula (maximum transactions/block generation time). For example, if there are 4,000 transactions in each block of Bitcoin and block time is 10 minutes, the TPS only has  $4000 / (10 * 60) = 6.6$ .

With MagnaChain, because there are multiple chains concurrently processing data, the total throughput rate is the TPS of one sidechain multiplied by the number of sidechains. In theory, the TPS ceiling will only be limited by the network bandwidth and the miner's disk storage space.

## Benefits to Users

In addition to greatly improving TPS, concurrent sidechains have the benefit of significantly reducing a user's disk space.

Users will also be able to use commands to dynamically synchronize or delete sidechains so that the user's or miner's disk will always display the users' desired the data.

When an application is closed and there is no new transaction on the corresponding sidechain, all user assets will also be transferred to the mainchain or other sidechain; there will be no miners mining this sidechain, and no new blocks will be created. This will not affect the security of the mainchain or the overall network.

# ROADMAP

**2016**

**Full Year**  
 Prototype  
 Development

**2017**

**Q2**  
 Prototype Test /  
 Smart Contract  
 Added

**Q4**  
 Structure Update /  
 Side-chain Added

**2018**

**Q2**  
 External Testing  
 Program /  
 Test Chain Launched

**Q3**  
 Open Source  
**Q2-Q3**  
 The First Games  
 & dApps Go Live

**Q4**  
 Initial BD and Tech  
 Support Centers  
 Establishment /  
 50+ Games/dApps  
 Go Live

**2019**

**Q1**  
 Test Chain  
 of the Updated  
 Version Launched

**Q3-Q4**  
 Mainnet Launch

**Full Year**  
 Expand the Worldwide  
 Support Centers /  
 1000+ Games/dApps  
 Go Live

**Developer  
 Conferences**

# THE EXECUTIVE TEAM



**Hal Bame**  
CEO

Hal Bame has over 15 years experience in the gaming industry and is the co-founder and CBDO of SmartChain Media, a blockchain project focused on the entertainment industry. His experience includes many advisory roles to US and Asia-based blockchain companies. He previously serves as MD of SEA/ Taiwan/ HK of Electronic Sporting League (ESL) and was senior management at Sony, Playstation, and Codemasters.



**Jinsong Zhang**  
CTO

Jinsong is a “geek” when it comes to software development. He has 10+ years of experience in game development from online gaming giants such as Shanghai Softstar, The9, and 4399.com. In recent years he has shifted his interests to latest blockchain and cryptocurrency technologies. He has been working as a technical leader on various international open source projects.



**Peiji Guo**  
CMO

Peiji Guo has over 20 years of experience working in multinational companies in high-level marketing and strategy roles. He joined Blizzard Entertainment in 2000 and held the Senior Lead position of Live Operation Global from 2004 to 2008. In 2012, Peiji joined Take Two's China operation with 2K as an Operation Director. In 2014, he joined a gaming operator as the Managing Director for the headquarter in Canada. Peiji holds a bachelor degree of Business Information System from University of Redlands, School of Business.



**Nizam Ismail**  
Legal Advisor

Nizam draws upon his previous regulatory experience as Deputy Director and Head of the Market Conduct Policy Division of the Monetary Authority of Singapore, his compliance background as Head of Compliance for Southeast Asia at Lehman Brothers and Morgan Stanley, and his legal background as Deputy Public Prosecutor/State Counsel at the Commercial Affairs Department and Senior Legal Counsel at Citigroup to help cryptocurrency and Blockchain companies navigate complicated regulatory and compliance environments.

# THE TEAM



**Sheng Guo**  
Operations Head

Sheng started his gaming career in 1998 and has served Ubisoft, The9, and Several other gaming companies. He has worked in game operations, business development, project management, R&D management, and investment management. In 2010, he began to act as a consultant for investment and financing, and set up a consulting and fundraising service company Chuang You Information. In 2013, Sheng founded Bund Board Peer Advisory Group with several partners and has served as senior advisors for various enterprises.



**Kejun Zheng**  
Senior Software Architect

Kejun is an expert on financial system security and software architecture, with over 15 years of R&D experience on software development. Kejun has served Amdocs, Accenture, and other companies.



**Zhaohua Chen**  
Senior Software Architect

Zhaohua has 11 years of game development experience, serving Snail Game, The9, 4399.com, and other gaming companies. Zhaohua is an expert on game development technology and has been responsible for the improvement of 3D game engines, development of Flash3D engine, and project management for game development.

# THE TEAM



## Advisors



### **Brian D. Evans**

Brian is an Inc. 500 Entrepreneur and Forbes #7 marketing influencer, the founder of the 25th fastest growing advertising and marketing agency in America, and the founder of Influencive.com. Brian has spent over 15 years in online advertising and directly helped multiple top-10 apps acquire millions of users. He was ranked as one of the top influencers in the world on Forbes, and as the 4th most influential business journalist in the world.



### **Kevin Guo**

Mr. Kevin Guo co-founded Dianrong, the leading P2P lending platform, in 2012 and has been an angel investor since 2008. In 2016, he established Xinghe Hongsheng, the first Chinese fintech investment fund together with Angel Plus to support early stage innovation in fintech. Prior to co-founding Dianrong, Kevin was the managing partner of Yulan & Partners, a well-known law firm in Shanghai providing intellectual property legal services to Fortune 500 multinational corporations. Kevin is one of the founding members of the Global Blockchain Business Council ("GBBC") and has also been elected the president of China's Blockchain Research Center ("CBRC"). His honors include: "2015 Financial Industry Leader in Shanghai" and "Top 10 Internet Entrepreneurs in Shanghai" jointly by the Xinhua News Agency and the Shanghai Government.



### **Marianne Dansker**

Marianne is an entrepreneur and goal driven person, with an innovative mindset. Having had several startups and worked for successful business, she has also worked as a startup consultant, advising several startups in the EU and US on business growth and development, with a key focus on strategy and scaling. Marianne has also worked 9 years in business relations, branding, and marketing internationally, creating partnerships and promotions with big bloggers and brands such as; Fitness World, L'Oréal, Friis, Nutramino, toystory, Salling, Kari Traa, Samsung, Sony, Audi, and more.



### **Alex Riggs-Miller**

Alex is the CEO and Founder of SmartChain Media, the world's first entertainment, crowdfunding, and streaming media service on the blockchain. He has over 23 years of experience in IT consulting, business management and business consulting with a global acumen spanning 10 countries. He is a consultant and entrepreneur in the following industries: technology, crowdfunding, entertainment, and blockchain. Global strategic and operational roles in some of the world's key companies: Citrix Systems, Microsoft, Apple, Google, Cisco, Hewlett Packard, Goldman Sachs, John Hancock Financial.

# THE TEAM

## Advisors



### **Yue Dong**

Yue graduated from Carnegie Mellon University (CMU) and worked in Silicon Valley and on Wall Street for more than 13 years. He also worked as CTO for internet giants in China, such as the e-commercial sites yihaodian.com, lashou.com, online travel agency lvmama.com, and game company The9. He has also served as senior advisors for several listed companies.



### **Gabby Dizon**

Gabby Dizon is the Chairman and co-founder of Alto.io, a Singapore-based game platform that connects games to the blockchain. He helped pioneer the Philippine game industry as part of the team that released the first Filipino-made game in 2003. Gabby is also CEO of game developer Altitude Games and former President of the Game Developers Association of the Philippines. Gabby helps champion the game development industry in Southeast Asia and is an active member of the Philippine startup community.



### **Nicolas Cole**

Nicolas Cole is a 4x Top Writer on Quora, Top 30 Columnist for Inc Magazine, and founder of Digital Press—a thought leadership agency for founders and C-level executives. Cole's work has acquired over 50 million views online, and been republished in TIME, Fortune, Forbes, CNBC, Business Insider, and more. Cole is also the author of Confessions of a Teenage Gamer, a memoir about his experiences as a teenager being one of the highest ranked World of Warcraft players in North America. Cole now advises a number of blockchain companies on their messaging and thought leadership strategies.



### **Alex Nagayama**

Alex has 20+ years experience in sales, marketing at gaming and mobile industries and 10+ years experience in the computer games industry working at management level for EA and Activision in Japan. He has a deep understanding of the games development process and extensive intellectual property contract management skills, gained specifically in the licensing in and out of development/distribution/sales/marketing rights to high profile interactive game properties. Additionally, Alex has substantial international and multi-cultural business experience spanning many decades.

# CONCLUSION

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We believe that gaming will be the next radical application of blockchain technology, second only to digital currency and financial transactions.

MagnaChain intends to be the first public blockchain platform to offer the stability, rapid transaction times, and security needed to facilitate true gaming experiences for users. We will go far beyond what is currently offered on the market in terms of blockchain “games” - instead of trite digital collectible dApps, we will allow developers to bring engaging sports, role playing, and other multi-user games onto the blockchain, with no loss of quality in the gameplay.

We will also open up a new world of possibilities for game developers and players, allowing the quality of game content to reign supreme in our ecosystem, rather than big budgets and the influence of publishers who currently monopolize the industry. By doing so, MagnaChain will bring more diversity to the content that is currently available to players, instead of repackaging the same worn out themes repeatedly. MagnaChain intends to be a hub for innovation and creativity in gaming, all powered by web 3.0 technology on the blockchain.

To find out more about MagnaChain and how to get involved in our project you can visit our website at [MagnaChain.io](https://MagnaChain.io), or find us on Reddit, Steem, Facebook, Twitter, LinkedIn, and Telegram.