White Paper
Second Earth (Gaia Project)
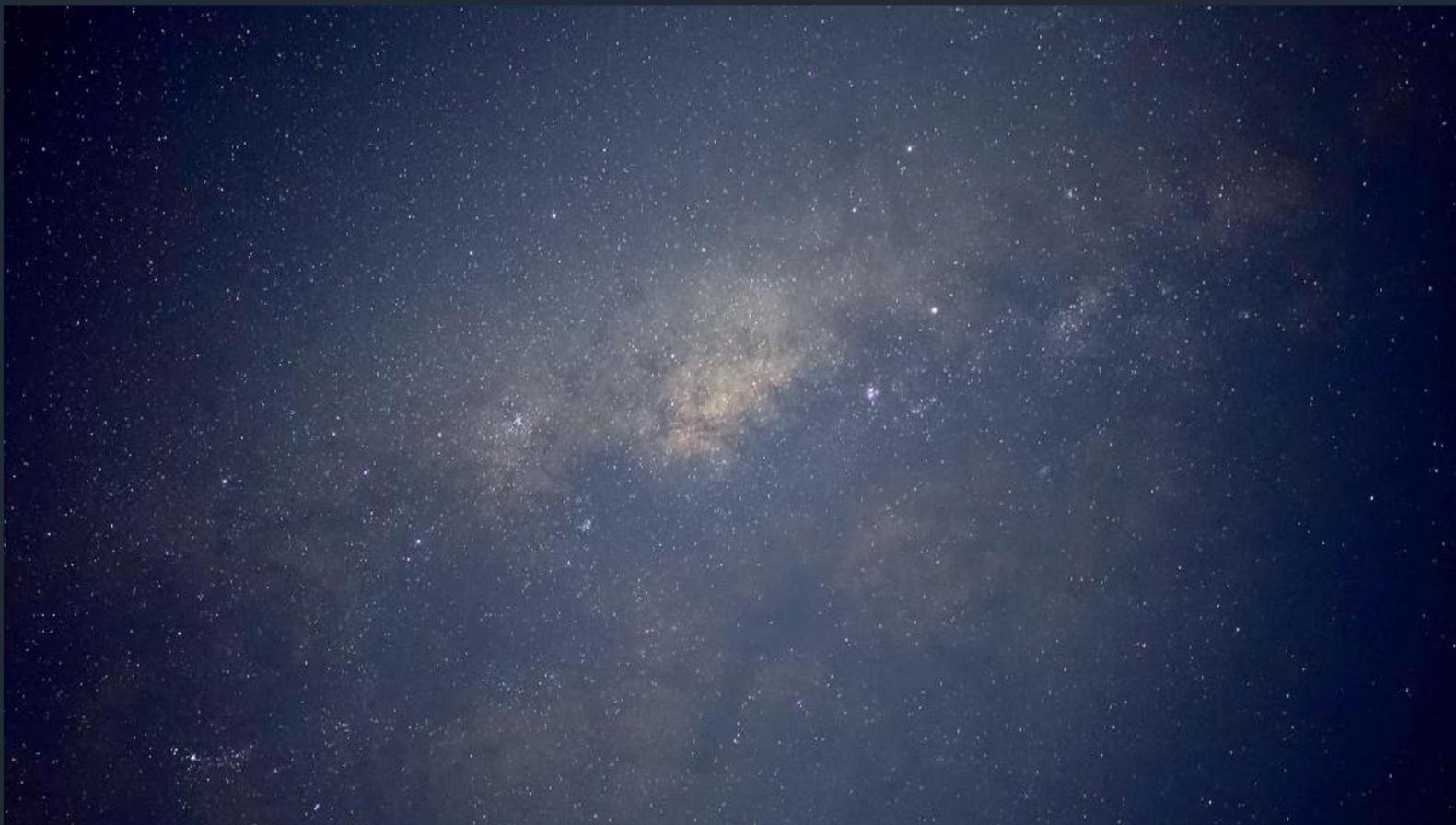

**Unhindered boundaries.
Virtually everything is possible!**

Plus Ultra

Date: 25-06-2020

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By integrating cryptocurrency, VR, AI, and Elon Musk's Starlink project, Second Earth allows anyone to acquire a ticket to become a new world citizen, participate in its exploration, develop their own territory, and become a master of the Second Earth virtual world!

Preface

Reviewing the current developments across civilization and technology, people must face reality: against a backdrop of rapid technological change, humanity has lost itself. People's opportunities to access technology are increasing, but a sense of belonging is seeing an inverse effect. The amount of information that exists is skyrocketing, but at the same time its quality is declining. Technology has brought us closer together than ever before, yet we are drifting apart. The world in 2020 is a place marred by deep insecurity and despair, both of which are poisoning society. Thus, let us put wield hope against despair and faith against insecurity, giving rise to a better world and through technology.

Technology has ingrained itself into every aspect of our lives around the world, yet it cannot be the sole solution for all problems. Artificial intelligence is still in its infancy, the use cases of blockchain are limited, and the coronavirus has shown the fragility of our global supply chains. In such times of crisis, can technology give us new hope and help humanity continue its path forward, free from the limitations of the physical world?

The popularity of online video conferencing tools, such as Zoom during the pandemic, have helped people understand that interactions and communication between people are not necessarily hindered by physical barriers. Traditional personal interaction reaches its limits during times of crisis, but eventually this leads to an emergence of new ways of interaction. Civilization is constantly evolving, and this progress cannot be halted. Instead of fighting the change, we must shape it and strive to create harmony between civilization and technology.

Many barriers prevent interaction in the physical world, from limitations of time and mobility to even subtler barriers, such as economic background or physical appearance. The wealthy might not spend time with those from a more modest background. The popular clique may not mingle with cliques they do not share any commonalities with, but they would not be obstructed by these societal barriers in an online space, like gaming. We are only just seeing the beginnings of how the emergence of virtual worlds will fundamentally reshape human interaction. The Second World (Gaia Project) will set out to drive this change because we passionately believe that there is only direction that humanity can go: forward! Plus ultra.

The Second Earth Mission: Reshaping human interactions.

The Second Earth Vision: Shaping a second human civilization in the virtual world.

The Second Earth Motto: Plus ultra (Latin: further beyond).

Chapter 1

Project Background

1. Industry status and pain points

1) Virtual Reality Technology

A. VR technology remains in simple use cases

In fact, virtual reality technology has a history that stretches back more than 50 years, but it has mostly remained in the realm of games and other simple use cases. Currently, there are still not many disruptive products emerging from this field and mobile games or PC games are still the most common way VR technology is applied. Game content and quality are constantly advancing, but the product itself lacks fundamental innovation.

A supreme AR/VR experience requires a low-latency network, but the current 4G networks cannot provide this crucial piece of infrastructure. Many advanced VR products cannot operate in the existing online environment because they need an abundance of high-cost modeling data and at least one to two days of work to create only static scenes. In addition, AR/VR requires a variety of strong network facilities. As a result, the VR industry has been mostly stagnant in recent years.

B. VR technology has limited data sources

The data sources required for virtual reality are currently quite limited because most of the data comes from professional modeling companies, and these high-quality materials

require a large number of companies to pool their resources for several years. Modeling based on static and panoramic shooting methods requires a great effort in UI design, scene design, and more. A simple scene may take one or two days for an engineer to process, which increases costs and reduces sales volume from users.

Because the virtual reality industry does not yet have a functional incentive mechanism to encourage the public to provide data, acquiring virtual reality data still faces many limitations, restricting development in the VR industry.

C. Virtual reality has not yet become deeply integrated with other technologies

Advanced interactive virtual reality technology requires a basic low-latency network environment, so before 5G and Starlink are widely utilized, most virtual reality environments are developed as a stand-alone version, which is problematic due to high costs and limited reach. Only when the global network bandwidth is strong and latency low enough, an actual virtual world can be built.

In addition, due to low productivity in terms of automation, artificial intelligence in the modeling process, drawing, and patching of VR and other virtual reality technologies, the production of new VR content is lagging behind potential demand by a large margin. Besides, due to a lack of data sharing incentives, it is not surprising that VR products can only provide such limited content we see today.

2) Cryptocurrency industry

A. A lack of broader use cases

The underlying technology for cryptocurrencies is blockchain technology, which is essentially a distributed, shared database. The data stored in it is characterized by being tamper-proof, pseudonymous, yet open and transparent. Based on these characteristics, blockchain technology has laid a solid "trust" foundation and created a reliable "cooperation" mechanism, which has broad application prospects.

However, the underlying technology for many cryptocurrency projects is derived from Bitcoin, a non-Turing complete infrastructure. They are relatively slow, and constructing an ecosystem on top of them is exceedingly difficult. Because the underlying public chain infrastructure cannot break through its technical bottlenecks in terms of scalability, interoperability and sustainability, the emergence of "killer applications" is still not realistic just as if no one would build a high-performance racing car if there were no proper speedways.

We either have to wait to make a technical breakthrough in the underlying public chain technology, or look for better application areas under the existing technology level, where cryptocurrency incentive mechanisms are able to function properly. Naturally, the latter is more in line with the current situation and much more suitable for a project with high volumes of data to be processed.

B. The barriers for the average person to are high

Blockchain and cryptocurrencies have relatively high barriers preventing the average person from participating. Some want to understand blockchain technology through mathematical reasoning, but when they see concepts, such as "elliptical random curve" or "asymmetric encryption", they quickly become discouraged and frustrated.

At the same time, managing cryptocurrency funds, to "be your own bank" is not an easy job for them. For example, in the field of cryptocurrency, users will encounter concepts such as "fiat transactions", "cryptocurrency transactions", "recharge", , "withdrawal", "transfer", which will take a lot of time to understand, not to mention the rules that govern cryptocurrency trading, including "transaction fees", "limit/market orders", and "leverages". Hence it becomes obvious that the biggest shortcoming holding back blockchain games is that the barriers to entry are too high, and the operation processes are cumbersome. You need to pay before participating, which inherently limits user growth potential in this industry.

Therefore, launching a blockchain application that allows the average person to easily, simply, and willingly participate is the best way to widely promote blockchain and cryptocurrency technologies.

2. Overview of the Second Earth project

Second Earth, also known as the Gaia Project, originated from the concepts dreamed up by Kevin Kelly, the most renowned futurist today. He has been studying the concept of a "mirrored world" for many years. Kevin Kelly believes that the mirrored world will enhance the real world through a combination of physical and digital spaces, and this world has now begun to emerge. It will be mankind's greatest achievement, creating new wealth for billions of people, and bringing new social opportunities and countless business opportunities. At present, there are no incumbents in this new virtual world, but everyone has the opportunity to participate in its creation.

The Second Earth project is inspired Kevin Kelly's mirror world philosophy and is determined to follow in his footsteps in creating the real mirror world by combining virtual reality, blockchain, artificial intelligence, and Starlink technologies. This would allow every place and thing in the real world - every street, every lamppost, every building, and every room - to have a full-size "digital twin" in the mirror world! This virtual world, the Second Earth, has the potential to become the next major digital platform.

Second Earth will use Elon Musk's Starlink to build a new communication network for the existing infrastructure. Through the real-world experience that VR/AR can create, it can support an interactive virtual mirror world and supplement data transmissions with embedded gene synthesis. At the same time, we can combine artificial intelligence algorithms and blockchain incentive mechanisms to create an

economic model for fintech as well as advanced advertisement applications.

The Second Earth project is a collaborative open source project jointly envisaged by 17 global network technology communities. It is based on an economic model co-developed by the financial tsar Jacob Rothschild in early 2019. By integrating various advanced technologies, the Second Earth project cleverly solves pain points in the industry, such as virtual reality and blockchain technology application scenarios that are too simple, limited data sources, and high barriers to entry. The project will enable everyone to easily participate in the Second Earth ecosystem, and become a master in the Second Earth ecosystem.

Chapter 2

Second Earth Innovations

1. Initial innovation of crypto-currency and VR

Second Earth is the initial AR/VR interactive platform that has adopted a cryptocurrency incentive mechanism.

The virtual world is a mirror of the real world. It means that the virtual world will also have its own economic system, and virtual currency is an indispensable medium of exchange across this entire virtual world, but this virtual currency cannot be created in a centralized way by project developers or founders, as this would result in those in the virtual world lacking trust and security, ultimately leading to depreciation of this virtual wealth.

Therefore, implementing a decentralized, open, and transparent cryptocurrency is essential in order to establish a true parallel virtual economy. In this respect, integrating blockchain and virtual reality will greatly accelerate evolution of Second World. In addition, the cryptocurrency incentive mechanisms encourage the general public to collect data and store it in the virtual reality database, so that users of the virtual reality platform can receive their remuneration. The bridge between the virtual world and the physical world is built, which will greatly enrich the content in the virtual reality environment and make the interactive experience more vivid.

2. New mission system

Second Earth will feature a new innovative mission system, allowing pioneers (see chapter 6.2) to assist the explorers (see chapter 6.1) to

complete exploration of the virtual world. The barriers for pioneers to participate are extremely low, since it only requires them to provide modeling data through uploading content, like pictures from mobile devices. Pioneers are not limited to occupations, countries, religions, or other factors, and the Second Earth has no barriers in terms of photography techniques but encourages people to shoot different scenes from multiple angles.

Additionally, Second Earth's incentive mechanisms will allow both explorers and pioneers to obtain ownership rights in the areas they explore, so that copyright fees could be obtained in certain scenarios. In addition, the pioneers earn get more rewards through the CPVS fees released by their respective explorers.

3. Consensus mechanism POM

Second Earth also proposes a new consensus algorithm, called Proof-of-Mission (POM) consensus. M stands for "Media", "Message", "Memory", and "Mission". Second Earth's unique algorithm evaluates each participant's contribution value according to these four dimensions.

"Media" means the content material provided by each participant for the AR/VR experience. Taking buildings as an example, photo content from participants will give the designer more materials for reprocessing and modelling scenes of the virtual world. This part is the core of the entire integration, since this is the best way to increase the Second Earth ecosystem and attract as many users as possible.

"Message" relates to the core of information exchange and the soul of the entire project. The new interactive mode will lead to a transformation of human communication and become the launchpad for the entire VR industry.

In terms of "memory", data in virtual technologies, such as VR is exceptionally large in most situations. Taking an ordinary VR video as an example, a VR camera can generate approximately 1TB of data per hour, which is equivalent to about 200,000 songs, or 17,000 hours of music. The ideal scenario for storing VR data must be to allow companies to view and edit it as needed, and at the same time allow them to store it economically, not to mention protect and preserve the data. Second Earth will fully utilize any contributor's storage space, and superimpose a double-layer system with front-end network storage and back-end storage.

A "mission" is an important task that everyone can participate in, and the low-threshold access for the task is conducive to the formation of the entire project ecosystem.

4. Mathematical algorithm

Second Earth will use the Newton-Raphson method of mathematics possible thanks to multivariable calculus. The overall mathematical algorithm will consider multiple variables, and also consider real-world stability and fluctuations outside the ecosystem.

Chapter 3

Technical Foundation of the Second Earth project

1. Underlying blockchain and cryptocurrency technology

Blockchain is the technology behind most cryptocurrencies. It is currently even more popular than VR, but It is not a new technology in itself. If we use the example of Google Earth as an analogy, Ajax is not a new technology, but when these technologies are combined, it culminated in the product Google Earth. Similarly, blockchain is not a new technology, but Bitcoin was born when encryption technology, P2P networks, and economic incentives were combined. Blockchain was originally a unique way for cryptocurrencies, such as Bitcoin to store data, or a self-referencing data structure used to store a large amount of transactional information. Each record is linked in an orderly manner from the first to the last block (of data).

Second Earth will develop its own public chain and issue its own cryptocurrency, called SET, which will be used to support Second Earth virtual world's incentive mechanisms and economic ecosystem. SET will be fully integrated into the virtual world, and unlike traditional cryptocurrencies, SET will be utilized across a wider range.

At the transaction system level, Second Earth will adapt an independent distributed settlement system, and use offline fingerprints plus pupil private-key transactions for large settlements. At the incentive level, Second Earth incentive mechanisms will use POM create

incentivizes for people to contribute to the ecosystem. The

project will have a bug-bounty program of 10 BTC for those dealing for bugs, and at the same time, it may give equity incentives to explorers in the future. At the security protection level, POM's consensus mechanism will play an important role, and if the attack occurs in one dimension, the other dimensions can be soft forked to resist the attack.

A blockchain explorer is being developed to provide on-chain data and transparency. The core algorithm behind the public chain is a multi-dimensional consensus algorithm based on Proof-of-Stake and Proof-of-Mission (PoM) consensus, and ordinary smartphones can be used as access terminals.

2. Virtual reality technology

Virtual reality is a new technology that combines various other technologies together, such as computer graphics, multimedia, sensing technology, human-machine interaction, network technology, 3D-display, and simulation. The areas it has been applied include military, medicine, psychology, education, scientific research, film and television, entertainment, manufacturing, engineering training, and more. This technology can replicate an environment to simulate a physical presence in a real or imagined world, allowing participants to interact with this virtual world.
In the Second Earth ecosystem, the real world merges with the virtual and generates a new environment and new visual representations, in

which the physical world and digital objects can coexist and interact in real time (AR). Users can interact with holographic projection

information in the virtual world of Second Earth, and instantly switch to any language. Virtual characters can be customized and replaced at will, and their clothing can be changed according to the scenario or changed according to user preferences. In the virtual world, trading virtual products is safe and convenient. Additionally, there are many types of virtual currency derivatives.

3. Starlink

Starlink is a satellite constellation built by Elon Musk's SpaceX to provide satellite internet access with global coverage. The system will consist of thousands of small satellites in low-earth orbit and work in conjunction with ground-based transceivers.

SpaceX is fully utilizing its experiences in rockets and spacecraft to deploy the world's most advanced Internet system. With far better performance than traditional satellite Internet and a global network that is not restricted by ground infrastructure, Starlink will provide high-speed broadband Internet access to locations where an internet connection is otherwise unreliable, expensive, or completely inaccessible. Starlink's goal is to provide services in the northern United States and Canada by 2020, and rapidly expand to densely populated areas by 2021.

Starlink is determined to meet or exceed all regulations and industry standards. At the end of a satellite's life, the satellite will use its airborne propulsion system to de-orbit within a few months. In case the propulsion system fails to operate, the satellite will burn in the earth's atmosphere within 1-5 years, which is far less than the time required in high altitude areas.

Since the successful launch of the first satellites in 2020, it can directly integrate with and supplement existing 3G, 4G, 4G LITE, and traditional wired Internet.

4.Hardware and equipment

At present, the vast majority of sales of virtual reality hardware devices come from VR glasses, primarily Sony PSVR, Oculus Rift, and HTC. For the existing supply of virtual reality hardware & equipment, Second Earth is temporarily using traditional head-mounted displays, but will use nano-scale ABS materials to optimize its hardware product lines in the future.

The wearer is immersed in the virtual world through a head-mounted display and receives exchange information superimposed on the real image. The Second Earth HMD restricts human vision and hearing and guides the user to experience being in a virtual environment. The display principle is that the left and right screens display images for the left and right eyes respectively, and the stereoscopic effect in the brain can be produced after the information is received by the eyes. The Second Earth HMD will use a more precise ultrasonic sensor measurement system to ensure AR/VR system accuracy.

The virtual reality tracking system will be integrated into the headset, including built-in sensors, gyroscopes, and magnetometers. Second Earth will use smartphones as primary platforms and access terminals, supporting both Android and Apple. In terms of compatibility, the platform uses a non-native system, which means the products from the developer are multiple systems on the same platform. If necessary to edit the native system, the software platform will generate an independent hard-fork after the open source code is released,

so that more developers can participate. On the PC side, the system will be compatible with Linux, Window, UNIX, and Apple operating systems.

For the controller, we will use a six-degrees-of-freedom hand controller. In terms of the transmission system, Second Earth will adopt ASIC transmissions instead of a Bluetooth transmission system to equip AR/VR equipment with better functions.
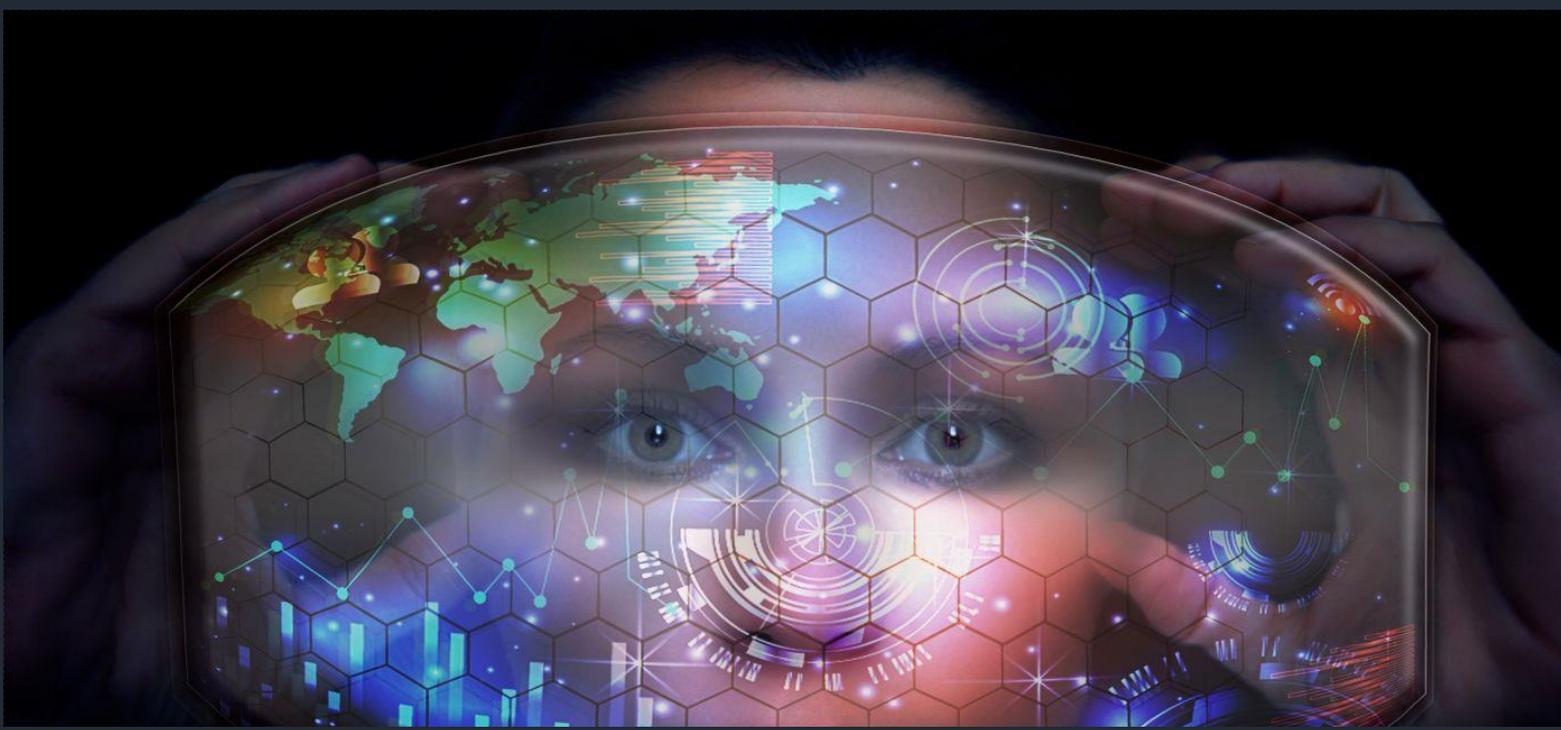
Chapter 4
Second Earth Application Ecosystem

1. Primary application scenario- immersive VR travel

VR technology has been recognized as an important industry in the 21st century and one that will most assuredly influence people's lives on a fundamental level. It will enhance user experience and unleash potential synergies across dozens of industries, thereby enhancing the value of those industries, especially in games, art, design, agriculture and many other fields.

In the virtual world, there is an infinite sense of freedom, which is released when breaking away from the physical world: there is no friction, gravity, or other physical constraints that hinder people's progress. Second Earth does not allow the physical and real world to remain independent, but fuses the two together to "embed digital bits into physical atoms", all of which will redefine a new way humans travel and communicate in the future!

The Second Earth Project therefore regards tourism as a preferential industry for virtual reality applications. Through 360-degree immersive virtual travel, users can explore every corner of the earth without ever leaving home and experience the fusion of bits and atoms to form a new amazing world.

With our users' help, we will be able to draw a virtual world map, the Second Earth, which is the same size as the real world and matches every point on the map. Second Earth is building an almost unimaginable 1:1 virtual replication of the earth;

this world will become the next great digital information exchange platform.

Second Earth can also complete collecting GIS data by simply taking photos and receiving rewards via the PoM mission system, overcoming the challenges facing the existing GIS industry today and allowing rudimentary products to be perfected through the Second Earth platform integration.

2. Advanced advertising system

One of the main reasons why online marketing is getting more and more attention is because of its ability to deliver metrics and data for analysis as well as reaching people wherever they are. Virtual reality technologies can add another layer to this. It has one more dimension than traditional media, which leads to more effective advertisements with a more streamlined user experience.

Second Earth will first conduct early virtual reality advertising tests with various traditional online marketing concepts. Currently there are CPM, CPC, CPA/CPS, and more customized content marketing derivatives that are still being tested. To explore other forms of advertising, Second Earth has established cooperation with cryptocurrency advertiser Addragon to pursue cooperation in the nascent blockchain ads industry.

CPM (Cost Per Mille) cost per thousand people. CPM is a display advertisement that is paid for. As long as the advertiser's content is displayed, the advertiser pays for this. It focuses on the number of IPs and will be the source of

advertising in the early stage of the Second Earth ecosystem. Second Earth has contacted more than 20 global CPM companies to discuss utilizing AR/VR virtual reality through CPM cooperation.

CPC (Cost Per Click) cost per click. CPC is a pay-per-click advertisement, which is charged based on the number of times the advertisement is clicked through. This model is generally adopted for keyword advertisements, primarily for news. In terms of interactive content, the Second Earth Project will be embedded in the Bing CPC platform as well as search engine platform advertisements in several major countries. Second Earth has contacted more than 20 global CPC companies to discuss utilizing AR/VR virtual reality through CPM cooperation.

CPA & CPS. CPA (Cost Per Click Acquisition) is an advertisement that is priced according to the actual effect of advertising, that is, it is billed according to the effective questionnaire or registration of the response without limiting the amount of advertising. Many SEOs of EDM and traditional websites are carried out by CPA. CPS (Cost Per Sales) is an advertisement that calculates advertising costs based on the actual number of products sold. This kind of advertisement is more suitable for shopping, shopping guides, and website navigation websites. It requires precise traffic to bring conversions. That means, after the consumer sees the advertisement and clicks on the advertisement, after understanding the content further, certain specific actions are completed on the advertiser's website. CPS interfaces are generally Visa and Mastercard. Second Earth has

signed more than 5 global CPA and CPS company contracts and is negotiating cooperation within the AR/VR industry.

CPVS (Cost Per Viewing for The Second World). Second Earth advertisement is the world's first customized advertisement in the virtual world. The primary display form is viewing, similar to mobile advertisement CPV, but mobile advertisements do not provide direct incentives to users. Due to its customized features, advertisers can place precise advertisements, and users who participate can obtain revenue through advertisements, or fulfill missions in the virtual world according to the economic model and gain revenue, creating a mutually beneficial situation for the platform, users, and advertisers.

The CPVS advertising system is also known as the Hasoffers system, and in the early stage, it will be a centralized settlement system; in the the intermediate stage, it will be an offline payment system with supplemented interactive settlement; and the later stage will be include a virtual world payment system. CPVS advertising form is a display type, and it uses a sharing mechanism, that emphasizes a referral mechanism for the explorer through an alliance mechanism, and at the same time follows privacy protection according to GDPR. We believe that, following traditional advertising marketing seen in email marketing and landing pages, CPVS's virtual reality interactive advertisement system will provide new development opportunities for the online advertising industry.

Chapter 5

Second Earth Economic Model

1. Second Earth and SET

The Gaia Project, also called Second Earth, features a native cryptographic token: SET (Second Earth [=Second Earth] Token). SET is the core token at the center of all economic actions within the Second Earth virtual economy.

2. Issuance mechanism

The SET token will be issued on a public blockchain with high throughput and a smart contract capability. A fixed amount of tokens will be mined every day and distributed to users according to their token holdings (POS), plus their shares in mission completions across the entire network (POM). This leads to a dynamic token issuance in such a way that those who genuinely contribute to network growth (through data gathering and sharing = completing missions) will receive more tokens than those who only hold tokens but do not contribute. Moreover, this issuance model will prevent unfair manipulation and unbalanced accumulation by a few large holders.

Maximum supply: 510.1 million
Initial supply at Reshaping stage: 5.101 million
Recruitment limit of the first batch of lords: 102 explorers

Recruitment areas for the first batch of explorers: 11 regions, including seven continents and four oceans. The seven continents include Africa, Antarctica, South America, North America, Europe, and Oceania;

the four oceans include the Pacific, Atlantic, Indian, and Arctic Oceans.

Unit price for the first batch of tokens: 0.2 USDT

3. Token mining pool

After the initial issuing phase is completed, the remaining tokens will enter the token mining pool. They will be allocated to all users based on their individual contribution values and Proof-of-Mission consensus, as well as the crucial incentive mechanism for the entire Second Earth virtual economy.

4. Mining and distribution model

Every day, the tokens generated through smart contracts are allocated automatically to the explorers and pioneers who have complete the missions based on global GDP proportion. The mining pool in Second Earth uses a comprehensive behavior method for chaotic data (big data statistics & Kelly Formula calculation) to calculate the miners' contributions to the ecosystem, based on mission completion (PoM), token holdings, and other relevant data.

Second Earth uses big data statistics & Kelly Formula calculation to analyze the hashrate of explorers and pioneers, where everyone's behavior can be digitized, making the reward mechanism be as fair as possible since all the behaviors are recorded as data. According to the national GDP ranking, the allocation of tokens can be done for the second time. But they will

not come into the secondary market until the national value production (GA) is used to unlock.

5. National production value (GDP)

The SET economy's mission-driven design is an exciting and innovative design for economic cooperation and development. Through issuing missions - an incentivized generation of economic behavior - and the receipt of corresponding rewards, it incentivizes the pioneers. At the same time, it also must match the same amount of "national production value" (GDP). The existence of the national production value can effectively control and incentivize completing missions and dynamically match the explorer's liquidity in the mining pool. Through the national production value, it is effectively determined how many tokens an explorer can monetize (meaning: exchange on the secondary market). At the same time, explorers who do not have enough national power, will have to either purchase GDP from the secondary market or encourage their pioneers to be more active and fulfill more missions. Based on explorer needs, there is a motivating incentive to complete missions and keep the community active, forming a virtuous economic cycle.

SET issuance is divided into two steps. In the "genesis stage", through the mission system, a quota of SET tokens is allocated according to the proportion of completed missions across the entire Second Earth economy (= SET per fulfilled mission). However, SET token distribution is not carried out at this stage.

After the genesis phase is completed, the algorithm automatically allocates the number of tokens that each pioneer can hold according to their respective contribution (determined through the PoM consensus mechanism). At the same time, the system will release tokens from the mining pool into the economy according to the parameters set in the on-chain smart

contract and thus complete the token mining process.

6. Burning mechanism

After the initial pioneering phase ends, the contribution value that is not converted into tokens will be burned.

7. Contribution value and halving cycle

The amount of newly issued tokens is halved according to the halving formula, which is dynamically adjusted. The halving formula (see below) will be written into the token issuance contract and is automatically executed according to the predetermined design.

This method can effectively achieve a sufficiently decentralized and fair way to distribute tokens in the Second Earth economy and prevent a single malicious actor or large capital power from disrupting the overall economy and/or token distribution system.

1.) Contribution value algorithm

The mining pool in Second Earth uses a comprehensive behavioral analysis method based on chaos theory to calculate miners' contributions to the ecosystem. The analysis is based on mission completion, token circulation, token holdings, and other relevant data to determine the contributions each miner has made. Additionally, Second Earth adopts the optimization method om the Ramanujan black hole formula proposed by Srinivaser Ramanujan.

$$N = \left(1+2\sum_{K=1}^{\infty}\frac{\cos^{k-1}\theta}{\cos^{h-1}\theta\pi}\right)\lim_{x\to\infty}+\{1+2\sum_{K=1}^{\infty}\frac{\sin^{-1}\theta}{r!\cos^{-1}\theta}\}$$

When a particular value is input, the modular θ function may be described as follows: it is not similar to the modular form, but the

characteristics are similar. Such special values are called singularities. When these points are approached, the function value tends to move towards infinity as the function f (x)=1/x, it assumes a singular point x=0. As K infinitely approaches 0, the resulting function becomes closer to the average.

2.) Pioneers and explorers execute the Hurwitz quaternions hash power distribution mechanism

Pioneers and explorers implement the Hurwitz' quaternary hash power distribution mechanism, which will be described below. About 10%-40% of the daily mined tokens are used to reward the explorers according to national power rankings. Everyone's contributions will be captured by the contribution system and thus brings the reward mechanism close to absolute fairness. The system will accurately identify your contribution to ensure the ecosystem's sustainable development.

The SET holding amount is defined as a dual variable address. Global address circulation variable flow *e*, global pioneer's + BSGS, and system changes occur with the XY coordinates set by GIS. The parameter *c* of the mining pool and the national power ranking *a* are the weighted multipliers of *2eiϑ* of the modeling parameters. The specific algorithm is below:

$$N = \lim_{x \to \infty} \oiiint_{k=2} 2e^{i\theta} \left[\left\{ \xrightarrow{\sum_{i=1}^{n} X_i Y_i} + \frac{x - \mu}{\sigma} \right\} + \partial \frac{-X \pm \sqrt{b\mathfrak{M}^2 - 4ac}}{2a} \right]$$

3.) Trigger condition for halving period

The goal of SET is to recruit 100 million explorers and pioneers from the real world into the virtual world of Second Earth. Only the user's facial recognition information is needed. No further personal information is required to Participate. The halving cycle of SET triggers halving according to real-time increases in the number of participants. Only when more and more real pioneers and explorers join the Second Earth Gaia Project to jointly build this virtual world,

SET will form an economic system independent from the real world and realize its full potential.

The trigger conditions for the halving period is also called high-order surplus:

$$N = \sum_{k=1}^{\infty} (a^2)^{(p-1)/2}$$

First, the solution can be converted to *g^(x'a) = g ^ b'* by using the original root + BSGS, that is, *x'* a = b'(% p-1)*, from which multiple solutions can be deduced. *a* is the degree of difficulty in halving the hash power, and *p* is the degree of repetition in the mission process in the Second Earth economy.

Halving period calculation formula, also called the modulus operation:

$$N = q + \frac{\delta y}{\delta x} \left[\frac{\Delta y}{\Delta x dx} + \left\{ \frac{\partial^2 \Omega}{\partial v^2} \ddot{x} + \partial y \partial b \right\} \right]$$

Given two positive integers: the dividend *x* and divisor *y*, a modulo n (abbreviated as a mod n) gives the remainder of *a/b* when Euclidean division is utilized, which is, the halving cycle time, the halving calculation, the halving height, and the contribution value remainder. The results of an integer modulo n is: 0 to n − 1 (a mod 1 is always equal to 0; a mod 0 is undefined, and it is impossible to cause a division by zero error in halving program language.

Chapter 6

Second Earth Roles and Rules

1. Explorers

Within Second Earth Gaia Project, explorers lead pioneers to explore territory across our virtual world and provide content to new users to obtain long-term benefits from fulfilling missions and watching advertisements (calculated by CPVS – cost per view of Second Earth).

2. Pioneers

Under the oversight of the explorers, pioneers can use their mobile phones and other electronic equipment to gather data (initially mainly photos, videos) for the Second World ecosystem and obtain revenue from sharing this data.

3. Recruitment rules and missions for explorers and pioneers

1) Explorer recruitment rules

Minimum investment: 5000 USDT

Explorer obligations: assist or guide pioneers to gather, upload, and share content (e.g. pictures). Explorers use the mission system in the early stage, the advertising ecosystem in the second stage, and the system-wide integrated content valuation mechanism in the third stage to earn revenue. Within the mission system, the explorer can supplement or improve AR/VR content in their respective area to encourage user involvement. Within the advertising system, the interactive advertising customization system can allow advertisers to utilize interaction in virtual reality to communicate with the audience. Assisted by artificial intelligence, their buying behavior will be incentivized and product customization as well as product personalization will be optimized to the greatest extent. In summary, advertising will become more precise through user screening and analysis, while at the same time blockchain technology will ensure transparency and prevent fraud.

The biggest beneficiary of all generated ad revenue will be the explorers. Second Earth plans to develop a competition mechanism on seven continents. When all seven continents are occupied by explorers, and the number of explorers in each continent exceeds 51, the explorer competition mechanism is triggered. When a pioneer under an explorer has a total hash power that exceeds that of the explorer, the pioneer automatically becomes the new explorer of the region to enjoy all the revenue sharing in the Second Earth virtual world and participate in national power ranking mining pool reward sharing.

First batch of explorers: 102 people
Available areas: 11 regions, including seven continents and four oceans. The seven continents include Africa, Antarctica, South

America, North America, Europe, and Oceania; the four oceans include the Pacific, Atlantic, Indian, and Arctic Oceans

2）Pioneer recruitment and competition rules

Pioneer recruitment rule：Any user who has a mobile device or other suitable devices for data gathering can become a pioneer.
About pioneer data gathering: pioneers shall take photos and videos in certain areas and upload photos to the Gaia ecosystem. This data will provide the most important building block for the construction of the Gaia virtual world. pioneers will receive "missions" from their respective explorers and will obtain revenue according to their contribution in fulfilling these missions. By collecting data and fulfilling missions, pioneers may build their own networks up to a point where they become explorers themselves. The student may indeed become the master!

In order to provide more modeling materials, Second Earth has introduced the institution modeled after the ancient Roman Senate. A city in a certain area needs a number of explorers, and the number of explorers will stop increasing after reaching a certain amount. New members need to be elected from time to time to become explorers. After losing the election, the old explorer no longer holds the position of explorer, but still enjoys the explorer's benefits for a certain period of time.

Chapter 7

Second Earth Roadmap
Time Span: AD 1987-2022

1. The first stage: the explorer arrives

1987: Motorola officially releases the Iridium project, hoping to deploy 66 satellites in low-Earth orbit to improve global communications.

2001: Iridium resumes business and begins providing Internet connectivity at 2.4kbps in June.

2014: Facebook announces a $2 billion acquisition of Oculus VR, which is the leader in immersive virtual reality technology.

2015: The first-generation Iridium satellite was successfully launched on the SpaceX Falcon 9, with a total launch value of US $492 million.

2017: The second-generation "Iridium Next" is launched, which is also composed of 66 satellites. In addition, there are 6 prescribed redundant satellites, and 9 ground modules. Iridium's second generation has maintained the same constellation configuration as the first generation, primarily for capacity upgrades and new business expansion.

2018: The Starchain artificial intelligence technology community was born, primarily aimed at optimizing the Falcon 9 GIS system and remote imaging proofreading system. This system can assist Starchain to realize consistency across the global network.

2019.06: Many countries around the world launch 5G consortium plans, including T-Mobile, Orange, Verizon, and many other international telecommunication giants, and the difficulties that hinder the development of 5G are standardization of 5G network base stations, and how to popularize 4G and 4G LITE networks to better serve existing customers. The WIFI6 project was born.

2019.08: The current SpaceX imaging engineer Malcolm Denemark proposed integrating WIFI6 and StartLink to form a global network with no dead ends, called Starlink. Later he conceived and added a blockchain incentive mechanism and VR technology, thus becoming the mastermind of the Second Earth virtual world. The Second World Gaia Project was born.

2019.12: The project was sponsored by a wealthy businessman, Mr. Jacob Rothschild, with 1.3 billion Israeli new shekels ($373 million), and the Gaia developer community was established.

2020.02: The Covid-19 pandemic lockdown was established in parts of the United States and Europe, and most team members adopted remote office work. This strongly reinforced the idea of creating a virtual world to allow people to untether themselves from the limitations of the physical world.

2020.06: The white paper is released, and the recruitment for Second Earth explorers begins.

2020.07: The first batch of customized Second Earth VR equipment, the explorer helmet, starts shipping.

2020.08: Version 2.0 of the white paper and global community white list are released. The full-page white paper, and technical white paper are released in traditional Chinese,

Japanese, Korean, Russian, German, and Spanish, in addition to the English version.

2020.09: The world's first VR conference, photo-mining, and contribution system are officially launched.

2020.11: Explorer's helmet 2.0 is released.

2021.01: Equipment mining and a new expanded mission system are officially launched.

2021.04: The source code of the public chain is officially released to the global developer community. The SET public chain realizes unlimited deployment of subproject platforms.

2021.06: Big VR PVP games and interactive mining will be launched.

2022.05: SET market value rises to the top 10 global crypto assets.

2030: Second Earth will become the world's largest company for immersive travel and interactive VR games in 2030. Second Earth will reach a global coverage based on 5G and Starlink.

2. The second stage: Gaia civilization

The Earth X project, a company established based on the Second Earth comprehensive ecosystem, will be listed on traditional securities market through Greenpro Capital Corp (NASDAQ: GRNQ). Moreover, it will apply for listing on the OTC section of the US Stock Exchange. The project will meet US SEC requirements and the standards above.

3. The third stage: Kepler-452b

The project has a larger goal of listing on multiple stock markets and virtual asset trading platforms. The SET token for the Second Earth project becomes the virtual currency with the largest circulation in the VR technology sector.

We are determined to never cease exploring, and Gaia will never stop!

Chapter 8

Second Earth Creators and Supporters

The following individuals are the project's mental architects, not the project's shareholders or investors, simply creative minds who conceived of the idea of a virtual world to save the real world. The Second Earth community thanks everyone for participating.

Main investor:

Jacob Rothschild, Israeli businessman and member of the renowned Rothschild family

Project inventor:

Malcolm Denemark, currently SpaceX, imaging engineer at Starlink.

Advisors:

17 network technology experts, and professionals across 55 fields.

Developer team:

Thomas White
Current SpaceX laser communication manufacturing engineer, leading the SpaceX Falcon 9 program.

Michael Bradley
Geekwire network commentator, expert in real-time artificial intelligence algorithms.

Michael Ouyang
Greenpro Capital Corp. listing strategy consultant, assisting the company in listing in the United States.

"Rhomelmabini" (alias)
One of the earliest members of the Bitcoin Forum, a five-star member, aerospace enthusiast.

"Kemarit" (alias)
Blockchain enthusiast, has repeatedly proposed the theory of blockchain and virtual world message interaction.

"DragonRider" (alias)
SpaceX reddit forum leader, aerospace enthusiast.

Michael Sheetz
Joined CNBC in June 2017. He mainly reports on technology and finance and the aerospace industry. Important member of the Dow Jones News Fund.

"Mmohebpoor" (alias)
Webmaster of the avforums website in Australia, adept at building AR models and hardware equipment management.

Ralph Stommel
An important member of the International Association of Virtual Reality Professionals, adept at VR modeling and 360-degree VR design.

Leslie Sweet
Expert of remote sensing water resources surveying and mapping in Texas, USA. H-E-B Director of Public Affairs in Central Texas.

Anirudh Koul
AutoMl artificial intelligence intelligent deep platform construction expert.

Kate A. Smith-Miles
Professor at Monash University in Australia, adept at meta-learning for algorithm selection.

Agnieszka Ławrynowicz
The most important core of the W3C machine

learning model community group, discusses standard model development, maintenance, and promotion for machine learning.

Einzel Wolf
Expert in ultra-long-range information interaction systems.

Jose Tdct
CPM operation expert, adept at website SEO and Email Marketing.

Matej Cechvala
The owner of Matuloo, earliest global CPC advertiser.

Sputnik Yuri
VR game hardware modeling enthusiast.

Donna Ayers
The earliest promoter of insurance advertising alliances. Committed to becoming a leader in the VR industry.

Stuart Allaway
KPMG consulting expert, Fidelity International consulting expert.

Ramandeep Mac
Senior management at India's largest consulting company, Tata Consultancy, AI consulting manager.

Chapter 9

Disclaimer

1. This document is only used to convey project information and does not constitute relevant opinions on buying and selling digital assets.

2. Second Earth is still in the development stage, and its philosophies, technologies, consensus mechanisms, algorithms, codes, and other technical details and parameters may be updated and changed frequently.

3. Regulatory policies may change at any time, and the existing regulatory permission or tolerance for the Second Earth project or its pre-sale plan in any country may only be temporary. In various countries, Second Earth may be defined as a virtual commodity, digital asset, or even securities or currencies at any time, which means that in some countries, according to local regulatory requirements, Second Earth may be prohibited from trading or holding. These countries currently include the USA, China, North-Korea, Singapore, Iran, and Syria.

4. Any similar proposals or suggestions will be carried out under a trusted clause and permitted by applicable laws. Information or analyses above do not constitute investment advice or specific recommendations.

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Second Earth Project

2020