



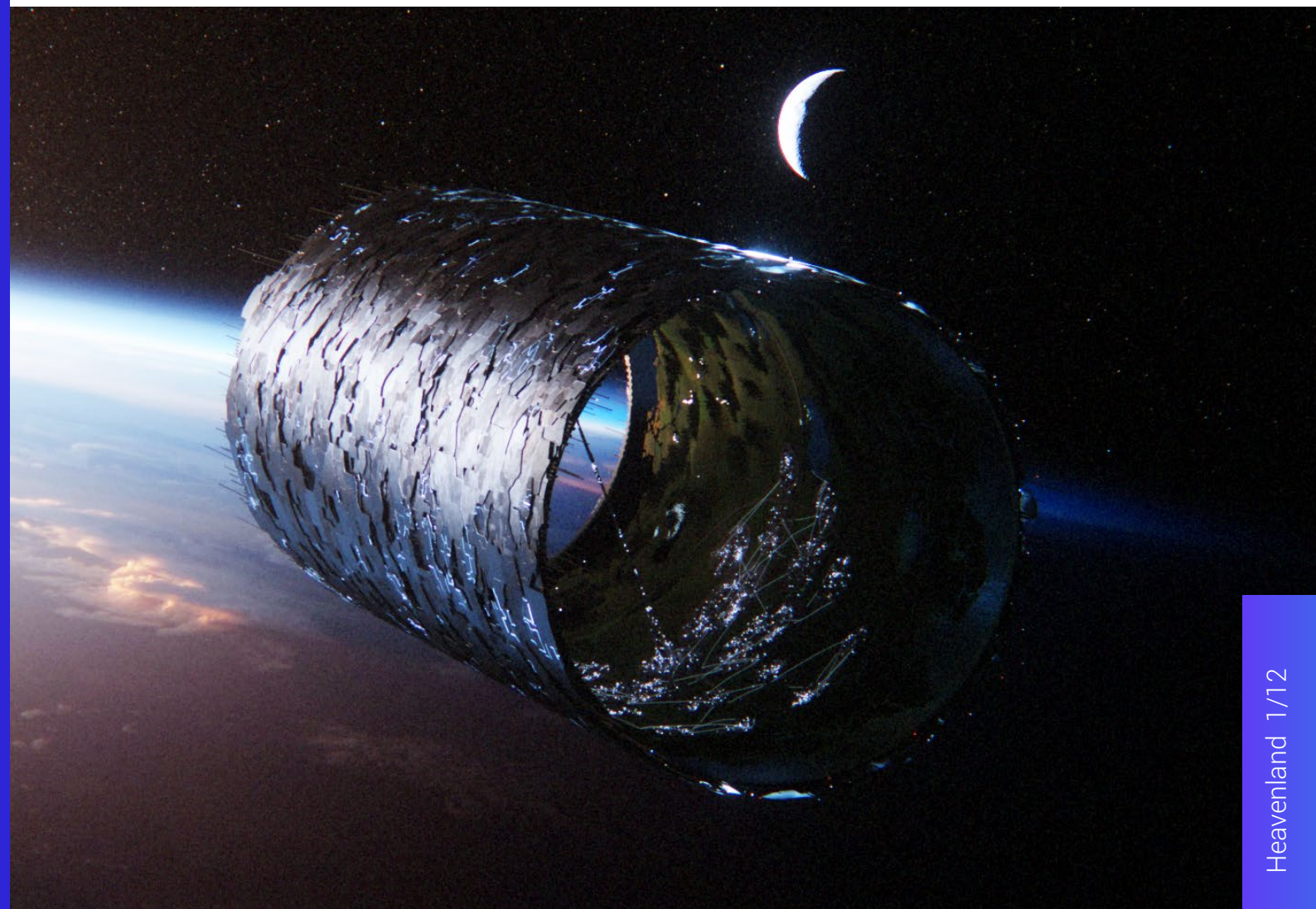
Heavenland

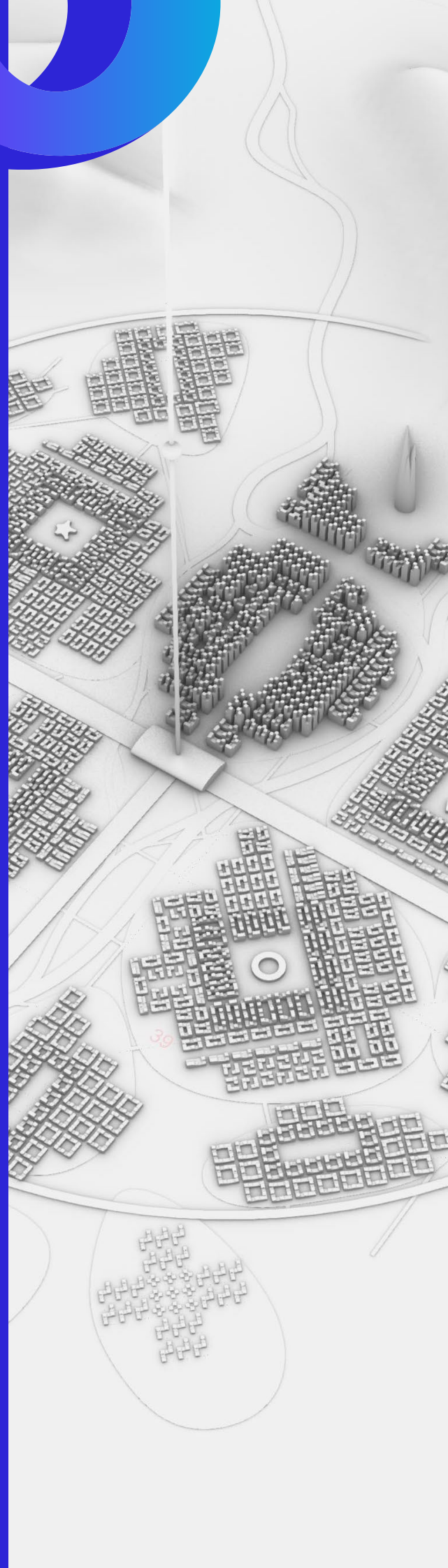
White paper

Version 1.1

Heavenland is a place where everyone can live - it's open, social, persistent and provides users with tools to interact, experience, improve and monetize their property. The virtual economy backbone is Solana blockchain; a backbone for content storage is decentralized IPFS.

Welcome to Heavenland, metaverse for everyone.





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1. Motivation

Metaverse has become a buzzword, and there are good reasons for that.

1.1 Virtualization

Our children are our best teachers. A smartphone is everything for my 8-years old son - it's not because of a piece of well-assembled electronics, but because it grants him access to the whole world - this tiny device in the hands of a child. My son's needs for the material world are suppressed. What he wants is new armour for his RPG character or an upgrade for his car to defeat stronger enemies and compete with his friends..

Whether we want it or not, virtualization is a trend that is becoming popular at an increasing pace. Infamous covid situation speeded it up even more. Ownership is getting an entirely new meaning thanks to recent development on smart contract blockchain platforms. Meeting our friends has been thoroughly redefined by applications like Zoom. And this could be just the beginning.

1.2 Tangible Challenge

Ideas must be seeded at the right time in order to grow into something big. The Internet couldn't grow if there were no wires placed by telecommunication companies. Facebook and Google wouldn't grow without millions of households connected to the Internet. And Bitcoin? Research in IT that made Bitcoin possible goes beyond what an individual can do in his lifetime.

All of these great technologies were possible because of what was invented before them. Still, an unimaginable amount of diligent work of countless innovators dealing with different challenges was needed so these technologies could become our everyday reality.

We believe Metaverse could be the next big thing. We know what technologies are needed to build it, we know some challenges that await, we are pretty sure there are more challenges we don't know about than we do. Luckily, creating a Metaverse has become a passion, which we would like to pass to the most people possible to help us make it a reality.



1.3 Infinite Possibilities

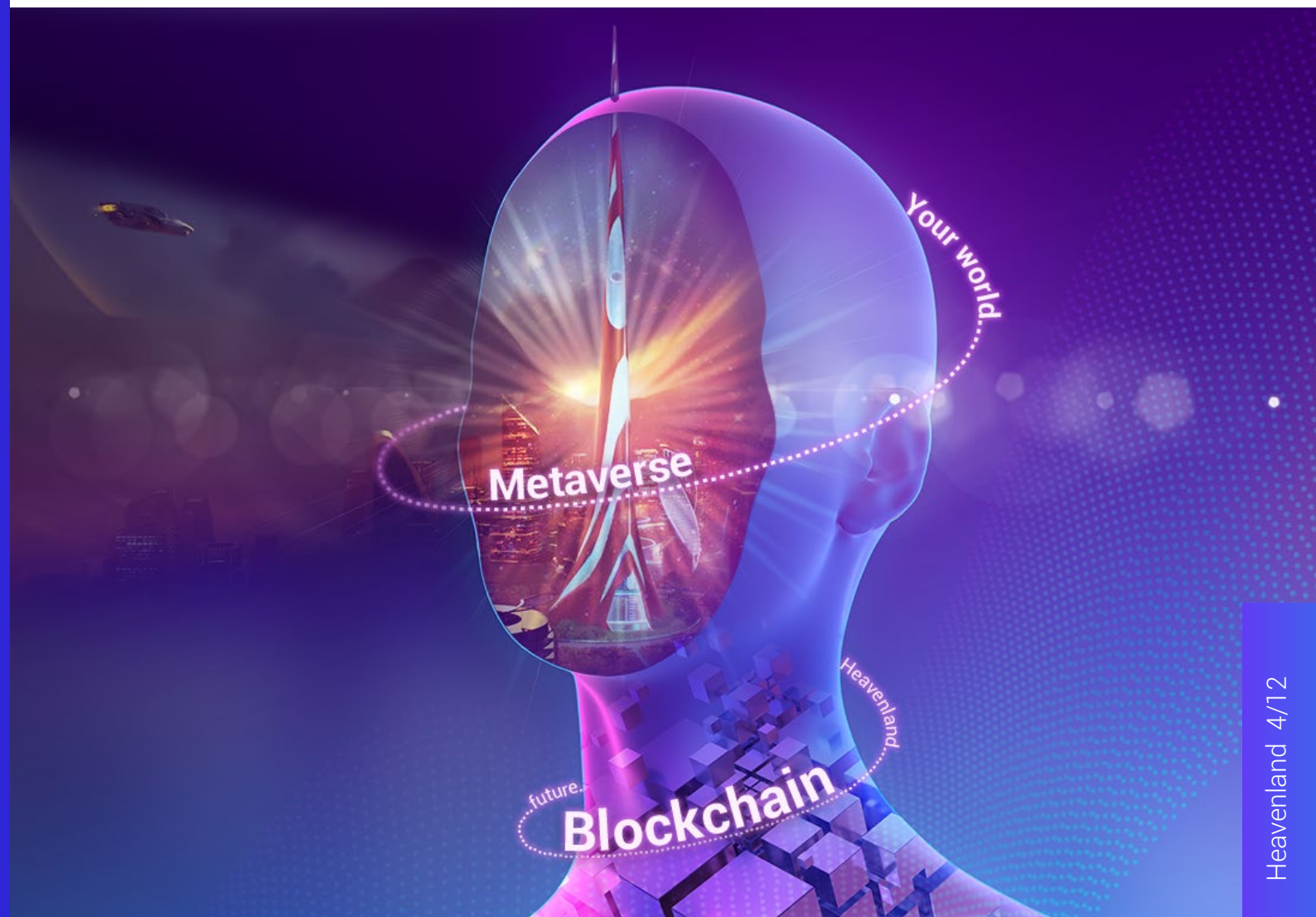
Metaverse can be thought of as a world of infinite possibilities. You can create content for other users and get paid for it. The content can be furniture others can place in their house, it can be a tree or car. It doesn't need to be a thing at all - it can be an algorithm or a game that others will play and enjoy.

You can connect metaverse to the outside world - you can stream videos from any existing streaming platform to the metaverse or vice versa. You can organize a concert in the metaverse. You can interact with your friends or get to know new people who you meet in the metaverse. Companies and entrepreneurs could offer their products and services in this virtual world.

So many ideas steam from our team's every-week brainstorming sessions, we are more than sure we've just started to realize what we could do with it.

1.4 Our Team

Our core team comprises 50 people and grows every week. We have blockchain specialists, artists, architects, game developers, programmers, IT infrastructure specialists, community managers, and marketing specialists. Next to individuals, we build collaborations with established projects in a part of the technology needed to make the Metaverse reality.



2. World

Before digging deeper into technical details, let's plug in our imagination processor and try to picture Heavenland.

2.1 Gravitational Tubus

Imagine you are living in a gravitational cylinder in the orbit of some planet. What a magnificent view - planet to the left, stars to the right, a futuristic city above your head. Imagine taking an elevator to get to the other side of the cylinder - what will you experience in the middle of the cylinder?

The concept of a city floating in space isn't new; you may be thinking of Elysium, Interstellar, Halo - Heavenland has been fascinated by worlds depicted by these movie and game masterpieces and decided to take their vision to a whole new level - to the metaverse.

2.2 City of the Future

Heavenland is a futuristic city with a design steaming from up-to-date research of self-sustainable cities, placed in the gravitational tubus in the orbit. Heavenland is how cities should look, not how they look today.

Heavenland comprises 38 individual Clusters with sizes ranging from 1x1 km to 2x2 km. The centre of every Cluster contains a public space that serves as a Spawning Area (entrance into Heavenland even for those who doesn't own a Parcel). Each public space is unique - gallery, stadium, concert hall, spaceport, harbour and many more.

Clusters are of 4 types depending on the height of a building they can contain. There is only a single Cluster in the centre of Heavenland, allowing skyscrapers to be built. The further you go from the centre, the more limited you are in the height of the building. No matter where in the cylinder you are, you'll always see the skyscrapers pointing you to the centre of Heavenland.



2.3 Parcels

Heavenland's Clusters comprise individual Parcels with a size of 25x25 m, and there are 30,000 Parcels in total. Simply put, Parcels are NFTs with some attributes directly encoded into NFT and some attributes derived from a Parcel location in the Heavenland.

The first class of Parcel's attributes includes height (Parcel's Cluster determines maximum height, but the Parcel's height might be smaller) and depth (similar to height attribute). The most exclusive Parcel's allow you to drill through the cylinder and build on its outer side.

The remaining attributes can be how far the Parcel is from a Spawning Area, whether the Parcel is at a riverbank or close to a park. Some of these attributes are subjective and depend on the preferences of given Heavenland citizens.

2.4 Transport

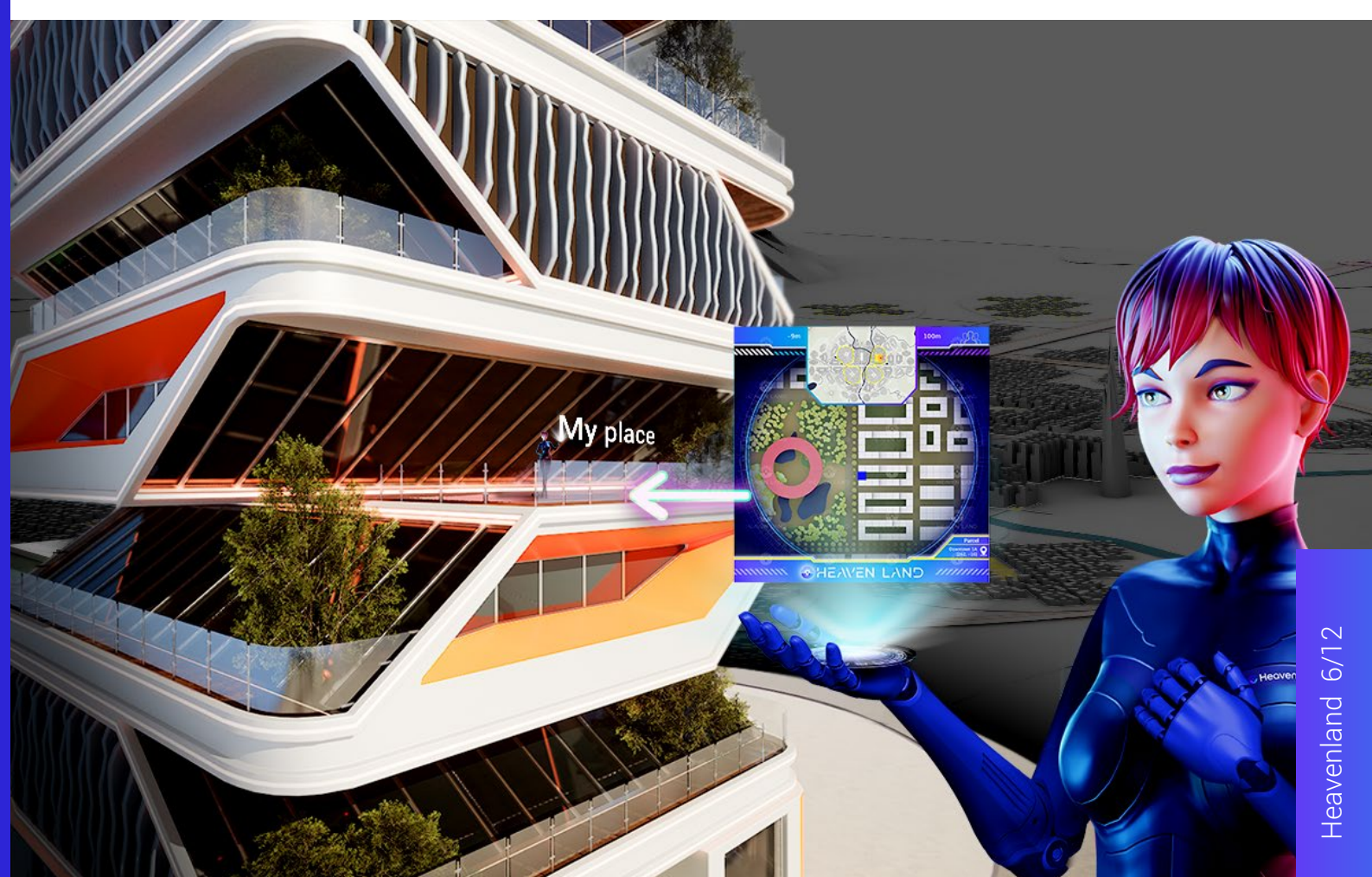
Heavenland is going to be a big city with a need for a well-designed transport grid. The walking or spring, which we expect to be the dominant way of travel, will be accompanied by a translocation (teleport to a short distance) and teleportation to designated areas.

The main transport will be by a hyperlink (similar to transport tubes known from Futurama) accompanied by some individual transport vehicles like cars and hovercrafts, whose numbers will be limited to sustain smooth transport of all these vehicles.

Besides transport within Heavenland, travel to outer space will be possible.

2.5 Avatars

Every Heavenland's citizen will have an opportunity to fully customize his avatar. This will include fully customizable avatar (which now means it's 3D playable figure in the game) and profile picture. To make the avatar system as fun as possible, there will be breeding.



3. Architecture

The architecture of a technological solution has been designed with the following criteria in mind

- maximum possible decentralization,
- allowance for 1,000,000 users being simultaneously present in the city,

and is divided into three layers.

3.1 Consensus Layer

This layer will be implemented on the Solana blockchain and will deal with virtual identity (a Solana address will identify a user), ownership (what you own will be represented by fungible and non-fungible tokens) and virtual economy (with its token allowing transfer of ownership).

The Solana has been our #1 choice since the beginning. We are watching other Metaverse projects (mainly Decentraland), and it's a little bit sad to see problems these projects must deal with because of still increasing gas fees. We believe Solana will spare us of these troubles in the future and will allow seamless transfers between users of Heavenland.

3.2 Content Layer

Thanks to Consensus Layer, ownership is securely stored in the Solana blockchain. To display your asset in the metaverse, we need storage to keep how your assets look. The solution for the storage lies in a Content Layer that will use IPFS to store content data.

This layer must be properly scaled to sustain large data transfers - if 1,000,000 users are about to download content, the content must be distributed. We are preparing an incentive model for content providers, which should ensure proper content replication.

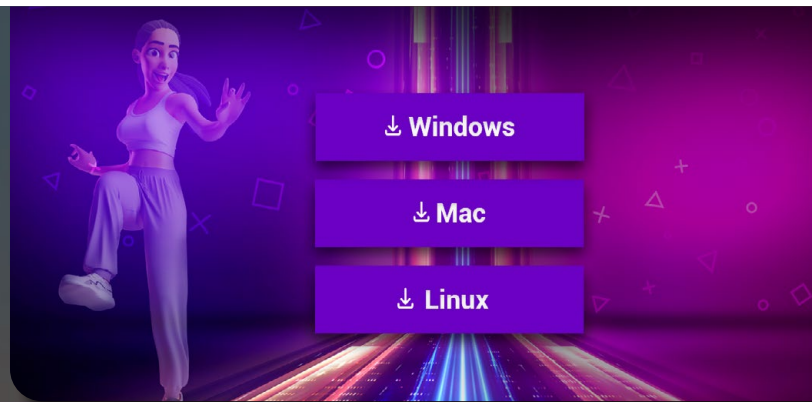


3.3 Presentation Layer

This layer is what the user sees. We expect different clients to be implemented, starting with Desktop (PC and Mac) and ultimately leading to VR.

We are using Unreal 5 Engine to build the world. There is a massive development inside the Unity community, and a lot of tools we need have already been developed here. It's not only about how the world will look like but also about how comfortable it will be to create new items in the world - for an ordinary user.

In addition, there will be some chat and voice communication between users. For these purposes, an infrastructure will be needed to foster peer-to-peer communication between interacting users. A similar problem arises when actions of other users in the user's vicinity have to be streamed. We plan to introduce an incentive mechanism to promote building this infrastructure.



4. Economy

The virtual economy in Heavenland will be centred around the native HTO Token.

4.1 HTO Token

A fungible HTO Token will be created on the Solana blockchain to foster the Heavenland economy. HTO will serve as the main currency in Heavenland.

HTO will be tradable for any assets and services in Heavenland and publicly tradable on secondary marketplaces, ensuring enough liquidity and easy exchange for popular digital assets. A small fee will apply to all purchases in HTO, and collected HTO will be used to reward creators, infrastructure providers, the team, and the rest will be burned.

4.2 Parcels

Parcels are the smallest part of the Land in Heavenland. They have the size of 25x25m and can be merged with neighbouring Parcels to create Bucket. The bigger the Land, the bigger its value, and the bigger the height a user can build on the Land. There will be 30,000 Parcels in total; the first 5,000 Parcels will be sold for SOL in presale, remaining parcels will be sold for HTO token in Heavenland's marketplace.

Owning a Land is an entrance ticket to monetization because its owner can do almost anything with it. In addition, the rarer the Land is, the more significant opportunity of monetization provides.



4.3 Monetization

Ownerships in the Heavenland will be transferred through a payment in HTO - it doesn't matter if you want to sell Parcels, digital goods, buildings or any other asset. You offer it for HTO, and if a seller is found, you are paid in HTO.

Practically every interaction with the world can be rewarded with HTO. Do you own an apartment? You can rent it out and gain regular income. Do you work in a casino? You can be paid a salary. Is your building adjusted to allow displaying ads? It can generate you a regular income as well. Do you organize a concert or plan to stream a video from outside of Heavenland? You can get your audience to pay you for it. A token reward is waiting for you.

Builders will be incentivized to start building and improving their Land to fasten the platform's adoption in its early stage. The target is to enable users to become a part of the economy as soon as they join Heavenland. Therefore, competitions, airdrops, activity rewards, and similar events will grow the user base as much as possible in the shortest period, resulting in the instant utility of the platform, HTO liquidity, and exposure.

Heavenland contains several ways of travelling which will require HTO to be used. These include transport tubes and elevators to the other side of the world. Additional demand for the HTO will be created by partners who will be required to stake HTO to become part of the Heavenland.

4.4 Market

Heavenland is developing its marketplace, Heavenmarket, which will allow payments in HTO tokens and be implemented directly in Heavenland's interface so that users can access it while in Heavenland.

Because the tradable assets will be Solana NFTs, it will be possible to trade them on existing NFT marketplaces. Our team is arranging partnerships with marketplaces to allow users early market experience. We expect the in-game market will rise this experience to a whole new level.



5. Governance

While users are embedded in Heavenland, there is a need to govern Heavenland properly. Heavenland must adopt new technologies and evolve in a way most suitable for most of its users - something most users don't want to care about..

5.1 Partners

We do not aim to reinvent the wheel. We focus on building a virtual reality platform that will enable users to experience and monetize their property. To create the most efficient environment, we plan to integrate reputable partners from segments such as gaming, decentralized payment solutions, DeFi lending platforms and others. These partners will push Heavenland to a higher level.

NFT collections will be accepted to get included on the platform. This will enable full integration of the collections' brand into Heavenland. NFT owners will be able to use their NFTs as avatars or to improve their assets and other perks.

All partners will be required to purchase and stake HTO to start the onboarding process - more in the "HTO Token" section.

5.2 DAO

Small centralized systems move quickly forward, but as they grow, they become ineffective. The latest development in blockchain shows us how strong a concept of decentralization is, how many things can be achieved if people are given enough freedom and just the right incentive. Heavenland starts as a project centralized around its creators trying to set Heavenland in the right direction. When this direction is set and other people are onboarded, Heavenland will start its transformation to DAO.

Ownership and contributions to Heavenland will be used to define a voting power in DAO - the more you own, the more you've built in Heavenland, and the more you've contributed to Heavenland, the more considerable voting power you'll have in the DAO. DAO will decide about incentives and will define the future of Heavenland.



6. Summary

Heavenland is a futuristic city, distributed platform, shared virtual world, building and monetization platform, a place to spend good time, meet your friends and much more.

Possibilities are endless, and all of them meet in a single place - Heavenland.

