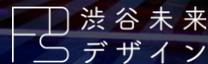


バーチャルシティコンソーシアム

VIRTUALCITY CONSORTIUM

Virtual City Guidelines v2.0.0
Summary Version

October 8, 2023



About the summary version

The purpose of this document is to give an overview and understanding of the key issues surrounding the Virtual City Guidelines drawn up by the Virtualcity Consortium.

This summary version focuses on the issues frequently asked about. However, in order to reduce the amount of text, we have kept descriptions to a minimum. Please refer to the relevant section of the Virtual City Guidelines for details on the issues discussed.

In the text  P.X indicates the corresponding page number in the Virtual City Guidelines.

The Virtual City Guidelines are based on Japanese laws and regulations.

For any questions or queries, please contact the Virtualcity Consortium.

Virtual City Consortium

<https://shibuya5g.org/research>

Virtual City Guidelines

<http://shibuya5g.org/research/docs/guideline.pdf>

Virtual City Declaration

<http://shibuya5g.org/research/docs/declaration.pdf>

Purpose of the Guidelines

These guidelines are produced for the following two purposes

- To **organize the issues** to be considered by the city-linked metaverse and metaverse-related businesses in business development and service operation, and to **provide guidelines and background information** for each issue.
- Foster **a common understanding among** stakeholders in the city-linked metaverse and metaverse

Through the publication of these guidelines, we aim to support the activation of the resulting city-linked metaverse, which is unique in the world, as a Japan-originated platform.

Guideline description and operational policy

In these Guidelines, we have decided not to distinguish between issues common to the metaverse and the city-linked metaverse and issues specific to the city-linked metaverse.

In addition, the city-linked metaverse targets not only virtual spaces such as so-called VR, but also experiences in real spaces such as real cities, as in AR/MR. For this reason, we have added a description of how to organize **the provision of services in real space** since ver. 2.0.0.

These guidelines summarize the discussions in the Virtual City Consortium up to the time of the update, as well as government reports and other information.

However, the city-linked metaverse and metaverse is an area that is changing and growing at an ever-evolving pace. Therefore, we will not adhere to the current version of these guidelines, but will **openly update them** based on the actual conditions in the market and discussions in other organizations, governments, and academia.

What is a City-linked Metaverse?

A City-linked Metaverse is a concept that goes beyond that of a normal metaverse to create a **virtual environment based on the landscapes and culture found in real cities, linking these virtual environments with those of real cities both functionally and economically.**

A City-linked Metaverse aims to provide a more enriched living space by linking cities in the real world with those in the virtual. Specifically, there must be a virtual environment consisting of a three-dimensional "space" that can be accessed permanently from multiple devices, and operable alter egos (avatars) that can act within the virtual environment, or in a psychical space superimposed on a virtual environment, via the avatar itself or via one's own body.

In addition, because a City-linked Metaverse links a physical space with a metaverse that can be considered a city on the Internet, it is important that all parties involved have a common understanding of the development, operation, and coordination of the metaverse.

A City-linked Metaverse, and metaverse, are concepts that are now being formed based on various initiatives and discussions. The Virtual City Guidelines therefore define all the relevant components based on the knowledge gained from the Virtual Shibuya activities being conducted in Shibuya.

Components of the Metaverse

The Consortium believes that a common understanding of a metaverse has generally emerged as "an online three-dimensional virtual space accessed via an avatar and Internet services using that virtual space. The seven components are as follows:

- 1 The virtual environment must be composed of a 3-dimensional "space".
- 2 The existence of an alter ego (avatar) that can be manipulated, The avatar must be able to operate in a virtual environment.
- 3 Having real-time interactivity.
- 4 Permanent access from multiple devices
- 5 Ability for a very large number of people to connect simultaneously and share a virtual environment
- 6 **Interoperability** with another virtual environment
- 7 The **existence of an autonomous economic zone** within a virtual environment

Metaverse Philosophy

At the 2023 G7, the Metaverse "must promote the use of **trustworthy, safe, and secure technologies based on democratic values**. Democratic values are supposed to include fairness, accountability, transparency, security, protection against online harassment, hate, and abuse, respect for privacy and human rights, fundamental freedoms, and protection of personal data.

In addition, the "Metaverse Public-Private Partnership Council" of the Strategic Headquarters for the Promotion of Intellectual Property, Cabinet Office, Government of Japan, summarized the following four principles of metaverse, focusing on "**self-expansion and self-realization**," "**human interaction and cultural integration**," and "**value creation**" as the values to be realized through the utilization of metaverse. The following four principles are the principles of Metaverse that we should aim for.

- Metaverse as a place of free activity
- Metaverse, where diverse people gather
- Metaverse for safety and security
- A metaverse where creativity can flourish

As the metaverse, a new sphere of life, becomes more widespread, metaverse-related businesses will be required to develop and provide services based on these principles.

Components of the city-linked metaverse

- 1 A virtual environment consisting of a three-dimensional "space" **based on the motif of a** real city.
The existence of an alter ego (avatar) that can be manipulated, and the ability to operate within the virtual environment or in a real space in which the virtual environment is superimposed using the **avatar or one's own** body.
- 2 The avatar or his/her own body can be used to perform activities within the virtual environment or in a real space where the virtual environment is superimposed.
- 3 Having real-time interactivity.
- 4 Permanent access from multiple devices
- 5 Ability for a very large number of people to connect simultaneously and share a virtual environment
- 6 Interoperability with another virtual environment
- 7 The autonomous economic zone in the virtual environment and the economic zone in the real city must be linked.
- 8 **Linkage between the** virtual environment and the real city.
- 9 Receive sponsorship from the local government or community organization of the real city that served as the motif, etc, **Specific collaboration** with **stakeholders in the** real city

The main topics of the guideline

City-Linked Metaverse

8. Reproduction and modification of real city landscapes

9. Concept of publicness

10. Linkage with real cities / sales channels

11. Utilization of city-linked metaverse in physical space

Topics that need to be considered in a city-linked metaverse

Metaverse

1. Activation of the creator economy

2. Economic activity on the metaverse

3. The importance of democratic governance in metaverse

4. Copyright of user generated content

5. Protection of avatars

6. Portrait and publicity rights of avatars

7. Virtual property

Topics that need to be considered for both city-linked metaverse and metaverse

1. Activation of the creator economy P.19

Activation of the creator economy

(1) Possibilities of blockchain technology

- In a city-linked Metaverse and metaverse, it is important to encourage user creativity and provide an environment where users can create their own content and services.
- In this case, users are responsible for providing content and services. When it can be provided, it is also important to design the content and services so that users can obtain not only economic value but also qualitative non-economic value.
- The use of blockchain technology is not required in the metaverse.
- However, blockchain technology could be used to enhance users' creative activities based on its economic value.

(2) Establishing interoperability with users themselves

- Regarding the interoperability under discussion, the key point is the ability to unify digital identities across multiple platforms.
- In addition to cultural elements such as avatar data and technical specifications, interoperability of cultural elements such as rules and norms should also be considered.

(3) On-chain and off-chain

- In blockchain, it is important to combine on-chain and off-chain to provide metadata and content data to users.
- For off-chain, there is a risk that users may not be able to use the content.

1. Activation of the creator economy



(4) Utilizing NFTs in the Metaverse

- Currently, the primary use of NFTs is in digital art and content.
- When NFTs are used for art and content, issues such as high learning cost, authenticity and reliability of publisher, transfer of copyrights, and currency of revenue sharing at the time of further distribution have been pointed out.

(5) Utilizing NFTs in the city-linked Metaverse

- When NFTs are used in a City-linked Metaverse, the main objectives are to increase the number of people involved in the real city, foster a sense of pride in the city, and link to the functions of the real city.
- If, as a sales channel, a mechanism can be established whereby a portion of the NFT purchase price is reinvested in city development, this will also help to encourage users to develop a sense of pride in the city.

(6) Mechanisms for user self-government of space

- It is preferable to have a system that allows users to self-govern the world and engage in community activities.
- DAOs are not required. However, it is important to prepare the necessary functions to properly organize and manage organizational activities by users in the metaverse.

(7) Challenges in utilizing NFTs in the metaverse

- The basic assumption is that NFTs will help, to a certain extent, reduce the inequality of opportunity in the realization of the creator economy, but it does not guarantee the ability to actually generate revenue.
- Public addresses on the blockchain may fall under the category of personal information under the Act on the Protection of Personal Information, so platform users should be careful when handling them.
- It is also important to design the mechanism from the user's perspective across industries.

2. Economic activity on the metaverse

 P.21

- For economic transactions to occur via the platform, value (e.g., services and content) must be provided on the platform, along with a means of payment.
- Conversely, depending on the nature of the transaction, there may be various domestic and international laws and regulations that govern the providers of payment instruments, or the intermediaries or agents of such instruments.
- Metaverse providers are expected to consider the potential and burden of complying with these laws and regulations when offering services related to payment instruments.

3. The importance of democratic governance in metaverse

 P.14, 42

- From the announcements at the G7 and the reports by the Cabinet Office and the Ministry of Internal Affairs and Communications, operators need to design and establish city-linked metaverse and metaverse based on democratic values in accordance with the principles of metaverse.
- In addition, the operators are required to ensure that the platform is managed through democratic governance in line with the philosophy of Metaverse, and that a system is in place for this purpose.
- In addition, in order to ensure open governance, operators are required to create and share community standards that summarize in easy-to-understand rules the items they expect users to comply with and their policies for dealing with violators, in addition to the terms of use, and to maintain an environment that fosters common understanding among users through the dissemination of easy-to-understand information regarding the rules. The operators are required to create an environment that fosters a common understanding among users through the dissemination of easy-to-understand information on the rules.

4. Copyright of user generated content

➡ P.28

- In principle, the copyright of user creations, such as avatars, belongs to the creator.
- It is important to balance the protection of users' rights with the efficient operation of the platform, while confirming in the terms of use that the rights to UGC belong to each user.
- When encouraging a chain of further UGC creation, it is important to establish a flexible rights handling mechanism that allows for the granting and easy confirmation of open licenses such as Creative Commons licenses, in addition to the establishment of the terms of use.

5. Protection of avatars

➡ P.32

- It is important to note that avatars have different rights depending on their method of creation and appearance.
- In some cases, it can be difficult to determine, so in principle, you should assume that copyrights exist. In other words, permission from the user for public transmission, reproduction, and redistribution must be included in the platform's terms of use, etc.
- In terms of ensuring interoperability, avatars are an important component in maintaining users' digital identities. Therefore, it is important to collaborate across industries in the future to standardize avatar data specifications and establish methods of storage of avatar data independent of the metaverse platform.

6. Portrait and publicity rights of avatars P.35

- The closer the avatar's appearance to that of the user, the more likely it is that a problem similar to that of infringement of portrait rights will arise if the avatar's appearance is taken, as a screenshot, etc., and published in the virtual space.
- Especially for well-known accounts and avatars, it is desirable to treat them as having rights similar to publicity rights since the account name and avatar's likeness have the power to attract customers.

7. Virtual property P.9

- With the integration of Web3 and the metaverse to create a new economic sphere, user interests (like rights) that are not protected by current law, but should be, such as ownership of data and digital assets, are emerging.
- At this stage, when dealing with virtual properties, such as NFTs (non-fungible tokens) using blockchain technology, it is important to include protection through the terms of use.
- In the future, it will be important to design mechanisms from the user's perspective, not the business', such as by collaborating with industry groups and businesses across industries to develop rules and use cases.

8. Reproduction and modification of real city landscapes P.14

- Regarding the reproducibility of city landscapes, it is not always essential to reproduce the landscape of a real city in its entirety. Under the current law, it is not mandatory to obtain the consent of residents when recreating or altering the landscape.
- However, it is important to avoid residential areas and to build relationships with local governments and community groups so that residents' private lives are not threatened.

9. Concept of publicness P.15

- City-linked Metaverses, by their very nature, tend to be public. As such, they should be designed so that local governments and communities can easily carry out their activities.
- In addition, interoperability and continuity are more important than in a typical metaverse. It is desirable to use blockchain technology to ensure interoperability.

10. Linkage with real cities / sales channels P.16

- In a City-linked Metaverse, it is important that the physical and virtual environments do not exist as separate entities but are connected through functional and business-related means.
- As a City-linked Metaverse, there is nothing special about cooperation with individual entities existing in a real city. It is sufficient to arrange linkages and sales channels based on normal business practices.

11. Utilization of city-linked metaverse in real space

Restrictions on where content and services can be located

- When users use the city-linked metaverse in real space, safety considerations must be taken to ensure that users, facility managers, and other interested parties are not harmed in any way, including life, body, or property.
- In particular, when a third party is the content/service provider through UGC, the platformer needs to warn the creator of the content/service.

Platform responsibilities to users and stakeholder support

- Platforms are obligated to provide services by entering into a contract of use (Terms of Use) with users. Therefore, in general terms, we believe that they are obligated to provide a system in which users are not harmed.
- Therefore, platform providers are required to create a system to ensure that content and service providers are provided with appropriate services, etc.
- For example, if the rights and interests of users are harmed by the content of AR advertisements whose advertisers are not platformers, the platformer may be subject to claims for damages.

Private law risks of providing content and services in city-linked spatial media

- The content service provider or platform may harm the rights and interests of others depending on the content and manner of its offerings.
- In such cases, you will be civilly liable (although some criminal liability provisions also exist). In this case, you should be aware that you will be liable for civil liability (however, some criminal liability provisions may also exist).

Reference | Background to Establishment of Virtual Shibuya

Based on the city of Shibuya in Japan, Virtual Shibuya was launched in May 2020 with the goal of **extending the experience of the city** by developing a City-linked Metaverse, **linking the real city with a virtual space**.

Behind the development was a project to provide a new urban experience using extended reality (XR) technology, and based on the Shibuya model of urban development, led by KDDI, the Shibuya City Tourism Association, and Future Design Shibuya. However, in light of the state of emergencies and lockdowns owing to the pandemic, the course of action was instead changed to realize the previous concept of another Shibuya on the Internet.

Virtual Shibuya was developed to fulfill the following elements in order to **provide the experience of meeting people on the streets of Shibuya**, even in an environment where it is physically impossible to go out and visit the city.

- Can be used easily by anyone with devices widely in use
- Can reproduce the Shibuya Scramble Crossing as a 3D virtual space
- Virtual space can be accessed by multiple users simultaneously on the Internet
- Users who access the virtual space can recognize and interact with other users
- Can hold virtual reality events that are unique in the virtual space

Reference | Background to Establishment of Virtual Shibuya

Development was **conducted through open innovation** with a launch event held after the roughly two months of development was completed. After the launch event finished, the virtual space remained open and accessible to many different visitors.

The response immediately following the launch event was far greater than expected. Hopes were raised for urban experiences beyond the event itself, such as shopping experiences, daily communication, and solutions to city issues. In response to these expectations, the project team continues **to develop business through co-creation**.

Virtual Shibuya



Image of launch event



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