



Metaverse Browser

Overview

2024.Q3

Metaverse Browser

Introduction

The web browser is possibly the most successful software product ever created, due largely to its ability to deliver content on demand. This is only possible because open standards allow you to connect to any website, and anyone can learn to build one themselves.

We are now collectively standing on the doorstep of a new technological era – the transition to the spatial internet. With no hardware obstacles standing in the way, a simple shift in the way we think about software design is all that is required.

The paradigm shift can be characterized by what we refer to as the three tenets of the spatial internet, which are:

1. **Streamed On-Demand.** Applications are not pre-downloaded or pre-installed.
2. **Spatially Aware.** Applications place content within a shared 3D scene.
3. **Unbound by Application Boxes.** Applications do not exclusively own viewports.

In order for the spatial internet to materialize, all applications that are currently designed as closed, client/server products will need to be reimaged as services.

Due to perceived technical limitations that other companies have encountered building real-time immersive XR ecosystems, there are groups pushing for a federated metaverse that attempts to connect closed ecosystems with a variety of solutions to bridge gaps between them. However, this paradigm is neither sustainable nor desirable.

A native metaverse browser will need to take into account all of the unique properties that are required to render the spatial internet and deliver a tailored solution. That is, optimized for the applications that are streamed on demand, spatially arranged, and not confined to rectangular boxes – the three tenets of the spatial internet!

The proliferation of open standards and protocols that mimic the World Wide Web is the only mechanism that can prevent fracturing the XR landscape into thousands of walled garden applications. We cherish this feature of the open internet, and champion it because the decision to make and keep the internet open is possibly a greater achievement than the invention of the internet itself.

What a Metaverse Browser Does

The metaverse is essentially a view of the spatial internet as seen through a metaverse browser. This view has decidedly different properties from websites rendered in today's web browsers.

A metaverse browser, built specifically to support the three tenets of the spatial internet, spatially renders objects and activities (apps, features, or tools) organized in a map of unbounded 3D space. The map is populated by services from many unrelated domains, and these services can interact with each other and the user in real-time.

Metaverse browsers are designed so that many services can be contacted by the browser simultaneously and imported into a shared map (or scene graph). Maps rendered in a metaverse browser do not have to meet any specific size or property to qualify as being part of the metaverse. Any map viewed through a metaverse browser would qualify as being part of the metaverse.

How it Works

Just as web browsers are not built for one specific website, metaverse browsers are not built for one specific spatial fabric. Today's websites are built using dozens if not hundreds of international standards. Each web browser does its part to follow the same standards and protocols. And because of that, any website can be rendered on any web browser.

Similarly, new spatial internet protocols and standards will need to be created in a way that allows a variety of metaverse browsers to render content and services from an unlimited number of content providers. Conversely, no content provider can rely on any one particular metaverse browser for purposes of rendering.

In order to make this possible, the metaverse content needs to be abstracted similar to the way website content is abstracted. The languages and file formats used to describe today's web pages (HTML, CSS, JavaScript, JSON, JPG, PNG, MP3, MOV, etc) will need to be replaced or enhanced with a new suite of file formats for the metaverse (JavaScript, WASM, JSON, FAB, MAP, OBJ, GLB, etc.). In this way, metaverse browsers will be able to render components of the spatial internet based solely on streamed, real-time data that conforms to these new standards.

Why it's Useful

Most websites aren't 3D or spatially aware and most 3D applications rely on private connections to walled garden ecosystems that don't interoperate with other 3D applications or services. Metaverse browsers remove the application walls, greatly improving onboarding and retention of users for XR. Open standards allow companies and individuals to invest in creating content for the metaverse without risk of having their content lost if or when a walled garden company shuts down.

Just as web browser applications are steadily replacing installed desktop applications, spatial internet applications will inevitably replace pre-downloaded and pre-installed apps, leading to a rapid decay of device app stores.

The metaverse browser consolidates all of your devices and services into a single, general purpose browsing experience. Smart devices once married to singular ecosystems such as Amazon Alexa, Apple Siri, and Google Nest will generically meld with the metaverse. This interactive functionality will extend far beyond your home to all verticals to become the new standard.

Future metaverse browsers will likely be native applications that take exclusive ownership of a device's display, assuming the roles of both operating system and desktop. AR glasses will likely not be much more than a hardware metaverse browser. VR headsets might also choose to boot directly into a metaverse browser and not have another way to open separate apps that exist apart from the metaverse.

RP1 Metaverse Browser

The RP1 metaverse browser is the first general purpose metaverse browser ever created. It is part of a proposed standard for peering into the spatial internet using the standards and protocols detailed in our white paper, [The Blueprint for the Open Metaverse](#).

The current RP1 prototype metaverse browser is built as a standard web page in JavaScript using the Wonderland Engine on top of WebXR running within a web browser. While the current implementation uses WebXR, metaverse browsers need not rely on any particular technology stack.

The RP1 metaverse browser will be published as open source software and we welcome both collaboration and competition from anyone seeking to bring the metaverse to life. We invite you to get involved in the discussion on metaverse browsers.

Learn More

This document merely provides an introduction to and overview of metaverse browsers. For a deeper understanding of metaverse browsers and the role they play in the broader scheme of the metaverse, along with additional information about the Metaversal Model Foundation and spatial fabrics, download our white paper, [The Blueprint for the Open Metaverse](#).

rp1.com/whitepaper

About RP1

RP1 is pioneering the next evolution of the internet with the first prototype metaverse browser that combines open standards and protocols with a proprietary software-based approach that scales to the world's population.

The metaverse browser allows 3D immersive applications to be delivered on-demand to any device, similar to how we consume web content today. RP1's spatial fabric makes it possible to navigate a 1:1 digital twin of our solar system and an entire universe from any device (PC, mobile, AR/VR) for business, education, and entertainment.

A global open demo of RP1 is coming soon at [RP1.com](https://rp1.com). Contact us directly if you would like to see a demo privately.

About Metaversal Corporation

Metaversal is the world's leading technology company solving for the next generation of the spatial internet. Our mission is to build open software that connects people, services, and devices in a single, persistent metaverse.

We introduced RP1, the first prototype metaverse browser, MVMF, the first real-time API solution, and the statabase, a revolutionary network server architecture enabling unsurpassed vertical and horizontal scale. With open standards and services, RP1 will allow anyone to create and publish fully immersive XR experiences in the metaverse.

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