What is the Metaverse? (WEEK 1.1)

What is the metaverse?

Welcome to the Metaverse :

Today we're going to talk about the Metaverse. I want to share what we imagine is possible. The experiences you'll have, the creative economy we'll all build, and the technology that needs to be invented, as well as how we're going to all do this together. The basic story of technology in our lifetimes is how it's given us the power to express ourselves and experience the world with ever greater richness.

Back when I started Facebook, that mostly meant texts that we typed on computers. Then we all got phones with cameras, and the Internet became much more visual. Recently, as connections got faster, video has become the main way that we experience content. We've gone from desktop to web, to phones, from text to photos to video, but this isn't the end of the line. The next platform and medium will be even more immersive. An embodied Internet where you are in the experience, not just looking at it.

We call this the Metaverse.

You're going to be able to do almost anything you can imagine. Get together with friends and family, work, learn, play, shop, create, as well as entirely new categories that don't really fit how we think about computers or phones today. Now, since we're doing this remotely today, I figured, let's make this special. We've put together something that I think is really going to give you a feeling for what this future could be like. We believe the Metaverse will be the successor to the mobile Internet. We'll be able to feel present like we're right there with people no matter how far apart we actually are. We'll be able to express ourselves in new joyful, completely immersive ways.

That's going to unlock a lot of amazing new experiences.

When I send my parents a video of my kids, they're going to feel like they're right in the moment with us, not peering through a little window. When you play a game with your friends, you'll feel like you're right there together in a different world, not just on your computer by yourself. When you're in a meeting in the Metaverse, it'll feel like you're right in the room together, making eye contact, having a shared sense of space, and not just looking at a grid of faces on a screen. That's what we mean by an embodied Internet. Instead of looking at a screen, you're going to be in these experiences.

Everything we do online today, connecting socially, entertainment, games, work is going to be more natural and vivid. This isn't about spending more time on screens, it's about making the time that we already spend better. Screens just can't convey the full range of human expression and connection. They can't deliver the deep feeling of presence.

But the next version of the Internet can. That's what we should be working towards.
Technology that's built around people and how we actually experience the world and interact with each other.

This is the Metaverse [A] :

Hi, my name is Marne Levine. I'm the chief business officer at Meta, and I am excited to welcome you to the course, What is the metaverse? This was created to give you a better understanding of the metaverse and some of its potential applications. To start, I'll give you a high-level overview of the metaverse, and as you go through this course over the coming weeks, you'll dive deeper on these topics.

So what is the metaverse?

Simply put, it's the next generation of the internet, and it's going to turn today's online experiences into interconnected, immersive digital spaces where you can interact with others no matter where you are physically. What's special about the metaverse is that in many ways it has more in common with our physical world than it does with today's internet. Meeting in the metaverse is going to feel physical and connected, just like meeting in person. Think of this as an embodied internet, meaning you will be in it and not just looking at it. The ways you interact with others won't be limited to the text or 2D images you're used to seeing on your screens today. Instead, it's going to feel like people are there with you. We call this co-presence, or that feeling of being physically together even when we're not. You might have gotten a taste of co-presence through online games like Minecraft or World of Warcraft.

The metaverse takes the idea of co-presence beyond gaming and applies it to everything. Imagine inviting far away friends to your personal space to watch your favorite show, or browsing a foreign art museum with your mom, all without leaving home. In the metaverse, distance disappears. Right now, you're used to jumping from app to app on your mobile device or from website to website in your browser. In the metaverse, you're going to navigate through and communicate in interconnected digital spaces. We call this continuity, and it's important to the architecture of the metaverse.

While the premise of these spaces is to have a 3D immersive experience, the metaverse also needs to have multiple access points to be inclusive. Right now, experiences are being built for a VR headset, but not everyone can buy headsets or has internet that's fast or powerful enough to dive into the 3D environment. Most people have phones, though. So exploring a 2D version is crucial to our vision of enabling a billion people to have experiences in the metaverse over the next decade.

You'll learn more about these access points in an upcoming lesson.

So what are these spaces going to look like?

The answer is: whatever you want them to look like. Unlike the early internet, which was created primarily by technical software engineers, the metaverse is being created by people from all sorts of backgrounds looking to create a space of their own. In fact, there are Quest users using tutorials to build in Horizon Worlds today. Whether it's a concert or a recording studio or a comedy club, if you can imagine it, you can build it in the metaverse. The scale of that freedom presents endless opportunities. The metaverse has the power to create jobs, enable new business opportunities and increase access to training and educational experiences.

So let's dig into that a bit.

If the metaverse grows at the same rate that the internet did, it could add an estimated $3 trillion to the global economy over the next decade through ads, goods and services.

Correct

That's right! **Co-presence** is what will make it feel like you are physically together in the metaverse with others, even when you're not.

This is the Metaverse [B] :

In Horizon Worlds, creators are already making a living from their content, selling digital objects, experiences or whatever else their creativity allows, without the limitations of the physical world.

Take Ang'l the artist for example. She's a young single mother who created a gallery to showcase Black art, including her own. The metaverse gave her the tools to substitute a brick and mortar gallery with an immersive art experience that could reach more people, without being constrained by location or resources.

Next, think about the opportunity to create more access to training for different types of jobs, no matter where you are in the world. Take a med student, for example. An important part of their training is watching a doctor perform an operation. But now imagine standing next to a world-class surgeon, watching their techniques, and practicing that same surgery without needing a live patient or dealing with the limitations of physical access.

Opportunities like this can be a real game-changer to train the next generation across industries and functions. And finally, the metaverse quite simply creates opportunities to experience things in a way you otherwise couldn't without actually going there.

I don't know about you, but I doubt I'm going to find myself on the International Space Station anytime soon. Major fear of heights over here. But in the metaverse, you can check it out close and really feel like you're there. Just one example of the ways that the metaverse can fundamentally change the way we learn.

A lot of what we've talked about today is either already possible or in development, and there's so much more to come. Just like how we couldn't have predicted how the internet would evolve over a decade, the same holds true for the metaverse.

You're probably wondering how long this will all take to come to life. There are a lot of variables at play, but metaverse experts like Tony Parisi, who you'll hear from later in this course, expect to have a fully realized metaverse by the end of the decade. That's not as far away as it sounds, and this course will help you learn what you can start doing today.

Now that you have a baseline understanding about what the metaverse is, it's time to dig in and learn more. Next, after a short reading, you'll hear from Mark again, but this time about what experiences can look like in the metaverse.

As you progress through the course, just remember: Imagination can take us anywhere, and in the metaverse, it will.

Welcome to the Course :

What is the metaverse?
Module 1 introduces you to the basics of the metaverse, including the kinds of experiences you might have, the ways in which you can express your identity in the metaverse, and how people and things will move around in the metaverse. You'll also explore communication and connection in the metaverse, what work and travel might look like in the metaverse (including the ecological implications of both), and what decentralization means in the context of networks.

Who is creating the metaverse?
Module 2 introduces you to the architects of the metaverse, the devices and platforms used to interact with the metaverse, and the role of game engines in the metaverse. You'll also explore virtual, mixed, and augmented reality, and get to know some of the creators who are making metaverse content today.

Metaverse verticals
In Module 3, you'll explore the ways in which the metaverse is impacting sectors such as learning, healthcare, architecture, marketing and retail, sports, art, and entertainment, and the ways in which each may evolve as the metaverse grows.

Money in the metaverse
Module 4 is all about money in the metaverse, including an exploration of blockchain technology, cryptocurrency, and digital wallets. You'll also explore economic trends and opportunities.

Metaverse responsibility
Module 5 explores the ways in which the metaverse can—and must—be built with diversity, equity, accessibility, and inclusion in mind. You'll also discuss the importance of safety and security in the metaverse, how to protect intellectual property in the metaverse, and the role ethics plays in the metaverse.

How will we build the metaverse?
Finally, in Module 6, you'll look into the possibilities of the metaverse, identifying future technology and research and development opportunities, as well as exploring the infrastructure needed to build the fully-realized metaverse.

This course will take about 10 hours to complete. If you complete all quizzes in the course, you will be eligible to earn a course certificate.

Experiences in the metaverse :

So let's start by exploring what different kinds of metaverse experiences could feel like, starting with the most important experience of all: connecting with people.

Imagine you put on your glasses or headset, and you're instantly in your home space. It has parts of your physical home, recreated virtually. It has things that are only possible virtually. And it has an incredibly inspiring view of whatever you find most beautiful. >> Hey are you coming? >> Yeah, just gotta find something to wear.

All right, perfect. [MUSIC] [LAUGH] >> Hey Mark. >> Hey what's going on? >> Whoa, we're floating in space? Who made this place? It's awesome. >> Right? It's from the crater I met in L.A. >> This place is amazing. >> Boss, is that you? >> Of course it's me. You know I had to be the robot man. >> I thought I was supposed to be the robot? [LAUGH] >> Whoa!

>> I knew you were bluffing. >> Wait, where is Naomi? Let's call her.

>> Hey, should we deal you in? >> Sorry, I'm running late, but you've got to see what we're checking out. There's an artist going around Soho hiding AI pieces for people to find. >> 3D street art? That's cool. >> Send that link over so we can all look at it.

>> This is stunning. >> That is something. >> It's awesome. >> I love the movement. >> Wait, it's disappearing. >> This is amazing. >> Hold on. I'll tip the artist and they'll extend it. >> Brilliant. >> If you guys like it here, I have another one that you're going to love. Check out this forest room. >> Let's see it. Koi fish that fly? That's new. This is wild. >> Hey one sec, boss. It's Priscilla. >> Hey, you have to see this. Beast is going crazy. >> I love that guy. We've got to show that to the kids. Can you also send that to my dad? >> I'll message him. >> All right, see you at home. This place is great, boss, but there's something I gotta get back to.

>> All right, so that's a glimpse of a few ways that we're going to be able to get together and socialize in the metaverse. It's a ways off. But you can start to see some of the fundamental building blocks take shape. First, the feeling of presence. This is the defining quality of the metaverse.

You're going to really feel like you're there with other people. You'll see their facial expressions. You'll see their body language. Maybe figure out if they're actually holding a winning hand. All the subtle ways that we communicate that today's technology can't quite deliver.

Next, there are avatars. And that's how we're going to represent ourselves in the metaverse. Avatars will be as common as profile pictures today, but instead of a static image, they're going to be living 3D representations of you, your expressions, your gestures, that are going to make interactions much richer than anything that's possible online today. You'll probably have a photorealistic avatar for work. A stylized one for hanging out. And maybe even a fantasy one for gaming. You're going to have a wardrobe of virtual clothes for different occasions, designed by different creators and from different apps and experiences. Importantly, you should be able to bring your avatar and digital items across different apps and experiences in the metaverse.

Avatars in the metaverse :

Hi, I'm Nikhilesh Ponde, and I lead product marketing for metaverse avatars at Meta.

In this video, we're going to talk about avatars, identity, and the ways you will represent yourself in the metaverse. Earlier, you heard Mark Zuckerberg talk a bit about avatars, and you saw some examples of what they might look like when he met his friends in that amazing room in outer space.

Did you notice how different the avatars were? They were very realistic ones, stylized ones, fantastical ones, even a giant robot. All kinds of avatars will exist in the metaverse.

Now, before we get too deep into a discussion about avatars and how they work in the metaverse, let's take a step back and talk about identity. Identity is how you represent yourself. You already have a virtual identity, more than one actually, that you use when you're online. Are you on Twitter? Your handle is your identity. Your email address is another form of identity, just like your LinkedIn profile and your PayPal account. Essentially, identity is how people recognize you in the digital places you inhabit.

One way that we express our identities online, probably the most common way, is through our profile pictures. We use them to show people who we are or who we want to be in a specific virtual space. Now, if you're like me, you probably have different profile pictures for different online spaces. You might have a professional, buttoned up headshot that you use for LinkedIn, but your profile pic on Facebook is more casual or fun. Over on Twitch, you might use a stylized version of yourself, while your Instagram features a beautiful shot of you on your last vacation.

Essentially, having different profile photos allows us to express ourselves in whatever way we feel is most appropriate for a certain digital space. They're a method of self expression. An avatar is a way that we might express identity. You might have a form of avatar already, and you've likely seen many examples. They are versions of you that you use when interacting with others by sharing one as a reaction, or reply to a post, or as a profile photo.

Video game characters are also avatars. Avatars in the metaverse take this idea to another level. Remember that we described the metaverse as an embodied internet? Because that means we are in the metaverse, not just looking at it, our avatars become embodied as well.

Rather than a flat image, an avatar is a 3D representation of you. It's a digital you, but with dimension. Right now we're used to communicating digitally with others through text, video, and images. We chat, we post comments, and we send text messages, email, and direct messages. We also share photos, have video-based meetings, and conversations with friends and make TikToks and Snaps. All of these are great ways to communicate, but few of them make us feel like we are truly together, sharing space.

With avatars, communication in the metaverse will be richer and fuller, more real. Rather than the flat, two-dimensional and often one-at-a-time way we communicate digitally now, avatars will allow us to be in conversation together. Think about the group conversation Mark shared. He and his friends truly felt together as they talked and interacted in that space.

Correct

Because metaverse avatars provide dimension and will allow us to feel embodied when engaging in virtual spaces, you might choose to represent yourself in avatar form in a different way from the flat, non-interactive profile photos you currently use on social media platforms.

Avatars are a way for us to express our visual form, or who we want to be. And because they are the primary way that will communicate in the metaverse, you can see the value in making your avatar look like you want it to. You can choose to represent yourself in different ways depending on who you're talking to and interacting with. Self expression is a key part of creating and using avatars. You might want your avatar to look very much like you do in the physical world, or you might want to express your identity in a new or different way.

Customization allows you to change your avatar's body shape and size, hair, clothing, facial features, and accessories. Right now, the detail level of avatars varies. For example, in spaces like Horizon Worlds, an avatar is animated, while apps like Ready Player Me and Zepeto offer more stylized avatars, and IMVU and Spatial avatars are more photorealistic.

As we look to the future of the metaverse, we will likely see avatars that mimic our movements and facial expressions, copying our actions in real time.

Think of a digital you, moving through the metaverse. Like the multiple identities you already have online, you will likely have multiple avatars in the metaverse. You might want a professional version that has your same body complexion and features. Maybe a stylized version of you seems appropriate for social interactions. If you're into gaming, you might make yourself look completely different, or choose to be a different species, even one that doesn't exist.

In the metaverse, you can be whoever or whatever you want to be.

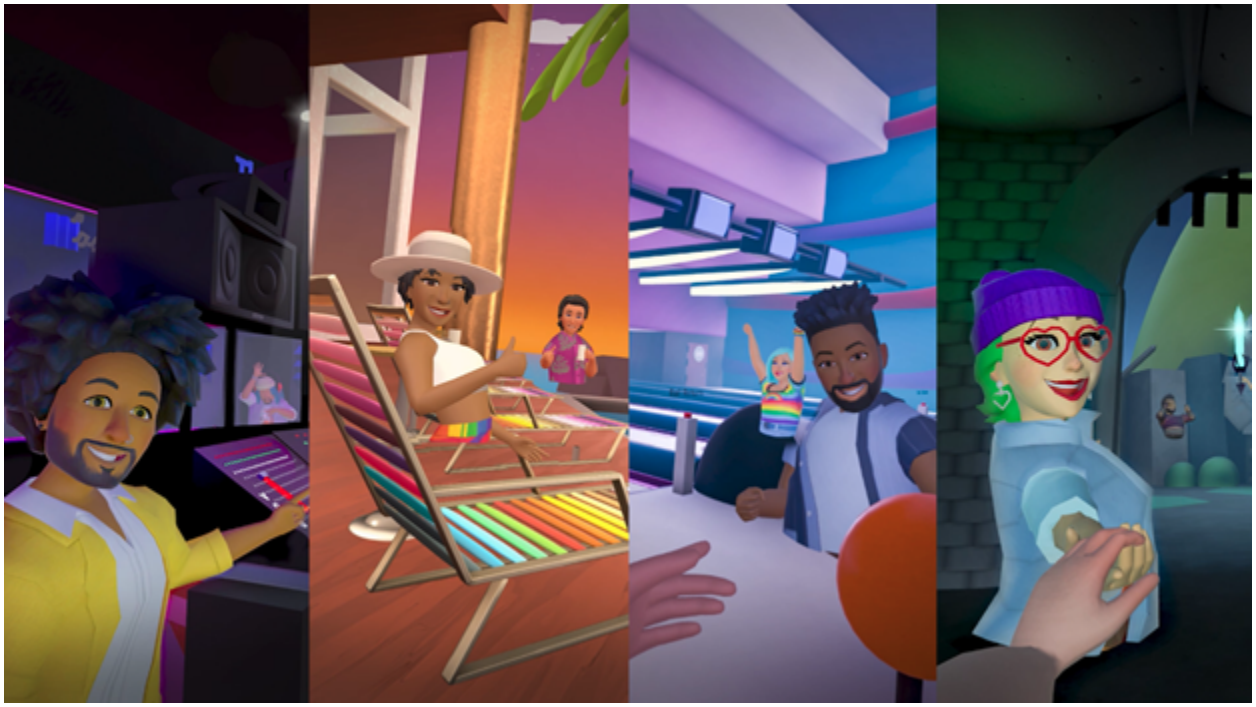
In this lesson, we discussed the ways in which we express our identity and virtual spaces.

Avatars are how we digitally represent ourselves in the metaverse, and the means by which we interact and communicate with others. As avatars evolve, we will find more ways to be who we are, and who we want to be.

Coming up, it's your turn to create an avatar.

Discussion Prompt - Create your avatar :

As you've learned, avatars in the fully realized metaverse will be interoperable, allowing you to use them in numerous digital spaces. Today, you can create avatars from numerous sources, allowing for differing degrees of interoperability. You can create an avatar for Facebook, Messenger, and Instagram, and, if you have a Meta Quest VR headset, you can create an avatar for use in some Meta Quest Store content, including Meta Horizon Worlds and Meta Horizon Workrooms.



To create an avatar that can be used in multiple virtual spaces and games, such as VR Chat, visit the Ready Player Me website.

- **What decisions did you make when creating your avatar?**
  - *I made the decision on two options:*
  - *To keep my avatar as realistic as possible based on my real-life appearance, and/or to add exaggerated accessories, simply for entertainment purposes.*

- **What details helped you get your avatar just right, so it felt like you?**
  - *Innate and natural physiological factors, such as face and body shape, skin color, as well as my favorite items as accessories; i.e. glasses, earpiece, wide-brimmed cowboy hat, and a black / cream suit or brown vest.*
  - *House Atreides powered-armor : D U N E (2021)*

- **What options weren't available that you'd like to be able to choose from when making an avatar?**
  - *Adding certain accessories such as earpieces; headphones, hearing aids etc.*

- **Do you think you'll build different avatars depending on how you'll use them in the metaverse?**
  - *Most definitely, according to needs and occasion; online meetings, social gatherings, and so on.*

Interoperability in the metaverse :

Hi there.

In this video, we're going to explore interoperability, what it means, and how it will affect your experience in the metaverse. In the conversations we've had so far, we've talked about when the metaverse is fully realized, you'll be able to seamlessly move from space to space. You remember this is called continuity. But more than just being able to move around, you'll also be able to take things with you, like your avatar. That's interoperability. And it's one of the core attributes that differentiates the metaverse from the internet we know today.

Right now, if you want to use social media, you need to log into an app or website with your user name and password. Then, to meet up with some friends in games like Fortnite or Roblox, you have to use your credentials for that. Attending a virtual book reading or theater performance? You might need to hop over to YouTube or sign into another streaming platform. For company meetings and events, you might find yourself logging into Zoom, Skype, Microsoft Teams.

Interoperability is the standards, systems, and applications that will make it possible to take things with you as you move in and out of virtual spaces. Now, this doesn't mean that every part of the metaverse experience will be interoperable. But if the metaverse isn't built with interoperability in mind, then what we'll end up with is a bunch of fragmented and isolated experiences and spaces that are challenging to access and move between, and objects that disappear along the way. That's not the metaverse we want or need.

A key concept of interoperability is persistence, or continued existence. We experienced persistence all the time in the physical world. If you take a trip to the Grand Canyon, hike the Camino de Santiago, or snorkel the Great Barrier Reef, those places don't vanish when you leave. People don't stop existing when we aren't with them, and objects don't disappear when we aren't looking at them, although sometimes it can feel that way. I know my keys are around here somewhere…

Imagine you attended a virtual Harry Styles concert and bought a limited-edition outfit for your avatar at that show. And now you're off to meet friends in a space like VRChat. The outfit is a persistent object, which means it will go with you when you leave the concert and be there in your VRChat room when you brag to your friends about how you got to meet Harry backstage. That's the future of interoperability in the Metaverse. If you buy or acquire something to modify your avatar, a jersey of your favorite basketball player, a new pair of funky sunglasses, even a virtual pet, those objects will travel with you on your digital adventures.

Interoperability also means that you won't need a different avatar for every space you visit. You'll look like you, no matter where you go. Of course, as we talked about earlier, you will also have the ability to choose a different avatar or a different look for your avatar depending on your needs and comfort level.

Now, you've heard me mention a couple of times the idea that you're going to be able to buy things in the metaverse, just like you do now on the internet. You're going to do that because one of the features of the metaverse will be a digital wallet.

Coming up later, we have a whole module dedicated to money in the metaverse, where you'll get the opportunity to learn about how finances will work. For now, we're going to focus on the interoperability aspect of digital wallets. Picture yourself standing in the middle of a shopping mall. There are stores all around you that sell different things and offer a variety of experiences.

Now, imagine how inconvenient it would be if you had to carry a different wallet in order to shop in each of these stores. And every time you bought something, it disappeared when you stepped out of the shop. Not very appealing, right? I don't know about you, but I'm tempted to go home, do all my shopping online, and have it delivered. In the metaverse, your digital wallet will be the easy way to handle money, helping you to pay for and sell things, and keeping track of what you own. You might already use a digital wallet such as Apple Pay or Venmo. Coinbase is a popular cryptocurrency platform that lets you use a credit or debit card to buy, sell and manage cryptocurrency, which we'll talk about more in another lesson. But digital wallets aren't just for holding onto things and showing proof of ownership.

The interoperability of wallets in the fully realized metaverse will allow you to take your digital goods with you to different spaces. You wouldn't buy a song that you can only listen to in your car, or spend money on a sculpture that you have to keep hidden away in a specific room in your house. In the metaverse, you won't want your items locked into one space or platform. The more places you can use the things you own in the metaverse, the more value they have to you. And that opens up a host of opportunities for creators to make things for you. We'll talk more about creators and the creator economy later in this course.

When we talk about the interoperability of digital wallets and items, it's important that we also discuss a key term that you'll see more of later in this course: blockchain. Essentially, blockchain is a technology that securely stores electronic information and provides proof of ownership. The information in blockchain can be shared but not copied. When you buy something in the metaverse that uses blockchain technology, a record of that transaction is written to the blockchain, providing you and the spaces you visit with proof of ownership.

One type of item you might purchase in the metaverse is an NFT. You've probably heard about these on the news or social media, possibly described as digital art that people are buying and selling online. In truth, an NFT is not the object or asset itself, but a one-of-a-kind digital record that proves that the object or asset is what it says it is. NFT records are written to — you guessed it — the blockchain.

Want to know more? Great. We're going to talk about both blockchain and NFTs in more detail later in this course.

To sum up, interoperability is all about movement. Because a fully realized metaverse will be a series of interconnected digital spaces, we need to be able to move freely and seamlessly between those spaces, and to take our identity and items with us as we go.

That's it for this lesson. Next, we're going to talk about how to access the metaverse and connect with others.

Let's go.