PRO CYBER NEWS

Come the Metaverse, Can Privacy Exist?

In immersive worlds, new technologies will siphon up data at an increasingly granular level—a person's gait, eye movements, emotions and more—putting far greater strain on existing safeguards

The avatar of Mark Zuckerberg rides a hydrofoil in Meta Platforms' planned metaverse.
PHOTO: FACEBOOK/REUTERS

By David Uberti
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In its current form, the internet relies on data collection that some critics liken to mass surveillance. Technology companies and researchers are beginning to wonder whether the metaverse will be any different.

Facebook Inc.'s name change to Meta Platforms Inc. signaled that businesses behind games, office tools and other services will increasingly invest in this next iteration of cyberspace. Their pitch is to create loosely connected communities where users can work, play and shop using digital avatars.

The infrastructure underpinning the metaverse—virtual-reality glasses and augmented-reality software, for openers—will rely on reams of data showing how users interact with their surroundings in fictional worlds, digital workplaces, virtual doctors' appointments and

elsewhere, said Kavya Pearlman, founder of the XR Safety Initiative, a nonprofit that advocates for the ethical development of immersive technologies.

“At any given time, the way you move, the way your gait is, the way you’re gazing, your pupil dilation, is giving away information to developers,” she said.

All these tidbits could give companies greater ability to deduce users’ traits, Ms. Pearlman said, defying current notions of privacy and security and straining corporate policies to protect them. For instance, she said, an insurance company might obtain information that suggests a user has a health problem before the person noticed any physical changes or saw a doctor.

“Now, the data is in inferences,” Ms. Pearlman said.

For years, developers have experimented with immersive games such as Pokémon Go, in which users catch and battle creatures using mobile phones that project avatars onto physical surroundings. But in recent months, the prospect of the metaverse has gone mainstream as large firms including Meta, Microsoft Corp. and Nvidia Corp. announced plans to dive in.

Microsoft said it would be introducing new features for users of its Teams office platform to hold meetings, chat with co-workers and collaborate on projects as customized avatars in digital spaces. Graphics-chip firm Nvidia is preparing a suite of collaboration and simulation tools of its own.

Meta is testing a workplace-collaboration app called Horizon Workrooms.

PHOTO: FACEBOOK/REUTERS

In August, Meta began public testing of a workplace-collaboration app called Horizon Workrooms. Chief Executive Mark Zuckerberg said the company will spend billions a year on metaverse-related innovation as the digital advertising giant tries to make itself a bigger online marketplace.

Privacy advocates are leery of the intentions of a company that in recent years has paid billions of dollars to U.S. and European Union regulators over alleged data abuses. Far-reaching and arguably intrusive data-processing is key to such companies' ad-based business models, critics say.

Many corporate privacy lapses in recent years have revolved around the ways companies exchange data with third parties, said John Verdi, senior vice president of policy at the Future of Privacy Forum, a Washington think tank. Governments may need to pass new laws, or update guidance on existing statutes, such as the EU's General Data Protection Regulation, once a metaverse-shaped data economy comes into focus, he said.

"A lot of those practices emerged in the mobile and desktop worlds in ways that might or might not directly translate into AR," Mr. Verdi said.

Meta officials say they will give priority to security and privacy as they develop such technologies, adding that much of what they envision will take up to a decade to develop.

"We're discussing it now to help ensure that any terms of use, privacy controls or safety features are appropriate to the new technologies and effective in keeping people safe," a spokeswoman said.

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The company has pledged $50 million to outside researchers focusing on privacy and security in the metaverse, including a partnership with the National University of Singapore to investigate data use. Meta's augmented- and virtual-reality arm, Reality Labs, separately is issuing grants to study topics such as how to authenticate users and detect novel forms of

cyberattack across new devices and services. Two research teams this year were awarded sums to study eye-tracking tools used by virtual-reality headsets.

Such data is key for devices and software to know which imagery to project where. But precise information on where people are looking can reveal users' subconscious thinking or mental state, said Guohao Lan, a professor at Delft University of Technology in the Netherlands who is leading one of the projects funded by Meta. Users may look differently at other players in a game, for example, than they would at the avatar of a boss they don't like.

"His photo or video will trigger your emotion," Mr. Lan said—and possibly be divulged to that boss.

A key question for the Delft team and its counterpart at the University of Wisconsin-Madison is how to obscure data on eye movements with privacy filters without sacrificing too much utility. Researchers from both schools said eye-trackers could give companies a wealth of information for targeted advertising at a very granular level.

That raises the stakes of companies' choices on how to make money in the metaverse, said Bradford Oberwager, executive chairman of Linden Lab. Linden developed "Second Life," a game released in 2003 and seen by many as an ancestor of more recent visions of immersive communities.

Second Life each month counts more than 700,000 active users who hang out together and buy and sell virtual goods using Linden dollars—each worth about a quarter of a penny—in transactions that add up to about $650 million annually. Linden monetizes the activity through paid subscriptions and services to users, as well as by selling its payment platform to other developers.

Second Life illustrates the commercial promise of the metaverse, Mr. Oberwager said, even as he warned of the fallout of trying to convert activity in virtual worlds into advertising dollars.

People may enter the metaverse to share experiences or assume identities they can't in the real world, he said, giving the companies behind the technology a unique window into users' psyches.

"I am who I want to be in the metaverse," Mr. Oberwager said.

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