The Our Reality Privacy Policy

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In 2040, Our Reality, Inc. asked one of its junior lawyers to rewrite its privacy policy. Unfortunately, it was late on a Friday evening, and the lawyer wanted to be elsewhere…

Welcome to *Our Reality* (the "Platform"). The Platform is provided by Our Reality, Inc. ("we," "us," "Our Reality"). The Platform includes our head-mounted *Goggles*—the device you wear over your eyes that lets you see virtual objects in the physical world—and our cloud servers.

At Our Reality, Inc., we care deeply about your privacy. This Privacy Policy covers your experience as you use the Platform.

Don't laugh!

We do *care about your privacy.*

That does not mean that we don't violate your privacy expectations left and right. We just care about your privacy while we do so.

Note to self: Remove all italics in the next pass.

Information That the Platform Collects

The Platform collects

- information you provide when you create your account
- information about and from you as you use the Platform.

At this point, you should realize that this is a same-old, same-old, ho-hum

boilerplate. *It is just like the bazillions of other privacy policies you have previously ignored. I'm going to get bored writing yet another version of this Policy. You're going to get bored reading this Policy. So why don't you save yourself some time and stop reading? If I could, I would save myself time and stop writing. But, you know, I am paid to write this. I don't have a choice.*

Actually, why are you even reading this Privacy Policy?

Did you click on this link by accident?

The Platform is popular. Everyone wants it. You almost certainly want it. And you must agree to our Privacy Policy to use it. So, really, it doesn't matter what I write here, to me or to you. I could write, "The Platform collects your deepest, innermost secrets," and you'd still accept this Privacy Policy (actually, we do, but I'm not supposed to say that…).

Information Collected When You Create Your Account

Central wants me to rewrite our Privacy Policy to make it more consumer friendly. I know, friendly for the consumers who never read it. You are the exception.

But fine, I'll write this section too. Central didn't tell me that I couldn't have fun while I do so 😛. I'm sure they'll make me edit it again. But it's Friday afternoon. I'd rather kick the soccer ball outside with Tilly now that she's home

from school. *She turns 10 tomorrow. I'll quietly quit working on this as soon as I am allowed—5 p.m., and no later.*

I will make the list of what we collect super long and boring so that your eyes glaze over as you skim. You are getting sleepy … sleepy … sleepy.

The information we collect at account creation includes but is not limited to: your name, pronouns, and e-mail address. (See Table 1.)

Uh-oh, I just realized that—even with glazed-over eyes—you might have noticed some words you don't like. Yes, we truly need all of the information in Table 1 to achieve our business objectives and provide you with the experience you want. No, I'm not going to engage in a conversation about whether we should shift our business objectives such that we don't need this information. Nor am I going to engage in a conversation about what experience you want. We need this information.

We need your driver's license photo to know who you are. We need to know who you are—and have a 3D scan of your body—to prevent you from creating fake accounts, obviously, and to make your avatar look like you. No, people needn't be able to use our system anonymously. As a professional, with a solid background in logic, reasoning, and math, I have proof that people don't need anonymous accounts.

Welcome to the Latest "Off by One" Column

"The Our Reality Privacy Policy" story parodies the content and utility of website privacy policies. Because the literature on privacy policies is so vast, it is a challenge to identify only a few references to offer readers interested in learning more. In Aleecia M. McDonald and Lorrie Faith Cranor's classic 2008 article, the authors estimated that it would take U.S. users on average more than 180 h annually to read the privacy policies of all of the websites they encounter.[S1] Even if users read the privacy policies, in their 2021 article, Jenny Tang et al. found that technical terms are broadly misunderstood.[S2] Although the privacy policy in this story uses natural language, there has been significant research on other approaches for presenting privacy policies. Victor Morel and Raúl Pardo's 2020 article, "SoK: Three Facets of Privacy Policies," systematically explores different approaches.[S3]

"The Our Reality Privacy Policy" features a privacy policy for the company "Our Reality"—a fictitious future metaverse and mixed-reality company. The Our Reality technology is also featured in my novella by the same name,[S4] the short story "The Glowing Bonsai and The Kintsugi Pot,"[S5] and several forthcoming works. In addition to parodying privacy policies, this article highlights several security and privacy challenges that metaverse and mixed-reality technology manufacturers must consider. For an introduction to security and privacy issues with metaverse and mixed-reality systems, readers might be interested in our 2014 article (with Franziska Roesner and David Molnar)[S6] and our 2022 reflection on 10 years of research in the field (with Franziska Roesner).[S7]

—Tadayoshi Kohno

References

S1. A. M. McDonald and L. F. Crano, "The Cost of Reading Privacy Policies," in *I/S: Journal Law Policy Information Society*, 2008.

S2. J. Tang, H. Shoemaker, A. Lerner, and E. Birrell, "Defining privacy: How users interpret technical terms in privacy policies," in *Proc. Privacy Enhancing Technol.*, Jul. 2021, vol. 2021, no. 3, pp. 70–94, doi: 10.2478/popets-2021-0038.

S3. V. Morel and R. Pardo, "SoK: Three facets of privacy policies," in *Proc. 19th Workshop Privacy Electron. Soc.*, Nov. 2020, pp. 41–56, doi: 10.1145/3411497.3420216.

S4. T. Kohno. Our Reality: A Novella. Accessed: Aug. 22, 2022. [Online]. Available: https://yoshikohno.net/OurReality/OurReality.pdf

S5. T. Kohno, "The Glowing Bonsai and the Kintsugi Pot," *After Dinner Conversation*, vol. 3, no. 3, pp. 34–51, Mar. 2022.

S6. F. Roesner, T. Kohno, and D. Molnar, "Security and privacy for augmented reality systems," *Commun. ACM*, vol. 57, no. 4, pp. 88–96, Apr. 2014.

S7. F. Roesner and T. Kohno, "Security and privacy for augmented reality: Our 10-year retrospective," in *Proc. VR4Sec, 1st Int. Workshop Security XR XR Security*, Aug. 2021, pp. 1–5.

My proof? We have plenty of users—millions upon millions—who have already *uploaded photos of their driver's licenses.*

Gender and race? Actually, that's not strictly needed by our company. However, the Platform was built using a third-party library that collects that information, and it's easiest for us to keep using that library. So, yes, we need it.

Handles on third-party social media accounts and contact lists? Everyone likes to share their social media accounts. That is the raison d'être for having a social media account—to share it with others and gain more followers. Think of us as a superbig corporate follower. We will "follow" your every intimate detail; learn from all of your social media posts; and use that information to customize your Platform experience. Your customized experience will delight you with "personalized virtual content" that will make you love the Platform even more. (Obviously, by "personalized virtual content," I mean targeted advertisements and promotions. The Marketing Department tells us that "personalized virtual content" and "personalized virtual experience" sound better.)

Information Collected During Platform Use

Hehe, 🤭 let me create another long and boring list for you to ignore.

As you use the Platform, our head-mounted display collects information about and from you. This information includes but is not limited to: your location, head position, and facial expression. (See Table 2.)

Now, if you know anything about mixed-reality head-mounted display technologies, you know that we need the information in Table 2. All of our competitors need that information, too.

To the 1% of the 1% of the 1% of users who are still reading, the next section of the Privacy Policy tells you all of *the friendly, innocuous reasons why we need this information. Just keep in mind:* we care deeply about your privacy. And *we make a cool Platform—our Goggles—that you want to use.*

How We Use Your Information

The Platform uses the information that it collects (see previously) in the following ways:

- It renders virtual content (audio and video) in the physical world while you are using the Platform, that is, while you are wearing our Goggles. *This is possible only because our Goggles have outward-facing cameras.*
- It enables your interaction with virtual objects while wearing our Goggles; for example, you can touch, move, resize, delete, and activate virtual objects, along with performing more advanced features depending on the application. *Clearly, the Platform needs your hand and finger information to enable such interactions. And your feet information, too, for any virtual soccer app that you might install.*
- The Platform warns you if you are at risk of not seeing a physical-world hazard. *Goggles can detect oncoming cars using built-in outward-facing cameras. By tracking your eyes, they can determine if you are gazing away and alert you to any approaching object's presence.*
- It makes meetings with long-forgotten friends less awkward. *Suppose you see a vaguely familiar-looking avatar approach you while you are at a physical-world grocery store. By sharing your social media account information with us, the Platform can determine if this avatar belongs to one of your known friends or followers. Your Goggles will then display relevant information to you about this friend. Never again are you at risk of awkwardly saying, "Do I know you?" and having them respond, "Yes, we dated in high school."*

Table 1. Example information collected by the Platform at account creation.
• Name
• Pronouns
• E-mail address
• Phone number
• Contact list
• Handles on third-party social media platforms
• Age
• Gender
• Race
• Mailing address
• Preferred language
• Driver's license or passport number
• Driver's license or passport photo
• Body shape and movement (3D body scan while walking)
• Voice (audio voice sample)
• Credit card number
• Answers to account recovery questions

Table 2. Example information collected during Platform use.
• Your location
• Your limb, hand, and finger positions
• Your head position
• Your facial expression
• Your voice
• Your eye measurements
• Images of your environment
• Sounds in your environment
• The Our Reality applications that you are running
• Any messages that you send or receive

There, look at all of the valuable features the Platform provides. We need the information that I listed previously to enable these features. And remember, we care deeply about your privacy.

Now, please don't ask me what else we can do with that information. My job was to write the Privacy Policy, not scare you away.

I'm not going to say that the information we collect reveals to us exactly what you ate for breakfast and how frequently you go to the bathroom.

Maybe I'll tell you that we use information about your eye to determine if you are sleepy and advise you to stop driving or take a break from e-mail.

But I'm not going to tell you that we—or a third-party app—could use measurements of your eye to determine your level of arousal. Sure, all metaverse dating apps use that information. It's just not at the level of detail that you need to know.

And, why, yes, we might use information that we collect about you (from the camera, from your eye, from your hands) to send you customized, targeted ads. Sorry, Marketing Department, I mean, "personalized virtual content." The Platform might detect that you spent 45 seconds looking at your friend's shirt and then send you an ad for that same shirt, maybe a few days later so as not to creep you out.

I could tell you all of these things.

But I know you want to use the Platform. So why bore you with extraneous information when you don't really have a choice?

Who We Share Your Data With

The Platform shares information that it collects about you with

- our corporate partners
- governments, when legally required to do so.

There, done with the Privacy Policy! And good timing, too. It's almost 5 p.m. I want to play soccer with Tilly.

I know I should elaborate on who our corporate partners are. But the truth is, I actually don't know all of them. And even if I knew who today's partners are, we constantly add new ones.

I'll read through this draft again on Monday and, heh, will probably have to edit a lot.

Whoa, weird … thinking aloud here … I just got an ad in my Goggles for "Junior Goggles: Goggles for kids 10 and up." Not surprising that an advertising widget figured out that Tilly turns 10 tomorrow. But, seriously, I do not want Tilly to wear Goggles, Junior or otherwise. She's only nine (10 tomorrow).

How is it that no one in this company told me about Junior Goggles? Am I that low in the legal department hierarchy? Are Junior Goggles from a different division? Or a subsidiary? I would have had something to say about them! Children need the ability to explore life without someone, even if it's just a company, constantly monitoring them.

Now, I have one more to-do item for Monday: find out who is responsible for Junior Goggles. They need to understand the importance of respecting our kids'—my kid's—privacy. And, no, it won't be sufficient for them to tell me that they care about Tilly's privacy. The product needs to fully and completely honor and uphold her privacy.

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