Why Can't Liveness Solutions be considered equal?

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Faces make wonderful security credentials. They are individual to each of us, and they can be used to tie us both to our government-issued photo ID and to any kind of trusted reference image captured before. You can't steal a face, at least not without substantial and painful surgery, but you can copy them.

Faces aren't really secret at all. They're all over the internet and they're very easy to make copies of. You can make photographs, you can animate them, you can make masks and nowadays you can make, incredibly realistic, deep fakes. So the real challenge in making faces a usable and secure credential is to detect copies. To use liveness, to distinguish between inanimate objects and the real thing.

Now, there are all sorts of attacks that can be mounted in making copies and these range from simple, low-cost methods that anybody can really try. That the amateur attacker who's just trying it on can use right up to buildings full of PhDs motivated by compelling criminal business models. So when you are considering what kind of liveness technology to use, you have to think about what your threat profile looks like. How hard is the attacker going to try in order to break into your system? And some of the applications are just not worth the trouble and therefore it's not necessary to defend against the most sophisticated attacks because no one is going try them. And there are many applications where it's really worth the attackers while breaking in, and they're going to try and try hard. They're gonna make major investments and therefore the most sophisticated technologies are necessary.

And for that reason, what we find is that there was actually a spectrum of liveness detection technologies. Some of them are very cheap, very fast, and very low ceremony. And some of them are much more substantial, much more powerful, and much more resilient to attackers' methods that will absolutely deter even the most determined attackers with perhaps greater ceremony.

Ceremony can be used to reassure users but sometimes it can also deter users if they're trying to do something that is simple, low risk and immediate. But if you allow the customer too little ceremony, when they know that they're doing something risky, that actually frightens them. So you need a spectrum of ceremony and you need a spectrum of security.

And that's why in the market today, we're starting to see the evolution of a spectrum of liveness. With each method appropriate to the threat, the threat landscape of the particular risk and the customer expectation for the appropriate ceremony. That's why we will see in future the spectrum of liveness become ever more colourful.