



a guide to
anticipating
the future impact of
today's technology

Excerpt from the full guide, available at: EthicalOS.org



INSTITUTE FOR THE FUTURE



OMIDYAR NETWORK

**Or: how not to regret
the things you will build**

**If you can't predict the future,
you're in the wrong business.***

***Just kidding.**

No one can predict exactly what tomorrow will bring (although somewhere in the tech world, someone is no doubt working on it). So until we get that crystal ball app, the best we can hope to do is anticipate the long-term social impact and unexpected uses of the tech we create today.

It's not necessary that we predict the future. Only that we get better at envisioning what's possible in the future. The last thing you want is to get blindsided by a future YOU helped create. Seriously, that's the worst.



Scenario 1: Are you ready for a world in which ...

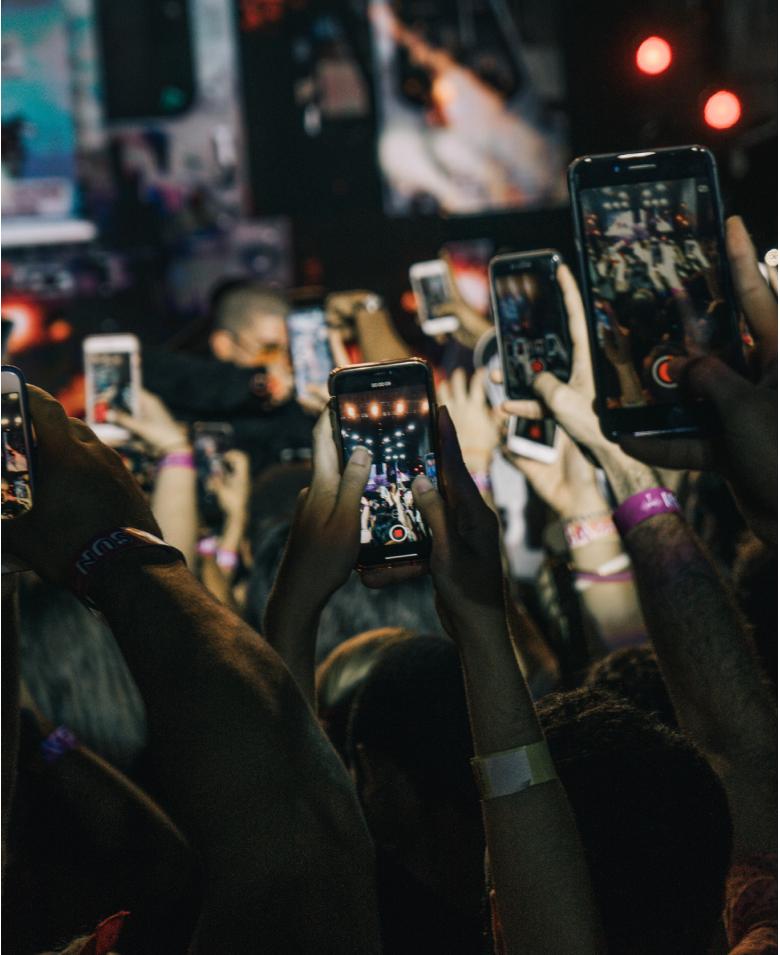
Video-faking algorithms are so advanced that faked videos are impossible to distinguish from real footage. These algorithms can completely replace people's faces and speech to make it appear they've said or done anything the author intends. With this technology, anyone can manufacture video "proof" to back up any claim. These video fakes flood major video-sharing, social media, and live-streaming platforms.

Scenario

Deepfake videos

Can you think of 10 potential consequences of this scenario?

Here are some questions to spark your imagination. You don't have to answer all of them. Pick any—one, two, or more and start exploring the possibilities. Wherever your imagination takes you is perfect.

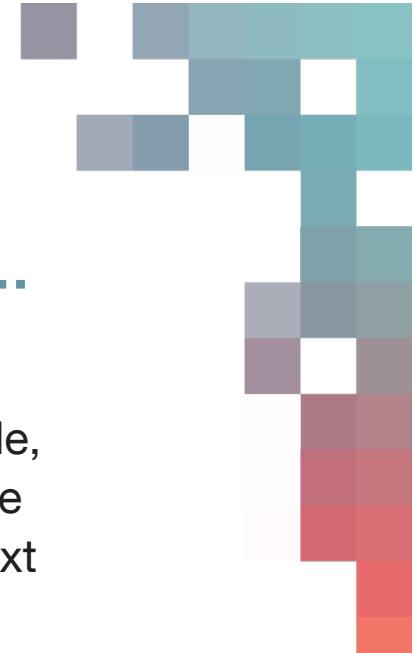


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- What do people start to do to adapt or cope?
- Who could exploit this future? What would they game, cheat or take advantage?
- What actions might people take to try to make this world better?

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Scenario 2: Are you ready for a world in which ...

Conversation bots have been trained to imitate specific people, using data sets collected from public social media posts. These bots are deployed across social media networks, email, and text messages in super-targeted, super-personalized propaganda campaigns. They are highly effective in changing opinions and driving action, as personalized messages appearing to be from real friends, family, and favorite celebrities are more influential than advertisements.

Scenario

Imitation bots

Can you think of 10 potential consequences of this scenario?

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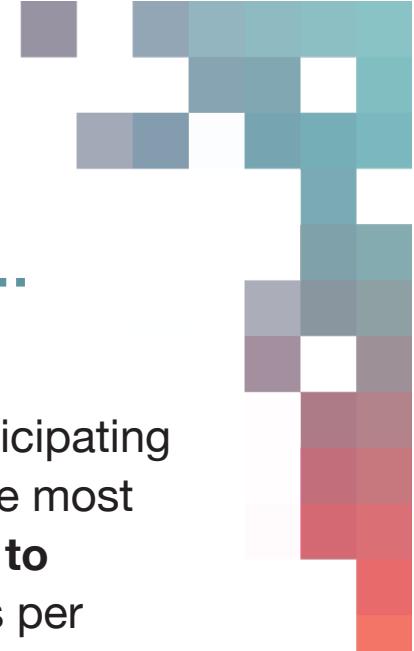


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Scenario 3: Are you ready for a world in which ...

In response to growing concerns over **tech addiction**, and anticipating government regulation as a possible future event, several of the most popular social media and game companies decide **voluntarily to enforce time limits**. Adults are commonly limited to two hours per day, and children to one hour per day per platform. Whether a platform is *limited* or *unlimited* becomes a major selling point. Many people prefer having hard limits that prevent them from becoming addicted or too frequently distracted. Other people switch to new unlimited competitors, creating a new social divide in who spends time where, and how their mental and physical health is affected by tech use.

Scenario

Tech time limits

Can you think of 10 potential consequences of this scenario?

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Scenario 4: Are you ready for a world in which ...

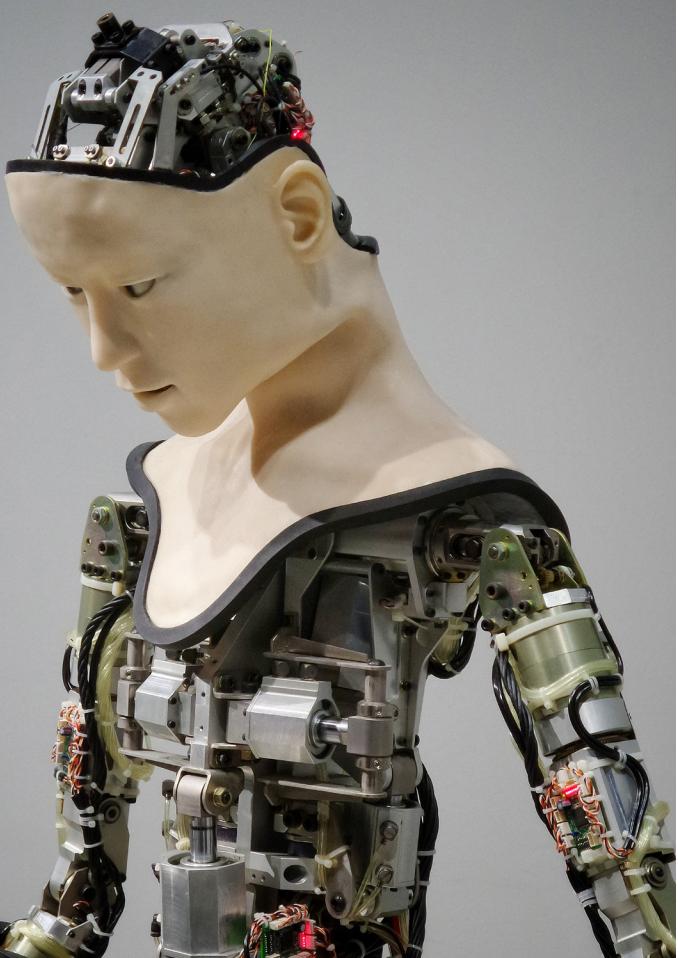
Automation has eliminated a significant number of jobs. **By 2030, automation could eliminate 73 million American jobs**, distributed unevenly across racial groups, putting already marginalized communities even further at risk. Latino workers face the highest threat of automation at 60% of jobs eliminated, followed by African-Americans at 50%, Asians at almost 40% percent, and whites at roughly 25%.

Scenario

Unequal automation

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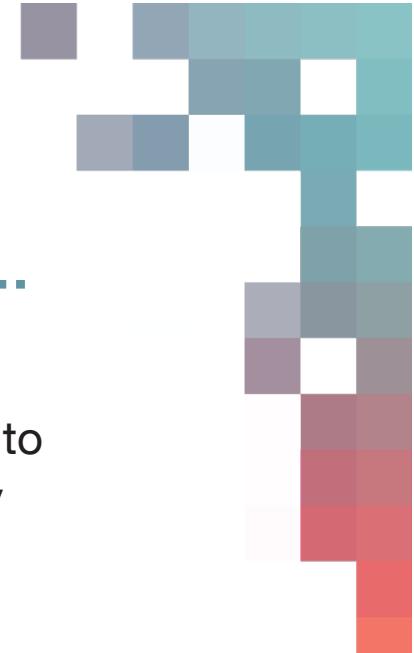


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Scenario 5: Are you ready for a world in which ...

Fortune 500 human resource departments have subscribed to a “smart employer” service that evaluates a person’s suitability for workplace cultures and stress levels, using public social media posts and “likes.” Algorithms can identify individuals likely suffering from various mental illnesses, from depression to sociopathy. The service also predicts who may develop symptoms of mental illness in the near future, based on trends in the individuals’ postings. This data is used to offer support and resources to current employees, recommend reassignment when necessary, and make hiring decisions.

Scenario

Smart employers

Can you think of 10 potential consequences of this scenario?

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Scenario 6: Are you ready for a world in which ...

“Predictive justice” tools become the preferred method for determining prison sentences. These tools take data from millions of past cases and compare long-term historical recidivism rates for criminals with similar behavioral patterns or demographics to determine the most appropriate sentences. In other words: If you are similar in your economic, racial, gender, age or behavioral profile to people who have previously re-offended after incarceration, you get a longer prison sentence. These predictive justice tools do not take into consideration structural inequalities in how frequently members of different demographic groups are stopped, arrested, prosecuted, or convicted.

Scenario

Predictive justice

Can you think of 10 potential consequences of this scenario?

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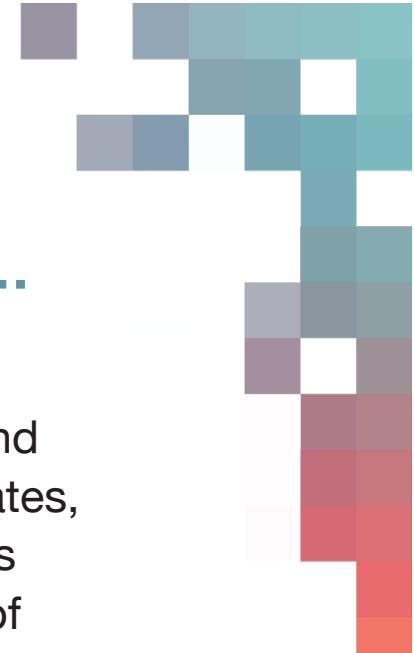


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Scenario 7: Are you ready for a world in which ...

A major social network company purchases a top U.S. bank and becomes the **first social credit provider**. It bases mortgage rates, loan approvals, and credit access on deep data collected by its social platform. It takes into consideration the credit histories of close friends and family, locations visited (including frequency of visits to places like bars and legal marijuana dispensaries), and “semantic analysis” of messages and photos to indicate whether individuals are generally happy, angry, anxious, or depressed.

Scenario

Social credit provider

Can you think of 10 potential consequences of this scenario?

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Surveillance State



Scenario 8: Are you ready for a world in which ...

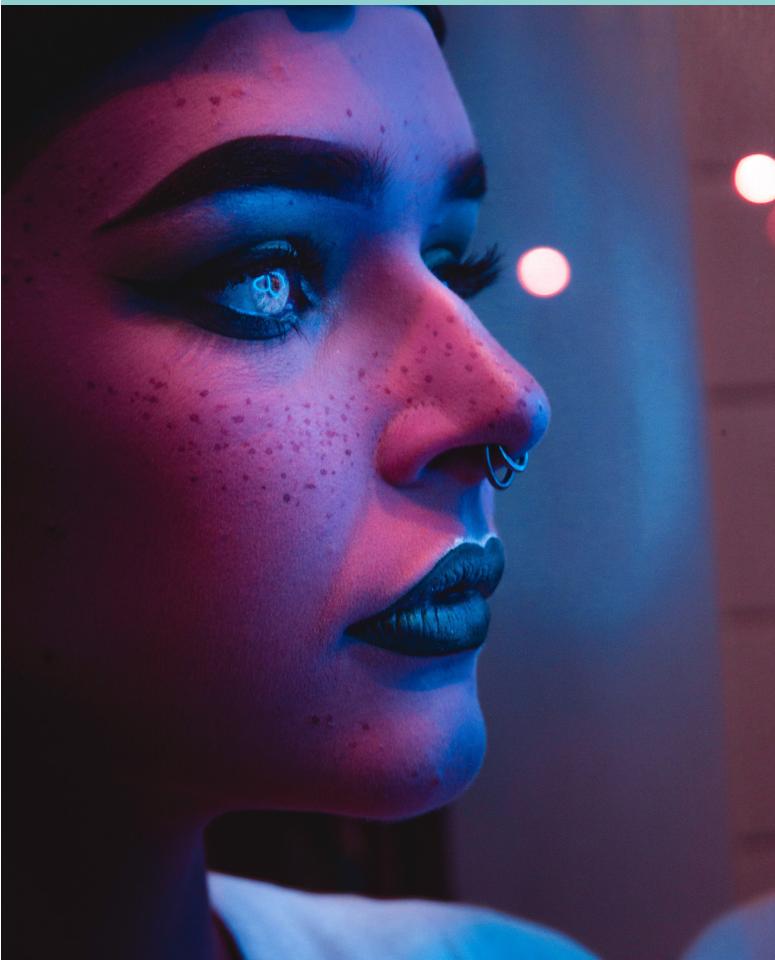
Facial recognition technology is a mainstream tool available to any individual or organization. Subscribers can tap into a database with hundreds of millions of faces indexed and clearly recognizable. Cameras are installed in most public and private spaces to take advantage of this technology, and a new ecosystem of apps emerges that integrates facial recognition across all product categories: dating apps, shopping apps, neighborhood apps, games, and more.

Scenario

Facial recognition everywhere

Can you think of 10 potential consequences of this scenario?

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Surveillance State



Scenario 9: Are you ready for a world in which ...

“Read-and-write” **neurotech implants** are a reality. A device can be implanted in your brain that both “reads” your thoughts and feelings, and also “writes” new, artificial thoughts and memories directly into your head. The first successful read-and-write implant intercepts and records **80% of data sent to the brain’s hippocampus**, giving users close-to-perfect recall of anything they have directly read, seen, or experienced. This neuro-data is saved in the cloud from where it can be sent to other implants. The company creating and servicing these implants hopes to anticipate potential individual risks and widespread social impacts of its new product.

Scenario

Neurotech implants

Can you think of 10 potential consequences of this scenario?

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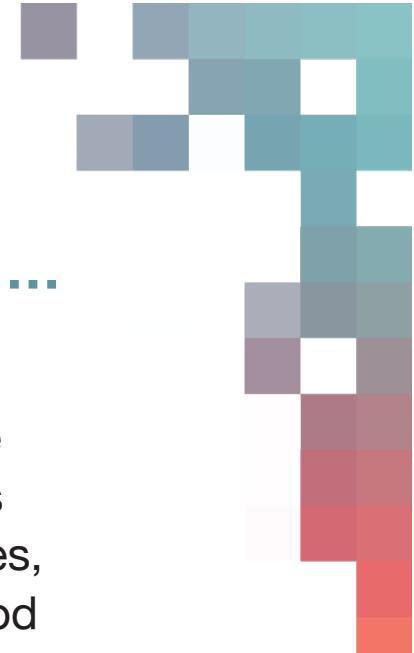


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Scenario 10: Are you ready for a world in which ...

A major data aggregator offers free health insurance to anyone who agrees to install a smart toilet in their home and submit its data to the company. **Smart toilets** can detect stress hormones, pregnancy, infectious diseases, alcohol and drug use, and blood sugar levels, among many other things. According to the contract that participants must sign, data collected from these smart toilets can be used for any purpose without limitation, including being sold to third parties, used for targeted marketing or shared with the government and scientific researchers.

Scenario

Smart toilets

Can you think of 10 potential consequences of this scenario?

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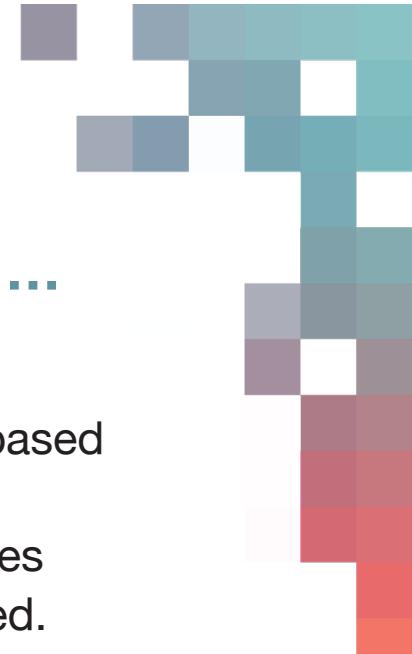


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Scenario 11: Are you ready for a world in which ...

A major university recommends students install a blockchain-based “**proof of consent**” app on their phones before having sexual relations. Users state their preferences in a number of categories including condom use, STI status, and if photography is allowed. They must accept each other’s preferences before having sex. The app creates an unalterable digital record of what has been consented to. Users are pseudonymous to prevent information about their sexual preferences and histories from becoming public. Some worry their data will be stolen and linked to their real-life identities. But many, especially women, use the app anyway. They place a higher priority on preventing rape and non-consensual acts than on privacy.

Scenario

Proof of consent

Can you think of 10 potential consequences of this scenario?

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Implicit Trust & User Understanding



Scenario 12: Are you ready for a world in which ...

Twenty-five percent of online orders are **delivered by drone**. Many of these drones are fitted with cameras and other sensors to collect data as they fly over neighborhoods, providing an additional revenue stream for shippers and merchants. Individuals who opt for free, unlimited drone delivery consent to the collection of data from their homes and yards. Entire neighborhoods where drone delivery is legally permitted are subject to the same data collection activities—even though not all of their individual residents or households have explicitly consented.

Scenario

Delivered by drone

Can you think of 10 potential consequences of this scenario?

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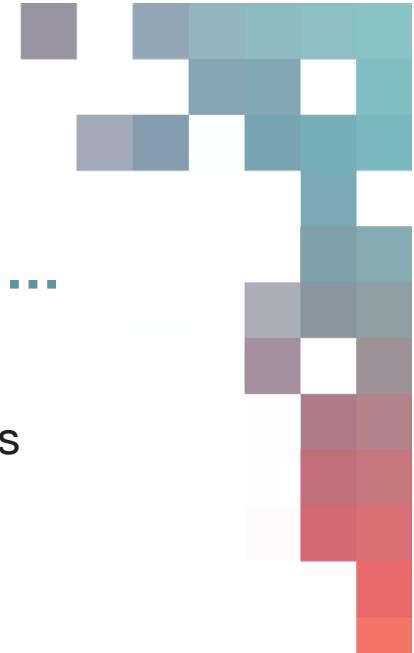
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Hateful &
Criminal Actors



Scenario 13: Are you ready for a world in which ...

A new **blockchain**-powered platform called Venge allows users to place anonymous bounties on actions designed to harass or terrorize specific individuals. These actions include doxxing, revenge porn, “swatting,” social media harassment, vandalism even violence. With one tap, you can pay someone else to act on your anger, frustration, or hate. Smart contracts pay out the bounties immediately in untraceable **cryptocurrencies** upon proof of completed action. Just as the Internet made it easier to anonymously harass other people, the anonymity and lack of regulation inherent in the case of cryptocurrencies makes it easier to pay people to carry out acts of hate.

Scenario

Revenge cryptocurrency

Can you think of 10 potential consequences of this scenario?

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Hateful &
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Scenario 14: Are you ready for a world in which ...

Self-driving vehicles become vulnerable to a new type of real-time ransomware. Hackers access the car remotely, turn off the engine, and refuse to start the car again until the driver pays a ransom. Typically this is a minor, commonplace inconvenience for small amounts of money. At worst, these attacks are timed and staged at dangerous locations—such as on train tracks, shortly before a train is scheduled to approach—for much larger ransoms.

Scenario

Self-driving ransomware

Can you think of 10 potential consequences of this scenario?

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