



Tracking

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Take advantage of opportunities with ethix



From self-optimization to social credit scores, tracking is entering the most intimate parts of our lives. Based on vast amounts of personal data, we are being profiled, categorized and incentivized to adapt our behaviors.

The issue

Tracking relies on collecting vast amounts of personal user data (e.g. through sensors, analysis of online behavior, credit card use, or facial tracking, etc.), which are aggregated and used for diverse analyses. Based on individual data and relevant (cultural) assumptions, results are presented, decisions are made, and personalized recommendations are given (see “Focus”).

Mass surveillance

Tracking can be used to collect and evaluate data on individual citizens over a large area. Through this collection, “Social Credit Scores” can be created, such as those already being tested in China today. A similar pattern can be observed on online platforms that assign a score to products, sellers, or organizations based on reviews. Examples are Uber, Yelp, etc.

Targeted surveillance

Targeted surveillance uses large amounts of data to monitor specific individuals. It allows certain individuals (e.g. political activists) to

be monitored and tracked preventively. However, targeted surveillance can also be applied to prison systems or probationary services.

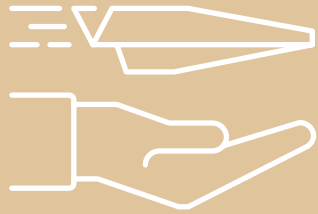
Surveillance capitalism

The combination of mass and targeted surveillance is frequently used for marketing purposes and underlies many business models of the digital economy. For example, the rule “If you don’t pay for something on the Internet, then you (and your data) are the product” applies to many social networks and e-mail providers.

Self-Tracking/Quantified Self

Many applications use various tracking methods (e.g. sensors, smart watches, smart phones) to provide an overview of specific aspects of everyday life. Using the collected data, habits, motivations, or health indicators can be tracked and compared with others. Commonly used applications, for example, are diet or weight control apps, period trackers, or workout apps.





Future scenarios

Self-optimization and fitness

Public health

Marketing and consumerism

Interpersonal relations

Justice and security

Education

Politics

Future scenarios

«Social Credit Score» via digital tracking

The days of Yelp, Google Reviews, and Rate-My-Professor are long gone. Katarina's habits are now tracked and processed by one central company, just like everyone else's. What she does, eats, who she talks to: all these data are quantitatively evaluated to calculate and publish Katarina's social credit score. Last summer, her best friend was charged with theft in court. Afterwards, Katarina began being rejected by businesses, the bank lowered her credit limit, and family and friends began nagging about her low score. If her score does not improve in the next few months, her son will not be permitted to attend the preferred school next year.

Raising the perfect child

Since Matthias was a baby, his bodily functions have been constantly measured by various sensors. During his school years, his parents received hourly updates regarding his learning and development. Even his grandmother was able to see the data. As of his 8th birthday, Matthias began using an app to self-track and regulate his eating habits, physical activities, and weight. The app sent automatic reports to his doctor.

Now an adult, Matthias shows little interest or excitement towards activities that are not digitally tracked. At the same time, he suffers from constantly measuring himself against others and having to meet a perfect standard set for him by the apps he uses.

The book that reads the reader

Stephan's new e-reader promotes efficient reading and provides him with personalized reading suggestions. His e-reader does not only keep track of when and for how long Stephan reads, but also, for example, how long he looks at specific sentences and what emotions passages evoke in him. These data are used to create an exact profile of Stephan including his interests and feelings. The information is then transmitted to the product company which sells the data to third parties. In other words, Stephen is not just reading his book, but it reads him in return.





¹ Geoffrey A. Fowler

[The spy in your wallet: Credit cards have a privacy problem](#)

² Rachel Botsman

[Big data meets Big Brother as China moves to rate its citizens](#)

³ Odhran James McCarthy

[AI & Global Governance: Turning the Tide on Crime with Predictive Policing](#)

⁴ Stuart A. Thompson and Charlie Warzel

[One Nation, Tracked](#)

Ethical risk zones

Privacy and safety¹

Tracking can help detect certain risks arising from norm-deviating behavior at earlier stages. However, it is far from clear how relevant data should be evaluated and who determines what the comparison standard is. In addition, the publication of private data can have steep consequences for individuals and may threaten fundamental ethical principles – such as the principle of autonomy – if it is done without consent or choice. For example, the publication of location data, which allows unauthorized persons to digitally follow others step by step.

Solidarity²

Mass surveillance can be used to influence routines and behaviors. When standards are set and controlled by certain entities or persons with power, it creates the risk of restricting or dismissing societal solidarity. In addition, individuals are made responsible for their actions undermining collective actions by the group and thus solidarity.

Equality³

Targeted surveillance is especially based on classifying and categorizing individuals. By being categorized, individuals may be subject to unequal treatment on the basis of certain characteristics or any combination thereof (e.g. blood values, DNA, etc.). Today,

measures like “Predictive Policing” are being put in place as attempts to prevent and curb crime. Algorithms make predictions about where crime incidents are expected to occur. Based on the predictions, police force is put into action in these high-risk geographical areas. However, it has been shown that these algorithms, which were trained using historical crime statistics, showed extreme bias towards certain neighborhoods and differentiated them unjustifiably according to socio-economic criteria.

Data protection⁴

Data protection is a major risk inherent to tracking in all its forms. Surveillance capitalism, for example, is based on the collection of large amounts of data about individuals such as their preferences, habits, and interests. In many cases, the data subjects are either completely unaware or only vaguely aware which data are being collected and for what purpose companies use them; the contracts – or the “small print” – which provide legal protection regarding data are long and difficult to understand. Often, user data becomes property of the data-collecting company and users need specified knowledge to assert their rights.





⁵ Cathy O’Neil
[The Age of the Algorithm](#)

⁶ Candice Lanius:
[The hidden anxieties of the quantified self movement](#)

⁷ Amanda Mull
[Putting kids on diets won’t solve anything: Weight Watchers has a new app for children as young as 8](#)

Autonomy⁵

Tracking impacts one of the most important ethical principles: autonomy. Surveillance capitalism, for example, presupposes that a kind of digital avatar of our identity is created without our intervention and often without our consent. Attaining access to this digital copy of ourselves, allows companies to make predictions about our future behavior, to influence our future actions, and to determine our interests (in turn increasing sales for the company). This harms a person’s self-determination by hindering their ability to decide what products or information to consume. Instead, they are presented with pre-vetted materials.

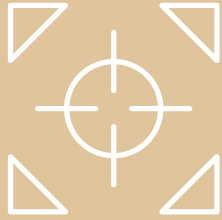
Dependence⁶

People who practice intensive self-tracking run the risk of losing a natural connection to their body. In extreme cases, they may reach a point where they are completely dependent on the information provided by self-tracking and interpret their lives entirely in terms of optimizing certain quantified values. In addition, experiences of their surrounding environments may become entirely based on tracking information. This can effect both the relationship with the environment as well as the well-being of the user.

Responsibility⁷

Self-tracking increases the attribution of responsibility to the individual. The responsibility to follow certain behavior patterns, such as dietary habits, is placed on the individual. Other possible factors, such as social influences or larger trends, are more likely to be ignored. For example, calorie counting apps transfer the responsibility for increased sugar consumption entirely on the individual, rather than focusing on healthier food regulations. This releases food producers from responsibility towards their consumers.





Self-optimization and personalized health as a lifestyle: tracking reflects a tendency to standardize a social ideal which everyone is compared to. Thus, individuals are forced to carry the responsibility to meet these norms.

Focus

Tracking gives individuals access to knowledge and information about their own bodies. Through a better understanding of the psychological and physical processes of their bodies, people can more easily implement behavioral change – especially regarding health.

However, tracking for bodily and health values relies on cultural assumptions. On the one hand, responsibility is transferred to the individual: those who are considered unhealthy are responsible for “improving”

themselves. On the other hand, the evaluation of health always requires a comparison between the individual and what is considered “normal” or “average health.” The standard for “normalcy”, however, is not always supported by scientific evidence. Rather, it is based on statistical averages from context-specific data sets. Therefore, the definition of normal represents only one possible version of the concept of health. A person constantly comparing themselves to these arbitrary definitions of healthy or normal can experience a considerable burden.





Tracking can help us to understand our surroundings and our interactions with them. However, for it to fulfill this job, it must be used with caution. The diverse impacts on psychological and physical health should not be overlooked, both on the individual and the societal level.

Looking forward

Through ethical reflection, highlighted in the risk zones above, and the defining of an ethical framework, tracking can offer added value for individuals and our society. Possible ethical talking points include, but are not limited to:

Autonomy

Tracking can lead to dependence or can be used by others (friends, family, co-workers, doctors, etc.) to put pressure on an individual. This can lead to a loss in independent decision making and restricts freedom of action.

Privacy

Tracking stores and evaluates large amounts of sensitive personal data. For example, tracking apps for hormonal cycles collect data on sexual behavior and pregnancies. Sensitive data can be passed on to employers and state authorities and end up contributing to targeted or mass surveillance. Data misuse can lead to major intrusions on the private sphere of life.

Psychological well-being

Even though health and well-being can be increased through tracking, tracking can also lead to anxiety and fear. This in turn increases stress experienced by the individual.

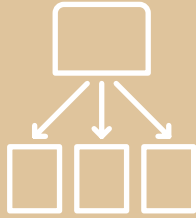
Human enjoyment

Engrained in the design process are user experiences and enjoyment. However, over time, tracking may lead to a loss in intrinsic motivation for users. In addition, otherwise enjoyable activities that cannot be tracked may be viewed as unimportant or a waste of time.

Safety

Tracking allows for vulnerable persons to be geographically pinpointed, such as individuals with dementia, children, or former criminals. At the same time, tracking makes it impossible to be untraceable as a human being, which can hurt certain vulnerable people, such as refugees or dissidents.





Thanks to the tools developed by ethix, you are able to integrate the ethical dimensions of tracking technologies in design, use, and communication. We can help you turn ethical risks into opportunities.

Resources

ethix Mapping and ethix Canvas

A first approach in order to clarify the ethical risks of your innovation.

ethix Workshop

For an in-depth examination of ethical opportunities and risks of tracking, as well as possible implementation of checklists and other tools in the innovation process.

Internal training

Training and sensitization of employees involved in the innovation process of tracking technologies.

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