STRAVA

**Slide 1: The Strava Heatmap Incident (2018)**

**What Happened:**

* Strava released a global **public heatmap** of user activity (based on GPS data).
* Heatmap revealed **secret military bases** due to soldiers using the app in remote locations.
* Even though data was **aggregated and anonymized**, in low-traffic zones, users could be identified.

**Privacy & Ethics Issues:**

* Users were **opted-in by default** and **didn’t fully consent** to being part of global mapping.
* The data wasn’t fully anonymized in practice — **triangulation made re-identification possible**.
* Researchers used **visual patterns** to trace movements to **specific homes or bases**.

**Slide 2: Ethical Fallout and Response**

**Aftermath & Reactions:**

* **No legal penalties** for Strava — no fines or lawsuits.
* Intense **public and government backlash**, especially from military/security sectors.
* **Governments (not Strava)** issued bans on fitness tracker use on military bases.

**Strava’s Response:**

* Added stronger **privacy controls** (e.g. customizable privacy zones).
* Improved **user awareness** of data sharing defaults.
* Heatmap feature continues to exist, with **opt-out option** still enabled by default.

**Key Takeaway:**

Ethical responsibility goes beyond legal compliance — companies must **anticipate unintended consequences** of data sharing.

FACEBOOK

Slide 1: The Facebook Emotional Contagion Study (2014)

What Happened:

* Facebook, in partnership with Cornell and UC San Francisco, conducted a psychological experiment on 689,003 users.
* They manipulated newsfeeds to show more positive or negative posts to see if it affected users’ own emotional content in their posts.
* The goal: test emotional contagion on a mass scale — can emotions spread online without direct interaction?

Key Details:

* No informed consent was obtained — users had no idea they were part of an experiment.
* Facebook claimed it was covered under their Terms of Service, but this was highly controversial.
* Published in the journal *PNAS* (Proceedings of the National Academy of Sciences).

Slide 2: Ethical Issues & Aftermath

Ethical Concerns:

* Violation of autonomy — users weren’t told or given a chance to opt out.
* Psychological manipulation — altered emotional states without oversight.
* Use of private data for experimental purposes without transparency.
* Conflict of interest: Cornell IRB didn’t review it because data was already collected, a loophole.

Public & Academic Reaction:

* Massive public backlash; headlines accused Facebook of using users as “lab rats.”
* Bioethics experts criticized both Facebook and the academic partners.
* Sparked wider debate about ethics in big data research and the limits of “informed consent” in digital platforms.

THEORY

**Slide 1: Ethics-by-Design & Privacy-by-Design**

**What Is It?**

* **Ethics-by-Design**: Integrating ethics **into the core of development processes**, just like **security-by-design** in software.
* **Privacy-by-Design**: Embedding **data protection principles** from the start of the project, not as an afterthought.

**Why It's Important:**

* Ethical issues should not be dealt with **only at the approval stage**; **experts** must be involved **early** in the research, product design, and implementation phases.
* Prevents **unintended harm** and strengthens the **trustworthiness** of the product or research.
* Aligns with **legal standards** (like GDPR) and enhances **user autonomy**.

**Slide 2: Ensuring True Informed Consent**

**What is True Informed Consent?**

* Not just a checkbox in a form — it must be:
  + **Understandable**: Users should **easily grasp** what they are consenting to.
  + **Specific**: Consent should be tied to **clear, specific purposes**.
  + **Withdrawal at Any Time**: Users must have the ability to withdraw their consent **freely** and without penalty.

**Common Pitfalls:**

* **Legal jargon** or **vague goals** often create confusion, leading to **uninformed or incomplete consent**.
* **Academic platforms** often fail to provide clear consent, leading to **ethical concerns** and loss of trust.

**Key Takeaway:**

Ethics and transparency **should be built into the design** and process, ensuring informed consent is not just a formality but a meaningful part of user autonomy and protection.