From Playtime to Profiling:
How Biometric (AI) Tech is Shaping Children's Digital Lives

Prof. Annette Mills
The University of Canterbury

Privacy Foundation New Zealand

Rebecca Hawkins
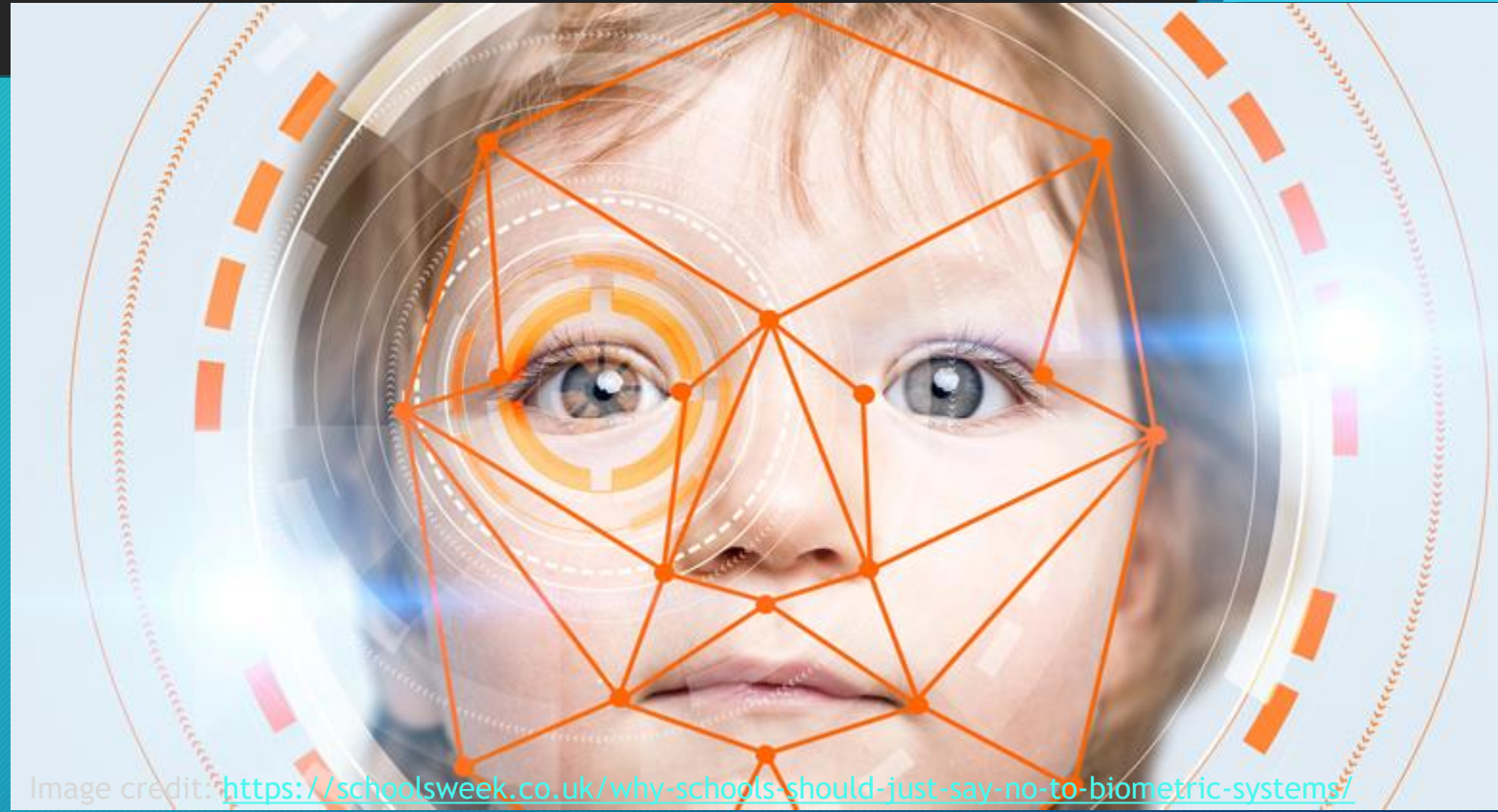*Privacy Foundation New Zealand*

www.privacyfoundation.nz

Image credit: https://schoolsweek.co.uk/why-schools-should-just-say-no-to-biometric-systems/

Prepared for Privacy Week 2025: 12-16 May 2025

Privacy Foundation NZ

Overview

- Privacy Foundation New Zealand - Who are we?

- The Digital Profile & Biometrics (and AI)

- Biometrics - Benefits & Challenges (e.g. EdTech, Toys)

- Children's Privacy & the Law

- Recommendations – What can we do?

- Concluding Comments

Privacy Foundation New Zealand
Who are we?

Advocate for protection of the privacy rights of New Zealanders by providing independent, informed and fair public comment on privacy

www.privacyfoundation.nz

Privacy Foundation NZ

Privacy Foundation New Zealand

Children's Privacy Working Group

Advocate for protection of the privacy rights of *tamariki* and *rangatahi*

Photo by Charlein Gracia on Unsplash

Privacy Foundation NZ

From Playtime to Profiling:
How Biometric (AI) Tech is Shaping Children's Digital Lives

Digital Profile

A digital profile is the sum content about a person on the Internet.

A child's digital profile encompasses the online information, images, and interactions that shape their digital identity. This includes information **shared** on social media, websites, and other online platforms.

It's important to understand that a child's digital profile can be built by themself, by their parents, or **by others**, and it can have lasting consequences.

So how are children's digital profiles built...

Biometrics & Biometric Tech?

Image generated by AI

What are biometrics?

- Biometrics measure a person's unique physical or behavioural characteristics to identify them

- This could be a fingerprint, face, iris, voice or the way you walk, type, behave, engage with social media, or express an emotion.

Biometric Tech (or System) is a machine-based system, including any computer software, application or algorithm, that is used for biometric processing

(adapted from NZ Draft Biometric Code)

Fingerprinting

Are your fingerprints the same from birth?

The simple answer is: YES.

Biometric fingerprinting tool could help securely identify infants and children

The technology, developed at UC San Diego, could enable accurate ID to help kids in situations such as disaster relief, migration and refugee settlement.

By **Mike Miliard** | September 13, 2018 | 01:39 PM

University of California San Diego researchers have created a new biometric technology they say could help securely identify children and and even newborns with just the wave of a finger.

In the News

The biometric digital wallet helping children with money management skills

Posted by Evie Kim Sing | Apr 30, 2025 | Digital ID, Identity and Access Management, Verification and Authentication

New Biometric Digital Wallet Lets Kids Pay Securely with Facial Recognition
April 17, 2025

UK Children's Commissioner calls for ban on 'nudify' AI apps

Apps that render nude images of people without consent 'have no place in our society'

Apr 29, 2025, 5:08 pm EDT | Joel R. McConvey

CATEGORIES   Age Assurance | Biometrics News

Microsoft to pay $20M fine for collecting kids' biometrics on Xbox

Jun 7, 2023, 8:26 pm EDT | Alessandro Mascellino

AUGUST 26, 2024 ✔ Editors' notes

How smart toys may be spying on kids: What parents need to know
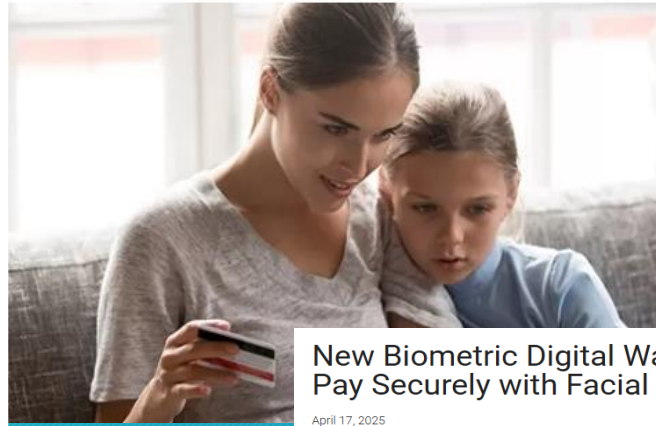
by Angelika Jacobs, University of Basel

Twelve toys were examined in a study on smart toys and privacy. Credit: University of Basel / Célin...

Toniebox, Tiptoi, and Tamagotchi are smart toys, offering interactive play through software and internet access. However, many of these toys raise privacy concerns, and some even collect extensive behavioral data about children, report researchers at the University of Basel, Switzerland.

Greece launches children's digital wallet for online age assurance

May 6, 2025, 5:21 pm EDT | Chris Burt

CATEGORIES   Age Assurance | Biometrics News | Civil / National ID

Age assurance shouldn't lead to harvesting of kids' data: Irish privacy watchdog

Online Safety Commissioner advocates for minimal data collection, third party platforms

Apr 28, 2025, 2:54 pm EDT | Joel R. McConvey

Amazon settles with FTC for $25M after 'flouting' kids' privacy and deletion requests

Devin Coldewey   3:23 PM PDT · May 31, 2023

IMAGE CREDITS: AMAZON

Amazon will pay the FTC a $25 million penalty as well as "overhaul its deletion practices and implement stringent privacy safeguards" to avoid charges of violating the Children's Online Privacy Protection Act to spruce up its AI.

What Parents Can
(and Can't) Control ...

Google is allowing children under 13 to access Gemini *(via supervised accounts through Family Link)*

There are content filters but Google admits they're not foolproof

Gemini is opt-out, not opt-in

Parents can set screen time limits, restrict certain apps, ...
But kids can activate Gemini AI themselves.

Questions:
When should kids start using AI tools?
How much is too much?
And who decides when it's time to stop?

Google's Gemini AI Kids Edition Is Here: What It Means For Parents

By Diana Spehar, Contributor. ⓘ Diana covers the intersection o... ⌄   Follow Author

May 12, 2025, 05:37pm EDT

⤳ Share   🔖 Save   💬 Comment 1

Benefits

Personalized learning systems can:
- explain difficult concepts; help children develop skills, adapt to a child's specific needs, learning style and speed to maximize the learning experience

Toys, games, EdTech
- provide early detection of developmental issues
- support mental/emotional development
- make play/learning fun

Enhanced accessibility
for children who would benefit from new ways to interface and co-create with digital systems.

Healthcare
Early detection of health and developmental issues as children use the tech

Safeguarding children (online & physical)

20 July 2023

How facial age-estimation tech can help protect children's privacy for COPPA and beyond

Source: https://iapp.org/news/a/how-facial-age-estimation-technology-can-help-protect-childrens-privacy-for-coppa-and-beyond

Concerns/Risks

- **Lack of transparency**

- **Unintended (or intended?) consequences**

  Given the human-like tone of chatbots, ... what are the impacts on children's development – and privacy – when they use these systems?

- **Modification of children's behaviour and worldviews -** *intentionally or not.*

- **Systemic bias and discrimination**

- **Data theft**

PowerSchool hacker now extorting individual school districts

By **Lawrence Abrams**

📅 May 7, 2025   ⏰ 02:25 PM   💬 0

In January, 2025 PowerSchool disclosed that it suffered a breach… included students' full names, physical addresses, phone numbers, passwords, parent information, …, social security numbers, **medical data**, and grades. … the hacker claimed to have stolen the data of 62.4 million students…

In Schools

Biometric technology can easily be integrated into everyday edtech and school operations with many benefits **… but is its use always necessary and proportional?**

… we lag behind other countries in understanding the short and long-term repercussions of biometrics…

Linewize Pulse gives students a channel to speak up and schools a way to spot those in need—in just a couple of minutes:

Weekly check-ins
Students engage in brief, regular reflections on their wellbeing, offering real-time insights into their emotional and mental states.

Actionable data
Track trends and heatmaps to identify and address areas needing attention.

Foster connections
Encourage meaningful interactions and support through regular feedback and gratitude features.

The impact of Student Pulse

5,500,000+
weekly check-ins
Students are consistently engaged and monitored for their wellbeing.

85%
student engagement
High levels of participation in wellbeing check-ins globally.

18,000+
students supported
The "I need help" feature has facilitated vital support for students in need.

Source: https://linewize.co.nz/solutions/wellbeing

ROYBI Robot

Winner of the 2021 Smart Toy Awards (World Economic Forum)

Privacy points to consider:
- Who holds data
- Where does it go
- How long is it kept for

ROYBI Robot Smart Educational Companion For Kids – ROYBI World

Awareness about what a toy collects

"Needs" versus "just has"

Information Collected About Children

Birthdate
Name
Gender
Profile picture
Chat messages sent by child
Voice messages sent by child
Photos sent by child
Password for account with toymaker
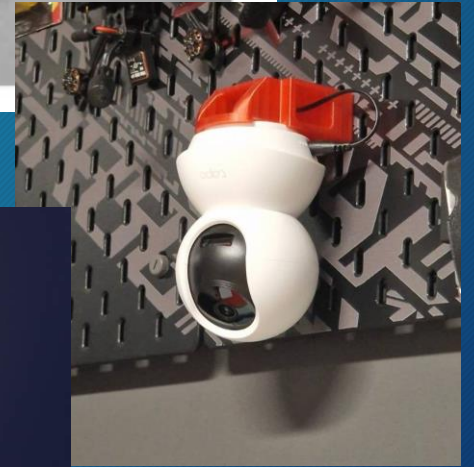Geolocation
Call logs
Internet history

Information Collected About Parents

Email address
Gender
Profile picture
Chat messages sent by parent
Voice messages sent by parent
Photos sent by parent
Password for account with toymaker
Password retrieval question and answer
Mailing address
Credit card information
Phone number
Wi-Fi password
IP address

12.14.16 Children's Connected Toys FINAL DRAFT.pdf

Biometrics in schools

Multiple potential uses:

- **Safety** – Facial recognition and fingerprint identification, stopping harm

- **Tracking attendance**/attendance management

- **Administrative purposes** and efficiency – library check out, event entrance, cafes

- **Access to technology** – replaces passwords

Biometrics in schools

Biometrics in schools

Young Learners

iMotions has been used in human behavior research with subjects of all ages. Whether you are interested in **tracking eye movements** for studies regarding early literacy development and reading comprehension or more focused on cooperation and communication amongst kids, iMotions can help you find hardware that suits your smallest, squirmy, subjects.

Examples of responses

Biometric Processing
Privacy Code - draft guide

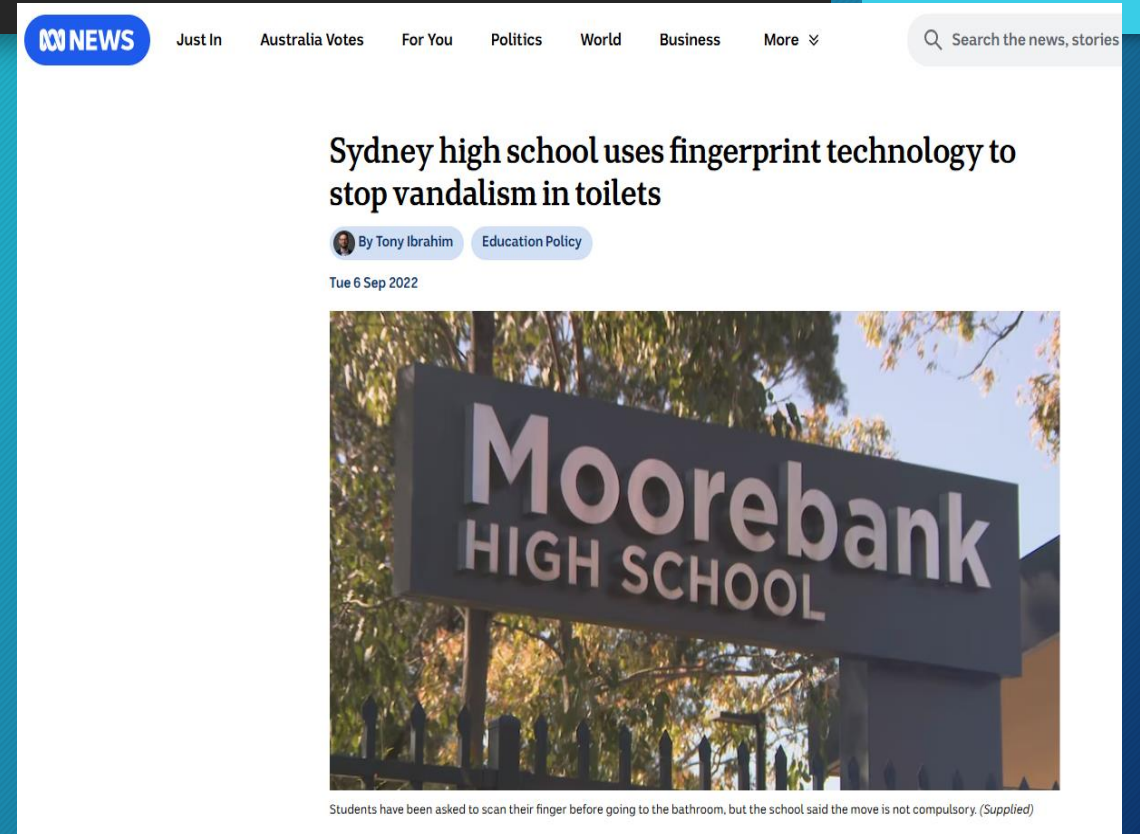2024-12-16-Full-Biometrics-draft-guidance-FOR-RELEASE-A1040530.pdf

Essex school reprimanded after using facial recognition technology for canteen payments

Date 23 July 2024
Type News

Essex school reprimanded after using facial recognition technology for canteen payments | ICO

Sydney high school uses fingerprint technology to stop vandalism in toilets

By Tony Ibrahim   Education Policy

Tue 6 Sep 2022

Students have been asked to scan their finger before going to the bathroom, but the school said the move is not compulsory. *(Supplied)*

Sydney high school uses fingerprint technology to stop vandalism in toilets - ABC News

Awareness about what is held, where for school systems

Protecting Children's Privacy

European and UK laws

NZ Privacy Act & draft Biometrics Code

Biometric Processing

Privacy Code - draft guide

Office of the Privacy Commissioner | Biometrics

What can parents look out for with toys?

- What personal information is collected and used

- Change default passwords

- Adjust privacy settings to limit what data is shared, ensuring the toy/tool only collects what is needed to function

What to consider with biometrics in schools?

- What is the exact information being collected and why?
- Is there another way to address the issue/provide the same outcome without using biometrics?
- Who has access to the system?
- Who is data shared with?

Conduct a privacy impact assessment – **don't just trust the vendor**.

10 Questions parents can ask …
if a biometric technology is being used or proposed in their child's school

1. Exactly what information is being collected, when and why?

2. How is the data being stored, processed, and analysed?

3. Who has access to the system and how will it be maintained over time?

4. What data privacy and security provisions are in place?

5. What happens if I/my child opts out?

6. What implications are there for the time and expertise of teachers, and other school staff?

7. Is there enough independent evidence to support claims a new technology will improve learning or school operations?

8. How will funding this technology impact other school budget and resourcing priorities?

9. Is there another way to address this issue, rather than using a biometric solution?

10. Has my school community had a meaningful opportunity to learn about and discuss this change?

Digital Profile

A child's digital profile encompasses the online information, images, and interactions that shape their digital identity.

So... it's important to understand that a child's digital profile can be built by themself, by their parents, or **by others**, and it can have lasting consequences.

From Playtime to Profiling:
Biometric (AI) Tech **IS** Shaping Children's Digital Lives

Thank you.

Annette Mills & Rebecca Hawkins

www.privacyfoundation.nz

Image credit: https://schoolsweek.co.uk/why-schools-should-just-say-no-to-biometric-systems/

Contact: annette.mills@canterbury.ac.nz

Privacy Foundation NZ