
RESEARCH PRESENTATION:

EVOLUTION OF TECHNOLOGY

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Human-Centred Design

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Artificial Intelligence RECOMMENDATION SYSTEMS

**Moral and Ethical Impact
& Immediate Effects on
Human Knowledge**

October, 2025

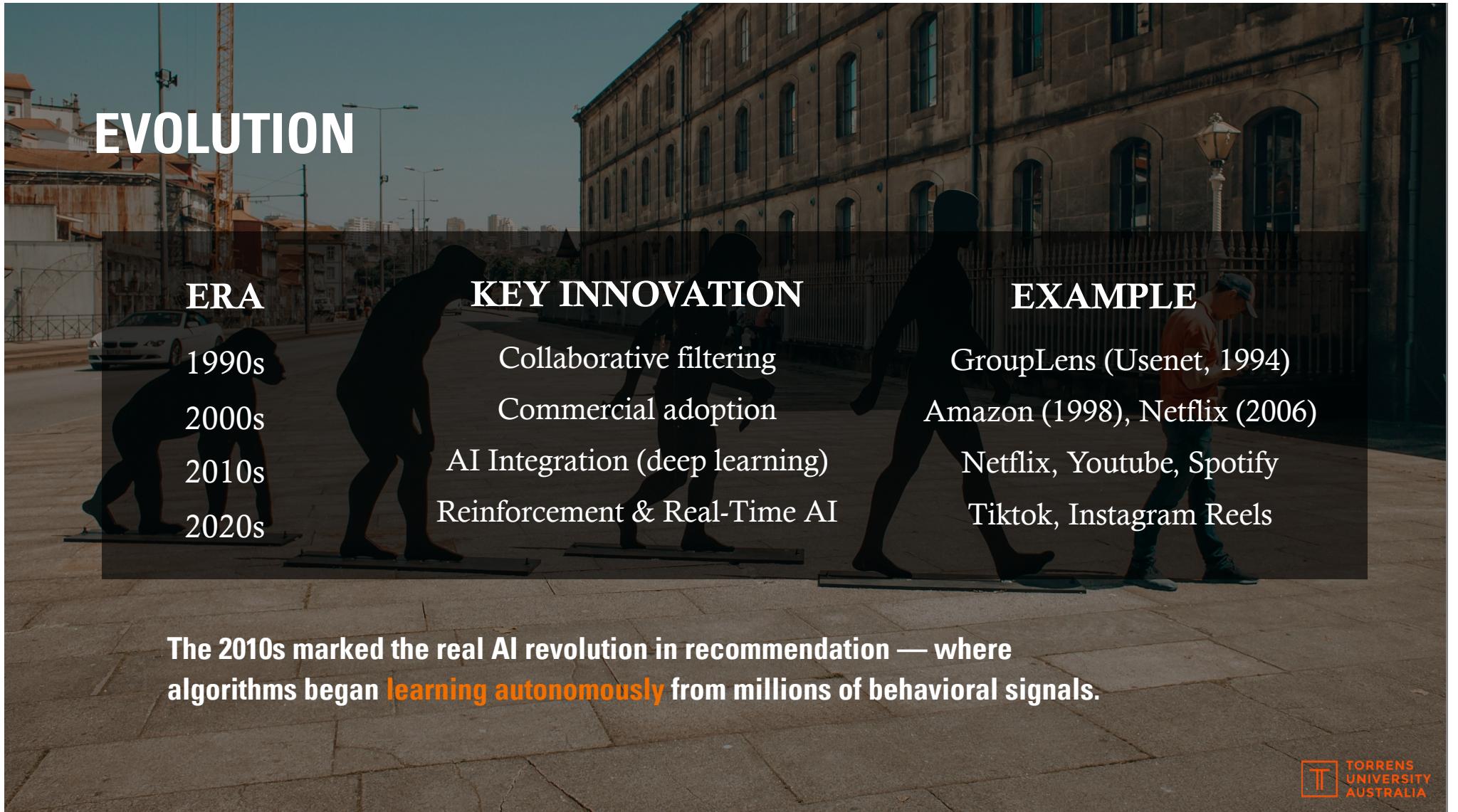


CONTEXT

What are **AI Recommender Systems**?

- Machine Learning Algorithms → Personalize content feeds
- Use user data (watch time, themes, likes, comments) → optimize predictions
 - Accessibility: simplifies discovery, removes need to search





ANALYSIS

Design

Human-Centered

- **Norman's Principles:**
 - visibility (clear feedback in feed),
 - mapping (scroll = next video),
 - feedback (likes/views).
- **Affordances abused:**
 - infinite scroll becomes addictive.
- **Gee's Guidelines:**
 - stimulation yes, but ergonomics & wellbeing ignored.

Moral

Wellbeing & Addiction

- Evidence: Problematic TikTok Use (validated scales).
- Short-form linked to attention reduction.
- WHO: sedentary guidelines → higher screen time = obesity/health risks.

Ethical

Governance & Data

- EU fines for data/privacy violations.
- Algorithm opacity → filter bubbles, misinformation.
- Global bans on government devices = trust issue.

IMMEDIATE EFFECTS

CAUSE | EFFECT

- 1B+ adoption: content discovery without search.
- Changed knowledge flows: “micro-learning” formats.
- Industry response: IG Reels, YT Shorts - all adopted the tech.



SOCIETAL SHIFTS

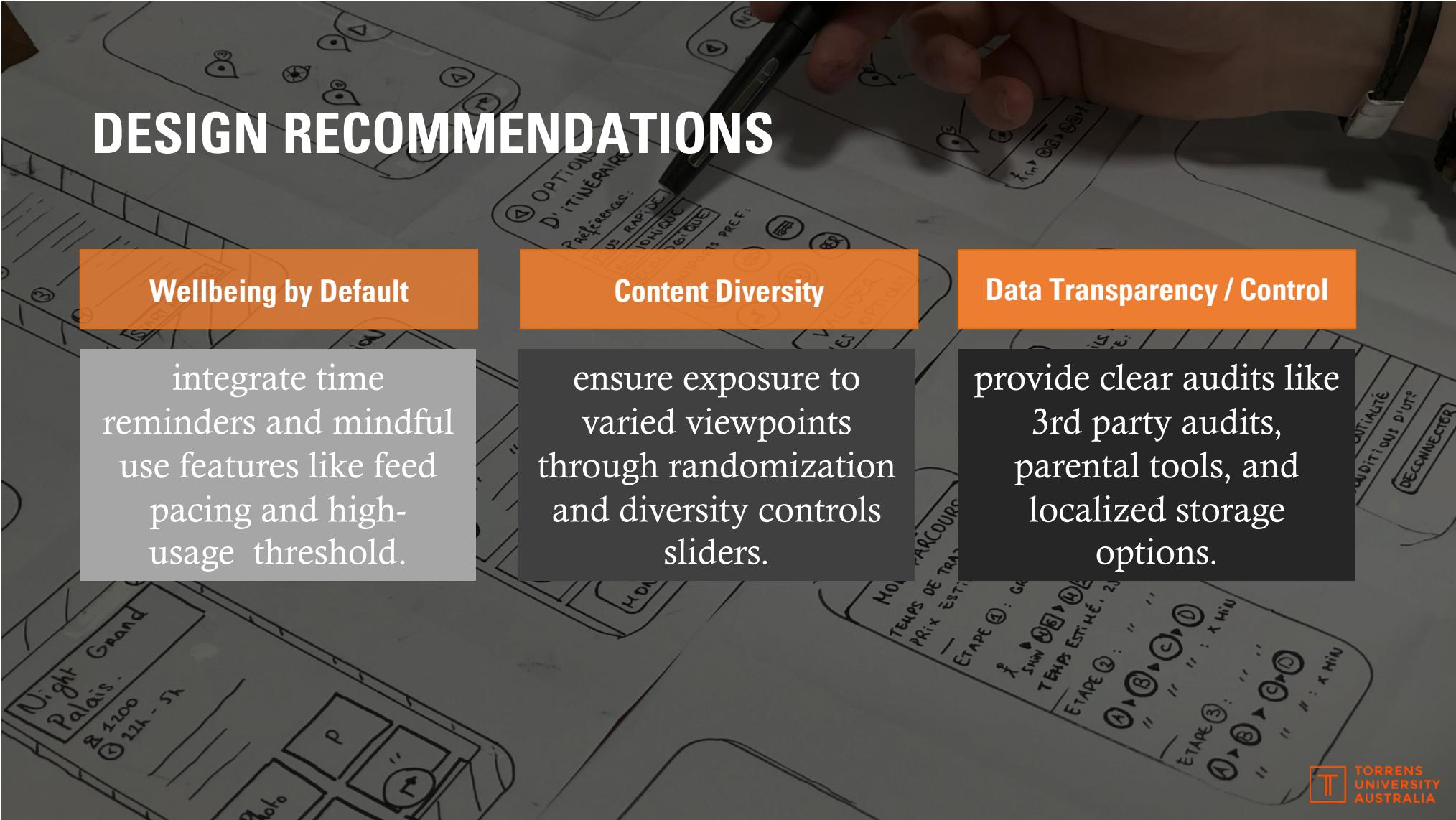
- New influencer economy
- Meme culture dominance
- Commerce: live shopping integrations
- Negative: reduced face-to-face, sedentary lifestyles.

LONG TERM EFFECTS

- democratized creativity, cultural exchange
- attention fragmentation, rising anxiety, global mistrust in platforms

Paradox of Technology (Norman):

"More power = More complexity and Risks."



DESIGN RECOMMENDATIONS

Wellbeing by Default

integrate time reminders and mindful use features like feed pacing and high-usage threshold.

Content Diversity

ensure exposure to varied viewpoints through randomization and diversity controls sliders.

Data Transparency / Control

provide clear audits like 3rd party audits, parental tools, and localized storage options.

TAKEAWAYS

- Recommender systems are the **technology that drives TikTok's success and controversy.**
- They exemplify both **human-centered design brilliance + ethical challenges.**
- The future of HCD depends on designing algorithms for wellbeing, not just engagement.

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Thank You

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