

Childhood Redrawn: New analysis reveals “pick and mix” of harmful design across social media, AI and gaming

As EU ministers meet in Dublin this week to discuss child online safety, new analysis indicates the most common design features deployed by tech firms to keep children engaged, spending and coming back. It reveals that potentially manipulative design is widespread across all digital services used by kids, not just social media.

Explainer

A summary of the 10 most common manipulative design features indicated by this analysis.

1. **Notifications – used by 8/9 apps examined.**
Alerts that prompt users to return, for example when new content, rewards or resources become available.
2. **Personalised content/recommendations – used by 6/9 apps examined.**
Content or recommendations tailored to a user's interests, behaviour or previous activity.
3. **Autoplay – used by 6/9 apps examined.**
Videos or other media that start automatically without the user choosing to play them.
4. **Resource depletion – used by 5/9 apps examined.**
Limiting things children need to continue playing, such as lives, energy, tickets or dice, creating reasons to wait, return or spend.
5. **Pop-ups and repeated prompts – used by 5/9 apps examined.**
Repeated messages or prompts encouraging users to take an action, including after they have already made a choice.
6. **Infinite scroll – used by 4/9 apps examined.**
A continuous feed with no natural stopping point, allowing users to keep scrolling through content.
7. **Anticipation mechanisms – used by 4/9 apps examined.**
Features that build suspense or anticipation around what comes next, such as timers, countdowns or delayed rewards.
8. **Gamification – used by 4/9 apps examined.**
Game-like features such as points, rewards, challenges, levels or streaks used to encourage continued participation.
9. **Disappearing/limited-time content – used by 4/9 apps examined.**
Content, rewards or opportunities that are only available for a limited period, creating pressure to return before they disappear.
10. **Usage affirmations – used by 4/9 apps examined.**
Positive feedback or encouragement that reinforces continued use, such as praise for completing activities or reaching milestones.

Recent study cited in this release is from [CyberSafeKids](#)

About the analysis

Approach

In Summer 2026, 5Rights Foundation conducted a rapid analysis of nine popular mobile apps across three categories: social media, AI-focused apps and mobile games. The apps were selected by exploring the UK iOS App Store charts on 16 July 2026 and choosing three popular services in each category that did not have an 18+ App Store age rating. The selection was intended to cover a variety of services within each category rather than three similar products.

The apps selected were:

Type	App	Overview
Social Media	TikTok	The No. 7 entertainment app on the UK iOS Store at the time of download. It has an App Store age rating of 13+ and a Google Play ‘Parental Guidance’ advisory. The app revolves primarily around short-form video content with some additional integrations such as the TikTok Shop. In 2025, the company claimed that over 30m people in the UK used the app each month. The app has been subject to numerous controversies with accusations of privacy violations, potential harms to wellbeing, health disinformation, discriminatory policies, and censorship.
Social Media	Threads	The No. 1 social networking app on the UK iOS Store at the time of download. The app is owned by Meta. It has an App Store age rating of 13+ and a Google Play ‘Parental Guidance’ advisory. Threads uses a ‘micro-blogging’ format similar to other services such as X and Bluesky. Threads requires an Instagram account to function. It has been accused of collecting more data than necessary from its users. Meta additionally faces growing controversies with accusations of privacy violations, discriminatory moderation policies, and disregard for child safety. In August, Meta agreed to pay up to \$17.1 billion to settle claims from dozens of US states that it deliberately designed their

		services to be addictive to children, while agreeing to introduce new limits and safety measures for young users.
Social Media	WeChat	The No. 11 social networking app on the UK iOS Store at time of download. It has an App Store age rating of 13+ and a Google Play 'Parental Guidance' advisory. WeChat aims to fill multiple niches as a social media service, messaging app, and mobile payment provider. The official website claims the service has over 1 billion users It has been accused of enabling mass surveillance infrastructure via the service with additional criticisms around moderation, and claims that accounts and posts deemed 'political' are often removed, such as those pertaining to women's equality and LGBT+ groups. Despite this it remains highly popular in the UK.
AI	ChatGPT	The No. 1 productivity app on the UK iOS Store at the time of download. It has an App Store age rating of 13+ and a Google Play 'Parental Guidance' advisory. It is marketed primarily as a general-purpose chatbot, and the Interactive Advertising Bureau (IAB) reports that it is the most-often used service of this type in the UK. The service has drawn several controversies including accusations of supporting suicide, biased outputs, exploitation of workers in the Global South, and providing advice on committing crimes. Parent company OpenAI released their 'Child Safety Blueprint' earlier this year, with a view to tackling AI-enabled child sexual exploitation and abuse (CSEA). They have also launched ChatGPT Teens.
AI	Reflectly	<i>Reflectly</i> was marked 'Editor's Choice' in Health & Fitness on the UK iOS Store at the time of download. It has an App Store age rating of 4+ (where it is marketed as <i>Reflectly – Journal & AI Diary</i>) and a Google Play age rating of PEGI 3 (where it is marketed as <i>Reflectly: Mood Tracker Diary</i>). The app's official website markets it as a 'personal mental health companion'. It functions primarily as a journal app where users are provided with AI-

		generated writing prompts and 'check-in' tools. Reflectly is free to download, with a premium upgrade costing additional money.
AI	Google Gemini	Gemini was the No. 3 productivity app on the UK iOS Store at the time of download. It has an App Store age rating of 13+ and a Google Play store 'Parental Guidance' advisory. With over 1 billion downloads on Google Play alone, Gemini offers generative AI functionalities across text, images, audio and video. Some of the use cases recommended by the developer include studying personalised to-do lists and researching new topics. Gemini has drawn numerous prior controversies, including around insensitive depictions of marginalised groups and allegations of encouraging suicide. It has meanwhile seen praise by UK reviewers for app integrations that offer extra capabilities, and the relative usefulness of its free version ²⁴ .
Game	Umamusume: Pretty Derby	Umamusume: Pretty Derby is a 'gacha' game - a game mechanic where players spend virtual currency to get random items, characters, or gear, much like an always-available capsule toy vending machine. It has an iOS App Store age rating of 13+ and a Google Play age rating of PEGI 3. The game is themed around anime-style young girls who partake in races. The game's success has led to adaptations including an animated show and manga series. The game has won over a dozen awards, including from Google Play but despite frequent praise, it is criticised for its use of predatory gacha mechanics (which are frequently compared to gambling).
Game	Barbie™ Horse Ride & Rescue	<i>Barbie™ Horse Ride & Rescue</i> is a simulator game which revolves around rescuing and caring for horses. It has an iOS App Store age rating of 4+ and a Google Play age rating of PEGI 3. The game has been praised for its soundtrack and appeal to childhood fantasies, though some in online communities have criticised the subscription revenue model.

Game	Monopoly GO!	<i>Monopoly Go!</i> is a digital board game. It has an iOS App Store age rating of 9+ and a Google Play age rating of PEGI 3. The app draws interest the established Monopoly branding as well as from crossover promotions with other well-known brands, including The Simpsons. It has been criticised for its excessive adverts, heavy monetisation, ephemeral rewards and notifications. As of April 2025 it had generated a reported \$5bn in revenue.
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An analyst first reviewed each service's terms of service, privacy policy, community guidelines and other available information. They then created two fictional avatar accounts to explore the services as prospective young users: a 16-year-old girl living in Dundee and a 13-year-old boy living in London. The apps were explored on both iOS and Android devices, with all research conducted in the UK. The apps were analysed over two weeks for equal lengths of time.

A researcher audited the services against a list of common features and functionalities and as they used each app, recorded when these features were used in a way that could create potential issues for children. The analysis considered potential harms to children generally, as well as children with additional vulnerabilities or risk factors.

The features examined included design practices that can encourage continued engagement, such as notifications, personalised content and recommendations, autoplay, infinite scroll, anticipation mechanisms, gamification, daily rewards and limited-time content. The analysis also looked for practices that could manipulate users into taking particular actions, including hidden information, pre-selected choices, repeated prompts, difficulty cancelling or opting out, artificially slowing progress and features that encourage spending.

Key findings

Potentially risky features were found across all three categories of service. Notifications were the most common engagement feature, appearing in eight of the nine services assessed. Personalised content and recommendations and autoplay were each found in six. Other features identified across the sample included resource depletion, repeated pop-ups and prompts, infinite scroll, anticipation mechanisms, gamification, disappearing or limited-time content and usage affirmations.

The analysis also identified deceptive or manipulative practices, including important information being difficult to find or understand, options being pre-selected, repeated prompts encouraging users to take an action, artificially slowing progress and costs or the value of purchases being obscured. The research also found examples of virtual currencies and other mechanisms that can make the real-world cost of spending less clear.

There were distinct concerns within each category. Social media recommendation systems appeared in some cases to favour shock and engagement rather than users' stated interests or wellbeing, for instance with extreme thinness content recurring on WeChat without the user ever declaring an interest in it. AI-focused apps had only partially addressed issues around guardrails and anthropomorphism, and all three AI services tested were found to be opaque about their costs until users had already started using them. The games tested relied heavily on microtransactions, daily rewards and tasks designed to build habits, with some also using emotional manipulation to keep users playing. This was especially surprising in the *Barbie* game in spite of its age rating and young target audience, as we received notifications that urged us to come back to the game by saying our horses 'missed' our avatars.

The analysis also found differences between operating systems. In some cases, apps had different interfaces, settings or features on iOS and Android, while the ability to access some games varied depending on the device and age of the avatar.

The findings should be understood as a snapshot of the features and functionality encountered across these nine apps, rather than a comprehensive review of any individual service or a representative assessment of all apps used by children.

Researchers did not make any purchases or use premium functions, meaning some features may not have been visible, and they did not engage in direct user-to-user communication outside testing between the two avatar accounts. The research does not claim that the findings will occur for every child using these apps, nor does it make an overall assessment of the safety or quality of the nine services.

Detailed findings for each service and each feature assessed are available in the accompanying document.