

What is meant by “by design”?

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Design and (human) values are inseparable; together, they shape human possibilities and people’s life outcomes.

- “Design is the human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes.” ([Buchanan, 2001, p. 9](#))
- “Human values are what is important to people in their lives, with a focus on ethics and morality.” ([Friedman & Hendry, 2019, p. 4](#))

The idea of “by design” harnesses the generative power of providers, designers and policymakers to shape technological innovation in ways that prioritise values that promote human well-being – privacy, safety, security, ethics, equality, inclusion and, encompassing all these, human rights including children’s rights. Indeed, [safety by design](#), [secure by design](#), [privacy by design](#), and others are already advocated by the United Nations Committee on the Rights of the Child (2021) General [Comment 25](#) so that digital products and services respect, protect and remedy children’s rights. This reflects the “respect, protect and remedy” framework that lies at the heart of the [UN Guiding Principles on Business and Human Rights](#) and the [Global Compact on Children’s Rights and Business Principles](#); see also [Designing for Children Rights](#).

Since design is never value-free, alternatives to building rights-respecting digital products and services may, however unintentionally, fuel the litany of biases, risks and other rights violations that fill the media headlines and undermine [public trust in technology](#). Arguably, business values centred on profit can result in technology that is, in effect, [risky by design](#) for children.



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Human values are most effectively embedded in technology during the design process, with further iteration in response to user experiences and outcome evaluation throughout product development. Retrofitting values into products and services already in the market is difficult and expensive. Innovation in relation to the physical environment may be instructive when intervening in relation to the digital environment – as in [promoting sustainability](#) or in relation to urban design as in the [child-friendly cities movement](#).

In Playful by Design, therefore, we have built on approaches to Privacy by Design and Safety by Design, also noting the pitfalls of Risky by Design. But we have also argued that more is needed. Safety, privacy, security and ethics are “hygiene factors” – necessary but not sufficient for a beneficial outcome.

In short, addressing the problems associated with children’s play would, importantly, remove the barriers and inhibitors. Yet it would do little to facilitate the benefits that the digital world could and should afford children. What’s needed is to design the digital environment by *both* removing features that undermine free play *and* enhancing features that enable the qualities of free play.

Our vision is that society should hold high expectations for the quality of children’s play across all environments. To that end, our report has examined how children’s right to play freely can be supported in a digital world by improving the design of digital products and services. We have listened carefully to the perspectives of children, parents, educators and professionals as we formulated our vision of needed changes. From this, we learned that while children love much about the digital world, they want the digital environment to better support their agency and participation.

It may seem paradoxical to propose a “by design” approach when our focus is children’s free play rather than adult-guided play serving adult-set goals. But since all aspects of the digital environment are, of necessity, designed in one way or another, we aim to set out a vision of “playful by design” that facilitates child-initiated play, strongly informed by children’s views and experiences. We also aim to encourage businesses with the power to design digital environments to take on this task from the outset rather than burdening children and their parents to overcome the barriers and find or create opportunities unsupported.

The design recommendations offered by our experts include:

- More effective and adaptive filter and moderation mechanisms to detect and take down hate speech and harmful contents which in turn improve children’s online safety
- Prioritise using safety features (e.g., screen time limiter, transaction limiter) the games, apps and platforms used by children, rather than using overarching safety mechanisms
- Create a user journey to adjust their notification settings so that users can easily choose to be alerted only to the things that are relevant to them
- Design nudge and promotional mechanics to encourage “more digital growth”, creative and stimulating experience, rather than dark patterns
- Design in a control function so that child users can set and adjust their own limits to their digital engagement
- Reduce design techniques that encourage players to keep returning to the game and become recurrent spenders, such as special timed events and “grinding”.

However, the experts’ recommendations on how to address the design features that constrain free play indicate that changes to the design of digital products and services alone are not enough. In fact, some of the changes, particularly to business models, would require effective governance. So, in addition to the changes to the digital features, experts also called for effective governance mechanisms to motivate changes in designs that are heavily influenced by commercially exploitative models, focusing specifically on:

- Overhaul and oversights of business models, advertising revenue and the supporting computing systems
- Clearer boundaries and scope of responsibilities for digital product and service classification, based on their customer base
- Oversight of relationship between child game and content developer (prosumers) and platforms.

Our purpose was to *demonstrate* that design features shape the qualities of children's play, to set out some *starting points* to explore these in relation to popular products and services, and to articulate as a *goal* that children have a right to enjoy the qualities of free play in the digital environment. But this leaves a gap between the generic digital features we have examined here and the specificities of implementing these for different products and services.

In the next steps of the Digital Futures Commission, we, and we hope others too, will work to translate these insights into actionable proposals appropriate to specific digital products and services.

Originally posted on <https://digitalfuturescommission.org.uk/> on December 6, 2021 .