



BEYOND THE SCREEN

Beyond the Screen - 2026
is a research and development project
made by Hanne-Louise Johannesen
in Zealand Academy of Business and Technologies



Beyond the Screen

– Concept Description

Beyond the Screen is a practice-based research project that addresses a growing challenge in contemporary interaction design of how to design for technologies that are not confined by screens. While much of today's digital practice remains centred on graphical interfaces - websites, apps and content platforms - an increasing number of technologies operate beyond the screen. Sensor-based systems, smart materials, service robotics and voice interfaces shape behaviour and everyday life without relying on traditional visual interfaces.

This shift calls for new ways of understanding and designing technology - not as interface, but as material, experience and situated relation. *Beyond the Screen* investigates how interaction design can be expanded to engage with movement, touch, gesture and spatial context, and how such approaches can be meaningfully integrated into design education and practice.

The project is grounded in laboratory-based learning environments, where experimentation with materials, technologies and form is already part of the pedagogical culture. However, while such environments support exploration, they also reveal a need for new didactic tools that can help structure, articulate and reflect upon design processes that extend beyond screen-based paradigms.

A central outcome of the project is the development of two complementary design tools: **TIDE-Cards (Tangible Interaction Design Elements)** and **TUNE-Cards (Tuning the Understanding of Novel Experiences)**. Together, they form a dual framework for working with interaction beyond the screen - addressing both how interaction is constructed and how it is approached.

The **TIDE-Cards** articulate interaction as a composition of fundamental elements such as input, output, materiality, behaviour and spatial relations. Rather than approaching interaction through interface design, the cards support designers in working directly with the building blocks of interaction as material and experiential phenomena. In this way, TIDE enables a shift from abstract ideation towards concrete, materially grounded exploration, where technology is understood as something that can be shaped, combined and experienced.

Complementing this, the **TUNE-Cards** focus on how design processes are positioned within different innovation perspectives. Organised around pragmatic, speculative and future-oriented approaches, the cards allow designers to move between different ways of framing a design situation. Their three-dimensional, foldable structure supports a dynamic process in which



The domain

The project is situated within interaction design, specifically in the area of tangible, embodied and non-screen-based interaction. It addresses design practices involving emerging technologies such as IoT, smart materials and embedded systems, where interaction extends beyond graphical user interfaces into physical, spatial and sensory contexts.



The problem

Despite the long-standing presence of tangible and embodied interaction in the field, screen-based thinking continues to dominate design practice and education. Designers often lack accessible ways to work with interaction as a material and technological phenomenon. As a result, they tend to default to screen-based solutions or remain at a conceptual level when working with non-screen technologies. Additionally, existing innovation methods emphasise open ideation but provide limited support for structuring materially grounded exploration, leading to either superficial ideas or paralysis in overly open design spaces.



The goal

The goal is to support designers and students in working with interaction beyond the screen by developing tools that make interaction understandable, explorable and constructible as a material phenomenon. More specifically, the project aims to enable a balance between creative openness and structured exploration, while fostering a deeper understanding of technology as something that can be shaped through design practice.

perspectives can be continuously adjusted. Designers are encouraged to *tune* the understanding of the design space, moving between immediate feasibility, critical reflection and future possibilities.

Both sets of cards emerged through long-term engagement with teaching, workshops and collaborative design processes. Early iterations were developed in response to recurring challenges among students and practitioners, particularly the tendency to default to screen-based solutions and the difficulty of engaging with technological systems at a material level. Through repeated use, testing and refinement across educational and professional contexts, the tools evolved into structured yet open-ended frameworks.

Within the research project, the cards were further systematised and evaluated through workshops, teaching modules and collaborative development processes. These activities generated empirical insights into how the cards support ideation, facilitate dialogue and enable a more grounded understanding of technological possibilities. While TIDE primarily supports the construction of interaction, TUNE enables reflection on how design processes are framed, together establishing a relationship between making and positioning in design.

The relevance of the project lies in its response to a broader cultural condition characterised by increasing screen dependency, fragmented attention and a growing distance between humans and the technologies we use. Rather than rejecting digital technologies, *Beyond the Screen* propose a rebalance, where technology is understood through material engagement and embodied experience.

For design education, this implies a shift towards teaching technology as something that can be explored, shaped and understood through practice. For industry, it opens new possibilities for innovation grounded in materiality, aesthetics and human experience. More broadly, the project contributes to a developing perspective in which technology is not only a tool, but a medium for sensing, interaction and shared experience.

In this sense, *Beyond the Screen* is not about leaving the screen behind, but expanding the field of interaction design. Through the TIDE and TUNE-cards, the project demonstrates how interaction can be both constructed and positioned, enabling new forms of understanding, new design practices and new ways of engaging with the digital in more embodied and meaningful ways.



The approach

The project follows a practice-based research approach, informed by Research through Design. The design tools were developed through long-term engagement in teaching, workshops and professional collaboration, rather than through a predefined method. Within the research project, these tools were refined, systematised and empirically explored through iterative testing in educational and professional contexts. Knowledge is generated through the interplay between making, applying and reflecting on the tools in use.



The results

The project resulted in the development of two complementary design tools:

- **TIDE Cards** (Tangible Interaction Design Elements) articulate the material and technological building blocks of interaction and support the construction of interaction design concepts.
- **TUNE Cards** (Tuning the Understanding of Novel Experiences) enable designers to position and shift between different innovation spaces, and methodological perspective like pragmatic, speculative and future-oriented approaches.

Together, these tools provide a **dual framework for constructing and positioning interaction**, supporting ideation, collaboration and technological understanding across contexts. They have been tested and refined through workshops and teaching, demonstrating their ability to bridge the gap between abstract ideation and materially grounded design practice.



Gameboard with placeholder for the TIDE-cards



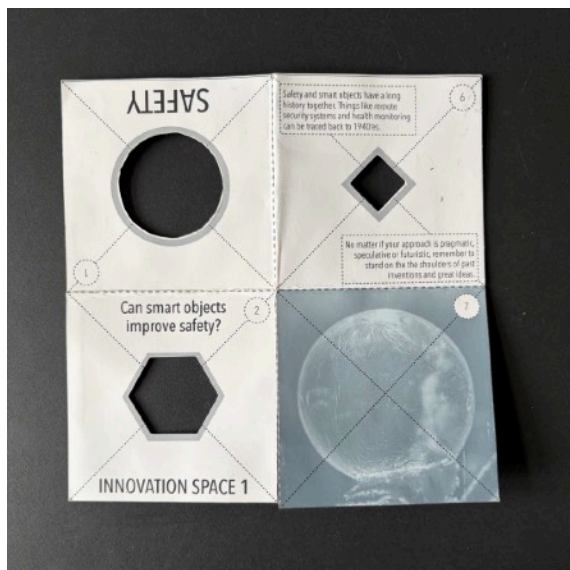
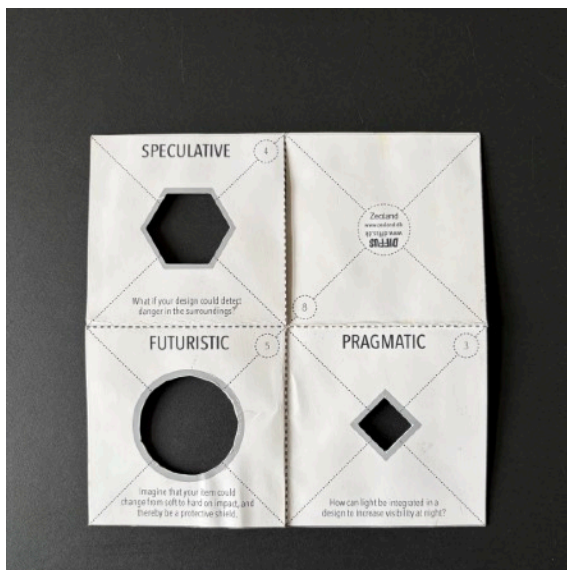
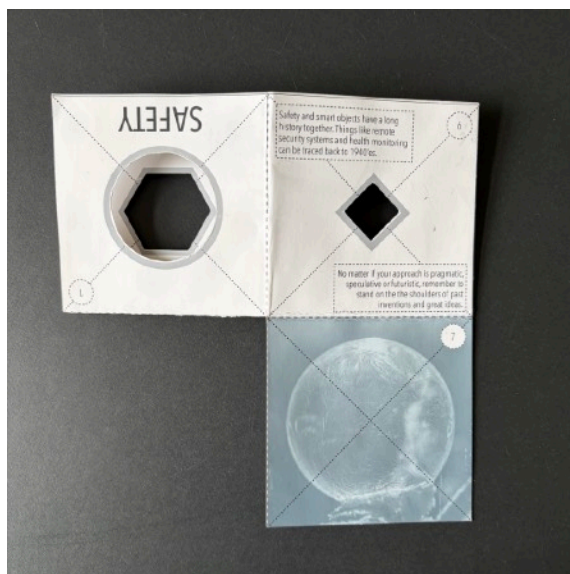
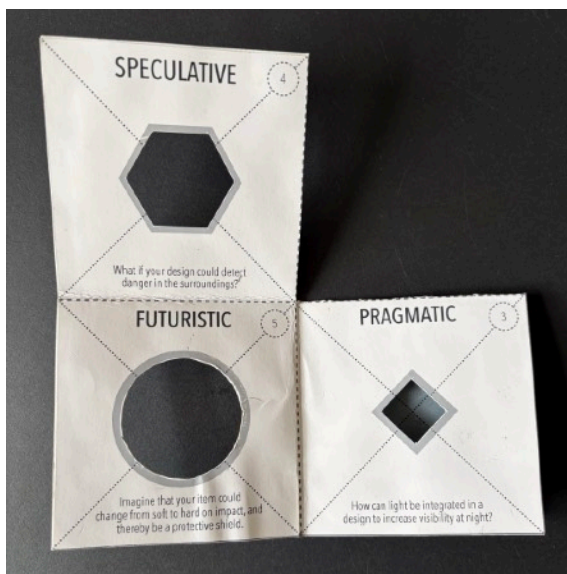
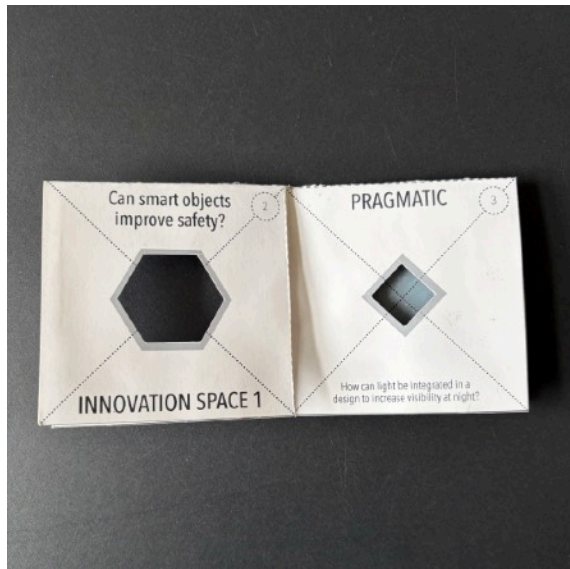
Game board with TIDE-cards in all 7 categories: Input, Interface, Output, Proximity, Materiality, Manipulation and Behaviour



My reconstruction of idea generation resulting in a concept for an Armadillo Second Skin Car Seat



The Interface category, with a pamphlet explaining each card



The TUNE-card principle of unfolding design perspectives and methods. Safety is one of 16 innovations spaces for **T**uning the **U**nderstanding of **N**ovel **E**xperiences.

For more information contact
Hanne-Louise Johannesen
at hajo@zealand.dk

