

In this exercise, I wondered how to better include visually impaired people in recognition games, often solely based on sight (like Spot It, Where's Wally, Memory). These games use all kinds of visual information (shapes, colors, outlines, patterns, scale), to create symbols that are recognizable at a glance, stimulating players' responsiveness.

Spontaneity manifests differently in an exclusively tactile gaming experience where an other, slower relationship to time has to be considered. In our tactile version of the memory game, we altered the original rules: instead of flipping two cards and immediately seeing whether they are similar or not, blindfolded players have 20 seconds each turn to touch the cards placed in front of them. This time is necessary to familiarize themselves with the embossed, debossed shapes and textures that characterize each piece (each fruit in our case), recognize them, memorize them and thus match them into pairs. Through playtesting, we also adjusted the scale of our symbols: they had to be large enough for distinctive details to be legible by touch (such as seeds), but not so large so that their global shape can be grasped quickly by a thumb's swipe. These adaptations seemed essential to ensuring a fun and challenging experience despite the change in game format.

Annotated Bibliography:

1. Chun, W.H.K. (2018) 'On Patterns and Proxies, or the Perils of Reconstructing the Unknown', *e-flux Architecture*. Available at: <https://www.e-flux.com/architecture/accumulation/212275/on-patterns-and-proxies/>

The author explores the concept of "proxies", these simplified representations of complex realities that both extend and alter knowledge. Our memory game for visually impaired people follows a similar approach: it translates fruits, multisensorial objects, into simplified tactile shapes and thus, making these multisensorial objects recognizable without sight. In order to facilitate the quick identification of these fruits' "proxies", we made some selective choices in their representation. We privileged key tactile features of each fruit (seeds, shapes, textures) and therefore omitted many other physical details that define them. This sensorial loss reflects the ambivalence of proxies evoked by the author: "proxies both reduce and introduce uncertainty". They make the world more legible but also provoke considerable information loss. Moreover, all proxies are biased representations as behind each of them stands a hidden actor. Our memory cards are the tactile interpretation of fruits of Ke, Di and me, and probably don't match anybody else's perception.

2. Maurer, L. (2013) *Conditional Design Workbook*. Amsterdam: Valiz, pp. li-xiv.

I think the approach that Ke, Di and I took in creating our tactile recognition game fits well with the idea of conditional design. The principle and aesthetic of our game evolved as it was put to the test. Indeed, our game initially envisaged as a tactile translation of Dobble/Spot it emancipated from the complex logic of the latter (8 symbols with variable colors, scales, outlines) which worked better visually than tactilely. We had to take this new context into account, test our ideas blindfolded to better include visually impaired people. We progressively defined and adjusted functional and aesthetic rules: a single symbol per card, itself measuring 4, then 5, then finally 6 cm in diameter, a unified style of hand drawn illustrations... In the conception of a game, conditional design helps to establish a framework without rigidifying the experience in a perpetually evolving reality and preserve its primary purpose of entertainment.

3. Lupton, E. and Lipps, A. (2018) *The Senses: Design beyond Vision*. New York: Princeton Architectural Press.

This work promotes sensory alternatives to sight in design and thus resonates perfectly with our project of including visually impaired people through tactility. In its section on table design, the book reveals initiatives for inclusive everyday objects, multiplying the use of the senses in the convivial context of the meal. The example of Jinhyun Jeon's sensory cutlery shows that the shapes of the utensils have an impact on the taste that we will perceive with them. This can serve as inspiration for a project like ours which also attempts to reconstruct an experience usually monopolized by one sense with other sensory tools. The senses are complementary, stimulated together they allow a richer experience for the user. For an even more immersive and inclusive experience, perhaps we could make them interact more in our game and combine reliefs, smells, or even sounds on our pieces? Especially since the target audience does not exclusively concern visually impaired people.

4. Schell, J. (2008) *The Art of Game Design: a book on lenses*. USA: Elsevier.

This book is a bible for developing a game. Although all its parts are interesting, the section on playtesting seems particularly relevant to me in the context of our project. The author invites the designer to project himself into real conditions rather than relying on game theory. In our project, we became aware of the importance of testing, which makes it possible to identify malfunctions. There is always a gap between theory and practice. For example, it was while playing that we noticed that a tactile version of memory required time included in the game to familiarize the pieces, which is not the case in classic memory. The author offers several data collection tools for constructive playtesting. We thought about filming ourselves, timing ourselves while playing, but observing the body language, the tricks, the interactions of the audience concerned (seeing and blind) would indeed be a way to deepen our game.

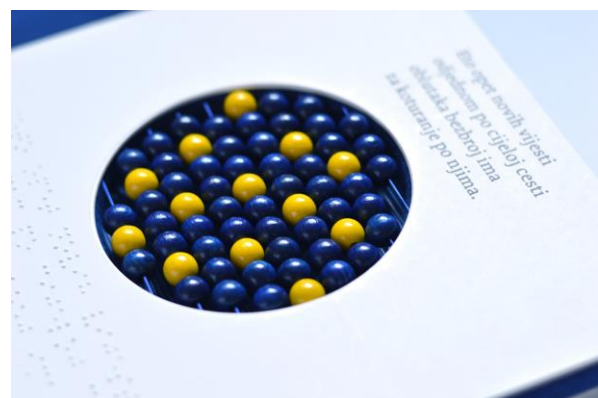
5. Hong Kong Museum of Art. (2024) *Beyond Seeing: A Multisensory Art Project*.



Museums are another source of joy that tend to exclude visually impaired people. This exhibition provides tactile audio-guides and captions that facilitate their understanding of the artworks, and therefore, their integration in museum. Among the captions, an illustration translated into patterns of

dots inspired us. How to visualize a figurative object through touch? And from the perspective of a practitioner, what are the different ways of illustrating in embossing? The example below borrowed from the book of the exhibition shows how shapes can find inspiration in Braille in order to develop their own tactile language. This reference also inspired us for the rule card that accompanies our tactile memory game. How can Braille and embossed shapes meant for visually impaired individuals coexist with printed typography? How to compartmentalize tactile elements so that the communication is clear without sight?

6. Horvat, Z. (2014) *Tactile Picture Book for Blind Children*. Zagreb. Available at: <https://www.behance.net/gallery/30101433/Tactile-Picture-Book-for-Blind-Children%E2%80%8B>



This project specifically targets born-blind children, that don't have any visual memory. It is a very interesting distinction to establish while designing tactile visuals as perception might be totally

different in both cases. Here, physicality takes precedence over outlines and figurative elements, contrasting with the previous mentioned reference. It is a more sensorial approach that nurtured one of our initial idea: using different textures to translate symbols (felt for the warmness of fire, velcro peaks for cactus). However, we encountered the difficulty of materially translating abstract concepts like death or music. Besides, our desire to contain several subjects on a single card represented a considerable technical challenge. We took refuge in what seemed more familiar to us, the theme of fruits, whose shapes and graphic potential were obvious to us. Zrinka Horvat adopts a different approach, she has dived into the unknown and the result is very successful.