

# **A CONNECTED WORLD**

**DESIGNING NEW METHODS, TOOLS AND SOLUTIONS  
TO LINK PEOPLE TOGETHER AND SAVE THE PLANET**

EDITED BY

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Designing new methods, tools and solutions to link people together and save the planet.

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# A CONNECTED WORLD

## DESIGNING NEW METHODS, TOOLS AND SOLUTIONS TO LINK PEOPLE TOGETHER AND SAVE THE PLANET

This volume is the outcome of a discussion triggered by the 2022 World Information Architecture Day, the one-day a year event to encourage world-wide conversations about information architecture.

The 2022 topic was "A Connected World": *We connect with each other in digital, physical, and blended spaces. We connect with people, products, services, content, and the world in general. This connectedness can be wondrous and yet challenging.*

*Information architecture uncovers and creates new connections that we weren't aware of before. It can inspire us to make new discoveries*

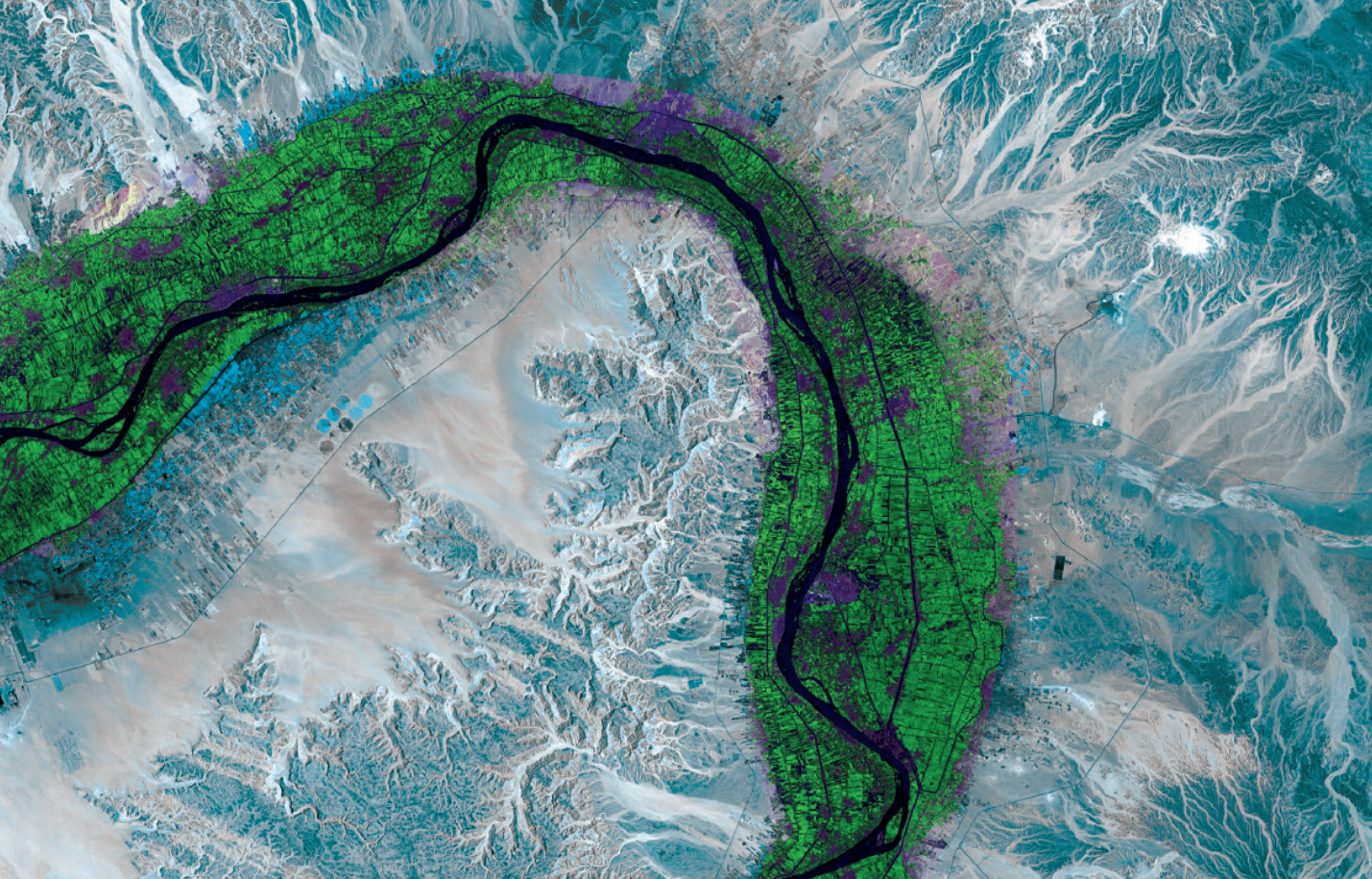
*or reveal new relationships that may urge us to take constructive action, e.g. climate change, the global health crisis, or the supply chain disruption we have experienced during the pandemic. Information architecture contributes to making connections more relevant. It helps us understand which information is important and trustworthy. It provides guidance in a mess of information and helps fight against the disinformation of fake news. It allows us to steer better who and what we are connecting with. It creates places we enjoy being in where people and information meet.*

*In a world where we're connected yet distanced,*

*how do you facilitate connectedness? How do you help make sense of connections? What new connections have you made recently? How did you support others to discover new connections? In what ways do you think information and information architecture can be used to support, define, or create environments (digital, physical, virtual, or blended) to improve the lives and experiences of people in a connected world?*

The hybrid event organized on March 4th 2022 in Palermo by the University of Palermo, PUSH design lab and Arca, had the support of an international scientific





committee (Marika Aakesson, Cristian Campagnaro, Salvatore Di Dio, Nicola Morelli, Chiara Lorenza Remondino, Dario Russo, Paolo Tamborin) which selected blindly abstracts of scholars and professionals willing to contribute to the discussion.

Through the open call the scientific committee have selected abstracts from Luigi Farrauto, Danilo Costa, Roberto Anelli, Federica Ditta, Cristina Marino, Leonardo Moiso, Eleonora Fiore, Enrica Amplo, Andrea Arboleda, Antonio De Pasquale, Irene Fiesoli, Claudia Mastrantoni, Florian Myter, Caterina Bonora, Isabella Patti, Valeria Valeriano and Caterina Bonora.

The following conversation triggered by the event was therefore the starting point of a deeper discussion in the next month, and, thanks to the interest of Palermo University Press, curators of this volume invited all contributors to condense all further reflections in a fix peer-reviewed paper (David Kaplan, 2005 "How to Fix Peer Review", *The Scientist*, 19).

All contributions discussed in this essay focus on the potential of design and innovation to address important challenges facing humanity and the importance of inclusive design and sustainability in the digital age. The common characteristics

of the texts are that they all discuss design in relation to technology and innovation. They explore how design principles can be applied to various fields, such as education, public services, and sustainability, to create new solutions and opportunities. Authors also discuss the potential of using technology, such as data analysis and digital platforms, to improve design processes and outcomes. Additionally, the papers highlight the importance of inclusive and holistic approaches to design, and the need for collaboration and dialogue between different stakeholders in the design process.

# RECONNECT. EMPATHY MAPPING IN THE ERA OF COVID-19

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## ABSTRACT

In this paper we present an exploratory study conducted during the first-year product design course at the University of Palermo aimed at developing a new version of the empathy map (Empathy Map 5 Senses - EM5S) after the COVID-19 outbreak.

The research had two main goals: focus freshmen students' attention towards senses that have been temporarily excluded because of social distancing and masks, and collect data about the importance of every single sense and how their presence changes the quality of familiar experiences such as commuting to work, working, having lunches and dinners, having fun and taking care of themselves.

From a first sample of 210 EM5S, data shows the different roles of the five senses and interesting patterns emerged in particular according to sight, touch and smell senses.

The research is still ongoing to process another 600 EM5S, and it's open to contributions from other scholars working in the human-centered design field.

## EMPATHY MAP, HUMAN-CENTERED DESIGN, COVID-19, WORKSHOP

*The contribution is the result of a joint reflection of the Authors. Notwithstanding, the paper was written by Salvatore Di Dio and reviewed by Luigi Vella, data entry was done by Luigi Vella.*

*The authors acknowledge the University of Palermo 2021/2022 Product Design and Communication Workshop teaching assistants: Bruna Alamia Sabbadini Schillaci, Marco Cuera, Caterina Filingeri, Luciano La Rocca, Sara Pollicino.*

*The authors acknowledge Link Campus University professor **Antonio Opromolla** and University of Genova professor **Chiara Olivastri** for reviewing the article.*



## 1. INTRODUCTION

Empathy is a multidimensional construct that requires the ability to perceive and understand others' perspectives, as well as feel their emotional state. It is an intellectual skill to be learned and represents one of the domains of emotional intelligence. [1]

The impact of COVID-19 social distancing restrictions on adolescents' emotional development is at the center of many studies all around the world [2, 3].

For many, social distancing meant being isolated, and the precautions to avoid the transmission of the virus implied the raising of anxiety of touching and breathing even in previously familiar contexts [4]. "Learning how to navigate the inner webs of relationships happens in high school," said Dr. Jessi Gold, a psychiatrist at Washington University in St. Louis. "When you retreat behind a computer, you lose some of those social skills."<sup>1</sup>

The struggle in developing empathic skills will challenge an entire generation in building meaningful and lasting relationships [5], and it may disadvantage the next generation of designers in understanding people's real needs.

In this scenario, during the first design workshop run in presence in 2021/2022, a new tool designed with the aim of

easing the development of empathy skills was developed and tested together with 50 freshmen design students.

## 2. EMPATHY MAPS AND 2021 FRESHMEN DESIGN STUDENTS

As described by Dave Grey in his book "Gamestorming" [6], although creating an Empathy Map (EM) is not the rigorous and research based process that is required for developing personas, it can quickly get a group to focus on the most important element: people, and become more aware of their real needs.

EMs are often developed after the research phase on users before processing personas or in the absence or inability to research users in order to process shared profiles.

As stated by his creator Scott Matthews, EM is pervasive tool that helps people step inside the heads of their audiences, putting a human-centered framework around co-creating a better picture of who we're talking to when we design products, services, and experiences for people.

As shown in **Figure 1**, the EM allows to annotate in a synoptic canvas and then discuss in the team some specific characteristics of the persona's goals, feelings (what he/she thinks and feels), actions (what he/she does say and do) and, of course, perceptions (what he/

she does see, hear).

In this format, it does not allow us to take into consideration other senses (touch, smell and taste) probably because, at the time when EM was initially designed, these senses didn't seem to have the power to influence the debate on the personas.

But after almost two years of the COVID-19 outbreak, the senses of touch and smell seemed, on the contrary, to have ruled the way we face our surroundings and, by doing so, the way we embody the world and we train our empathy skills [7].

A new updated version of the EM (**Figure 2**) has been designed by the authors and the workshop's teaching assistants to spot freshmen students' attention on all five senses with the goal of measuring if the senses of touch, smell, and taste have an impact in empathy mapping effectively.

As shown in **Figure 2**, the Empathy Map 5 Senses (EM5S) has a scale where students can quantify (from 0 to 5) how much the specific sense has an impact on the experience and a circle where they can qualify that sense' experience (positive, negative) by drafting a happy or sad face (**Figure 3**).

## 3. METHOD

During the first-year Product Design and Communication

# Empathy Map Worksheet

## 1. WHO are we empathizing with?

- Who is the person we want to understand?
- What is the situation they are in?
- What is their role in the situation?

## 2. What do we want them to DO?

- What do they need to do differently?
- What job(s) do they want or need to get done?
- What decision(s) do they need to make?
- How will we know they were successful?

## 3. What do they SEE?

- What do they see in the marketplace?
- What do they see in their immediate environment?
- What do they see others saying?
- What do they see others doing?
- What are they watching and reading?

## 4. What are they SAYING?

- What have we heard them say?
- What can we imagine them saying?

## 5. What do they DO?

- What do they do today?
- What behavior have we observed?
- What can we imagine them doing?

## 6. What to do they HEAR?

- What are they hearing others say?
- What are they hearing from friends?
- What are they hearing from colleagues?
- What are they hearing second-hand?

## 7. What to do they THINK & FEEL?

### PAINS

What are their fears, frustrations, and anxieties?

### GAINS

What are their wants, needs, hopes and dreams?

Designed for:

1. WHO are we

6. What do they HEAR

XPLANE®

Figure 1. Empathy Map from xplane ©

Designed by:	Date:	Version:
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empathizing with?

GOAL

2. What do we want them to DO?

7. What do they THINK & FEEL?

PAINS

GAINS

3. What do they SEE?

4. What do they SAY?

What other thoughts & feelings might motivate their behavior?

5. What do they DO?



Workshop of the University of Palermo, 50 students were asked to interview local Artisans, Artists, Teachers, Retirees, Restaurateurs, and Students according to some specific activities such as commuting to work (move in Table 1), working (work in Table 1), having lunches and dinners (eat in Table 1), having fun (fun in Table 1), taking care of themselves (care in Table 1). Each student has interviewed at least 20 different people, and more than 800 empathy maps have been drafted. A first sub-sample of 210 of them has been fully analyzed and reported here.

## 4. PRELIMINARY RESULTS

**Table 1** shows the overall average results recorded regarding how much a specific sense influences the different experiences (column rate) and if the experience was positive or negative (column  $\theta$ ). Green color highlights results over the rate of 3,5 and over 5%; red color highlights results lower than the rate of 2,5 and lower than -5%.


It's immediately visible how students reported the impact of sight for its positive predominant role during all the experiences mapped.

The sense of hearing seems particularly relevant during working and entertaining activities, while its quality depends dramatically on

USER PICTURE

USER NAME

**WHAT DOES/DO HE/SHE/THEY SEE?**




Write down what they see.

Is a scale from 1 to 5, how dominant is this sense in the experience the user has just lived?

Sketch an emoji that represents their status.

**WHAT DOES/DO HE/SHE/THEY TOUCH?**




Write down what they touch.

Is a scale from 1 to 5, how dominant is this sense in the experience the user has just lived?

Sketch an emoji that represents their status.

---

**THINK & FEEL** 

What really counts  
Major preoccupation  
Worries & aspirations

Figure 2. Empathy Map 5 senses.

**USER  
AGE**
**USER  
PROFESSION**
**SCENARIO**

**WHAT DOES/DO HE/SHE/THEY HEAR?**




Write down what they hear.

In a scale from 1 to 5, how dominant is this sense in the experience the user has just lived?

Sketch an emoji that represents their status.

**WHAT DOES/DO HE/SHE/THEY SMELL?**



Write down what they smell.

In a scale from 1 to 5, how dominant is this sense in the experience the user has just lived?

Sketch an emoji that represents their status.

**WHAT DOES/DO HE/SHE/THEY TASTE?**



Write down what they taste.

In a scale from 1 to 5, how dominant is this sense in the experience the user has just lived?

Sketch an emoji that represents their status.

**SAY & DO** 

Attitude in public  
Appearance  
Behavior towards others

**GAIN** 

Wants/needs  
Measures of success  
Obstacles

**PAIN** 

Fears  
Frustrations  
Obstacles

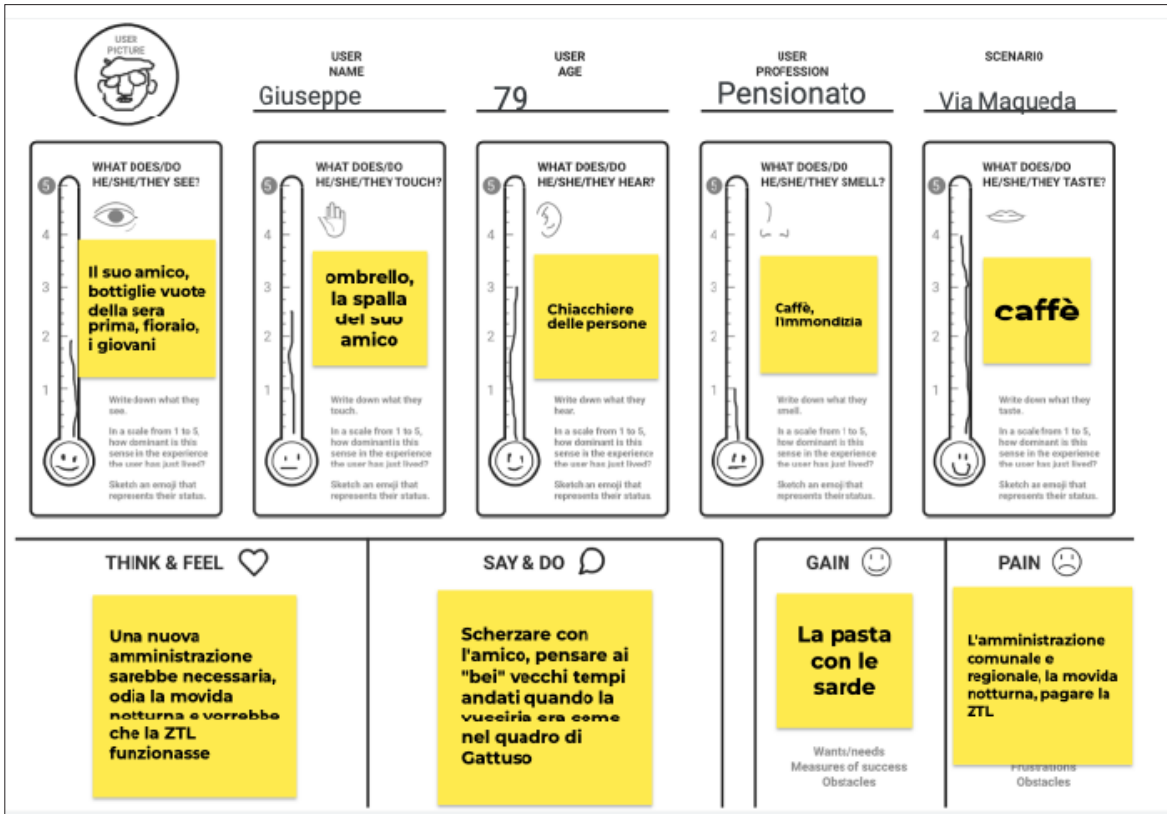


Figure 3. Empathy Map 5 senses filled up by a student.

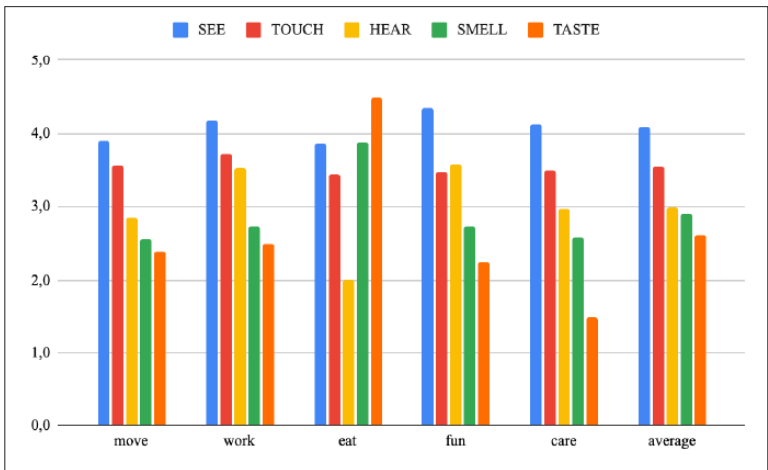


Figure 4. Average rates of the impact of senses on users' experiences.

different environments. These two senses already mapped in the EM play a significant role in empathizing with users, but, as visible in

Figures 4 and 5, the impact of the other senses is far from irrelevant.

Table 1 and Figure 4 show clearly how the sense of touch,

in particular, plays a similar role to sight, except for the quality of the experience (Figure 5) which reports a positive trend only in the case of fun and care. From the analysis of the sample of the EM5S, the sense of smell behaves very closely to the sense of hearing; this is clear in the average results reported in Figures 4 and 5, but with evident distinctions in eating and fun experiences.

Lastly, the sense of taste, besides not being involved in most of the experiences, is one of the five with overall good performance for the quality of the experience.



## 5. CONCLUSION

These preliminary results allow us to affirm that students (asked to empathize with people with the goal of drafting personas) report essential roles of at least four out of five senses.

In particular, it's the opinion of the authors that this analysis might also show a different way of perceiving the world after COVID-19.

The sense of sight is predominant from both perspectives adopted in the EM5S, this underlines how much "visual" is how we interact with the world.

The results reported for the senses of touch and smell are negative during those experiences that need the most social interactions, like commuting to work (move) and working (work).

Once all the EM5S reported by the University of Palermo Workshop students, further studies will be conducted in order to 1) study emerging patterns, 2) describe comparisons and analogies among the six different users' categories, 3) understand if the way students empathize is or not influenced by the use of this map, 4) if this research is done in a different city it produces the same results.

Moreover, the EM5S is accessible through this book (in open access) in creative commons to collect direct feedback from scholars worldwide.

	SEE		TOUCH		HEAR		SMELL		TASTE	
	rate	$\hat{\sigma}$	rate	$\hat{\sigma}$	rate	$\hat{\sigma}$	rate	$\hat{\sigma}$	rate	$\hat{\sigma}$
move	3,9	23%	3,6	3%	2,8	-18%	2,6	-16%	2,4	10%
work	4,2	26%	3,7	1%	3,5	-4%	2,7	-12%	2,5	1%
eat	3,9	32%	3,4	2%	2,0	-11%	3,9	14%	4,5	32%
fun	4,3	36%	3,5	9%	3,6	27%	2,7	4%	2,2	13%
care	4,1	37%	3,5	12%	3,0	16%	2,6	20%	1,5	-8%

Table 1. Average rates of the impact of senses and quality of the experience.

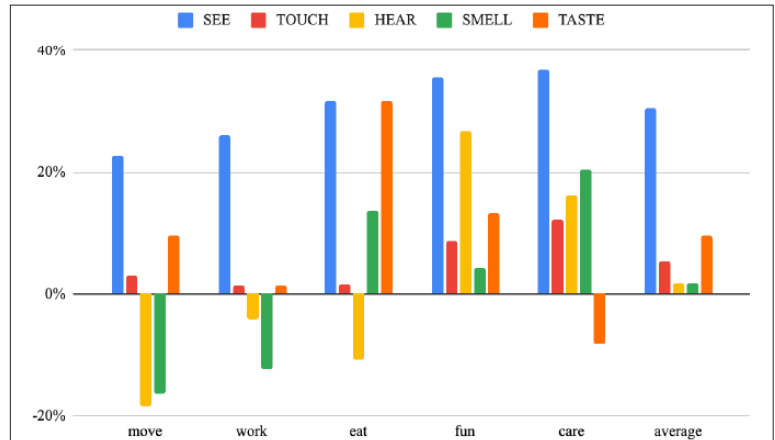


Figure 5. Average rates of the quality of the experience.

## NOTES

- 1 <https://www.nytimes.com/2020/11/12/health/covid-teenagers-mental-health.html>

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