

8th International Forum
of Design as a Process

Disrupting Geographies in the Design World

Intersectional design *in practice*

a critical perspective on
sustainability for all

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OUTLINE

Design With Intersectionality in Mind

Education for Sustainable Futures

Exploratory Research

Materials and Methods

Insights on Intersectionality



It is important to view interaction design as broader than our direct interfaces with machinery and regard it as a cultural phenomenon.

What we face in pursuit of material progress can only be undone if our goals globally turn to **regeneration and care**.

We need to design the interactions to carry that change forward.

Ann Light, 2022



RESEARCH QUESTIONS

[DESIGN EDUCATION] Can we build a **trained sensitivity to complexity** in order to help develop new models for understanding complex phenomena through design?

[DESIGN RESEARCH] Can we make use of **design research methods to proliferate the means to make sense** of the world?

[SUSTAINABLE INTERACTION DESIGN] Can we design interactive technologies aimed at **fostering awareness, empowerment, culture and social coexistence**?



GREEN SCENT

SMART CITIZEN EDUCATION
FOR A GREEN FUTURE

European Union's Horizon 2020
Research and innovation programme under
grant agreement No. 101036480.



Design With Intersectionality in Mind



DIGITAL LIFE, TECH CONSUMPTION AND SUSTAINABILITY

In the current transition towards a world increasingly **dependent on technology**, the solutions identified do not take into account the environmental and the social impacts generated.

Some phenomena exacerbated its widespread use in the high digital density scenarios we are living in: we are **increasing our digital hunger** and the demand for increasingly satisfying and interactive experiences has come at a cost.

Mike Monteiro, 2019



THE PROBLEM

Information overload, media pollution and data waste: every action on the internet, however fast, habitual and apparently harmless, generates a small amount of CO₂, emitted due to the energy needed to power devices and networks.

Digital divide is **increasingly excluding marginalized people** from accessing information and a sustainability culture as well as from social processes and transformation towards the green transition.



INTERSECTIONALITY *IN PRACTICE*: six principles

1/2

#1 Outreach and consultation with key groups and their organisations.

#2 Protect and support minority identities while also enhancing their full participation within the organisation.

#3 Representative membership and leadership including all the sectors, groups, minorities.



INTERSECTIONALITY *IN PRACTICE*: six principles 2/2

#4 Participatory, experimental and collective design research approaches towards complex human-technology-environment assemblages.

#5 Solidarity and clear statements

#6 Advisory board for intersectionality



Education for Sustainable Futures



SCOPE

The urgency of effectively delivering the message and fostering social and individual change is vital.

Establishing an **integrated and holistic approach to sustainability education** is required in order to enable young generations to empower their knowledge, values and attitudes towards **accessible, inclusive and respectful societies**.



RELUCTANCE

The averseness to **break the behavioural patterns** to change the negative effects of the events is quite low [Fuchs et al. 2017].

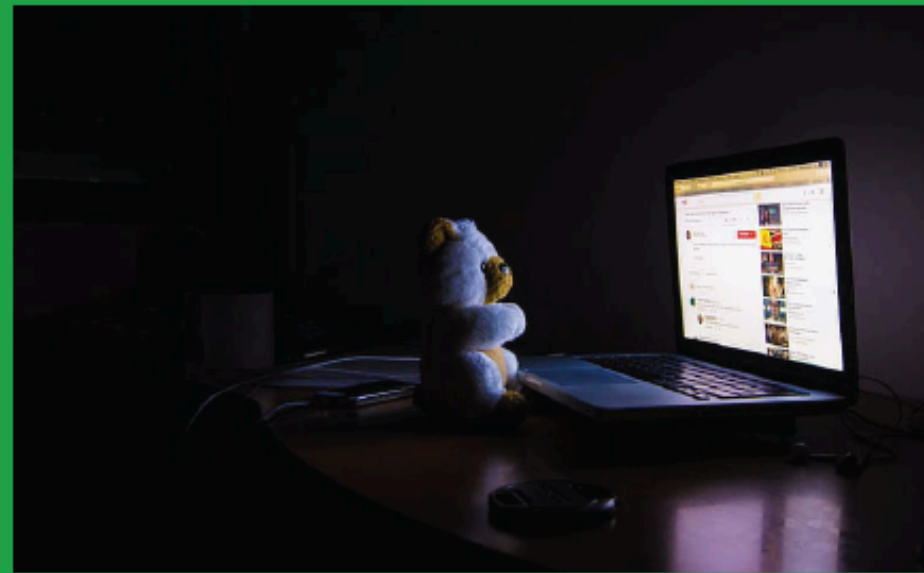
Mass bystanders effect: most are aware of the climate and ecological crisis but few are available/interested to change behaviour [Leiserowitz et al, 2018].

Vulnerable people's interests are often detached from social or environmental priorities of the society where they live: different priorities and detachment from mainstream issues.





CLIMATE CHANGE
Buy products with less packaging



CLEAN ENERGY
Shut down computer at night



CIRCULAR ECONOMY
Get electronics repaired instead of buying new



GREEN BUILDINGS
Switch to energy-efficient light bulbs





CIRCULAR ECONOMY
Recycle paper products



GREEN BUILDINGS
Install a renewable energy system in home



BIODIVERSITY
Plant native plants in home garden



ZERO POLLUTION
Reduce highway speed from 120 to 100 kmh



EDUCATION FOR SUSTAINABILITY

Pro-Environmental Behaviour

Aims to reduce or minimize an individual's impact on the natural world

Interweaving factors

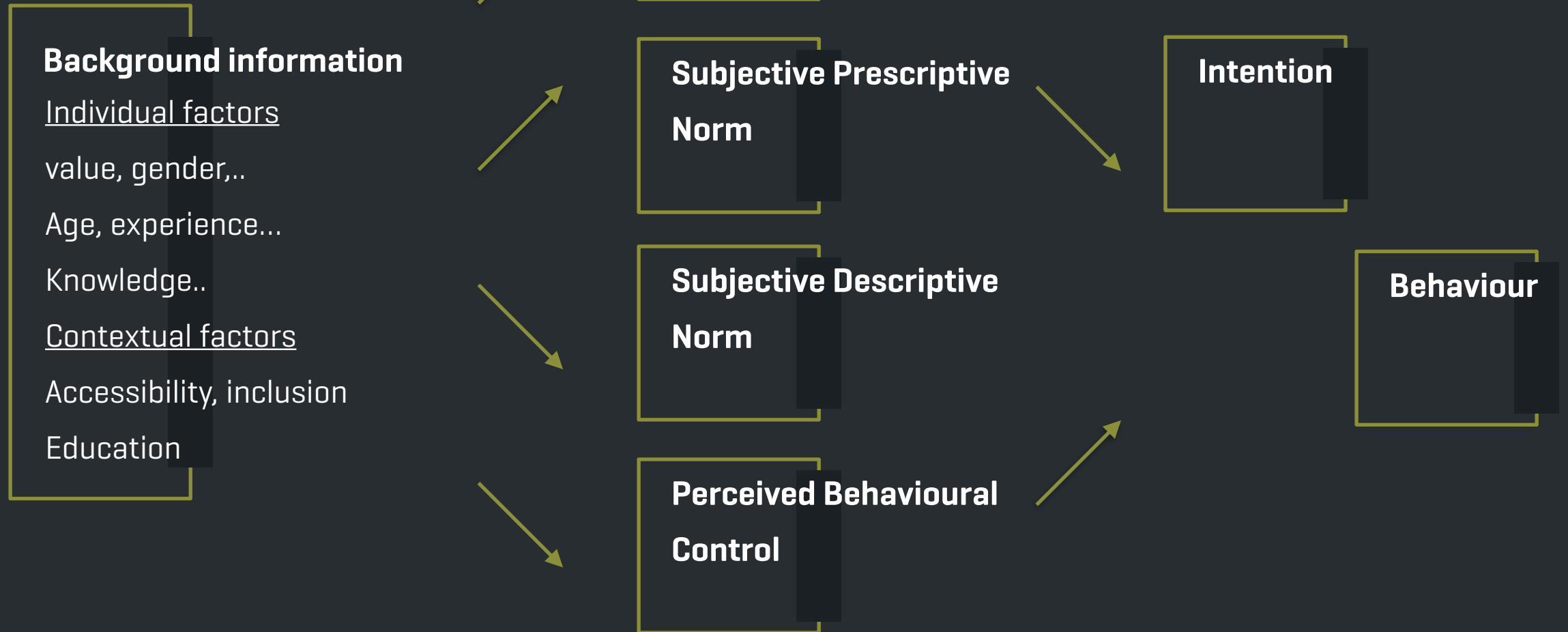
Values, background, gender, knowledge, experience

Subjective norms

Control over behaviour

From intention to behaviours





Exploratory Research



User panels

Qualitative research
Design activities
Validation

Focus panels

Methods
Qualitative/ quantitative
research
Design activities
Validation

YD Assemblies

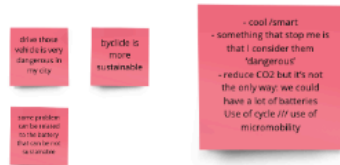
Qualitative research
Design activities
Validation



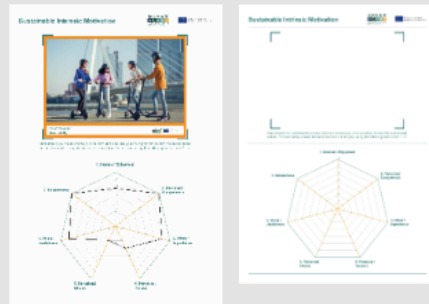


Andrea

Notes



Intrinsic Motivation



It is enjoyable and easy to use

It is useful

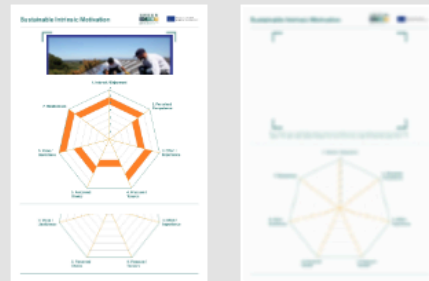
It is useful

Dania

Notes



Intrinsic Motivation



It is interesting because it is my work

It is interesting because it is my work

It is interesting because it is my work

Gian Pietro

Notes



Intrinsic Motivation



It is interesting because it is my work

It is interesting because it is my work

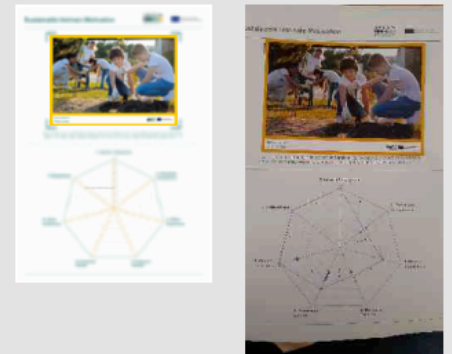
It is interesting because it is my work

Milica

Notes



Intrinsic Motivation



It is interesting because it is my work

It is interesting because it is my work

It is interesting because it is my work



US01		USER STORY CARD			Legenda	
[Sanja Djukic]	USER STORY'S SCENARIO THEME	Eco school			COLOUR	
[Jelena Desnica]	CODE - STORY	US03			Step's elements	
[18/05/2022]	TOPIC	Sustainability in everyday life Select, if appropriate, one of the following sub-topics: Subtopic 2: Sustainability education			Technology / tool feature	
[Attachments, if any picture, text, additional contents]	USER CATEGORY [Select One]	Educational manager			Researcher comment	
	INSTITUTION	IT High school Smart Novi Sad			Query	
	EDUCATION LEVEL [Select One]	Secondary school			Idea / Insight	
	NATION	Serbia				
	STATE	Complete				
STEP-BY-STEP ACTIVITY DESCRIPTION <i>(write below by defining the steps of the entire activity)</i>						
SCENARIO'S ELEMENTS						
	Step 1	Step 2	Step 3	Step 4	Step 5	
Context/Setting: How school can became more ecological Actors: School staff and students Goals: Reduce plastic and paper in school and teach students about ecology Actions: Replacing plastic cups and paper, involve students in many ecological actions Events: extracurricular activites, abolished plastic and printing paper Objects: ecological bottles and online work.	How school can be eco-school About seven years ago at school we started talking more about environmental issues. Geography teachers had many extracurricular environmental activities and there was a very good response from both, students and teachers.	Good energy in our company My team is quite young and everyone is full of positive energy, so I have a very nice cooperation with my employees. It is a nice feeling when you propose a project and come across approval and willingness to work, innovate. It was the same when it comes to this topic..	Students and ecology I am very happy to see that students are aware of the importance of the environment and the place where we live. I was happy to listen to the suggestions of my students, who researched recycling centers, participated in eco-actions, planted trees.	Students ideas and solutions It was the students who were trying to find a way to reduce the use of plastic to a minimum. That is how plastic cups were abolished in our school - we replaced them with ecological bottles. Another suggestion was to reduce the use of paper, and we found great solutions for online work, assessment and so on.	Conclusion I am very happy and proud to be surrounded by people who are so environmentally aware.	



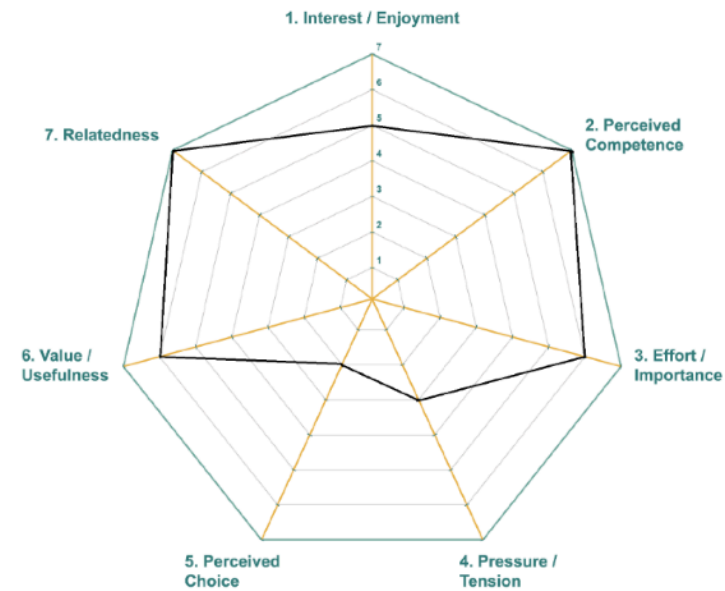
CODE - TOPIC		USER CATEGORY [Select One]	USER REQUIREMENTS
BC			Behavioural Change
			Awareness
BC01		Teacher	I want to conserve and improve my environment.
BC02		Teacher	The increasing population in the local area puts pressure on the environment.
			Motivation
BC03		Teacher	I think it is important to be conscious of what we buy, especially when it comes to plastic packaging.
			Resistance
BC04		Teacher	I am a little skeptical of courses and things, depending on the occasion and about any kind of course.
SE			Sustainability Education
			Impact
SE01		Teacher	I think that it is good that there is training and awareness raising for students in the intitute or for people in general.
			Participation
SE02		Teacher	There is no project from which to reflect on sustainability or the environment.
SE03		Teacher	As a tutor and sometimes, I work with students and we focus on the sujet of sustainability.



Sustainable Intrinsic Motivation



Here attach your sustainable picture card and analyse your own position toward the sustainable action. For each area, please indicate how true it is for you, using the following scale from 1 - 7.



Materials and Methods



ACTIVITY MODELING

Anthropic and natural landscape

What about the relation between man and the environment in this place?

Stage 1: Exploring and discovering

- Groups of students equipped with a tablet exploring the habitat in order to document the environment and collect evidences,

Stage 2: Reflecting, consolidating, and defining the content

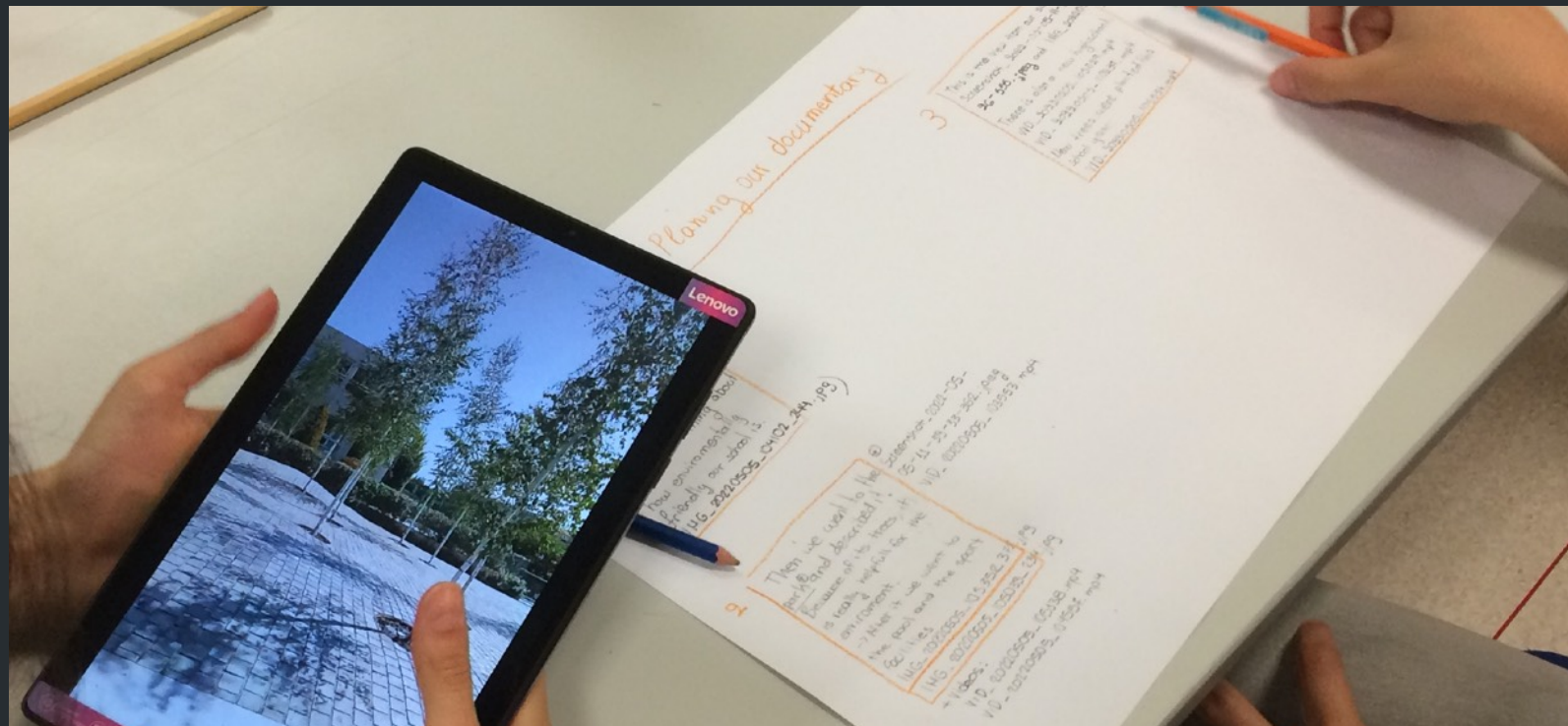
- Design the educational content for the documentary:
 - logics,
 - conceptual framework,
 - evidences.

Stage 3: Make it interactive

- Build the paper prototype of the Interactive Documentary:
 - non linear connections,
 - jumps,
 - timeline,
 - open storytelling,
 - infinite geo references.



PLANNING AND DESIGN



COACHING AND PEER LEARNING



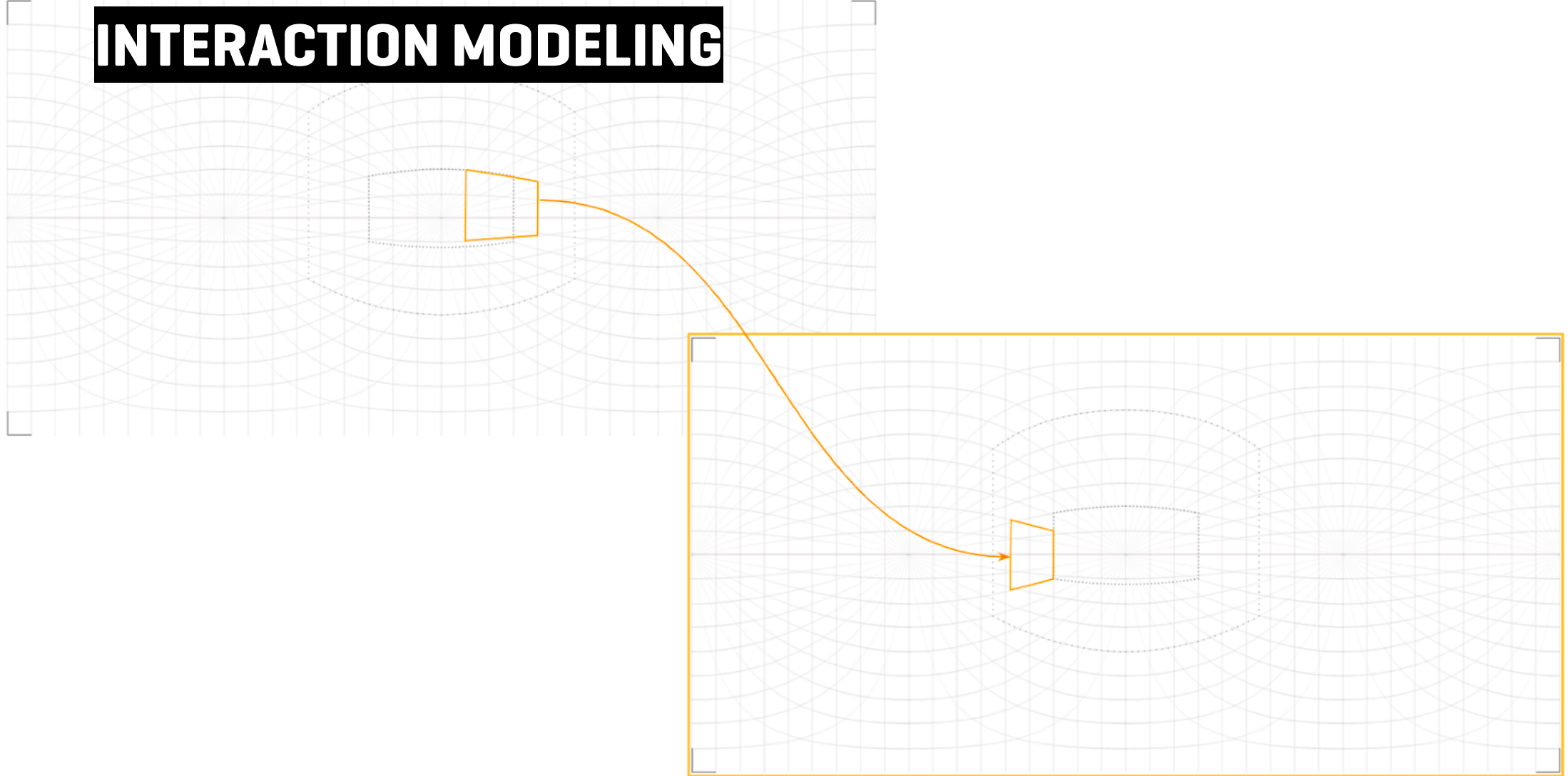
DIVERSE USERS, MULTIPLE PERSPECTIVES



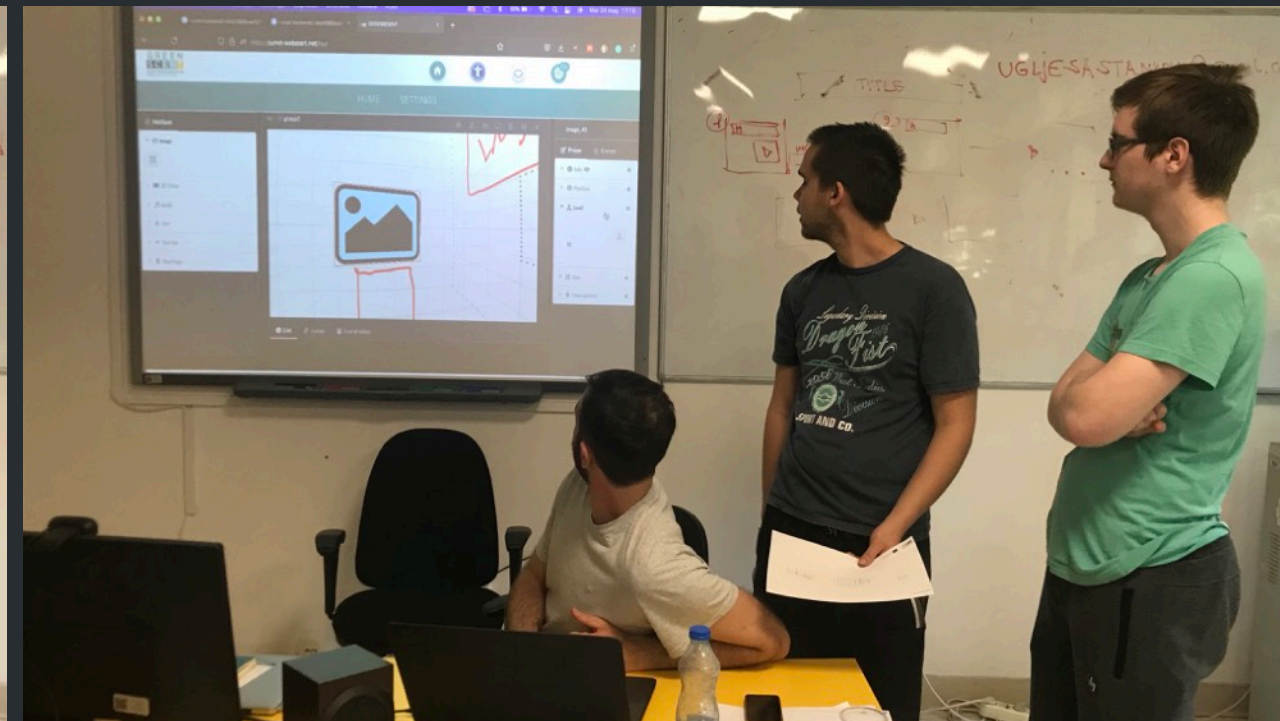
DEFINE AND SKETCHING



INTERACTION MODELING



PROTOTYPE EXPLORATION



Insights on Intersectionality



MAKING VISIBLE THE INVISIBLE

On the one hand by objectifying the subjectivity

starting from individual and subjective experiences to generalise explanations and hypothesis making [research on psychological and human factors]

On the other hand by enhancing communication

providing people with clear evidences, explaining phenomena and exploiting emotional communication by integrating a multiplicity of issues coming from industry, migration, transport, urbanisation, demographics,...



SMART BECAUSE SUSTAINABLE

Sustainable at cognitive level

Do not overload, do not overwhelm.

Sustainable at social level

End-to-end lifelong training approach designed with a user centric methodology to avoid leaving anyone behind.

Sustainable at collective level

Interconnected issues to make benefit clear



BELONGING TOGETHER

Empathy

The behavioral change of citizens through the stimulation of their empathy for social and global issues due to climate change

Taking care

Create an attraction for local environment

Accountability

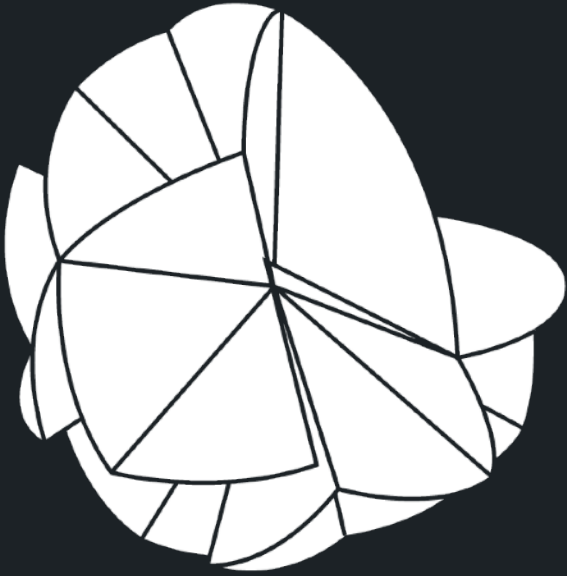
Small actions affecting global issues



The process of transforming design from an expert-driven process focused on objects and services within a taken-for-granted social and economic order toward **design practices that are participatory, socially oriented, situated, and open ended and that challenge the business-as-usual mode of being**, producing, and consuming.

Arturo Escobar, 2018





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Thank you

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