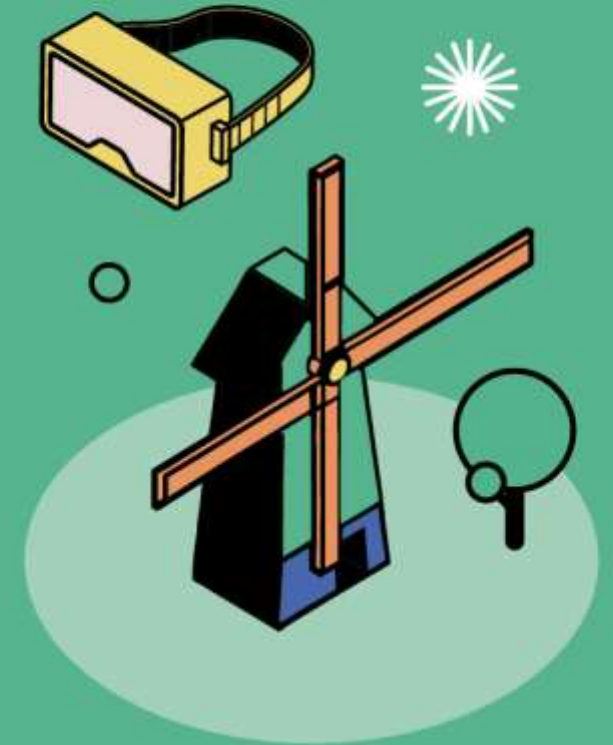


Polder Perspectives >

Information Slide Deck



**Polder
Perspectives XR**

| eXtended Reality and Education



**What values could we propose for
XR in education and research?**

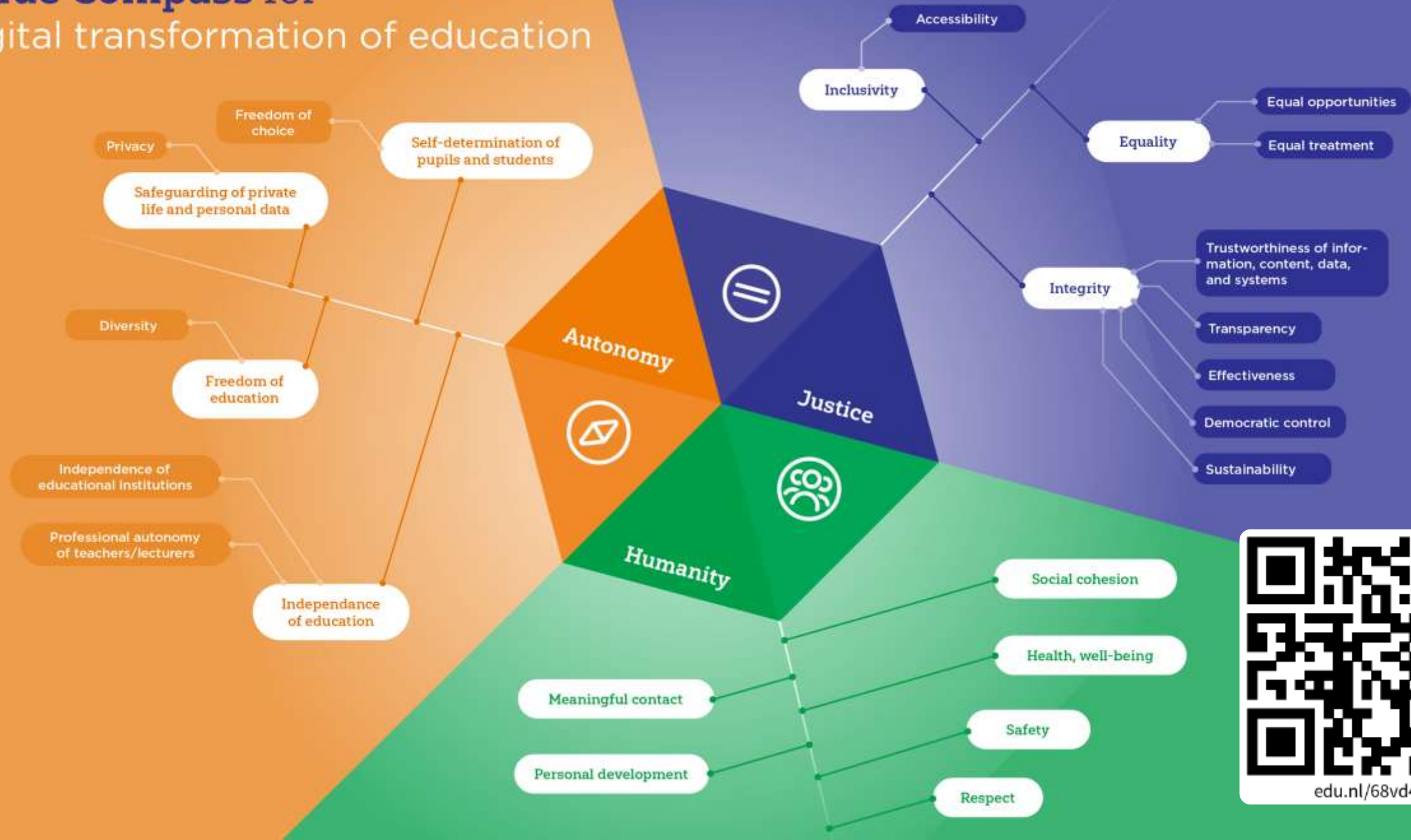
| Whose values?



This photo of Mark Zuckerberg looks bizarre now. It won't look so bizarre in a few years. (2016)

VOX News: <https://www.vox.com/2016/2/23/11100616/mark-zuckerberg-oculus-vr>

Value Compass for digital transformation of education



edu.nl/68vd4

Responsible Tech Resources for education and research

How can we take a social perspective on Tech?

What questions can educators and researchers ask of XR or AI?

What kind of ways do we want to use XR, AI or Quantum technologies in the future?



...and so we ask,
Who will decide?

| “The market will decide.”

Privacy in a new light

Biometric data

- Subsidizing costs with your data
- Behavioral choices
- Industry standards
- Big Tech
- It's a wild west

How does this go right for our members and our users?



In the news: Smart/AR Glasses

Orion, fully-functioning
prototype, 100g weight

Holographic display, wide
FOV (70 degrees)

See-through optics wave-
guide, not passthrough

Custom silicon and
sensors

Voice and AI interaction.
Hand and eye tracking.

Has wrist-based neural
interface

Meta

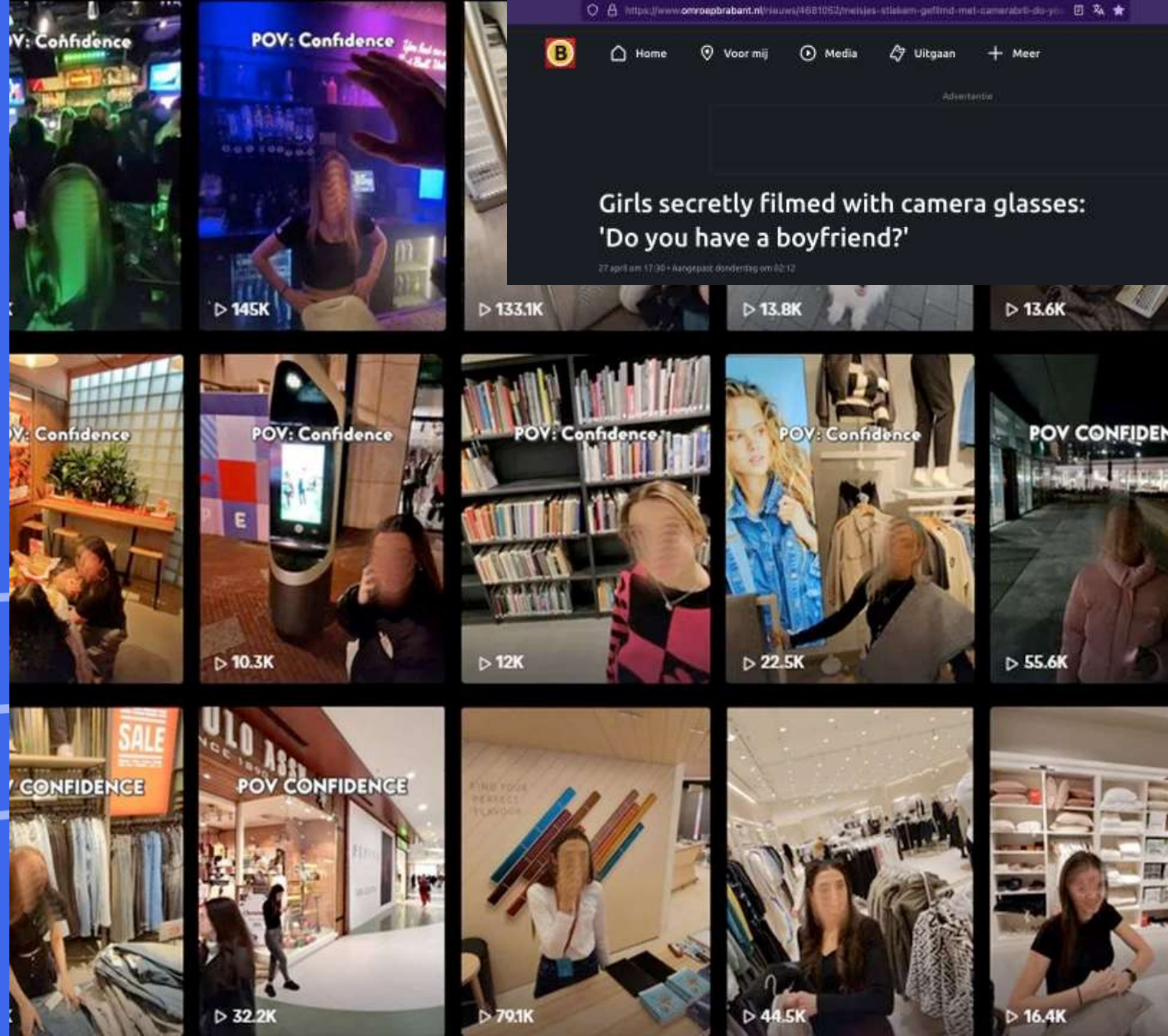
Introducing Orion, Our First True Augmented Reality Glasses

September 25, 2024



In the News: XR, Consent & Public Values

- Pick-up artist secretly recorded videos of women in public (using XR/AR tech like camera glasses)
- Women filmed were unaware, uncomfortable, and in some cases underage—yet videos reached millions online.
- Eindhoven University of Technology and platforms trying to respond effectively: ethics, policy, and enforcement come together in this scenario.



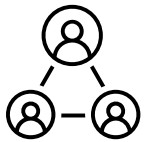
Can we do more?
And how?

Responsible Tech in a Nutshell 🥜

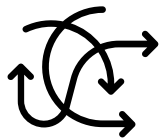
Education | Research



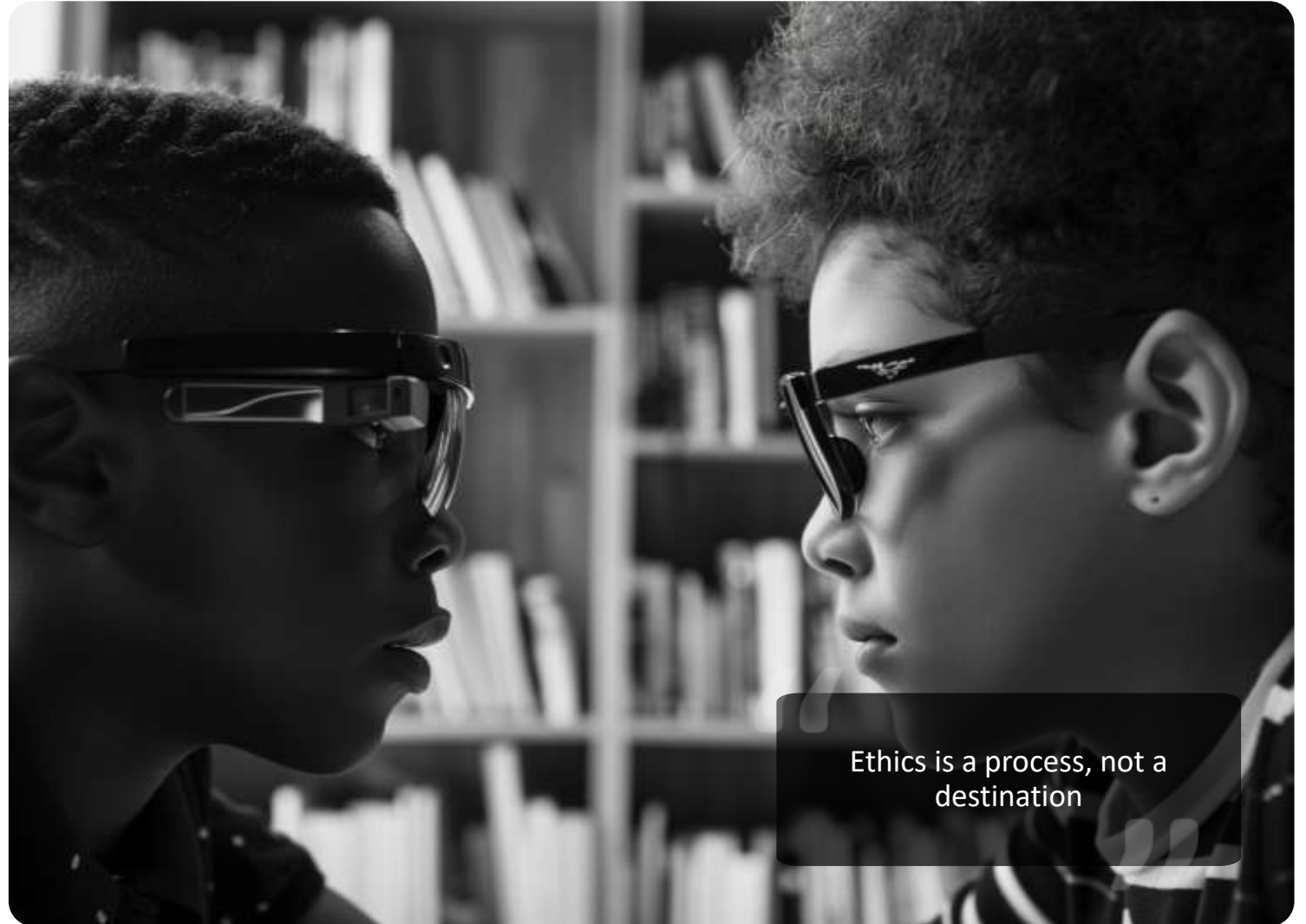
Responsibility as
a practice



Public Values in
Action

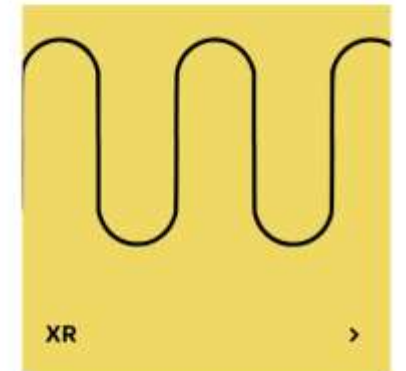


Understanding
our priorities
and what's at
stake



Npuls and Education

- **Npuls** is a large-scale programme designed by and for all public vocational schools (mbo), universities of applied sciences (hbo), and research universities (wo) in the Netherlands.
- 107 educational institutions
- Uniting education in addressing the challenges of digitalisation in their work.



We've come a long way!

1 May 2024



31 March 2025

Welcome to Polder Perspectives XR

- This is a workshop game that brings the ethical challenges of XR technologies in education to the table.
- Through gameplay, it sparks debate around ethics and key public values.
- **But, what is Responsible XR?**



What is Responsible XR

- **Responsible XR** is about using and developing XR technology in a way that respects our public values.
- We believe *responsibility* and *responsible practices* are possible by building this as a capability.
- We believe technologies are not neutral, they change and impact how we relate to our education and research practices.



The time is now

- The technologies we use are designed with *values in mind*, they are not only made for efficiency and practical sake.
- Current technologies in XR and AI continue to develop quickly, often without recognition for social and societal impact.
- We have a moment now, **before mass adoption** to have these conversations about reality-altering technologies in our institutions.

New Ray-Ban Meta glasses have outsold previous version, Essilux CEO says

BY
Reuters

PUBLISHED JULY 17, 2024

Meta Platforms and EssilorLuxottica's new generation of smart glasses have sold more in a few months than the old ones did in two years, EssilorLuxottica's Chief Executive said on Tuesday.

longportapp.com

SINOLINK SECURITIES: The eve of the outbreak of AI glasses, Meta Ray-Ban's annual sales are expected to reach 2 million

Sinolink Securities released a research report stating that the smart glasses sector is expected to see a breakthrough.

16 Jul 2024



Guest

New research suggests that privacy in the metaverse might be impossible

Louis Rosenberg, Unanimous A.I.

February 20, 2023 10:10 AM

Looking forward, together

- Future tech challenges
 - Non-invasive brain-computer interfaces may redefine what we consider "normal" learner data.
- Institutional awareness and discussion is needed
 - As tech giants lead innovation, how should education adapt while safeguarding public values?



The Cognixion One: helping users with a wide variety of physical and neurological abilities to access augmented reality.



Even realities: G1 digital glasses

So, how can we do more?
Let's learn together, today.



What is planned?



Reflect on our
shared public values



Play unfamiliar roles



Make new XR
experiences



Ask and (try to)
answer hard
questions

Let's consider values

What Are Values?

Values are the principles and priorities that shape how we think, act, and make decisions.

Values help guide what we believe is important—both in life and in technology.

When we talk about XR in education, values help us ask:


- What should this technology protect or promote?
- Is this safe for students?
- How do we balance innovation with ethical concerns?

Now, take a moment to think about your own values before we begin.



Personal Values Phase – 5 Min

- Grab a **Player Profile Sheet**
 - From the **Value Compass (next slide)**
- **Fill in** your top three values you find important for use of media in education.

Player profile sheet

Name:

My Institution/Organisation:

Personal values:

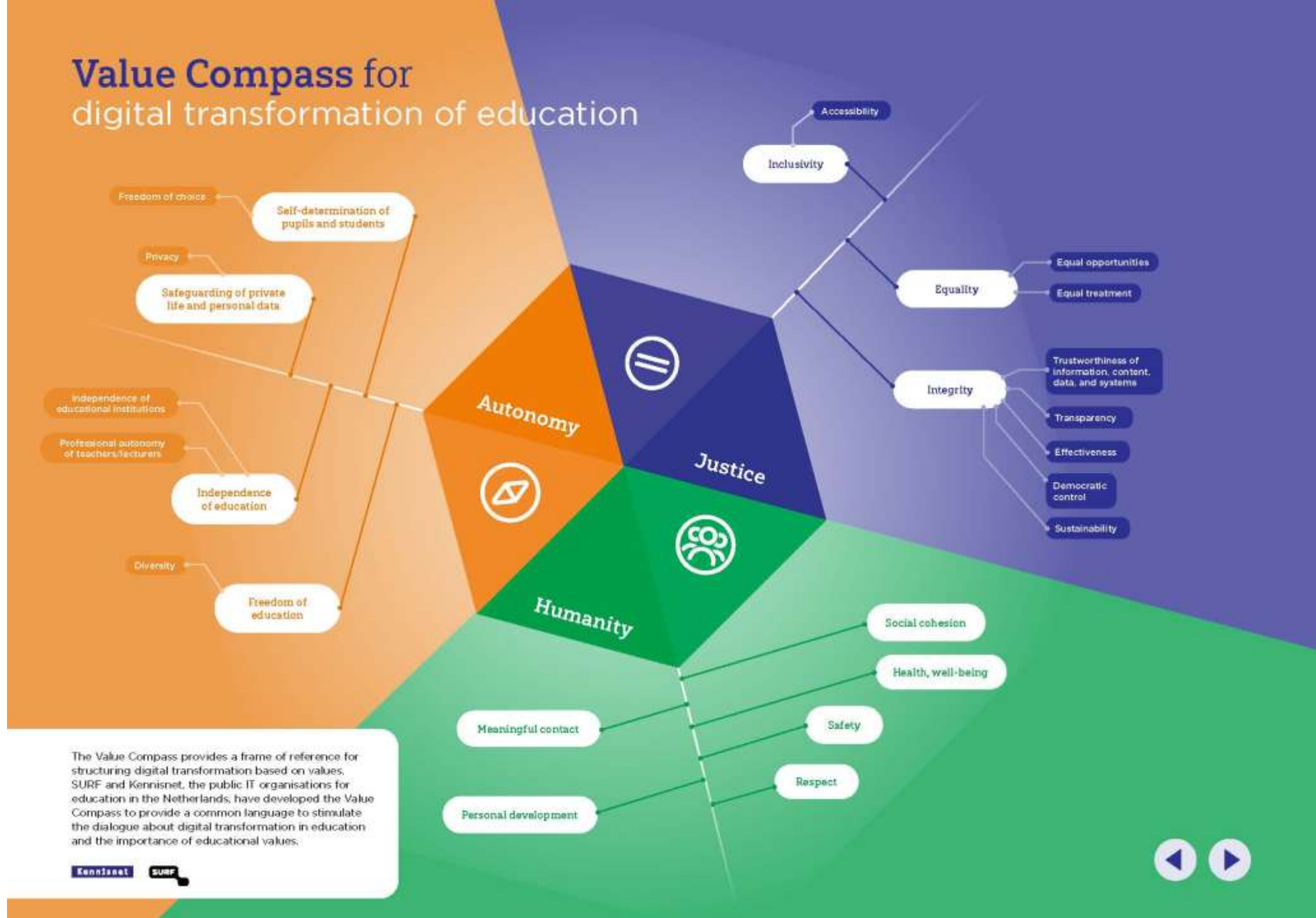
1. _____

2. _____

3. _____

Question for the workshop:

Need help with the values?



Player profile sheet



Name:

My Institution/Organisation:

Personal values:

1. _____

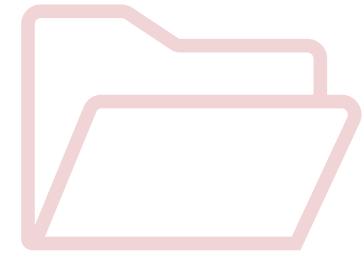
2. _____

3. _____

Question for the workshop:

Put the personal profile sheet away for now.

Save it for later.



Group Phase – 3 Min

- Let's read your **company card**!
Welcome to the team!



Group Phase – 5 Min

- Let's read your **role cards**
- Share your role with the others in your **company**
 - Be sure to say your role
 - Share what your character believes in

Amir

An illustration of a person with brown hair and a blue t-shirt, facing forward. Surrounding the person are several floating icons: a glowing yellow lightbulb with rays, a green circle with a white checkmark, a small yellow hexagon, a small green circle, a brown hexagon, and a black starburst.

Immersive Learning Consultant

Creates XR modules for real-world simulations

Balances health with intensity for resilience

Views stress as a learning tool despite discomfort

This is your team.

Companies have their own values they put into their products.

Step into this company to solve the assignment with different goals than you may be used to.

HoloVerse

A New World for Every Sense



At HoloVerse, we redefine reality and transform learning into a fully immersive experience. As the Netherlands' leading tech innovator, we pioneer XR systems that captivate the senses and revolutionize education. With cutting-edge sensory mapping, cognitive nudging, and expansive virtual worlds, we're building an indispensable educational ecosystem.

Johanna



Experimental Architect

- Loves pushing XR boundaries, even if disruptive
- Blends unconventional ideas and features
- Encourages others to open source their solutions

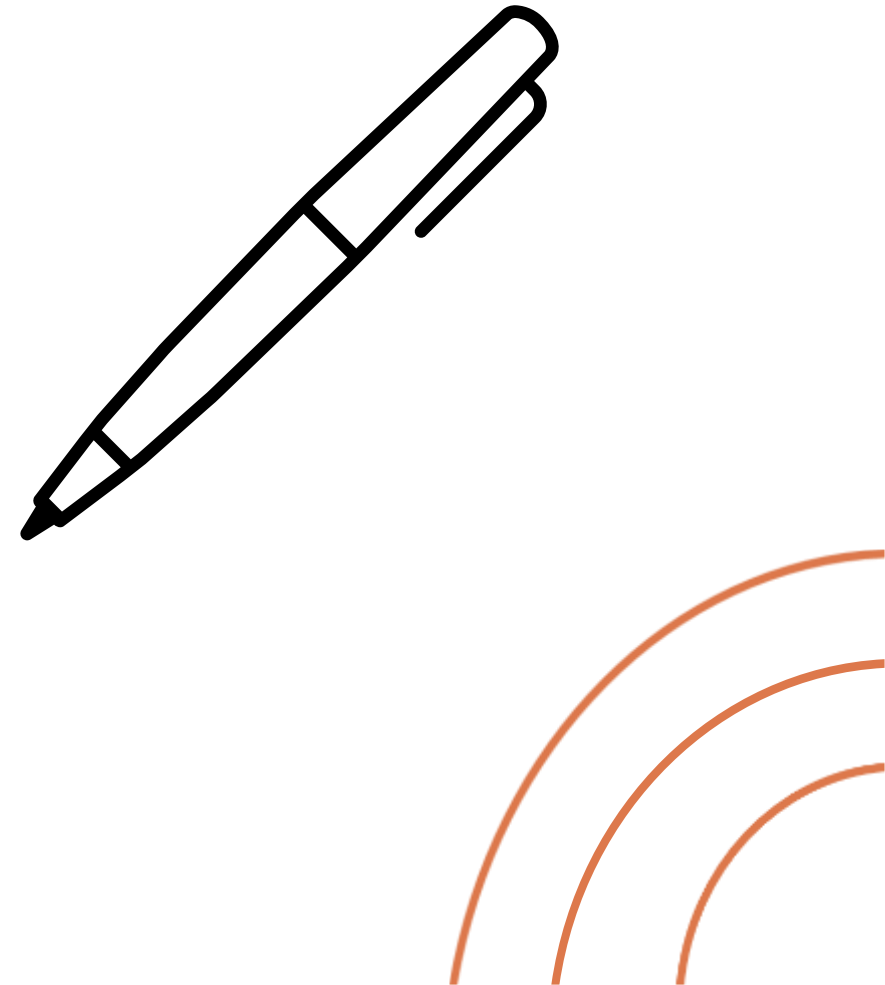
Polder Perspectives XR is a role-playing game.

Everyone plays a role in a company.

Step into this role to help shape a product with someone else's values in mind.

Group Phase – 5 Min

- Game host:
 - Pass out Your Concept Canvas
 - Share **Assignment**
- Both groups get the same **assignment / case**
 - Companies will **prepare a solution and a pitch** for the given assignment



Your assignment

- All companies will receive the same assignment.
- Clients can have new concerns that come up during the development process of a solution.
- Your company will have to pitch their solution to the client.



Assignments Phase



Assignment

Crime Scene Simulator

We want to train students to anticipate and counter criminal behaviour by stepping into the mindset of offenders.

The XR experience should cover scenarios like home burglaries, business infiltration (e.g., server rooms), and social engineering tactics.

How can immersive roleplay help students understand criminal intent, strategy, and ethical boundaries?

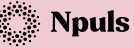
- **Scenario variety**
 - Simulate diverse crimes (e.g. climbing a fence into a private residence, to bluffing access in a corporate lobby, to phishing someone via in-person manipulation)
- **Perspective shift**
 - Let players choose a role (e.g. criminal, security, or observer, to explore tactics and defences)
- **Use the tech**
 - Use voice recognition for interaction with avatars or other players in scenario.



Concept Phase – 15 Min

- Now we need to brainstorm a solution to this assignment.
- Grab and fill in **Your concept canvas** to help structure your idea.
- Brainstorm first and share first ideas.
- Don't forget to write on the canvas!

Your Concept Canvas



What's the name of your concept or idea?

What is it?

Describe the core of your idea. Are there unique or novel concepts in the design? What do you want to explore or try in the concept?

What kind of impact will it have?

Describe how end-users will experience this idea. What changes after they use your product or solution?

How does it work?

Describe the concept. How do participants or users engage with it? Outline the main activities, interactions, or decision-making processes that the concept involves.

Final Notes & Visual Sketch

Lens Check Phase – 10 Min

- Grab 1 Ethical Lens card
- Read a question to your group
- Look through the ethical lens cards and evaluate if your concept has considered this value or concern.
 - Improve your concept with this; make it stronger!

The Trustbreaker

Users start to doubt that your product respects their privacy or well-being.



What design choices might lead to mistrust?

Are there areas where users could feel vulnerable?

What feedback trends would require immediate response?

Keywords: trust, user safety, transparency, privacy

The Social Echo

Your product amplifies voices—but whose voices dominate?



How might your product favor certain perspectives or narratives over others?

What mechanisms could be added to amplify underrepresented voices?

Could your product create echo chambers or polarize discussions in education?

Keywords: diversity, inclusivity, representation

Lens Card Example

Scenario: You're creating an XR training app for healthcare students.

Value in concern: Accessibility

How accessibility may shape your design:

With Accessibility

Your solution may include voice commands, adjustable text sizes, and options for colour-blind users.

Without Accessibility

Your solution may only rely on visual cues and small text, leaving some users struggling to participate.

Think about:

- What features would make your solution more inclusive?
- What might you sacrifice to make it accessible for more users?

The Trustbreaker

Users start to doubt that your product respects their privacy or well-being.



What design choices might lead to mistrust?

Are there areas where users could feel vulnerable?

What feedback trends would require immediate response?

Keywords: trust, user safety, transparency, privacy

The Social Echo

Your product amplifies voices—but whose voices dominate?



How might your product favor certain perspectives or narratives over others?


What mechanisms could be added to amplify underrepresented voices?

Could your product create echo chambers or polarize discussions in education?

Keywords: diversity, inclusivity, representation

Pre-evaluation Phase

- Grab your **Player profile sheet** remind yourself what you wrote
- Prepare to evaluate a pitch based on your ***own public values choices.***
 - i.e. not your role card

Player profile sheet

Name:

My Institution/Organisation:

Personal values:

1. _____


2. _____

3. _____

Question for the workshop:

Review your personal profile sheet – 2 Min

- Grab your **personal profile sheet** remind yourself what you wrote.
- What values did you find important that were different from your role in the company?
- Write your values down on the **XR Project evaluation sheet**.

Player profile sheet

Name:

My Institution/Organisation:

Personal values:

1. _____

2. _____

3. _____

Question for the workshop:

Present Phase - 5

Min per group

- Pitch your concept to the group
 - Use your **Your Concept Canvas** to help!
- **Audience Role**
 - Take out your **personal value canvases**. Keep it nearby
 - Grab **1 ethical lens card** for your group to ask the presenter



Evaluation Phase

- Grade based on your own **personal profile sheet**
- Solution **completeness**
- Alignment to your values, based on top 3 values on personal profile sheet, **scale 1-5**.

Project Evaluation sheet



This sheet evaluates the project's completeness, alignment with your core values, and educational impact, ensuring it meets objectives while reflecting what matters most to you.

1. Meeting the Briefing (Completeness)

Does the pitch fully answer the assignment? Are all key elements included in the solution? Does it clearly connect to the given challenge or assignment and cover all important aspects?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

(1 = Not Aligned, 5 = Strongly Aligned)

2. Values alignment

Assess how well the project reflects the top three core values identified in the personal profile sheet.

Value 1: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

(1 = Not Reflected, 5 = Strongly Reflected)

Value 2: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

(1 = Not Reflected, 5 = Strongly Reflected)

Value 3: ☐ ☐ ☐ ☐ ☐

Break
10 Minutes



Evaluation Phase

- Review scores
- Let's determine a winner!





edu.nl/twgu7



Npuls

Focus areas ▾

What are you looking for...



Polder Perspectives XR: the workshop card game

How does XR technology impact public values in education? Polder Perspectives XR is a card-based game designed to help professionals explore the ethical challenges of extended reality (XR). Through gameplay, roleplaying and discussion, topics such as privacy, data security, and accessibility are addressed.

📅 31 March 2025 ⌚ 2 min

Learn more here

