IARIA

Piazza Copernico

Accessibility in E-learning: From Inclusive Choice to Universal Training

The experience of the Piazza Copernico's development team for the implementation of an accessible and usable course

Learning experience designer

Communication expert and trainer, specialised in psychosocial Gestalt counselling, she enjoys designing and leading engaging and meaningful learning experiences.

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Agenda

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Part 1 - The context

- Italian regulation
- Web content accessibility guidelines and e-learning standard
- Main existing methodologies and theories
- Current status of technologies

Part 2 - The experience

- Taken measures on the web application
- Taken Measures on content

Part 3 - Results

- Verification of the measures undertaken
- Future work

Part 1

The context

Italian regulation

Assistive technologies: "technical tools and solutions, hardware and software, that allow the disabled person, overcoming or reducing the conditions of disadvantage, to access information and services provided by information systems" (Law 4/2004)

The access to digital tools for users in general and people with disabilities in particular, is regulated in Italy by Law No. 4 of January 9, 2004

Recent regulatory updates (Legislative Decree 2020/76) have made it increasingly necessary for public and private entities make their content accessible

WCAG

Guidelines for accessibility

The most important guidelines for accessibility, WCAG is a set of international guidelines related to accessibility and usability provided by the World Wide Web Consortium (W3C)

Web Content Accessibility Guidelines (WCAG) 2.1 is the most recent version and was released on June 5, 2018. It is based on four core principles:

- Principle of perceptibility

- Principle of operability

- Principle of understandability

- Principle of robustness

Three levels of accessibility

A

Standards that must be respected by all, otherwise certain groups of users will not be able to access the information

AA

Standards that should be met, otherwise one or more groups of users will have difficulty accessing certain information

AAA

Standards that could be met, with the aim of making access to one or more user groups even better

Methodologies and theories

Universal Design for Learning (UDL)

UDL is a framework that addresses the main training difficulties present in learning environments, which raise significant barriers in the process of knowledge acquisition by users, not only those with disabilities

The guidelines drafted by UDL are based on the following principle: provide multiple means of representation; for example, providing the same information through different perceptual modalities such as:

- sight
- hearing
- touch
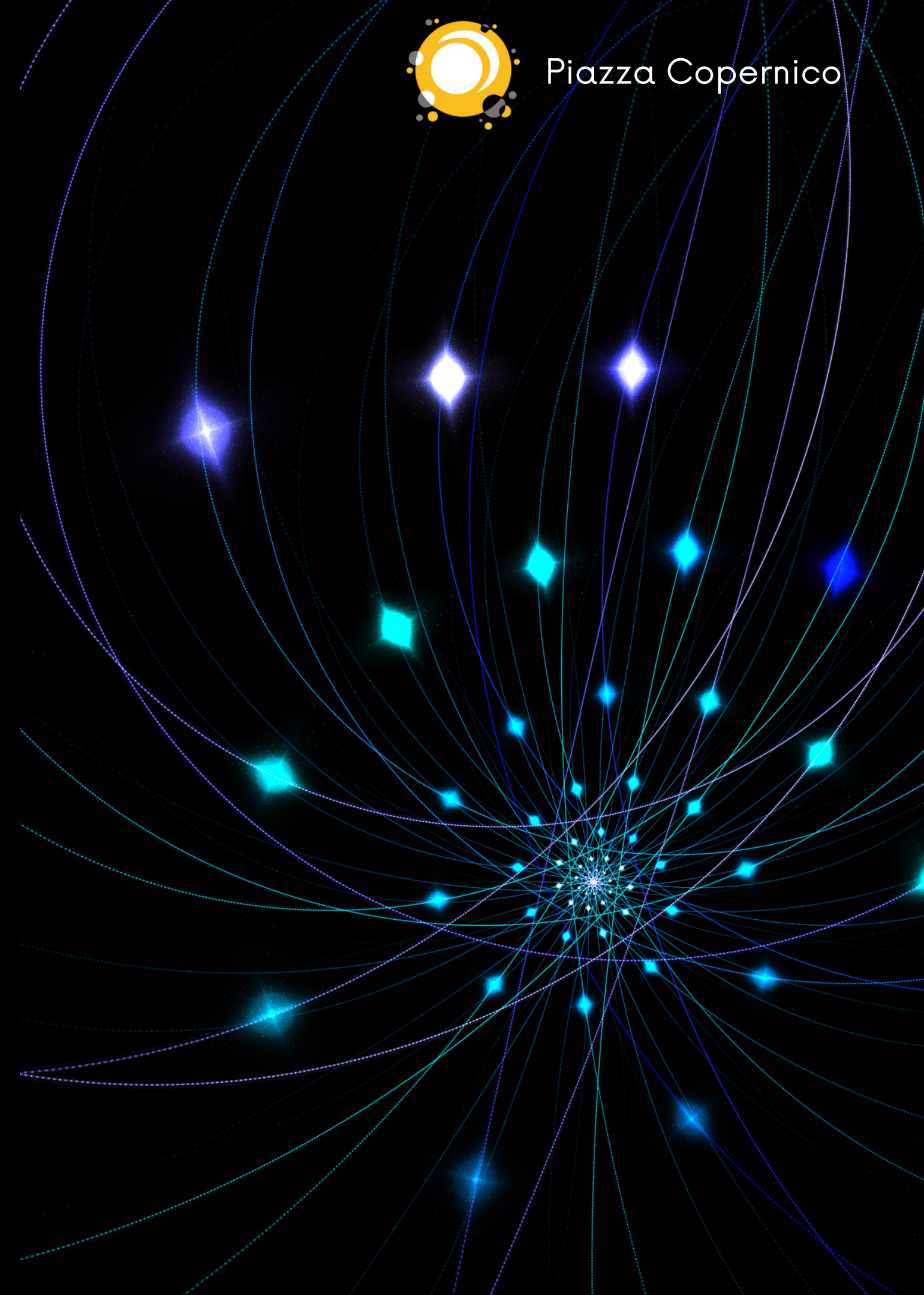
Current status of technologies

- Special keyboards

- Presence of a video with a translator who expresses himself through sign language

- Adoption of joysticks

- Cameras that can record movements

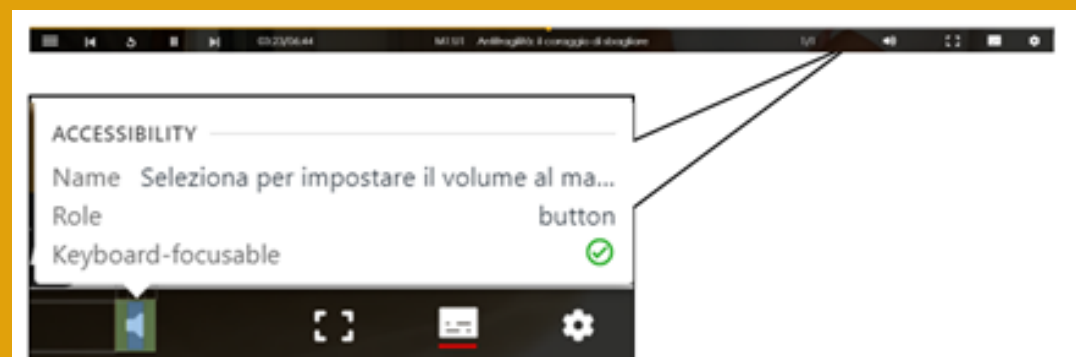- Gloves that analyze the movement of the hand and forearm

Part 2

The experience

ESSERE ANTIFRAGILI

con la partecipazione
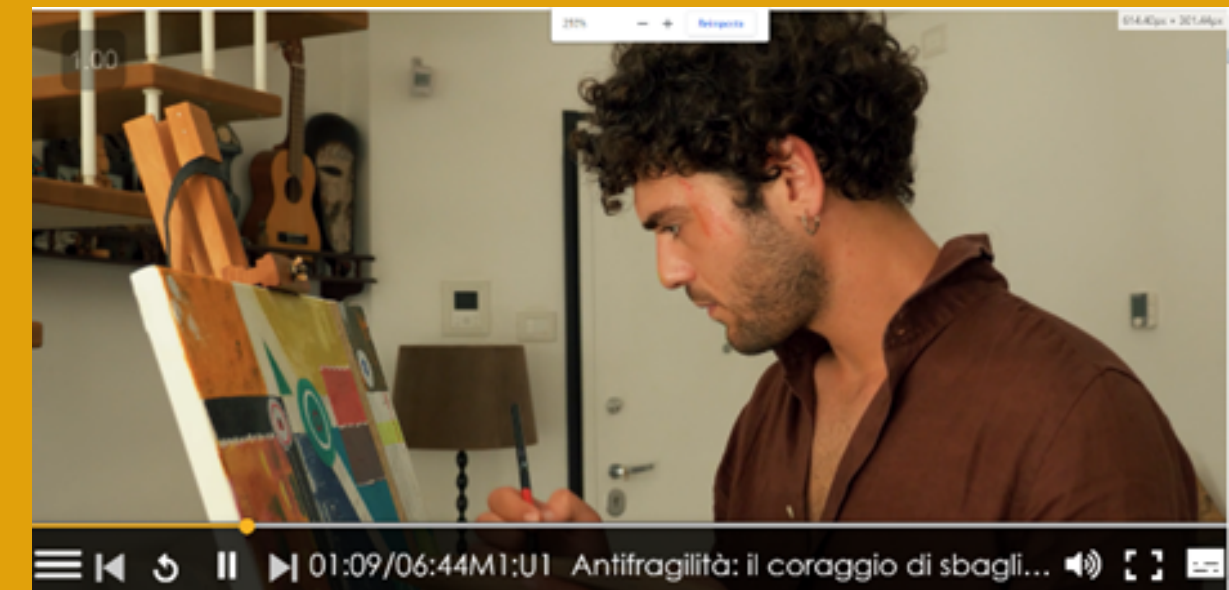di Marco Rossato

Taken measures on the web application

Use of semantic tags

key highlighting

Adaptive management of the interface
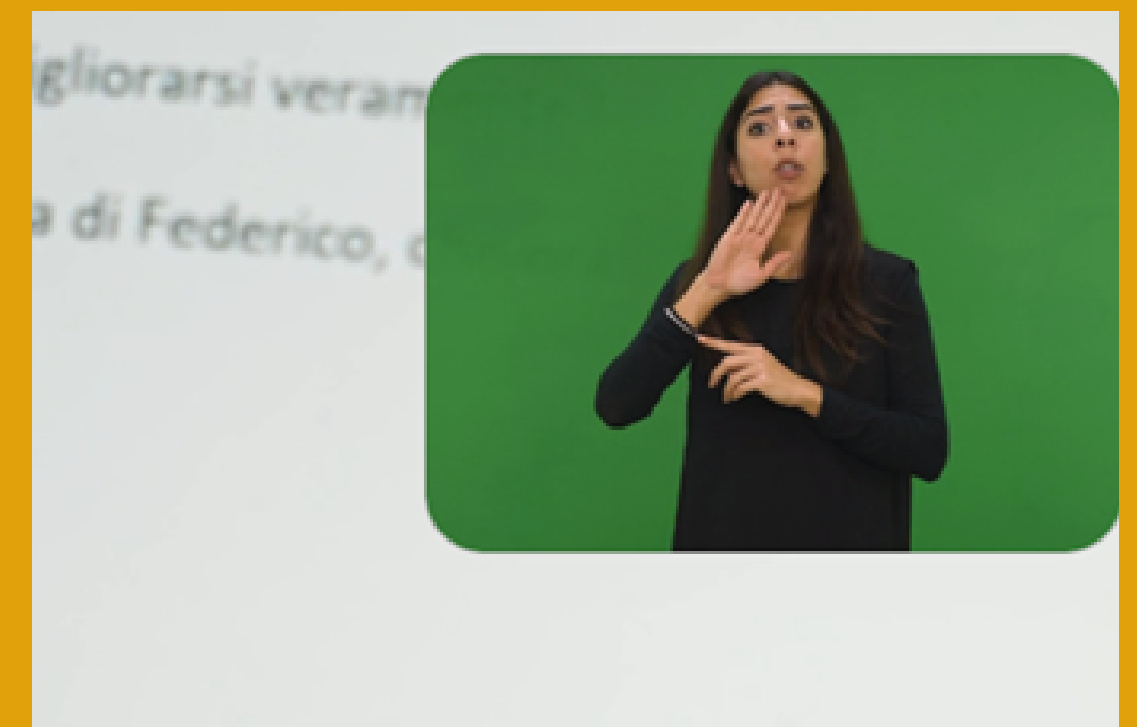
Taken Measures on content

Audiodescription

Audio/subtitle control panel

LIS (Italian Sign Language)

Part 2

Results

Results

The "Being Antifragile" course, with the modifications described on the web application and contents, was sent to Salvatore Scaldaferri - Digital Accessibility Specialist of Global Digital Solutions of the Enel Group to be tested

This collaboration allowed us to test and verify the effectiveness of the measures undertaken in line with accessibility guidelines and to implement them in terms of usability.

Feedback

The feedback allowed us to refine the functionality of the interface and calibrate content interventions according to the learning of users with disabilities

Changes were subsequently validated by the client, who confirmed the compliance with WCAG level AA

Future work

- Design content in an accessible and usable way
- Identify standardizable design patterns to ensure full accessibility for all types of content while also taking into account the cognitive engagement required of the user

Thanks