Report on Training Schools.

Create novel services with existing technologies or propose novel technologies for media accessibility

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This document contains a description of work conducted in the scope of the COST Action (CA19142) LEAD-ME Leading Platform for European Citizens, Industries, Academia, and Policymakers in Media Accessibility.

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1 Executive Summary

The LEAD-ME COST Action (CA19142)[1], which stands for Leading Platform for European Citizens, Industries, Academia, and Policymakers in Media Accessibility, represents a groundbreaking initiative aimed at providing comprehensive support to diverse stakeholders in the realm of Media Accessibility throughout Europe. The principal goal of the project is to facilitate compliance with the legal requirements set forth by European legislation. A key focus of the Action is on nurturing the talents of young researchers and PhD students who are poised to influence the future landscape of media accessibility in Europe. This is being achieved through a distinctive program of training schools tailored specifically for this demographic. These training schools offer a platform for young researchers and PhD students to engage with experienced professionals from various sectors, including academia, media enterprises, user organisations, and policymakers. The intent is to foster the exchange of knowledge across different disciplines and countries, stimulate discussions on innovative ideas in digital media accessibility research and practice, and lay the groundwork for the development of services using existing technologies or the proposal of novel technologies for digital media accessibility. Additionally, these interactions aim to catalyze the formation of new research partnerships.

Throughout the duration of the LEAD-ME Action, a total of eight (8) training schools were conducted as per the proposed plan, with two training schools held each year. To ensure broad geographical representation, the Training Schools took place in various countries, namely Spain, Poland, the UK, Norway, Portugal, and Turkey, enabling a total of 350 participants to attend. With the aim of promoting inclusivity, all training schools, except for the initial two conducted during the COVID pandemic, were structured in a hybrid format, allowing for both in-person and online participation. The first two Training Schools, organized by Universidad Autonoma Barcelona in Barcelona, Spain, and SWPS University in Warsaw, Poland, were exclusively conducted online.

To conclude the LEAD-ME COST Action (CA19142) training schools program, a multitude of innovative research ideas for digital media accessibility and the implementation of existing technologies emerged during multiple hands-on sessions and workshops. The attendees presented a diverse range of groundbreaking solutions aimed at addressing challenges in digital media accessibility, underscoring the significance of diversity and inclusion.

Notable projects included the development of a chatbot designed to provide around-the-clock psychological support for individuals suffering from Prolonged Grief Disorder. Additionally, the proposed SONAAR solution sought to enhance the accessibility of user-generated social media content through scalable text alternatives, while actively

[1] https://lead-me-cost.eu

involving users in the creation of accessible materials. There appeared also the ideas for the applied research focused on improving linguistic accessibility in video games and virtual reality environments, as well as investigating the impact of intralingual subtitles, food imagery, and font legibility on user comprehension and preferences.

During the LEAD-ME Training Schools' hands-on sessions emerged also additional innovative concepts as students applied theoretical knowledge to practical challenges. For example, one group devised a biofeedback method leveraging physiological responses to different types of music, while another developed a virtual reality-based phobia treatment program using eye-tracking technology. Noteworthy concepts such as XR Eye Gaze Led Tours and personalized audio experiences in virtual reality underscored the potential for interactive and immersive accessibility. Furthermore, projects integrating AI for adaptive audio descriptions and personalization modules for web content demonstrated a strong commitment to enhancing user experience across diverse platforms. We can conclude that these efforts, collectively, signify a progressive approach to making media more accessible and engaging for a wide spectrum of audiences.

The present report presents an overview of the LEAD-ME Training Schools program, detailing each training school and underlining the innovative solutions for digital media accessibility that emerged during the hands-on sessions from the training schools' attendees. These ideas are anticipated to serve as promising foundations for various novel accessibility solutions, products, and avenues for new research proposals.

2 Introduction

The LEAD-ME COST Action (CA19142) organized a series of eight training schools in Europe, spanning multiple partners and countries. A total of 350 active participants took part in these events over the course of 4 years. The focus of the training schools was to enhance young researchers and practitioners' knowledge of accessible technologies and digital media accessibility and to foster the development of innovative ideas to advance the field.

The first three training schools were conducted online in response to the COVID-19 pandemic restrictions. Subsequently, the following five training schools adopted a hybrid format, with an emphasis on in-person participation.

Each training school comprised a comprehensive learning module, featuring lectures, demonstrations, and workshops. Following this, participants collaborated to propose groundbreaking ideas aimed at advancing digital media accessibility in both the research sphere and the implementation of applicable technologies.

3. LEAD-ME Training Schools Presentation

In this section, we present the short résumé of all LEAD-ME COST Action (CA19142) Training Schools in chronological order. The descriptions detail the topic of each training school, forms of activities, trainers list, and the outcome of training worked out by the training schools' attendees.

1. Media Accessibility: Communication for All

The first training school on the topic of **Media Accessibility: Communication for All** took place in Barcelona from the 23rd to the 26th of November 2020. It was organized online with the help of Universitat Autonoma de Barcelona under the lead of Pilar Orero. It gathered 18 attendees and 22 trainers, who across the duration of the school worked on boosting research competencies of new-coming academics and allowing them to network with specialists in the area of content accessibility. They also workshopped new tool ideas that could help provide accessible digital media to everyone.

Keynote lectures revolved around accessibility and digital media research. Elisa Perego opened up by emphasizing the value of collaboration across EU projects and the importance of an interdisciplinary approach. Jan Louis Kruger offered insight into subtitle accessibility and the use of eye tracking to foster word processing. Agnieszka Szarkowska presented current challenges in accessibility research and exposed difficulties in research design when analyzing media content, whilst Juan Pedro Rica discussed training ideas for professionals interested in applying accessibility in the field of media.

Attendees participated in a hands-on workshop coordinated by Chris Hughes, **Generating stimuli in the form of 360º media and subtitles, and also the first steps towards coding**, and Krzysztof Krejtz, **Eye Tracking Analyses Pipeline for Research on Multimedia - Introduction.** They had an opportunity to apply the gathered knowledge in a hands-on scenario, whilst learning about different routes of research in accessibility.

The training school was concluded by presentations done by the attendees. The results of the participants' presentations revolved around different challenges in media accessibility, which the PhD students identified during their research. Several attendees focused on diversity as a part of accessibility, providing ideas to improve linguistic accessibility in video games, VR environments and captioning in theatres and operas by creating language-specific solutions. Peter Tracey, Mo Saraee and Chris Hughes presented their idea for a chatbot that allows for psychological treatment for those suffering from Prolonged Grief Disorder, which could provide 24/7, accessible help. Additionally, the SONAAR project was introduced, which aims to make user-generated content in social media more accessible by providing text alternatives that are easily scalable across different platforms and engage users in the production of accessible content.

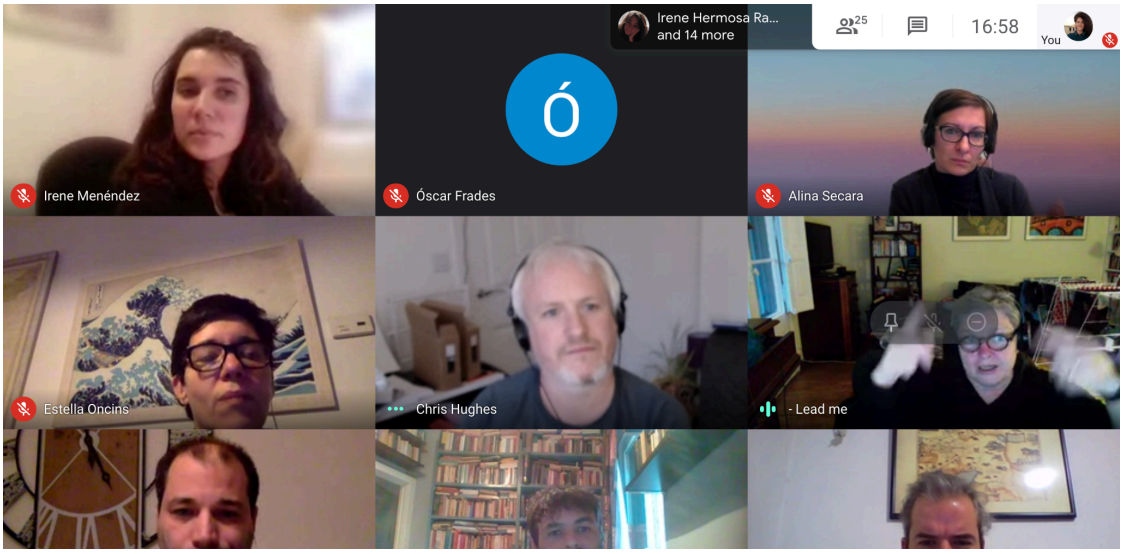

Figure 1: Attendees participating in the training school.

2. Eye tracking in media accessibility research - methods, technologies and data analyses

The second training school **Eye tracking in media accessibility research - methods, technologies and data analyses** was conducted online between the 5th and the 9th of July 2021 due to COVID-19 pandemic restrictions. SWPS University organized it with the leading role of Dr. Krzysztof Krejtz, Prof. Agnieszka Szarkowska, and Prof. Izabela Krejtz. Around 140 participants had an opportunity to learn about the potential of eye-tracking research for media accessibility, from 16 experts in the field. The training school emphasized the latest research methods in the field of digital media accessibility, particularly focusing on psychophysiological methods, advanced statistical analysis, and the importance of research communication.

During the training school, participants had the opportunity to engage in 14 lectures presented by esteemed experts in the field of digital media accessibility research. Professor Paivi Majaranta of Tampere University delivered the keynote speech, introducing the notion of human augmentation through gaze interaction. In a subsequent presentation, Professor Pilar Orero from Universidad Autónoma de Barcelona discussed the future of media accessibility research, delving into legal considerations, copyright, and standardization. Professor Jan-Louis Kruger from Macquarie University, Australia lectured on *Audiovisual Translation as multimodal mediation*. The full list of proceeding lectures and speakers is overwhelming: Experimental Designs in Eye Tracking Studies by Prof. Izabela Krejtz (SWPS University, Poland), Eye Tracking Data Analytic Pipeline by Prof. Andrew T. Duchowski (Clemson University, SC, USA), Statistical Analysis of Eye Tracking Data by Dr. Krzysztof Krejtz (SWPS University, Poland), *Using Linear Mixed Models to Analyse Subtitle Reading* by Dr. Breno Silva & Prof. Agnieszka Szarkowska (University of Warsaw, Poland), *Webcam-based Eye Tracking Method* by Adam Cellary (RealEye, Poland), *Eye Tracking Research in Virtual Reality* by Dr. Christopher Hughes (Salford University, UK), *Qualitative Research Methods in Media Accessibility: Focus Groups and Interviews* by Prof. Anna Matamala (Universidad Autónoma de Barcelona, Spain), *Tourism Accessibility 4.0 - A Transition of e-Accessibility in Tourism Towards a More Inclusive Future* by Prof. Uglješa Stankov & Dr. Miroslav Vujičić (University of Novi Sad, Serbia), *Reading and writing eye-tracking research papers* by Dr. Karolina Broś (University of Warsaw, Poland), *Using Translation Process Methods in Audiovisual Translation and Media Accessibility Research* by Dr. Anna Jankowska (University of Antwerp, Belgium), *Introduction to Eye-Tracking and Biometric Experiments: Equipment Setup, Recording, and Analysis* by Dr. Craig Hennessey (University of British Columbia, British Columbia Institute of Technology, and Gazepoint).

Attendees during the hands-on tutored sessions conducted 10 web-cam-based eye-tracking experiments on digital media accessibility aspects. Presented projects were focused on improving different accessibility features of media content. For example, a project titled **Comparing the reception of machine-generated subtitles to human-created subtitles** used eye tracking to evaluate subtitle preference, and the sample showed higher engagement with human-generated text. Another idea was **Conventional vs. Creative Subtitles: Task Load**, in which participants measured aesthetic preferences towards subtitling, supporting the thesis that creative subtitling was more effective in keeping the viewer engaged in the text.

The full list of students' projects is as follows:

Does the presence of intralingual subtitles improve comprehension of a technical video? by Valentina Ragni, Agata Kapelańska, Yuchen Liu, Raluca Chereji,

Comparing raw, machine-translated subtitles and human subtitles in relation to comprehension, user experience and perception by Rocío Varela, Alina Karakanta, Claudia Wiesinger, Vilelmini Sosoni, Anita Kwiatkowska,

The relation between focus time on food images and food preferences. Comparing the effect of affective stimuli on a memory task based on food and its preference by Michal, Irene, Irena, Tomasz,

Serif-Non Serif Font Subtitles: Legibility and Preference by Katerina Gouleti, Xiaochun Zhang, Ziming Wang, Gabriele Uzzo,

What influences consumer's choices? by Gabriela Flis, Marija, Xinying Chen, Anna Mierzecka, María Rico Vázquez,

Normal subtitles and Creative subtitles: Task load and preferences by Lina Abraitiene, Marta Brescia, Maria Stasimioti, Anna Redel, Adrian Kabat, Alicja Zajdel

Reading test tasks and perception of art objects by Anton, Ann, Maria

Machine Generated Subtitles vs. Human Subtitles. Comparing the reception of machine-generated subtitles to human-created subtitles by Ghanimeh, Celia, Hao, Natalia and Alexander

To sum up, students' research ideas were related to communication, perception, and decision-making in media accessibility. One study examines whether intralingual subtitles enhance comprehension of technical videos. Another investigates the correlation between

focus on food images and preferences, considering how emotional stimuli affect memory related to food choices. The legibility and user preference for serif versus non-serif font subtitles are also analyzed. Additionally, the research delves into factors influencing consumer choices and whether a disgust measurement scale can accurately predict participants' disgust levels. Comparisons are made between normal and creative subtitles regarding task load and viewer preferences. Other areas of interest include assessing reading comprehension through test tasks, understanding perceptions of art objects, and evaluating the differences in reception between machine-generated and human-created subtitles.

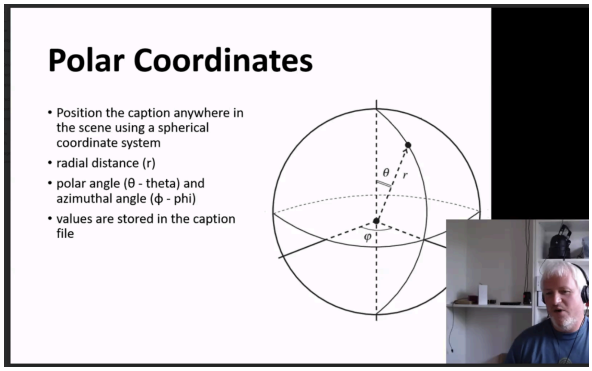

Figure 2a

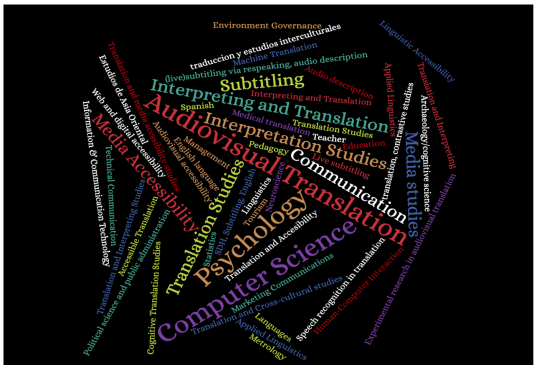

Figure 2b

Figure 2. (a) A lecture by Christopher J. Hughes (Salford University), (b) Keywords of participants' research interests.

3. Media Accessibility Training: Sign Language and Subtitling for the Deaf and Hard-of-hearing

Media Accessibility Training: Sign Language and Subtitling for the Deaf and Hard-of-hearing was the topic of the 3rd LEAD-ME COST Action (CA19142) training school. Held online because still with the COVID-19 pandemic restrictions from the 15th to 17th of November 2021. The Universidad Complutense de Madrid hosted the training school under the leadership of Dr. Juan Pedro Rica Peromingo. The training school gathered 34 trainees and 14 trainers. The training school focused on subtitling for deaf and hard of hearing, specifically on curriculum design, methodological aspects of working with such communities, and the design of training materials.

The training school opened with a keynote address by Prof Pilar Orero, who discussed personalization in sign language, which is a practice that furthers diversity and inclusion by allowing users to customize content to their needs. Anna Matamala in her talk highlighted the importance of including users with disabilities in the testing, as well as how to ethically conduct such research. Other lectures included sign language interpretation, accessible subtitling in video games, automatic subtitle generation using AI and deaf people's conceptualization of sound and music. Participants, in smaller groups, attended four workshops:

- *Virtual Signers generation within SignON* by Josep Blat, Víctor Ubieto & Pablo L. García
- *Accessible Filmmaking and Creative Media Accessibility* by Dr Pablo Romero-Fresco
- *The 5 Ws (and many Hs) of subtitling for the deaf and hard of hearing (SDH)* by Dr Verónica Arnáiz Uzquiza
- *Sound in film: can you see me?* by Josélia Neves

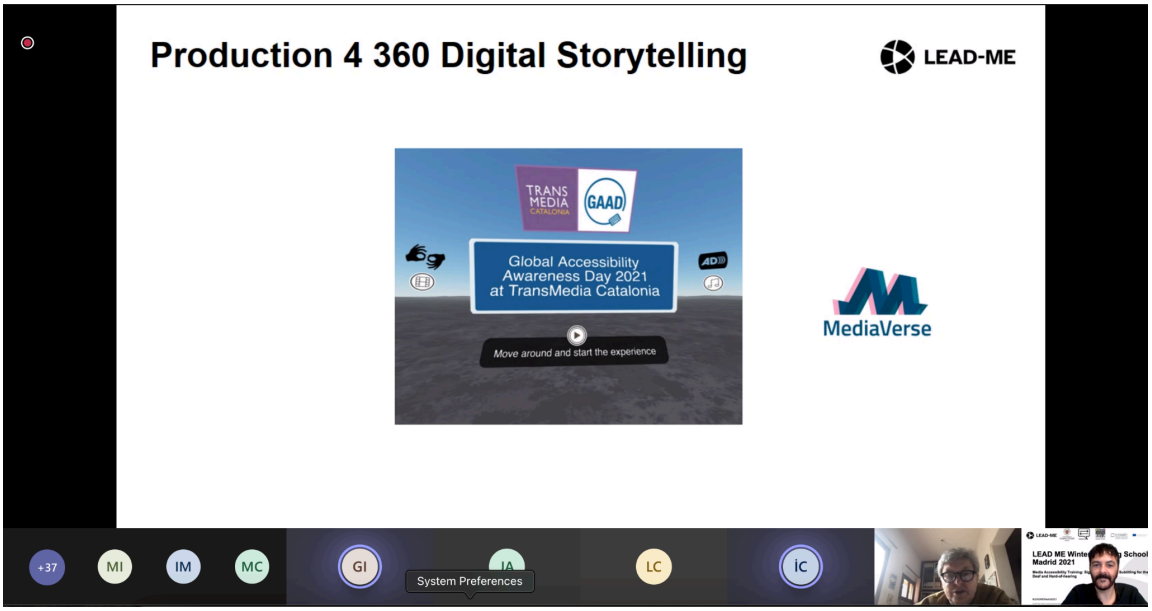

Figure 3: Video frame from one of the keynote presentations.

The full list of Lectures and Workshops

How to render multilingualism and linguistic diversity in subtitling for the deaf and the hard of hearing? by Prof Agnieszka Swarkowska (University of Warsaw, Poland)

d/Deaf people's conceptualization of sound and music: implication for learning Subtitling for the Deaf and Hard of Hearing (SDH) by Dr Ana Laura Rodríguez Redondo (Universidad Complutense de Madrid, Spain)

Sign language interpreting, translation and live translation: different processes, different products by Dr Ana Tamayo Masero (Universidad del País Vasco)

Involving users in media accessibility research: ethics and knowledge transfer by Prof Anna Matamala (Universidad Autónoma de Barcelona, Spain)

Sound in film: can you see me? by Josélia Neves (Hamad bin Khalifa University, Qatar)

Virtual Signers Generation within SignON by Josep Blat, Víctor Ubieto, Pablo L. García (Universidad Pompeu Fabra, Spain)

Deaf signers as linguistically heterogenous groups by Dr Josep Quer (ICREA-Universidad Pompeu Fabra, Spain)

Automatic Subtitle Generation System with Artificial Intelligence Assistance in TVE by Dr Laura Feyto (Radio Televisión Española, RTVE, Spain)

Accessible Filmmaking and Creative Media Accessibility by Dr Pablo Romero Fresco (Universidad de Vigo, Spain)

Sign Language Personalisation: Towards Diversity and Integration by Prof Pilar Orero (Universidad Autónoma de Barcelona, Spain)

The Unknown Facts behind Sign Language Interpreting by Dr Raúl Rodríguez Gutiérrez (Universidad Complutense de Madrid, Spain)

The state of videogame subtitling: from cued transcripts to SDH by Tomas Costal Criado (Universidad Nacional de Educación a Distancia, UNED, Spain)

The 5 Ws (and many Hs) of subtitling for the deaf and hard-of-hearing (SDH) by Verónica Arnáiz-Uzquiza (Universidad de Valladolid, Spain)

4. Measuring the European Accessibility Act

The fourth LEAD-ME COST Action (CA19142) training school entitled **Measuring the European Accessibility Act (EAA)** brought together key stakeholders, experts, and practitioners in the field of media accessibility. It was hosted in London in Google premises in a hybrid format, from the 22nd to 23rd of June 2022. The event was jointly organized by Christopher Patnoe (Google Inc.) and Dr Christopher J. Hughes (the University of Salford). The training school attracted 20 attendees and several trainers. The focus of all activities during the training school was the implications of the European Accessibility Act (EAA) and the challenges and opportunities related to implementing accessibility services for media companies and end users. The aim was to work towards capacity building and preparedness for the full deployment of the EAA in 2025.

The event included debates and keynote presentations. It was opened with the roundtable discussion *What is the EAA, Accessible media discussion, and enforcement expectations*, moderated by Christopher Patnoe (Google Inc.), with the participation of Inmaculada Placencia Porrero (senior expert in European Commission), Alejandro Moledo (European Disability Forum) and Sachin Pavitran (U.S. Access Board), which was followed by discussions such as *Standards needed to support the EAA* and *Measuring quality of Accessible Media at scale*.

The full list of speakers and discussants presenting at the training school: Christopher Patnoe (Google Inc.), Inmaculada Placencia Porrero (European Parliament), Alejandro Moledo (European Disability Forum), Sachin Pavitran (US Access Board), David Wood (European Broadvasting Union and UN ITU), Andy Quested (UN ITU), Nigel Meggit (BBC), Cathy Taylor (OFCOM), Prof. Pilar Orero (Universitat Autònoma de Barcelona), Gion Linder (EBU and SWISSTxt), Dr. Christopher J. Huges (Salford University), Sophie Frilley (Titrefilm) and tutors: Dr. Krishna Chandramouli (Queen Mary University London), Prof. Carlos Duarte (Universidade de Lisboa), Prof. Andrew Duchowski (Clemson University, USA), Dr. Christopher J. Hughes (Salford University), Dr. Krzysztof Krejtz (SWPS University, Poland), Prof. Anna Matamala (Universitat Autònoma de Barcelona, Spain), Prof. Pilar Orero (Universitat Autònoma de Barcelona, Spain), Dr. Miroslav Vujicic (University of Novi Sad, Serbia), and Prof. Ugljesa Stankov (University of Novi Sad, Serbia).

The training school successfully facilitated a dialogue around the implementation of the EAA. Key takeaways included the identification of best practices for service providers, the need for consistent standards, and the development of frameworks for evaluating the quality of accessible media.

In summary, the school offered media accessibility debates, and training - specifically regarding the ways to offer accessibility services across large and small EU languages. Issues related to how to fulfil not only EAA requirements regarding quality and quantity of services but also quality of experience.

5. Accessible Embodied Interaction

The 5th LEAD-ME COST Action (CA19142) training school on **Accessible Embodied Interaction,** took place in a hybrid form, hosted by Prof. Carlos Duarte (Universidade de Lisboa) on the 16th and 17th of March 2023 in Lisbon, Portugal. 26 attendees met with 5 trainers to discuss innovative approaches in accessible embodied interaction, with a particular focus on integrating accessibility into interactive technologies and virtual environments.

During a series of lectures, Mr. Luís Aly (University of Porto, Portugal) explored how embodied interaction techniques can be applied to musical experiences, Dr. Gilberto Bernardes (University of Porto, Portugal) emphasized radical inclusion and presented a card game that demonstrated this idea in practice, Dr. Krzysztof Krejtz (SWPS University) introduced attendees to mobile eye tracking and its usage in human-computer interaction, and Dr. Christopher J. Hughes (Salford University) during his lecture "*Virtual Environments: Developing accessible presence within an XR environment*" presented accessible strategies that can be implemented in virtual reality environments. The lectures provided attendees with theoretical knowledge of embodied interaction and different ideas for implementing it to broaden the accessibility of digital content.

The school also provided an opportunity for students to work on their research and implementation ideas in the field of embedded accessible interaction with computer systems. The attendees presented their ideas and first results during the second day of the Training School. The students' presentations covered a range of topics that were presented during keynote speeches. Students in two groups worked on technological solutions for *The Enrichment of Music Experience with Biosignals* and *Human-Computer Interaction in XR for Improved Phobia Treatment*. The first group introduced the idea of measuring physiological responses to music listening, leading to the creation of a biofeedback therapy using music, and they successfully proved different bio-responses to varying types of music. The second group discussed a phobia treatment program that uses virtual reality and eye tracking, in which the stimuli react to the gaze of the participant. The event therefore successfully implemented theoretical concepts into practice sessions and allowed participants to advance their understanding of embodied interactions accessibility in research and practices.

Figure 5. Participants during a hands-on workshop.

6. Digital Divide: Accessible XR Curriculum Development

From the 13th to the 15th of September 2023, the training school **Digital Divide: Accessible XR Curriculum Development** took place at the University of Salford, led kindly by Christopher J. Hughes (Salford University). 24 trainees and 6 speakers were brought together to discuss existing accessibility knowledge, focusing on the development of a training curriculum. The objective was to contribute to existing technical knowledge by exploring the integration of Extended Reality (XR) into education.

Lectures covered a range of topics related to accessibility, opening with Andrew Duchowski and his introduction to applications of XR in different fields of research, and Krzysztof Krejtz presented the concept of gaze-based audio description. Andy Miah explained the idea behind MediaCity Immersive Technologies Innovation Hub (MITIH). Ian Drumm discussed the use of AR in nurse training, and the lecture day was closed off by Chloe James who delivered a session focused on XR experiences in microbiology education. All the lectures therefore pinpointed the importance of including immersive technologies in learning.

During hands-on sessions, students presented their own research and innovation ideas for new media accessibility technologies based on knowledge gained from lectures. One of the concepts was XR Eye Gaze Led Tours, which uses eye tracking to make museum or city tours more interactive and accessible by gaze interaction. Other students developed their idea of immersive sound in virtual reality, by creating more personalized audio experiences.

Figure 6. Participants on the premises of the University of Salford.

7. Advancing Media Accessibility through Research Methods and Innovative Approaches

The seventh LEAD-ME COST Action (CA191420) training school **Advancing Media Accessibility through Research Methods and Innovative Approaches** took place in Trabzon, Turkey from 8th to 10th of May 2024. The leader of the training school was Dr. Muhammet Berigel from Karadeniz Technical University, the meeting consisted of 28 trainees and 7 trainers, and the program aimed to provide participants with an in-depth understanding of the latest research methods and technological innovations in media accessibility. The event was designed to build capacity in qualitative and quantitative research methodologies, bridging theory and practice by providing lectures and hands-on workshop sessions.

A keynote speech by Prof. Krzysztof Krejtz (SWPS University), Dr. Marta Brescia-Zapata (UAB), and Dr. Christopher J. Hughes (Salford University) touched on the importance of media accessibility, setting the note for the whole event. Other lectures mentioned qualitative research methods in media accessibility, highlighting effective research design; tips for academic writing and scientific communication of accessibility issues as well as the latest innovations in media accessibility.

Participants also could take part in workshops, which included:

- Developing a Research Method in Media Accessibility (Emre Erdoğan),
- Creating Accessible Multimedia Content (Muhammet Berigel, Serdar Özkas).

The workshops provided an opportunity to gain experience in making multimedia content more inclusive for individuals with visual or hearing impairments.

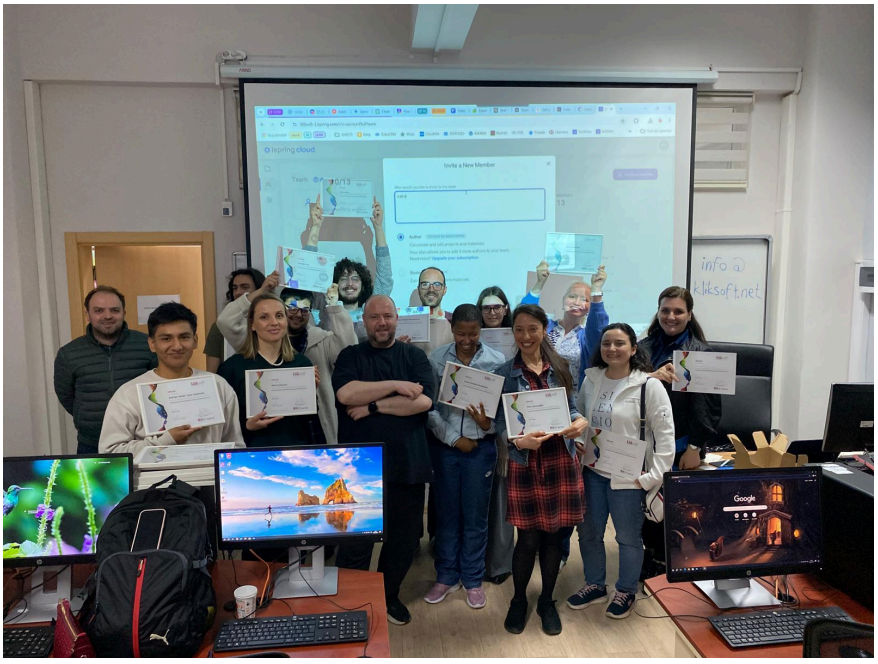

Figure 8: Some attendees during the training school conclusion.

8. Accessibility in Digital Learning Resources

The last event, **Accessibility in Digital Learning Resources**, took place from September 16th to 17th, 2024, in Oslo, Norway. The event was organized by Prof. Morten Fjeld (Bergen University) in collaboration with leading media companies: Schibsted Media, TV 2 Scole, and Digijobb. It followed a hybrid format. The workshop invited 28 trainees, mainly PhD students specializing in fields such as computer science, design, cognition, and psychology, and featured 12 trainers, including industry experts, accessibility practitioners, and researchers. It aimed to provide participants with practical knowledge on applying the Web Content Accessibility Guidelines (WCAG) and Web Accessibility Directive (WAD) in real-life scenarios. The focus was on the practical implications of accessibility standards, highlighting the need for user testing.

Dr. Jan Beniamin Kwiek delivered a keynote address on using Artificial Intelligence to bridge the accessibility gap, where he explored how artificial intelligence can help create more accessible experiences in the digital sphere. Yngvar Nordberg (TV2 Scole) lectured on *"One Size Fits All or One Size Fits One?" – Accessibility through Preferences*, showing examples of implementing personalization on his company website and discussing how users' individual needs could be accommodated by personalization. The key event included hands-on workshops which were led by user testers with disabilities, providing participants with direct insights into the challenges faced by individuals with disabilities when interacting with digital content. Participants observed new assistive technologies and their practical use in media exploration.

The workshop concluded with trainees proposing novel ideas on how personalized features can enhance accessibility. The students' solutions were presented in front of the expert jury at the last session of the training school. One of the projects explored the integration of AI to create adaptive audio descriptions of visual website content which can be adjusted to users' needs and preferences. Another group explored how to maintain compliance with accessibility guidelines while implementing personalized features for individual users. An innovative idea for a personalization module that transfers across different websites was proposed, in which the user inputs their personalization preferences and they automatically apply across all content. Each presentation was followed by a round of feedback, where jurors provided constructive critiques and the audience could ask questions about projects. The experts provided the feedback on methodological and conceptual appropriateness of the ideas as well as their possibility of being implemented from the business perspectives. The list of accessibility products' concepts prepared by the attendees during the training school included: *Balancing Native Accessibility Standards and Personalized Features*, *Embedded AI Tool for Image Description*, *Accessibility vs personalization via tree view, token system, snapshot view, and onboarding*.

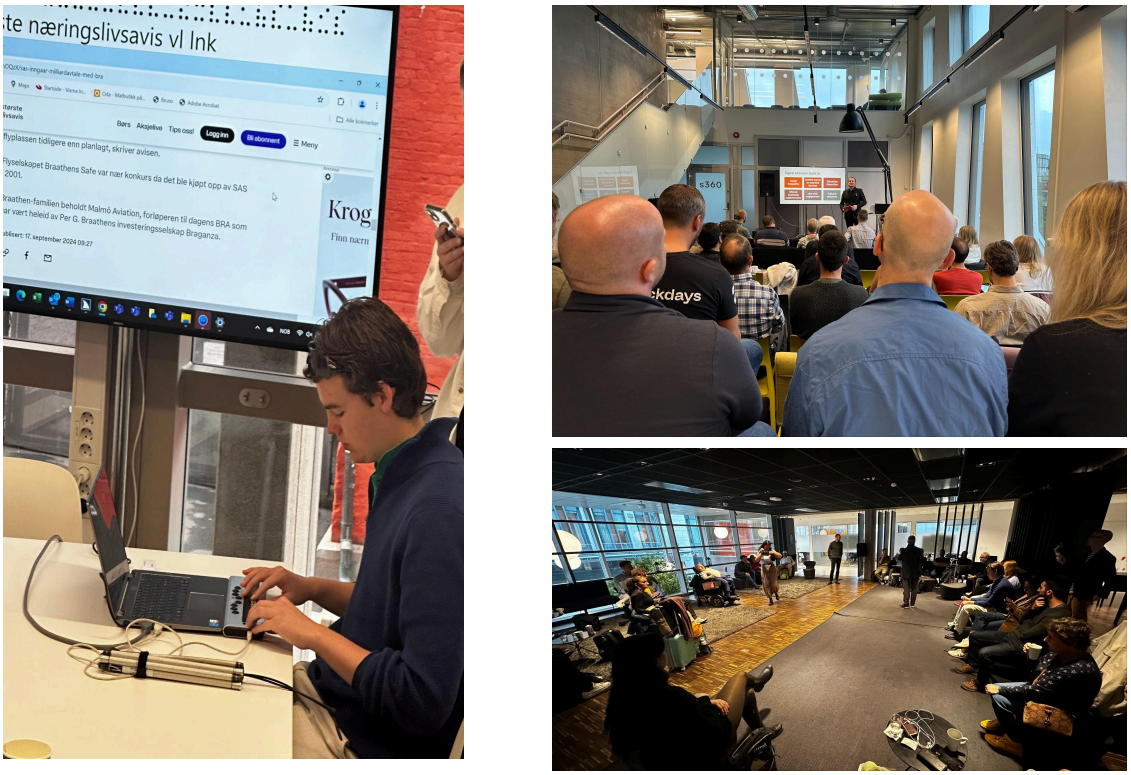

Figure 9: Workshops with the participation of the media companies experts and testers with different disabilities.