Preface to the Workshop on Mobile and Multimodal HCI Design Approaches in Museums for People with Impairments

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This volume contains the papers presented in the context of the AMID 2023 – International Workshop on Mobile and Multimodal HCI Design Approaches in Museums for People with Impairments (http://amidworkshop.ece.upatras.gr/), held within the 25th International ACM Conference on Mobile Human-Computer Interaction (MobileHCI), Athens, Greece, on September 26–29, 2023.

The aim of the First International Workshop on Mobile and Multimodal HCI Design Approaches in Museums for People with Impairments is to bring together researchers as well as practitioners who are active in doing research on or employ tools and methods related to mobile HCI in museums that foster the experience of visitors/users with impairments. The workshop comprises contributions that cover a wide range of interrelated fields, topics, and contexts and include Adaptation and Personalization, User Modeling, Human-centered Computing, and User Experience. It addresses academics, scientists, students, ICT professionals, service providers and developers, designers, and end-users with the view to exchanging and sharing best practices, innovative methodologies, experiences, and ideas as well as presenting research findings and insights gained that pertain to theoretical, technological, or methodological facets of the various HCI Design Approaches for People with Impairments in Museums. This preface provides a succinct overview of AMID 2023, held both online/virtually, and with physically present participants.

The workshop presents and discusses methods, tools, and techniques to design and develop mobile museum applications for people with impairments. More specifically, the research presented mainly relates to technological solutions that support museum visitors with visual, motor, and hearing impairments. The workshop foregrounds the importance (as well as the related challenges) of providing meaningful and engaging experiences to museum visitors with customized interfaces adapted to the characteristics of various groups of people with special needs. Moreover, the workshop addresses the employment of Mixed Reality (i.e., the combination of real and virtual worlds), as this technology heralds new possibilities in enhancing access and inclusion with regard to museum visitors with impairments. The workshop attracted experts who outlined and discussed the challenges and opportunities that arise in the field and presented solutions concerning methods, tools, and techniques in HCI. Research presented included user

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requirements and system design, adaptation, and optimization, as well as uses of emerging technologies to enhance inclusion and meaningful engagement. The areas covered in the workshop include (but are not limited to) accessibility for users with motor impairment, inclusion of sign language, introduction of soundscapes for the visually impaired (through the presentation of a case study), methodologies for a wide range of visual impairments, pertinent surveys of existing research and suggestions for future practices in the field. Furthermore, the workshop also addressed issues of inclusion in relation to openness with regard to content creation, the principles that should guide adaptation of exhibition design as well as interactive exhibits, resources or prompts showcasing specific research projects. Examples of applications for hand-held devices for people with certain types of impairment were presented by authors who designed, employed, and evaluated them, while in some cases thorough as well as targeted surveys of existing practices were involved in the context of presenting or foregrounding a certain methodological approach. The workshop has put emphasis on the following:

- Design innovations on mobile HCI
- Multimodality
- Multisensory interaction techniques
- Assistive technologies
- Design guidelines and principles
- Sign Language inclusion through new technologies
- Tactile exploration techniques
- Speech to Text technologies for the hearing impaired
- Interactivity in content creation
- Multidisciplinary research methods in the field

There was one invited paper by Prof. Alan Six (Director of the Computational Foundry, Swansea, Wales, UK). The workshop accepted after a peer-reviewed process seven papers that have focused on a variety of topics, with the aim to foster cross-fertilization of approaches emanating from diverse disciplines related to differing users with the goal of synthesizing methods, enriching and where applicable, synthesizing or adapting methods and gaining insights as well as inspiration for future research. The workshop also aspires to facilitate the creation of a knowledge hub in the form of a research community that will remain in contact and collaborate after its conclusion.

As a final remark, the Programme Committee would like to warmly thank the keynote speaker, Prof. Alan Dix, for his inspiring talk and insightful paper, and all the contributing authors, as well as the organizers of the 25th International ACM Conference on Mobile Human-Computer Interaction (MobileHCI), who helped us to run the event.

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