

Universal Design 2024:



Shaping a Sustainable, Equitable and Resilient Future for All

Conference Compendium
of the Seventh International Conference on Universal Design
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UD2024 UNIVERSAL DESIGN

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Abstract

Universal design, inclusive design, design for all, innovation for all, and accessibility are some of the concepts aimed at making products, environments, and services usable and accessible for diverse users, regardless of ability, age, or background. While these terms imply common goals, they each offer distinct approaches to creating inclusive solutions.

This compendium comprises of 48 papers, abstracts, and posters presented at UD2024, the 7th International Conference on Universal Design, held from 20 to 22 November 2024 in Oslo, Norway. It can be seen as an addition to the conference proceedings. Although the UD conference series uses the term universal design, it welcomes researchers and practitioners from the other disciplines designing for diverse user groups in the hope that this will result in a wider spectrum of viewpoints and will help to unite these various approaches to advance the field. The contributions are grouped into six chapters, covering design approaches, theoretical perspectives and socio-economic benefits; children, learning environment, and education; universal design in the built environment; inclusive tourism and sustainable communities; digital inclusion, communication and organisation; as well as universal design of ICT and technical aspects.

Keywords	Universal design, inclusive design, design for all, innovation for all, accessibility, education, learning environment, built environment, tourism, sustainability, health, transport, digital inclusion, ICT
Target group	Researchers, policy makers, users, practitioners and experts
Access	Open
Pages	196

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Universal Design to build a more inclusive touristic ecosystem. The SITE project approach

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Abstract. Despite accessible tourism is considered a niche market, there is evidence to show that it is gradually growing and is expected to increase worldwide in response to changes in society and increasing opportunities. The raising demand for accessible tourism, tailored to accommodate the highest number of people, represents a key driver for the tourism sector and a great business opportunity. More inclusive tourist destinations allow expanding and diversifying the number of customers (including people with special needs and requirements such as families, children, elderly, and person with disabilities) and overcome the seasonality of tourism flows. The paper will introduce the first results of the undergoing project SITE - Shaping Inclusive Tourist Experiences, developed within the Interreg Program Italy-Croatia 2021-2027. The project appoints UD as the approach to follow for making tourist destinations “universally welcoming” and it aims to increase the attractiveness of tourist destinations in the Program area, by promoting social inclusion, participation and sharing, also using ICTs to reduce any barrier that limits the access to people with disabilities or other needs, as families and the elderly, favoring non-discriminatory solutions. The focus will address three key steps that characterize a tourist experience: a) searching for information before leaving, b) orienting oneself once at the destination, c) enjoying public spaces and services. Those key steps will be tested in 4 different pilot sites adopting specific tools and solutions, to assess the compliance of the 7 UD principles by involving stakeholders and local target groups.

Keywords. Accessible tourism, inclusive tourism, Universal Design approach, Universal Design Principles, Checklist

1. Introduction. Context analysis and beneficiaries of a more inclusive tourism

In Europe 27,2% of the adult population have some form of disability and the old-age index is 136 old people for every 100 young people, and these numbers are increasing [3]. In 2023, in the EU27 area the total number of working age people (aged 15-64) that have one or more disabilities is estimated to be around 42 million, and the total elderly population (aged 65 or above) is about 92 million. Analyzing the two countries covered by the project presented by this paper, in Italy in 2023 people with disabilities (aged 15-

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64) are 5.5 million and people over 65 are 14.2 million; in Croatia people with disabilities (aged 15-64) 400.000 and people over 65 are 800.000. However, these numbers are not sufficient to estimate the number of people with access needs. Moreover, almost everyone in the life span experiences, directly or indirectly, difficulties related to permanent disabilities, temporary or situational circumstances, with the risk of being excluded from full participation in society and from travel because of the lack of accessible information, services and facilities.

On the threshold of the year 2000, with the World Code of Tourism Ethics [4], the UN recognizes the right to tourism and freedom to travel for tourism purposes by adopting a set of principles and committing to them. Principle 7, specifically, states that “the prospect of direct and personal access to the discovery and enjoyment of the planet’s resources constitutes a right equally open to all the world’s inhabitants”. The same principle also states that “the increasingly extensive participation in national and international tourism should be regarded as one of the best possible expressions of the sustained growth of free time, and obstacles should not be placed in its way”.

In line with guidance provided by the World Tourism Organization in 2016, to ensure access for all to the physical environment, transportation, information and communications, and other services and facilities open to the public, in urban areas, as well as in rural and coastal areas, accessibility must be present throughout the entire chain of elements of which the tourism sector is composed. This may be a rather complex challenge, given the number and diversity of providers in this sector and considering that there are many aspects of a trip that need to be made more accessible. The barriers to overcome are not only architectural, but also sensory, perceptual, intellectual, cultural, social, economic, health, gender. People with disabilities correspond to one of the many target groups the project intends to address. From a Universal Design (UD) perspective, in fact, the solutions should be used by a wider range of users. On 26 February 2024 the UN General Assembly adopted the Resolution which proclaim 2027 the International Year of Sustainable and Resilient Tourism. Point 4 of the resolution, UN “encourages Member States, the United Nations system, and all other actors to take effective measures [...] to promote the equal participation of women and the balanced participation of youth, older persons, persons with disabilities [...] to promote effective economic empowerment, mainly through decent job and income creation”. Doubtless, this represents a notable leap forward to achieve inclusion and to ensure access for all to the physical environment, transportation, information and communications, and other services and facilities open to the public.

‘Accessible tourism’ enables people with access requirements including mobility, vision, hearing and cognitive dimensions of access, to function independently and with equity and dignity through the delivery of universally designed products, services and environments. People with access needs are not a uniform group: although some overall trends are consistent, results vary across groups (people who travel with children, people aged 65 and above and people with limitations), countries, as well as across limitations within the third group. Therefore, accessible tourism targets any segment of the market that prefers accessing a tourism experience with ease [5].

Facilitating travelling for people with access needs is an exceptional cultural and business opportunity. Yet, a change in mindset and in the model of tourism services provision is required to meet this major market demand.

2. Accessibility beyond architectural barriers: the UD approach

Urban and built environments can be more accessible not only for the absence of barriers, but also for the presence of elements designed with care and quality to facilitate the usability of spaces to the widest number of people, regardless of age, origin, social background, gender, ability. Design has the important role of creating the conditions for proper interaction between the person and the environment by building accessibility, a fundamental requirement for effective inclusion.

Although its importance is undeniable, the design of more accessible places, spaces and services is not yet fully adopted in practice. The ageing and diversity of the present society challenge architects and designers to leave behind the image of the average user and to design products, services and environments for the widest range of users. This approach, however, is little applied. Designers are educated to design for a mythical group of 'average' people, which does not exist [7]. Science, medicine, and engineering often take the young, white, able bodied 70kg male as the norm, yet every individual is unique and as a group, the human species is quite diverse. As far as disability is concerned, the reference that most supports this thesis can be traced back to the International Classification of Functioning, Disability and Health (ICF). For the first time, ICF shifted the focus from a reductive view of disability as a physical or mental impairment to the needs of the person's environment, thus contributing to the definition of disability provided by the World Health Organization (WHO) as a part of being human that almost everyone will experience temporarily or permanently at some point in their life [8]. By adopting this concept, it becomes evident how taking the standard man as a reference is wrong, given that this is an ideal profile and distant from reality.

2.1. Training and empowering operators

As in the field of design, the tourism sector is also lagging behind in offering services that are accessible to all. According to Miller and Kirk [9] tourists who have different levels of accessibility, requirements are served too often insufficiently by the tourism industry. The reason why is a combination of missing tourism product supply and inadequate or missing information [10]. Travel experiences are in general still highly restricted by physical accessibility barriers such as transportation constraints, inaccessible accommodation, and tourism sites as well as information barriers such as a general lack of information or poorly designed web sites.

The process of raising awareness for the creation of places accessible to all and hence suitable tourist locations has been developing consistently only for a few years. The basis of the reasons that led to a slow development of accessible cities and places are both cultural and educational factors and the relative way in which disability is thought of [11]. In 2012, the European Commission commissioned a series of studies to build a comprehensive picture of accessible tourism in the European Union (EU) to better understand the demand for Accessible Tourism to guide policies in this field [12]. One of these studies had the main objective of achieving an in-depth understanding of the barriers faced by people with access needs. The analysis revealed the main barriers for each stage of the tourism value chain and for different tourism sectors. Key findings include: lack or limited availability of information about accessible services in the pre-travel / information gathering stage; barriers encountered in the transit/ transport stage

referring to airlines; difficulty to find access path and accessible parking once at the destination; the critical transportation system at the destination; inaccessibility of nature-based activities, which are in high demand; attitudinal barriers that are encountered more often than physical ones in all areas; difficulty to find accessible toilets across all key tourism sectors. In addition, we should always consider that the tourism experience consists of several parts: the closer the cooperation with other local service providers the greater the success [12].

3. SITE project and the Interreg Program

SITE project is within the frame of the Interreg Italy Croatia 21-27 funding program² and is a beneficiary of funds in the section ‘Culture and tourism for sustainable development’. SITE aims to increase the attractiveness of tourist destinations in the Program area and to foster tourism across the year through the cross-border dissemination of the culture of UD in the tourism ecosystem by promoting social inclusion, participation and sharing also using ICTs to reduce barriers (architectural, sensorial, communicative) that limit access to people with disabilities or other needs, as families and the elderly, favoring non-discriminatory solutions. The specific objective is to create shared knowledge on UD and to develop common methodology and tools to promote a more inclusive tourism ecosystem.

3.1. Project motivation and framework

The project setting approach symbolically follows what a tourist destination should do to become universally welcoming, focusing on three key moments that is common to any tourist experience: a) the search for information before departure - *planning*, b) the ability to orient oneself once at the destination - *wayfinding*, c) the possibility to enjoy public spaces or services - *enjoying*.

UD is the framework to create accessible, usable, and understandable environments by the greatest number of people independently from their specific characteristics and abilities. UD principles are the common thread with which to conduct research activities, accessibility assessment and co-design of innovative solutions for the creation of more inclusive tourist destinations, to go beyond the concept of disability of a person and focusing on the disabling environments [13]. The project, following a participatory approach, will involve all partners, stakeholders, and beneficiaries in a co-design process to develop more inclusive and place-based solutions, to raise awareness and to strengthen their analytical, management and design skills. Through academic and market research, participatory workshops, joint analysis, study visits, hackathon and training, the partnership will develop a joint strategy and innovative solutions and tools for enhancing accessibility in different touristic contexts. In the case of the SITE project, the choice was made to test the solutions in 4 pilot sites (see next paragraph).

² Interreg is a key tool of the European Union that works for cooperation across borders by funding various projects. The goal of Interreg is for states to work together neighbors to address common challenges by finding shared solutions in various areas. Interreg is one of two objectives of the European Union's cohesion policy and is funded by the European Regional Development Fund (ERDF). It has three types of programs: cross-border, transnational and interregional and is divided into periods; the current one being the sixth period 2021-2027 (Interreg VI).

3.2. Project partners and pilot sites

Partnership consists of 4 Italian partners and 4 Croatian partners (Fig. 1). Specifically, there are two universities, two microenterprises, two municipalities, one airport, and one local tourism agency. It is a combination of very diverse actors that allows the topic to be approached from several fronts.

University of Trieste acts as Lead partner, managing and coordinating the project, and proposing methods and tools to manage the assessment of intervention areas in the chosen pilot sites before and after the implementation of the UD approach. The other partners are *University of Rijeka* with Faculty of Tourism and Hospitality Management; *Central Marketing Intelligence*, a micro enterprise which deals with Market Intelligence Analysis and Strategy based on Big Data Analytics; *VEASYT*, a micro enterprise which creates digital and innovative solutions to overcome and remove communication barriers; *City of Sibenik*, *Municipality of Fano*, *Dubrovnik Airport* and *Dubrovnik Development Agency*. The last four correspond to the 4 pilot sites where 4 different areas will be analyzed: the historical hamlet in Sibenik, public seashores in Fano, the airport in Dubrovnik as a complex transport hub, a museum in Dubrovink.



Figure 1. Italy-Croatia Interreg Program area and SITE partner's localization.

The three key steps of a journey (planning, wayfinding, enjoying) will be analyzed at all 4 pilot sites; a diagram follows to show the planned workflow (Figure 2). Each pilot site will be visited twice: first visits are aimed at mapping critical issues and co-designing improving solutions useful for the planned interventions; second visits are aimed at verifying the situation ex-post interventions. In both visits, participants will be invited to verify the adherence of certain spatial attributes to the principles of UD.

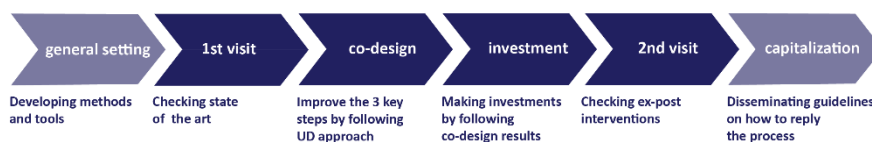


Figure 2. Diagram representing the workflow in the four pilot sites

4. First results: the launch of SITE and first tools tests

The first period of the project, which corresponds to the first six months, has been dedicated to general setting, studying the state of the art, developing the tools and methods necessary to carry out the activities and to start the investments. The initial part of the second period has been dedicated to the methodology and tools testing with the first visit to Fano (ITA). A summary of the most significant planned activities follows.

4.1. Multilevel international investigation of tourism ecosystem

Market research to quantify the need for UD in tourism, research on promotional tools for branding destinations and examination of past experiences, state-of-the-art and previous research in the field of accessible tourism concerned an indispensable analysis phase to find up-to-date data, to learn about the context and to specify the meaning of some terms that are often misused or misinterpreted. ‘Accessible tourism’ is too often identified as a kind of tourism dedicated exclusively to people with disabilities, and the solutions proposed by the industry are often special, risking further marginalizing people. A specific focus has been made regarding EU and International good practices on transport hubs, seashores, museums, and historical hamlets.

4.2. Development of assessment methods and tools to investigate the adherence to UD principles in pilot sites. First visit to Fano

Evaluating the adherence of an environment to the UD principles involves assessing how well the space caters to the broadest range of users, regardless of their abilities, age, or background. The same can be said about texts and written content (the evaluation of texts is crucial for verifying the availability of information and wayfinding; deeper analysis will be the subject of future publications). Nowadays, there are no agreed upon models or methods to evaluate how UD is applied or what outcomes are achieved [14]. O’Shea et al. [15]. underlines that there are known barriers in evaluating the application of UD to public built environments, and the cultural gap described in Chapter 2 is one of those problems. Various references in the literature were analyzed to develop the methodology and the assessment instruments. The purpose of the project is to engage local stakeholders inexperienced in assessing the accessibility of environments, so it was decided to develop tools that were not too complex and not too time-consuming to compile.

Visits to pilot sites consist of two-day workshops. Through guided sessions, specific activities are proposed to participants to achieve defined goals (Tab. 1).

Table 1. 1st visit workshop’s sessions, tools e goals

	Session1	Session2	Session3
Goals	Explore pilot spaces and map critical issues	Check adherence to UD principles	Co-design improvement solutions
Tool	Exploration form	UD assessment grid	List of recommendations

A focus on the second session follows. To build the UD assessment grid, reference was made to a case study presented by Afacan & Erbug [16] on the application of an interdisciplinary heuristic evaluation method of a shopping mall. Although SITE pilots are different contexts, the methodology seemed suitable to achieve the projects objectives, namely, to obtain assessment tools that could be easily compiled and compared pre- and post-interventions by non-technical users. The tool, which consists of a list of questions related to the seven UD principles, allows specific spatial elements to be investigated, based on Levine D. [17] definitions of the essential design elements of a universal city. Differently from Afacan's case study where the responses to questions could be “YES” or “NO”, a scoring response system has been provided in the tool adapted for SITE, to allow confrontations during the second visits (Tab. 2).

Table 2. Excerpt from the UD assessment tool, where *Principle 1* is checked by answering three questions. The tool lists an amount of 21 questions, three per principle.

Principle	Questions	Ex-ante score	Ex-post score
1. Equitable use	1.1 Are the same terms of use assured for all users?		
	1.2 Do they offer privacy, or safety and security to all users?		
	1.3 Is the design appealing to all users?		
		SUM	SUM

The first visit to Fano³ has been the first occasion to test methods and tools, which have been applied to explore three green areas and three seashores in the waterfront.

5. Conclusion. Remarks after first study visit and next steps

The findings show that accessible tourism is considered a business opportunity but there is a lack of coordination, particularly between the public and private sector. Accessibility is mainly understood as a feature for disabled guests and almost never understood as a plus in comfort and service and, therefore, not used in marketing and advertising. Product development and marketing mainly targets disabled people. For the tourism business, political and financial support, awareness raising, and activation of service providers are important drivers. For the guest, reliable information on accessible offers and services is a key factor for success.

In addition to making concrete improvements in the areas targeted for investment, SITE aims to help raise the level of awareness of how strategic it is to adopt the UD approach in the tourism industry, through the development of simple but effective tools for assessing the responsiveness of UD principles to different contexts, and guidelines for activating co-design processes together with stakeholders.

The first visit produced some results and allows some observations to be made. It should be highlighted that participants, most of whom were considering accessibility and UD for the first time, noted difficulties in understanding some questions and in making

³ First visit to Fano took place on 12-13th September 2024

assessments. This can be explained in the fact that it was not possible to devote sufficient time to the UD training, which for technical issues will be delivered in the following months. Based on the participant observations, the terminology adopted, and the proposed evaluation system will be revised for subsequent visits to make the tools even more understandable and improve the whole process.

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