

Design for Inclusion

*Dialogues on Universal Design:
Theory, Ethics and Practice*

dialogues on **Universal Design**
theory, ethics and practice

Editors: Ilaria Garofolo
Giulia Bencini



Current ideas about human diversity often highlight the importance of the relational and dynamic nature of interactions across different domains of human function, activities and participation. Universal Design (UD) is defined as design that is usable by all people, to the greatest extent possible and without the need for adaptation or specialization. The term ‘universal’ is intended to embrace human diversity, making it the opposite of the one-size-fits-all approach.

The Universal Design conference series was started in 2012 with the aim of promoting UD as a discipline-independent philosophy and approach which can transcend the boundaries between communities of knowledge and communities of practice. The first part of this book is a collection of 6 invited papers arising from some of the informal and semi-formal discussions and debates which took place as part of the UD 2022 conference in Italy. Authors were invited to submit papers presenting real case studies, and asked to discuss not only the opportunities and strengths, but also the challenges encountered when implementing UD in various domains. The second part of the book presents 6 essays by researchers who have worked on different aspects of UD over the years, each written from the perspective of the author’s own research strand.

The book will be of interest to all those working in the field of universal design and inclusivity.



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The series Studies in Health Technology and Informatics (HTI) was started in 1990 in collaboration with EU programmes that preceded the Horizon 2020 to promote biomedical and health informatics research. It has developed into a highly visible global platform for the dissemination of original research in this field, containing more than 250 volumes of high-quality works from all over the world.

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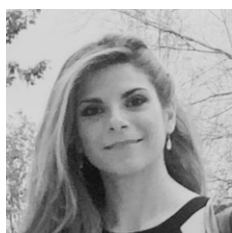
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Gathering Travel Needs and Preferences to Customize Truly Inclusive Experiences. The Case Study of the Interreg E-Chain Project

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Abstract. Accessibility is a central element of any responsible and sustainable tourism policy: it is both a human rights imperative, and an exceptional business opportunity, as mentioned by UNWTO Secretary-General Taleb Rifai. Accessible tourism for all is not only about providing access to people with disabilities, but also addresses the creation of universally designed environments that can support people that may have temporary disabilities, families with young children, the ever-increasing ageing population, as well as creating a safer environment for employees at work. It must also be considered that accessible tourism benefits everyone: as more individuals enjoy the opportunity to travel, the tourism industry gets more visitors, longer seasons and new incomes. This contribution presents the approach taken within the Italy-Croatia Interreg Project “E-Chain – Enhanced Connectivity and Harmonization of data for the Adriatic Intermodal Network”, focused on the provision of useful and personalized information for the traveling user.

Keywords. Accessibility, Inclusive tourism, Universal design, Tourism for all

1. Introduction

Approximately 15% of the world's population lives with some form of disability [1]. This number is steadily increasing and represents a huge business opportunity for global industries [2][3]. However, tourism, one of the largest economic sectors on the planet [4], continues to neglect [5][6] the emerging demand for accessible tourism [7], thus excluding a large proportion of people [3].

In light of the UNWTO's statement on Recommendations on Accessible Tourism [8], there is an increasing emphasis in tourism research on the role that tourism plays in enriching the lives of tourists, including impacts on health, well-being, happiness and quality of life [9]. The concept of tourism as a human and social right is gaining ground, yet in practice there are few solutions that tend to go in the direction of enabling everyone to enjoy accessible tourist destinations, both on site and during the journey to reach them.

The following discussion presents the approach taken within the Italy-Croatia Interreg Project “E-Chain – Enhanced Connectivity and Harmonization of Data for the

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Adriatic Intermodal Network”², focused on the provision of useful and personalized information for the traveling user. Attention to the needs of the different traveler profiles has been present since the beginning of the project: however, some issues dependent on external conditions have brought out critical aspects, highlighting how crucial the commitment of the entire tourism chain is.

2. The Importance of a Seamless Tourism Chain

For a tourist destination to be defined as accessible, the presence of accessibility throughout the so-called tourism chain is essential [10]: links between all sites, services and activities must be well planned and tested. Elements of the tourism chain include:

- tourism destination management;
- tourism information and advertising (preparation, information and booking);
- urban and architectural environments;
- modes of transport and stations;
- accommodation, food service and conventions;
- cultural activities (museums, theatres, cinemas, and other);
- other tourism activities and events.

This implies that all those involved in various forms in the shaping of a tourist destination are called on to assume responsibility for incorporating the dimension of accessibility into their own sphere of competence.

The preferable approach to an inclusive tourism business or destination, as also specified by the UN Convention on the Rights of Persons with Disabilities [11], should go beyond the concept of disability, shifting the focus from “special and dedicated design” to “universal design”, as the heart of the problem is not the disability of a person, but the environment that is disabling him/her. An environment can be disabling even in temporary or situational situations, thus excluding many other groups like people with trauma or who are taking medications, new parents spending much of their time doing tasks one-handed, tourists in a foreign country whose language they do not know, etc. The fact should therefore be emphasized that almost everyone is directly or indirectly affected by some form of disability at some point in their lives [12], so the concept of accessible tourism should consider the requirements of all of humanity for accessible tourism development.

3. The E-chain Info-Mobility Platform: a Tool that Provides Customized Info

The project effort has moved in the direction of creating a multimodal info mobility platform useful for offering to transit passengers with a range of integrated intermodal

² E-chain is an 2014-2020 Interreg V IT-HR CBC program project funded by the European Regional Development Fund <https://www.italy-croatia.eu/web/e-chain>

transportation services and travel solutions between the two sides of the Adriatic, allowing them to optimize the search for information during all phases of travel (before, during, after). Through a preliminary registration, the user is profiled according to specific categories, e.g., user travelling with family, user travelling specifically with small children (0-3 years old), user with disability, user travelling as a helper of a person with disability. The needs of those categories are very different from those traveling alone or with other adults, starting from the planning of the trip which becomes a strategic phase: knowing in advance what you will encounter before, during and after the trip is essential information to avoid problems or inconveniences that could make the experience a negative one. Thus, profiling when registering on the platform allows the user to receive useful information relative to his/her needs, which are different depending on the category he or she belongs to.

To function at full capacity, and thus provide useful and personalized information to travelers, the platform needs to receive data of various types, both from the public and private sectors: transportation schedules, types of services offered, characteristics of venues and spaces open to the public. Where do we stand with the availability of useful and specific information for special categories, such as those travelling with small children or those who have a disability?

The following are the results that emerged from analyzing some of the characteristics linked to the choice of travelling by ferry, the means of transport that the project investigated with more interest than others, as it is less polluting and more sustainable - and therefore to be encouraged more.

A first analysis concerned the presence of information on services dedicated to specific categories of travelers on the websites of the main ferry companies operating in the Adriatic or Tyrrhenian seas, connecting the Italian and Croatian coasts, and on E-chain pilot ports' websites (Ancona, Split, Venice).

A second analysis, based on the responses to a survey provided during project activities to a sample of users through social media communities³, both Italians and Croatians, examined the criticalities generally encountered by them when facing a ferry trip, collecting feedback according to the different categories of traveler. Answers highlighted some trends and some critical issues that are generally encountered, which are useful for directing efforts and design choices with respect to the different needs of individuals.

3.1. *Availability of information from ferry companies and ports for those who travels with special needs*

The analysis covered the websites of the ten main ferry companies connecting the ports between Italy and Croatia, the project's area of interest. The analysis of websites⁴ focused on the search for information dedicated to two categories of traveler who might need to know more details when embarking on a trip, namely people traveling with family and small children, and people with disabilities or caregivers. In addition to verifying the

³ The survey was developed and distributed with a CAWI (Computer Assisted Web Interview) technique using Google Forms. The link to access was delivered via email to a list of internal contacts and it was posted on social media on dedicated pages or groups, such as pages dealing with tourism, accessible tourism, traveling in Croatia, traveling with children, etc. Results are available on project library, D 5.3.3. Assessment and evaluation report <https://www.italy-croatia.eu/web/e-chain/docs-and-tools>

⁴ last websites access: April 2023

presence of such information both on dedicated pages and on other parts of the sites, the analysis also focused on the possible presence of additional information related to connected ports or cities.

3.1.1 Travelling with family

Making traveling experience and destinations child-friendly is a challenge that has been tackled collectively fairly recently: the first attempt to network good practices in the European context was addressed by the Interreg Adrion project Wonder [13], whose overall objective was to increase the attractiveness and competitiveness of destinations in the Adriatic-Ionian Region through a child-friendly approach aimed at improving the liveability of cities and the tourist offer (governance, environment and services) through the development of new and innovative participatory methods. The project highlighted the need to activate cooperation between all players and common strategies to make destinations child-friendly, adopting both top-down and bottom-up approaches to listen to and gather the needs of the target groups, namely children and their families.

The needs of those traveling with family, specifically with young children (under 12 years old), are very different from those traveling alone or with other adults. The planning of the trip becomes an important phase. Some elements to consider when planning a trip are the choice of transportation method(s), the time it takes to reach the destination, and the cost saving. Regarding the transportation system, but also the departure and arrival stations, the dimensional and spatial characteristics of the visited areas and the availability of some services play a fundamental role on which the success of the trip can largely depend.

The analysis of the websites of some ferry companies operating in the Adriatic or Tyrrhenian Sea (Tab.1) shows that, in general and in recent years, almost all travel companies are offering child-friendly spaces, providing play areas, specific equipment in dining areas (highchairs, bottle warmers) and equipment to facilitate hygiene care (changing tables). The presence of these services is almost always stated on dedicated pages of the companies' websites, instead of generic pages, precisely because the importance of knowing about these facilities in advance to be able to face a more journey with more awareness is acknowledged and recognized. No information has been found regarding supplementary services in ports or destinations connected by ferries.

Table 1. Availability of information about services for users traveling with family, on ferry companies' websites

Travel companies	Info on family-friendly services	Info on supplementary service on port or cities
Adria Ferries	yes	no
Caronte tourist	yes	no
Corsica Ferries	yes	no
GNV	yes	no
Grimaldi Line	yes	no
Jadrolinja	yes	no
Moby Lines	yes	no
SNAV	no	no
Tirrenia	yes	no
Ventouris Ferries	no	no

3.1.2 Travelling as a person with disabilities or as a caregiver

The category that includes travelers with disabilities or caregivers is particularly wide-ranging and well researched. Those who experience disabilities, whether permanent or temporary, whether physical, sensory, or cognitive, encounter daily battles to assert their basic human rights, such as accessing places, taking an active part in community life, not being excluded, or discriminated against because of the conditions they experience. It must be said that, differently from how it was conceived years ago, "disability results from the interaction between people with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others" [14]. Environmental accessibility is therefore particularly decisive in the process of full integration of people with disabilities into social life.

To design and propose travel solutions that are not excluding, the research field of so-called "accessible tourism for all" has emerged, which not only concerns access for persons with disabilities, but also "the creation of universally designed environments capable of supporting persons who may have temporary disabilities, families with young children, and the ever-growing elderly population" [14]. Thus referring to the criteria that go into designing accessible tourism solutions for all allows for the design of improved spaces and services for many more beneficiaries.

Also in this case, the planning of the trip is a decisive phase: knowing in advance what you will encounter on the trip is essential to avoid problems or inconveniences that could make the experience negative, or even impossible to carry out. Elements to be considered to undertake a conscious journey are the choice of means of transport, the time it takes to reach the destination, and the savings (both economic and CO₂).

Regarding the means of transport, but also the departure and arrival ports, the dimensional and spatial characteristics of the visited areas and the existing (or available) services play a fundamental role on which the success of the trip may depend to a large extent.

The needs of travelers with disabilities are also often referred to as "special," a way to prevent the person from feeling like they are the focus because of their condition. To refer to this category, some companies use the term "PRM - people with reduced mobility" which includes physical disability (also temporary), mental disability, pregnancy, or persons with reduced mobility due to their age.

Depending on whether they have physical, sensory, or cognitive disabilities, the "barriers" that can be encountered during a trip differ and are numerous. Solutions designed following the discipline of Universal Design seek to avoid customized designs, instead trying to meet different needs more broadly. We also refer to the European legislation in force which establishes safety requirements for passenger ships and high-speed passenger craft for people with reduced mobility.

Accessibility of the spaces and services offered on the ferries show that, in general, there is great attention paid by all travel companies, which also provide information on the dedicated pages on their websites (Tab. 2). No information has been found regarding supplementary services in ports or destinations connected by ferries.

Table 2. Availability of information about services for users traveling with special needs, on ferry companies' websites

Travel companies	Info on accessible services	Info on supplementary service on port or cities
Adria Ferries	yes	no
Caronte tourist	yes	no
Corsica Ferries	yes	no
GNV	yes	no
Grimaldi Line	yes	no
Jadrolinja	no	no
Moby Lines	yes	no
SNAV	yes	no
Tirrenia	yes	no
Ventouris Ferries	no	no

3.1.3 Availability of information from terminal passengers' websites for those who travel with special needs

Useful information found on almost all the websites of the major ferry companies, however, are not present on all the websites of the ports of arrival or destination analysed, namely the three pilot cities identified by the project: Ancona, Split and Venice.

Ancona

The Port of Ancona has a website that does not provide dedicated information for people with special needs. However, there is a direct link to the app 'Welcome to Ancona' <https://www.porto.ancona.it/en/> that gives useful information on ferry schedules, the location of museums, hotels and other services. There is no information dedicated to family-friendly services or regarding the accessibility of routes or places.

Split

The Port of Split has a website that does not provide dedicated information for people with special needs. However, there is a page dedicated to the possible excursion program, to inform users about tourist possibilities around the <https://portsplit.hr/en/dobrodoslil-english/>. There is no information dedicated to family-friendly services or regarding the accessibility of routes or places.

Venice

Venezia Terminal Passeggeri <http://www.vtp.it/> is the only company that has a website with a page dedicated to persons who travels with special needs, namely 'PRM - passengers with reduced mobility'. In addition, the site has a link that leads to the official tourism website of the City of Venice <https://www.veneziaunica.it/>, which links to a site properly dedicated to the city's accessibility, with a focus on accessible itineraries and public services, <https://www.comune.venezia.it/it/content/venezia-accessibile-itinerari-senza-barriere>.

Table 3. Availability of information about services for who travels with special needs, on terminals passenger websites

Ports	Info on special needs services	Info on supplementary services or link to other tools
Ancona	no	no
Split	no	no
Venice	yes	yes

3.2. Criticalities generally encountered when traveling by ferry

As specified above, one action of the project was the distribution of a survey to various categories of users including those with special needs, intended to be able to better outline the characteristics of the E-chain platform. The total number of responses analysed is 206, specifically 71 by Italians and 135 by Croatians.

One question specifically investigated the most critical issues usually encountered during a ferry travel experience, also considering routes other than those between Italy and Croatia and vice versa.

In response to the question, users were asked to choose the three most critical issues from a sample list:

- general trip organization
- booking tickets
- waiting for boarding
- journey on the ferry
- arrival at destination
- finding information
- long waiting times
- inaccessible spaces
- other

Respondents in the category of people who travel with family and small children highlighted that the most critical issues concern waiting for boarding; long waiting times; journey on ferry. Respondents in the category of persons with disabilities highlighted that the most critical issues concern waiting for boarding, finding information, and inaccessible spaces.

Table 4. Criticalities encountered by people with special needs when traveling by ferry

Criticalities generally encountered	Traveling with family	Traveling as a caregiver or having a disability
General trip organization		
Book tickets		
Waiting for boarding	X	X
Journey on ferryboat	X	
Arrival at destination		
Finding information		X
Long waiting times	X	
Inaccessible spaces		X
Other		

Another survey question also investigated whether any information about the presence of family-friendly spaces / accessibility of spaces and services (e.g., presence of baby-friendly solutions; presence of equipment to overcome architectural barriers; presence of dedicated parking) also in ports and cultural and tourist attractions in destinations would be an appreciated element.

Respondents from people traveling with family or as a caregiver, or with a disability clearly answered that they would appreciate finding services of this type; respondents from other categories (people travelling alone or for business purposes; people travelling with friends; campers) gave different answers. Yet, the existence of dedicated services designed to be more usable would improve not only the experience of people with special needs, but that of everyone, also considering the fact that the difficulties encountered in dealing with the built space may be related not only to permanent, but also temporary or situational disability conditions.

4. Data Availability on Services and Facilities for People with Special Needs: Reflections and Scenarios

As specified in the previous paragraphs, in order to function fully, the E-chain platform needs to receive data of various types, both from the public and private sectors. Where do we stand with the availability and accuracy of data that can be useful for customizing the travel experiences as intended by the project?

It has been observed that the availability of such information is almost completely guaranteed compared to the ferry companies' websites, whereas it is no longer ensured when observing the websites of the ports or port cities analyzed.

Venezia Terminal Passeggeri is the only company that has a website with a link that leads to the official tourism website of the City of Venice, which links to a site properly dedicated to the city's accessibility with a focus on accessible itineraries and public services. However, the private sector remains uncovered by this specific service: to find out the characteristics of a hotel, for example, it is necessary to search for information on its website, but this does not necessarily mean that it can be found. At the same time, there may be some hotels that provide accurate data regarding the accessibility of their rooms, with a lack of information with respect to the urban accessibility of the neighborhood and nearby services. This problem arises because, to date, there are no shared regulations or standards on what information should be published and with what accuracy.

It follows that the availability of incomplete data, and at partial stages of the journey, does not allow the provision of truly personalized information to users. This lack can be traced back to a number of reasons, also in line with what emerges from some studies related to the disciplines of User Experience Design (UX design) and Human Centred Design (HCD), which highlight how a general lack of awareness of the needs of the users for whom a solution is designed leads to exclusionary outcomes [15]. A non-systematic involvement of the most vulnerable users is another aspect that experts point to as a problematic aspect, considering that accessibility can only be studied and implemented with the participation of people and the NGOs representing them [16]. An overload of information, often inaccurate, is also perceived as an obstacle, that is, when there is so much available and potentially useful information that it becomes an obstacle rather than a help [17].

In order to address this critical issue, there are several areas in which to intervene. A first step is undoubtedly to raise awareness of the difficulties that people with special needs may face during a trip, in combination with the consciousness that everyone in life is destined to experience a permanent, temporary or situational disability [12]. The target audience for these awareness-raising actions are all those who are involved in the management of a tourist destination: from the public sector to tourism promotion

agencies, to hotel, transport and entertainment managers, everyone must be aware that investing to improve accessibility and providing the necessary information are indispensable actions to ensure positive trip and leisure experiences. Through an intense awareness process, the most relevant information for vulnerable users should begin to emerge in order to obtain a broad overview of the possibilities that a place can offer in terms of accessibility and welcome to all.

5. Conclusions

The results of the presented studies highlight two main aspects.

Although the purpose of E-chain was to improve users' travel experience by providing them with personalized information through a platform, a general unavailability of data emerged, which therefore does not permit the platform to function fully. Having encountered this critical issue in the context of a European program is nevertheless a positive element as it allows partners, beneficiaries and all stakeholders involved to increase their awareness of the importance of addressing the situation in a choral manner, co-designing policies, initiatives and solutions by paying attention to how data are collected, managed and released.

Reflecting on the critical issues generally encountered by tourists with special needs when travelling by ferry, the need emerged to intervene on several levels to promote a different culture that takes into consideration, first of all, the needs of users, their participation and their involvement for the co-design of new and inclusive solutions.

It is certainly a great challenge, but if, for example, it were conveyed through the next European programs on an ongoing basis, it could lead to interesting experiments touching different territories and actors.

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