Designing Inclusive User Experience for Impaired People. An RtD Driven Proposal for Albanian Urban Spaces

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Abstract. A significant percentage of the studies regarding the user experience of urban spaces does not take into account a segment of the population characterized by people with physical and communication impairment. Even though HCI is a current major field of interest in design, disability - and consequently accessibility - is still a localized and understudied field of opportunity for contemporary research. Most of the solution proposed by architects - and designers - tend to refer to a generic type of user and, even though claiming to be inclusive, they primarily engage able-bodied people. In the last decades, design and HCI have moved beyond the workplace and have begun to tackle increasingly wicked and particular problems affecting the everyday lives of people. The result of this significant shift materialized into a playful, bottom-up and human-centered way to design the urban space.

The research for this contribution is rooted in a Research Through Design (RtD) approach (Zimmerman et al. 2007, 2010), where design is used to raise awareness and to generate design knowledge on disability and accessibility issues. This paper aims for proposing catalytic interventions for public space where interactive technologies are used to create a bridge between different typologies of users. Moreover, this paper is speculative also for the authors themselves. The identified operative categories will set the sparkle for the deployment of a design cell where to gather quantitative/qualitative data to understand better the spatial needs of impaired people, and to offer them a better and more inclusive design experience.

Keywords: Impairment · Architecture · HCI

1 Between Umwelt and HCI. Designing for Inclusive Environments

A high percentage of the world population deals every day with multiple severe problems related to disability and impairment. With these words, - even though the right use of them according to specific situations has been long discussed in medicine (Jones 2001) - we refer to a broad field of disadvantages in which a different perception of public spaces - and private as well - leads to a continuous struggle for these people to adapt to the so-called able-bodied people. Visual, hearing and brain damages related, impairments are just some generic definition of a whole specter of issues that affect almost 15% of the human beings (WHO 2011). What is interesting to point out is that, in 2001, the World Health Organization, published a work with the aim of integrating different kinds of disabilities; this framework - the International Classification of Functioning Disability and Health (ICF) for adults (2001) and for children and youth (2007) - has been adopted by many international countries and is useful to tackle the problems related to disability in a holistic way rather than to focus on many single fragments of a much bigger system. In this framework, impairment is used as an umbrella to include not only bodily problems but also activity limitations, or participation restrictions that relate to a health condition.

Even though people with disability are always defined also 'disadvantaged', we believe that disability is not an issue to solve in any way, but a general point to be taken in account by the design community, which deserves a much better understanding and needs for a new way of problem-solving. What we argue for is to have more care regarding impaired people - especially when it comes to design spaces that claim themselves to be 'inclusive' -, and our contribution will not just shape as a design solution from an external perspective, but it will also serve to ourselves to develop a more nuanced awareness regarding the topic itself and to start a better communication with all the others stakeholders involved in this kind of researches. For this reason, ample attention to address the notion of 'user experience' has been given to people with a different way of interacting, and perceiving, the spaces they are experiencing, that are rarely used as a point of departure for design speculation.

Moreover, one of our main interesting lies in defining how these people's mental structure is modified by the environment they are forced to live and relate with. According to von Uexküll (1957), every living being creates it's on Umwelt - a subjective world or an interpretation of it - characterized by the way the subject interacts with the space that surrounds him. Even though these studies are more related to the biological world - and the differences between the sensorial apparatus of men and animal - our objective is to create a 'parallelism' and use this specific 'ecological thinking' to trigger new speculations regarding people's behavior - and experiences - of the external world (Fig. 1).
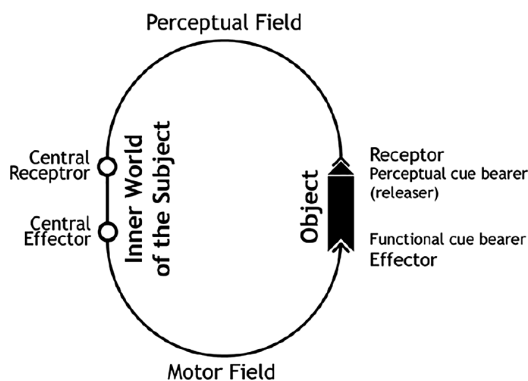
Fig. 1. Uexküll's model of the functional cycle.

Indeed, every human being, through the dualism perception-interaction, shapes his own Umwelt in the form of a singular and peculiar world, where there's no need to distinguish the individuality that generates from the external situation. This leads to a whole system of possibilities regarding the different layers that can be created, and projected, on reality. We can assume then that there is an isomorphic dependance between the perception that we have of the space itself and the categories of it that we (can) activate. Nevertheless, what is interesting in our case of von Uexkull studies is that every single living creature - from monocellular to the most complex ones - creates its own mental representation of the world from the way it interacts with it. The more the sensory organs are developed, the more the Umwelt will be extensive and stratified, and the Bauplan - the reality construction plane - is specific to the individuality perceiving the space. The union of Umwelt and Bauplan creates what is known as the perceptive bubble, a specific tonality of perception that unifies external and the interior one of the subject.

The fundamental characteristic of the Umwelt does not lie primarily in the extent of the sensorial apparatus instead in a very original way of constructing the world for every one of us. Human beings enter in connection only with something that can send stimuli which are strong enough to overcome the barrier of the senses and to generate a proactive reaction able to define proxemic behavior (Hall 1966).

It is clear at this point that designing the user experience for impaired people it's not just a matter of quantitative guidelines, but primarily a question of which kind of informative systems we want to relate to their perception, and the precise way of interaction we want to foster to model the amount of invisible information of which the world is filled with (Saggio 2013, 2015). If we shift then our interest from quantitative to qualitative solutions, we can reshape the concept of space itself taking into intangible account criteria that are currently forgotten or neglected. Using a thematic analysis mindset (Braun and Clarke 2012) we want to identify clusters of meaningful data that can be used not only to describe a precise phenomenon, but also to become prescriptive quality guidelines to identify design patterns that can used - site-specifically - to address issues of how to shape a better user experience in public spaces for not able-bodied people.

Furthermore, in the last decades, advanced technologies like the Internet of Things (IoT), sensors and networked information infrastructures have facilitated the diffusion of digital and intelligent features in the urban environment. The use of these technologies can help to develop completely innovative views on to deal with complex and emergent behaviors in the urban fabric and generative more inclusive dynamics; indeed, their implementation can help in modeling different kinds of informative layers and make them tangible also for people that generally don't perceive it. In fact, through the use of interactive technologies, we can foster a new way of understanding urban spaces and think about design practices that could be fully inclusive and where term inclusion does not refer to a later solution for spaces that are originally meant to be for non-disabled people.

Deaking and Alwaer (2011) underline how this passage is valid in the ever-growing attention towards the role of sensors and actuators embedded in physical and the appearance of ubiquitous and disappearing computers. Indeed since the 2000s, 'Smart City' has been used as a label to environments where clusters of Big Data, through the use of sensors and actuators, help to monitor and organize the activity of visitors or simple citizens (Nijholt 2017). What we want to reflect upon is a more comprehensive use of the ideas of "smart" and "intelligence" to tackle different aspects not taken into account when referring to Smart Cities. There are some other elements of the smartness in contemporary cities which is not only related to efficiency and management; for example, daily life activities which are undertaken without any specific purpose but just for fun, leisure and social interaction among citizens. Going beyond the idea of smartness and intelligence only related to economy and services can produce new insights on how we need smart technology to allow residents to reconfigure city services and to make a city livable and fully inclusive for different kinds of users.

The use of these tools and their deployment as an urban catalyst in public spaces will be useful to us in two ways: to help conceptualize what we actually miss in the understanding of impairment, and how these new features we add can be used as operative categories to enhance better design practices for the many professionals - and stakeholders - involved in such this topic. Since we are currently dealing with academic and design education under different perspectives, we found interesting to address this issue using a heterogeneous field of knowledge and speculative thinking. To create a common ground to develop our contribution the topic of user experience, we decided to filter our research under the shared lens of Research Through Design and Playful Smart Technologies, as tools to raise awareness and to generate design knowledge on disability and - user experience related - accessibility issues.

1.1 RtD and Urban Play. Behavioral Playful Approach for Better Urban Spaces

RtD is one of the many methodologies and epistemologies that are leveraged in the broader field of design research and has to do with the use of design practice as a form of scientific inquiry (Zimmerman et al. 2007, 2010; Stappers and Giaccardi 2013). The act of designing it's itself a form on theoretical speculation which is implemented in practical problem-solving procedures. Moreover, the act of concretely making something that can be identified as a research instrument (Koyré 1967) fosters a particular

cognitive activity that can be used to make people aware of tacit values and latent needs. Since many countries in the world - like Albania - are still missing specific guidelines regarding essential accessibility for impaired people, we aim for starting a debate on what accessibility for urban spaces should - and might - be within the implementation of digital technologies and smart tools. It's important to point out how cities - and public spaces as well - have always been a place to gather social interaction and experiences according to specific categories of users. According to Oldenburgh (2001) the spaces in which we live in are divided into three main categories: First Places (our home environment) which are the more private and intimate one, where the sensorial stimulation is decided and oriented by ourselves; Second Places (the work environment), where the Umwelt we build has to relate also with other people one to guarantee a sustainable level of interaction which is actually filtered through work and productive dynamics; and finally Third Places, where the citizens are allowed to spend their free time and freely interact with humans and the external environment. These are the spaces that we are currently interested in developing more inclusively, taking into account a specific portion of the population which is actually suffering for a 'user experience' which is not - in any way - flexible to their needs, but forces this category of users to find themselves a modality to interface with them (Fig. 2).
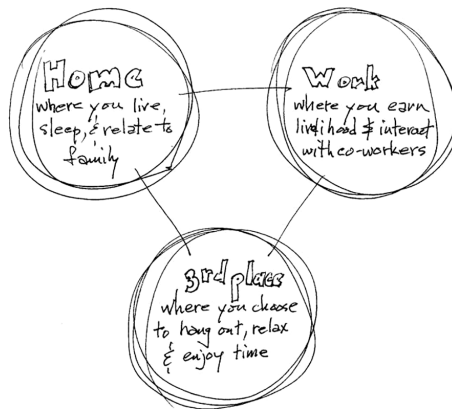

Fig. 2. Diagram representing the 'spaces' described by Oldenburg and their interrelation.

These are the spaces where play happens, specific designed urban sites where citizens are allowed to spend their free time and interact with others. The Third Wave of HCI (Bødker 2006) is currently dealing with the idea of materializing a new playful, bottom-up and human-centered way to design the urban space. These designers start their creative speculation basing on the assumption that mobile technologies are ubiquitous, and not confined anymore in workplaces or desktop solutions. If the Second Wave was more interested in groups working with a collection of applications - within a specific set of well-established communities of practice and situated situations, the Third one uses contexts and application types that are broadened and mixed through different media. Moreover, through the use of digital technologies, new elements of

human life are included in human-computer interaction such as culture, experiences, and emotions (Norman 2002). However, Norman, didn't move to a cognitivist mindset - that sees emotions as a simple add-on to cognition itself - and we are more interested in focusing the theoretical works where the later does not have a secondary role (Boehner et al. 2005) but are interpreted as the result of the interaction among different actors rather a solipsistic way of engaging the world.

According to this view, we propose a design strategy where psychological categories can be used a strong-concepts (Höök and Löwgren 2012; Stolterman and Wiberg 2010) and how these concepts can be shaped into concrete prototypes (Hobye and Löwgren 2011; Löwgren 2007, 2009, 2013) to be used for raising awareness and sparking discussions. An essential feature in the research that we present is that we shifted from the typical architects' top-driven design approach, where solutions are always typified to an average user rather than a heterogeneous set of them, towards a bottom-up technology driven one where different fields are interrelated on common research ground. Rooting in an Action-Research approach (Foth and Brynskov 2016; Hayes 2011, 2014) our aim is for joining together - in an innovative way - a medic/psychological perspective on introversion and prescriptive design practises, to reach an "intermediate knowledge" and "strong concepts" midway entities uniting theories, research methods and prototypes.

To achieve this goal, we will use playful technologies and embedded smartness as a way to develop a new sense of engagement regarding disability issues and to foster the idea that the use of cross-field media can be translated in changes - both relational and physical - in our environment. We will briefly define what we mean for games in this paper, and how they can be used to create an emotional empowerment processes in the different agents perceiving the public space and to develop a horizontal sense of 'appropriation' for them (Dix 2007), where with the latter we refer to the capacity - operating another parallelism with the design and HCI field - to foster a sense of belonging that leads people to physically - and emotionally - use the space they live in. Since we are dealing with a specific category of people, we will underline how their appropriation is connected to the way they live and experience social dynamics in public spaces. But, before moving to the actual Albanian situation, let's briefly define what a 'game' is and how they can be used to raise awareness on such a delicate topic such as disability.

1.2   Play Is? Raise Awareness Through the Use of Playful Intelligent Tools

'Games' and 'play' have always been an important part of humans growth and behavior through the centuries (Huizinga [1938] 2008). Even though many studies have been conducted in the last century - leading to the development of a specific discipline called Game Studies - the definition of terms such as play, playfulness, and playability are still blurry, and we are currently facing a substantial overlap between definitions and explanations. What we are sure, is that play does not relate only to child's play (Bateson and Martin 2013) but also to grown-up actors that can gather and interact under through playful social dynamics. According to their six categories of play, for our speculation, we want to focus on the sixth which is the more open to

further development and implementation in a broader range of study: playful play. With the latter, we intend an activity accompanied by a particularly positive mood state in which the individual is more inclined to behave (and, in the case of humans, think) spontaneously and flexibly (Bateson and Martin 2013). Furthermore, we can assume that the implementation of games technologies in urban fabric can push our cities to develop another of intelligence and be more playful rather than smart (Perna 2018). This opens up a new range of possibility because, through their deployment, we can achieve the goal of motivating motivate citizens to appropriate the physical space they live to discover new paths, write new stories and co-create new perspectives for tomorrow, and reaching at the same a better awareness regarding impairment that we can highlight in design strategies (Grønbæk et al. 2012).

At this point, we will briefly illustrate three different games where a specific disability (visual impairment) is used as meaningful system of mechanics and dynamics to gather research questions and to engage people with playful categories as scenario, empathy, relatedness, participation, agency, etc. (Schouten et al. 2018).

- **Beyond Eyes:** BE it's a progressive (Juul 2005) storytelling game where the player acts a young blind girl in her daily life. Besides the fancy graphics and the lovely character illustrations, the game wants to foster a profound reflection on how every single regular action can become a considerable obstacles in life a ten years old girl. The interesting thing is that disability is not seen as a hindrance for Rae, but as a way to appropriate the world she lives in to discover a whole new range of possibilities within her interaction with she doesn't see but is perceived;
- **Screencheat:** it's a multiplayer FPS (First Person Shooter) where everyone is blind. The disability is represented through the metaphor of invisibility. Each player is not able to see his opponents but can only hear them moving. The easiest way to win the game is don't make a single step and wait for the opponents to come your way. Even in this case, this strategy is seen as a positive behavior, and it wants to make player reflect on how sometimes blind people do not freely act in public space due to the difficulty of interacting with non-disabled people due to their handicap. Space, in this way, becomes a dark prison where you can perceive the others but put a 'visual barrier' between you and them;
- **Perception:** the last of the examples presented is a horror game where the main character has to deal with a paranormal entity that she cannot harm with traditional weapons but with intangible powers. Even though Cassie is blind, she uses echolocation (an orientation system based on sounds) to show the path in front of her. The game wants to raise awareness about how scary can be the external world for people that they don't sight as the main sensor to quickly get a representation of it. Furthermore, it stresses the importance of digital technologies to empower impaired people since Cassie's main helpful tool is her smartphone from which she can acquire sound information and tips (Fig. 3).

Fig. 3. Screenshot from the game *Beyond Eyes*. The image points out the relational – and discovering – system that the protagonist Rea develops to overcome her impairment.

2   Objectives and Contribution

After presenting the reader our specific field of knowledge, and the different inter-disciplinary theoretical frameworks and tools we use to address the particular topic of designing a better inclusive user experience for impaired people, we enter the more design-oriented part of this paper. What we want to point out, before going ahead with our research, is that from the get-go we didn't want to present disability as a topic to solve - there are other kinds of professional figures that can activate critical thinking in regards to this - but a broad range of opportunities for designers to rethink concepts such as inclusiveness, democratic user experience, and engaging public spaces in contemporary cities. For this reason, our objectives are threefold: on the side, to sparkle a wider dialogue to include not only architects but experts coming from different fields, to facilitate a lateral design thinking phase that could link to more effective and long-term applications; on the other hand we aim for proposing catalytic interventions for public space where interactive technologies can be used to create a bridge between different typologies of users and to foster communication can help in the creation of diverse and overlapping frameworks of action: architectural, social, education, and economic ones. As we do so, we aim to contribute to an inclusive design agenda to architects, and HCI designers in specific, through the development of a more nuanced shared vocabulary.

3   Vision from Tirana. From Socialism to Emergent Complexity

To synthetically describe the urban development in Tirana during the early '90s, it is important to introduce the term "Shock Therapy". Jeffrey Sachs invented the term and it consists of a neoliberal economic doctrine, evolved from Milton Friedman's "Shock Policy" approach. After the collapse of the socialist system in Albania, and following

this doctrine, the presence of the state in the public and economic affair was drastically reduced. This was followed by the practically total elimination of state subsidies and large-scale privatization of public assets. What was collapsing in the early '90s in the eastern block was the "System". For this reason, the resulting changes that shocked Tirana and Albania need to be understood following a systematic approach.

Up to that moment, the development of the city had been guided by a robust deterministic approach. The ruling party and the state apparatus intended to organize the territory and the whole society by drafting five-years plans, organizing in this way every detail of the social and economic activity in the country. The strong deterministic approach was directly reflected in city planning and urban design. The party was planning and building a new city for the modern man of socialism. A system striving for equality used the standardization as a tool for city planning. This city was thought for similar people, doing similar jobs, having similar salaries and at the end living similar lives. The homogeneous use zones and the housing standards created cities that where a reflection of the mechanistic understanding of reality. In this kind of system, a higher authority –the Party- was the custodian of the higher truth and the guardian of equality.

The housing block resulting from this way of conceiving the city where highly standardized and showed very little specialization or variation of the activities. The main difference in these blocks was the size of the apartments that was a direct correlation to the number of members of the dwelling family. An additional factor that influenced the very low specialization of different parts of the city was the total absence of private land property. During communism, the entire land of the country was owned by the state. For this reason, the land value was uniform, and consequently, the market did not influence the density of the city. In these conditions, the city growth was a direct consequence and function of the natural growth of the population.

After the moment of the collapse, the new system of reference introduced an entirely new paradigm. It reduced the presence and control of the authority in the territory, and the same idea of planning was questioned and refused. The expansion of Tirana at this moment was characterized by rapid and uncontrolled development. Large portions of the inhabitants of Albania left the most peripheral areas of the country that without the state subsidies were unable to compete in a free market. The authorities were unable to respond to the needs of the migrating fluxes and the private housing market was inexistent. In these conditions, a large number of abusive buildings, self-constructed by the inhabitants started to appear in the peripheries of Tirana. At the same time, the more consolidated areas of the city started to become characterized by abusively added volumes to the existing housing blocks (Fig. 4).

The function of these combined volumes varies very much from case to case. In most of the, examples, they consist of attached rooms for the members of the family. In other cases, especially in the lower floors, the added volume hosted embryonic economic activities like primitive shops or bars.

The abusively built houses and added volumes, where able to convert a very strictly design city to a more complex organism that was able to adapt to the new socio-economical system in a relatively fast way. This new city was able to specialize more and diversify the offered services. One of the most exciting features of this city was that a central authority did not guide the majority of the decision-making process. The development was guided by the interaction of the single agents present in the territory.

Fig. 4. Abusively added volume in Tirana

This interaction, which sometimes resulted in conflicts and in other cases brought collaboration between the inhabitants, was able to convert a highly standardized and mechanical city into a complex system that faced new and unpredictable challenges without the presence of controlling authority. This new kind of town was able to be reactive, flexible and competitive, even though in many cases unjust and unfair.

The extreme difference between the two city models in Tirana allows us to make some considerations on the questions of rules and order in urban development. The over-regulation of a complex system, such as the case of a city, can erase some unpredictable features of a system, eliminating in this way the possibility of the spontaneous emergence of novelty. On the other hand, complex and chaotic systems show a high degree of adaptability, very useful in the cases of uncertain future conditions. Small-scale interactions of the agents can result in the emergence of a higher level of large-scale behavior in the city. The information exchanged by the agents can be considered a measure of order in the town. The grass rooted decision-making system proved to be an effective way for problem-solving in a city that could not be controlled by higher authority.

4   Understanding Albania. A Brief Overview

To have a deeper understanding of the situation of public space in Albania, it is also interesting to relate the evolution of the city itself with the general events that characterized the recent history of the country. After centuries of isolation and suppression by one of the harshest communist dictatorships, Albania has made great efforts in opening up towards modernization and freedom. Although the country faces many similar difficulties like its neighbors, the way it deals with them does not show many similarities. Looking for original solutions, to respond to its problems and to create a new identity, Albania's capital has become a place where rational and bizarre elements co-exist, generating a character that is not permanent but always about to change.

A mosaic-like portrait of Tirana – a city that provokes architects to dare more and at the same time blocks them in front of its monumental ruins.

Once known for their strict government-controlled spatial planning, many former communist cities in the Western Balkans have been transformed by feverish uncontrolled urban growth. After 30 years of transition, the Western Balkans peninsula is still looking for a way to create new cultures of spatial planning in a region where not only residents but even architects and urban planners may feel excluded from spatial developments.

Tirana is situated in the middle of a significant European transit corridor connecting Southern Europe to the Near East and closely connected geographically and economically to the nearby harbor city Durrës. It is the primary driver of the country's economic and cultural development, continuously growing into a super-regional metropolis. This article is looking at Albania's evolutionary process, focusing on the capital's ambitions while evolving into Greater Tirana[1] and trying to become a competitive metropolis in the Balkans. It's an attempt to understand the generative points that lead to this innovative and experimental 'island' in a territorial 'sea' of ex-communist countries that are denying to the change and staying hidden in the shadow of the past.

Initiated as an organic city in the 17th century, Tirana oscillated several times between spontaneity and organized planning[2]. It is a city not easily shaped through plans: a blurred and fragmented situation created by the continuous interaction between organic development and planning decisions. However, it has all undergone unbelievable changes offering a unique perspective for urban planning and development with enormous energy within.

During the authoritarian regime of Enver Hoxha [1944 to 1985], significant shifts occurred in the structure of the city. Architecture and urban planning were called to influence the creation of a new social reality. A massive erasure of historical areas and religious centers was executed to free the space for the construction of low-cost housing areas as a new social model becoming an 'excellent' example of a city designed by demolition. An example imposed by its authoritarian communist leader, experiencing one of the most severe communist systems in the entire Eastern European block, suffering for more than 40 years negation of the freedom of speech, leaving out social participation and, abusing with the 'collective' approach.

In 1990 Albania started on the new and challenging road of transition, but rather in a very chaotic manner and even with severe setbacks such as the 1997 social unrest caused by the collapse of the fraudulent pyramid schemes. After a massive rural exodus occurred in the same years the city of Tirana was confronted with the phenomenon of extensive informal building activity resulting in vast areas of uncontrolled urban sprawl which placed at great risk the quality of urban life for the whole city (Fig. 5).

With its actual population of nearly one million inhabitants, Tirana is four times the size it used to be 20 years ago and amounts to more than one-quarter of the country's entire population. Almost 60% of Albania's population is living in an urban

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[1] Tirana Municipality (2006).

[2] Kristo (2004).

Fig. 5. The destruction of Enver Hoxha's statue by thousands of Albanian citizens. A central image of the 'fall of the dictator'. 1991

Fig. 6. The informal settlement of Bathore in Tirana. One of the most problematic and non-inclusive areas of the whole municipality. 2015

surrounding. The transition from socialism to capitalism had a direct impact on the social, economic and spatial structures of the city. Tirana's urban space has transformed rapidly, towards two different directions: On one side lies the transformation of the city center and the main road axes where commerce, offices, and entertainment have been introduced. New housing complexes have been constructed in these central areas, too. On the other side, since the early 1990s, an informal extension of the city's borders, firstly by small-scale housing and later by large-scale housing, was gradually developed without planning, social and technical infrastructure or provision for public

spaces, leading to the creation of a poor urban environment, with no apparent intention to be integrated with their existing surrounding context. At the same time, informal development processes have also taken place within the existing urban fabric, occupying former public land and blocking passages by erecting small, medium or even large-scale constructions. These large-scale housing and commercial complexes were implemented in the periphery of the city by the private sector and had undergone a recent series of actions to legalize them and understand that they are part of the urban reality and have to be integrated into the future urban development plans (Fig. 6).

The municipality tried to regain public control with several beautification campaigns in the 2000s and serious of international competitions inviting several star architects to create a new image for the city. Streets, parks, and riverfronts were cleared of illegal kiosks and thousands of trees were planted, ready to welcome visionary ideas from West.

A lot of attention on an international level was drawn to Tirana by the attempt of its former Mayor, Edi Rama, in 2001 to reinvent the city's identity. As an artist he cleaned up the very scruffy avenues with a radical facelift that through interventions on the major public spaces and by upgrading the public infrastructure attempted to construct a new image and a new identity for the city center, regenerating the city by attracting new activities and investments, as part of the vision of Greater Tirana and 'Durana'. Representing nowadays one of the most vibrant cities in Albania, Tirana can be considered as a planning laboratory of architectural and spatial experimentation.

The study 'Strategic Planning for Greater Tirana', conducted in 2001 by Tirana's Municipality, showed a massive population expansion in the metropolitan region embracing Tirana and Durres, a harbor city just 30 km away, creating a chaotic situation. Today the area is accommodating one-third of the Albanian population. This pattern of exceptional growth in economically important capitals has been typical of post-communist regimes[3]. A majority of domestic and foreign enterprises are located in and around the Tirana-Durres Corridor (World Bank 2007[4]). It is one of the main circulation axes of Albania that connects the two biggest cities in the country and again connects them both to the airport. It has become an economic corridor that brings large revenue to the country. Now the need to improve the urban condition along this area has been identified. The concept of 'Durana' also investigated in the publication "DURANA Albania's New Sustainable Image" is used as a tool to think about the metropolitan region on a bigger scale: Tirana and Durres as one city; an eventual fusion of two cities in a new metropolis with a green heart in between.

The Urban Catalyst Theory provides a brand new direction for incremental urban renewal. Countries with rapid urban development and increasing needs to rethinking their spatial and urban development strategies. In this case, a series of interviews were organized with different academics, architects, urban planners, sociologists and anthropologists to understand their overview related to the catalytic role of urban

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[3] Nedović-Budić, Zorica, Urban Studies, 2001, Vol. 30. No. 6. pp. 899–905.

[4] World Bank. 2007. Doing business 2008, Eastern Europe. [report] Available at: http://www.doingbusiness.org/Documents/RegionalReports/DB2008_RP_Eastern_Europe.pdf, last accessed 2009/12/18.

strategies that can be undertaken in the development of our cities. These experts are professionals acknowledged in their fields internationally with valuable experience on the Albanian territory and way of progress, providing their input on this topic. In these sections, there are their answers and opinions in the above question.

It is a common denominator from the above interviews between the selected experts that the role of architecture and architects must not be isolated from the multitude of layered developments in the urban sphere. The architect should act interdisciplinary to analyze all the levels on a city operates, and be an active part of not only design making but also decision-making. The above discussions highlight the importance of developing new strategies, which don't act solely in singular operations focused in an architectural level but understand the city as a living organism where every action should provide positive reactions.

There is an apparent attempt from the Albanian government to address more attention on the importance of urban public space. This concern is taken into account as part of the national governmental strategy of "Urban Rebirth". This strategy aims to revitalize all major city centers in Albania and renew public squares, historical areas and other buildings of significant importance. It can be considered as a necessary strategy in improving public space qualities in Albania, but there are no evidences of a catalytic approach since most examples consider the development of singular elements, which act alone. In this case, they are not able to penetrate in the deep layering of the urban complexity in order to provide sustainable urban solutions generating economy. In this framework, most of the examples are only able to intervene superficially, considered actions on city beautification than urban renewal and regeneration. This section will focus on strategies that can be considered furthermore, improving the existing interventions.

Building comprehensive, reliable, pragmatic, and gainful urban communities are maybe the best test confronting humankind today, and there are no simple arrangements. A vital piece of the riddle, however, lies comfortable heart of the world's urban zones: its open spaces. Here are 5 different ways you can help fortify the social texture of your locale and kick off monetary advancement by making and supporting solid open spaces.

4.1   Enhance the Human Scale in Public Space

Placemaking depends on a straightforward rule: if you plan urban communities for autos and traffic, you will get vehicles and traffic. If you plan for individuals and spots, you will get individuals and places.

Increased traffic and the addition of supporting road infrastructure are not measures to avoid the intensive flow of automobiles in the city, which as a result create an unfriendly environment for pedestrians in the city. It is crucial that catalytic actions to provide urban development and in particular near the city center must take in account the human factor. Future development should provide the necessary infrastructure in terms of public transportation, space for pedestrians and bicyclists and drivers acting as the primary catalyst for urban regeneration and growth.

Several examples across the world such as the Metrocable in Medellin, Colombia, river and boat transportation in cities such as Delft, the Netherlands but also Gjakova

and Prizren, Kosovo have created successful pedestrian public spaces, which enhance street life contributing to social cohesion.

4.2   Transform Public Space as a Destination

An urban oasis and park serves as a buffer zone for the city, especially for citizens living in dense urban areas. It is often not only an area of leisure and recreation but also a gathering point for the city creating a new dimension away from the heavily trafficked roads. Depending on the activities and accessibility in such areas they can result in successful public spaces, but also if all measures to ensure safety and maintenance are not taken it can lead into an undesirable place to visit. A positive example, in this case, is the one of Santiago, Chile and the Las Condes Plazas as a former prosperous area of inter-modality after a desolated area full of muggers and crime.

Actions were taken from the local and central government, investing in the development of retail spaces but also the urban regeneration of the adjacent public spaces also creating new ones to enhance the general character of that area. This action required a coordinated effort from the authorities and cannot be conceived as an act of direct economic investment but as an action of strategically planned and executed urban development.

The main ingredient of this action was the inclusion of the local community and integration in all the processes of this initiative. In this case, the sense of ownership was actively transmitted to the community acting as the main actor and catalyst on this urban development process.

4.3   Develop Local Economies

The recent phenomena of urban development created a chaotic structure not only in terms of cityscape but also the local economy. Even Though private initiative was one of the main driving forces growing the Albanian economy, the conditions were in many cases informal. Examples that initiate from industry till small scale initiatives and local markets in the city centers are still part of informal schemes either in terms of economic operation but also in the infrastructure on which they operate.

Various reasons in addition to the lack of governmental control but also lack of public and private investment to implement a qualitative infrastructure for commercial facilities were the main aspects for the above phenomenon.

A successful strategy to reactive urban centers and in particular historical urban centers in different cities in Albania initiated with the restoration of different historical bazaars/markets in cities such as; Kruja, Korca, Tirana, Shkodra, Gjirokastra, etc. This initiative showcased successful results not only as part of a facade operation strategy and city beautification but because of their short and long term impact in the local economy.

Their development should focus on the creation of a sustainable economy within the communities to catalyze social cohesion. Areas as such for the small scale cities of the Albanian territory became reference points in the city, and as a result, they quickly become touristic viewpoints attracting visitors from nearby cities or foreign tourists from abroad. In this case, they are able to provide much more from what they were

designed for in the beginning, but in the end, they can serve as true catalysts for sustainable urban development.

4.4 Empower Public Space Through Design

The use of design is fundamental in the implementation of any urban development project. What makes a design strategy or solution successful is its ability to empower the value and quality of public space increasingly through its implementation.

The effects of poorly designed public spaces can be easily identified among many case studies of public spaces, and as quickly we can observe the difference between design solutions conceptualized as catalytic actions for an urban space.

In this framework, a holistic approach is required not only to understand the problems of the context of intervention but also the tools that are being offered to implement any possible idea or proposal. Both the combination of the above characteristics will provide us with examples of public spaces, which are not thought as single entities but they are conceptualized as agents of urban catalysis, being able to affect their surrounding context positively and generate development by triggering the local economy and enhancing urban quality for the communities.

4.5 Create a Comprehensive Public Space Agenda

It is vital for the future development of public space to understand the need of including two typologies of approach. "top-down" and "bottom-up" approaches are necessary not only to include all levels of decision-making but also to provide the sense of ownership to all actors and interested parties.

All actions that need to be overtaken in the successful development of a new intervention for the city require strong collaboration along the above parties.

Catalytic urban development cannot occur through isolated and sporadic actions but through a comprehensive urban agenda that takes in account a broader vision for the city and operates with the use of all necessary tools that are required to provide an effective and efficient result.

Including all parties since the beginning of this process would provide a full view of the issues in an inclusive way that must be addressed to improve life quality in a city and through coordination to attack all the problems strategically. The actions that would be overtaken would not only work in the aesthetic, functional and design level but their impact will contribute with a focus in the social and economic layers of the city.

5   Disability. One Definition, a Broad Spectrum of Meanings

After dealing specifically with Albanian situations, let us briefly introduce some practices that can be taken into account when dealing with accessibility and user experiences problems for impaired people. The proposed analysis will focus on two different directions to address this topic: the first one based on traditional/analog solutions; the second one on the implementation of digital technologies that can empower the first category and the user.

Furthermore, according to WHO (World Health Organization) around 15% of the world's population lives with a form of disability. As the age of life expectancy is increasing, along with it the figures are expected to increase. The leading causes of these increasing numbers are numerous, such as the outgrowth of new diseases that cause impairment, increasing life span, malnutrition in young ages, the prevalence of health conditions, etc.

Disability is seen in many forms and can be categorized as above:

- **Physical** which can be visible and nonvisible and can include: **mobility problems** and **limited use of limbs**;
- **Sensory** limitations such as **hearing difficulties** or deafness and **vision difficulties** or blindness;
- **Neurological disabilities** which may lead to physical disabilities;
- **Cognitive limitations**, which include some developmental and intellectual disabilities;
- **Psychiatric restrictions** in which are included mental illnesses that follow with sensorial and cognitive limitations.

Approximately most of the individuals will experience a sort of disability, which may be temporary but may become even permanent, so it should be seen as a state that can affect anyone in different forms. The UN Declaration of the Rights of Disabled Persons with Disabilities (2008) declares that disabled persons should be respected and treated equally. This means that they should have the right to access and use all the public services along with enabling them to be self-reliant and independent. Although in legislation accessibility is obligatory, there is lack of physical availability in urban and building environments, especially in developing countries. In Albania according to the regulatory for using spaces by impaired people 2018, it is mentioned the necessity of the urban and architectural solutions that provide accessibility for people with disabilities to provide service for all individuals. In a few public buildings, there is seen an effort for providing accessibility to individuals with mobility difficulties, although in the open spaces there is a lack of solutions for providing a safe circulation for these individuals. There are two major problems in urban spaces in Albania concerning the aspect of orientation and access for people with different types of impairment. Firstly, the movement is interrupted by physical barriers and secondly, orientation difficulty.

The urban spaces in the cities of Albania are impossible for independent circulation and inappropriate for assisted circulation. The most problematic areas in the urban environment in Tirana are the crossroads, which are the most dangerous areas for all users. The height of the pedestrian walkways is a barrier, and furthermore, there is not enough distance for multiple pedestrians, especially for those with mobility disabilities. The most important aspect is the condition of not having a clear definition of what passage is for pedestrians, what is the bicycle lane and the one for vehicles. This mixture of modality typologies is become a barrier even for those not impaired. An effort is made in pedestrian walkways for those that have visual disabilities, where the orientation line is implemented which it has visible problematics: firstly, the height of the texture differentiation is not appropriate and secondly, these lines lead the person into dangerous areas, such as to the bicycle lane, where the user is not informed. The most common phenomena is the presence of bars even in the public areas or positioning of the tree in

the middle of the pedestrian space. The zebra crossing not only that do not have a change in texture and material but are most of the time not visual, becoming a source of accident and confusion quickly. There is no auditory traffic light for the visually impaired to be informed. Most of the walkways and streets are not in good condition, becoming a barrier for everyone. All of these aspects clearly show that it is impossible for people with disabilities to circulate and orient themselves in the urban environment.

Another problematic aspect is the impossibility to access public buildings, especially for those with mobility issues. Most of the buildings are designed with stairs but do not have ramps. Guidance with Braille text is not available, and the hand railing in stairs is missing. There have been some efforts to make these spaces accessible but not in an appropriate way. Ramps are of an inappropriate slope or even with a slippery material, not functioning as a facility but a barrier. When ramps are present for accessing the building from the outside, the inside is inaccessible. Such accessibility problems are present even in educational buildings and offices, which excludes to these persons the possibility to be educated and work. Public transport is another problem for people suffering from disabilities. There is no clear definition of pedestrian areas, no presence of ramps and furthermore, the public transport vehicles are inappropriate for being accessible.

As a result, they are obligated to move in the city with the assistance of a person, and as a result, they are depended to others and not to themselves. The dependency to others to use urban spaces and public services leads to depression or other psychological difficulties linked to the fact that they do not feel self-reliant, so it remains the central aspect to take into consideration. The loss of independence is not only in performing their everyday life activities but also regarding their cultural and leisure activities. Cities that continue to have barriers of different types are cities of "gaps" and extremely uneconomic, apart from being controversial cities from the social and human aspect. Urban sociologists argue that not eliminating the architectural barriers is a negative issue that impact the entire collective[5]. Inclusive Design seeks to provide to people with disabilities equality in using public spaces and services, eliminating obstacles, maximizing the accessibility to use equally and independently environments, and involving these people in the community. It is the architects' responsibility to promote these qualities in urban and architectural spaces. An inclusive approach through providing better accessibility for the impaired consequently will provide accessibility for all the users. We all benefit from an inclusive environment designed following the principles of inclusive design, which are as follow:

1. Design should create spaces for promoting the creation of sustainable communities;
2. Inclusive design identifies the barriers that lead to exclusion and creates spaces taking into consideration the diversity of people;
3. It provides flexibility in use, to adapt and inspire users;
4. An inclusive design does not require all the people's need but avoids exclusiveness but offers solutions from which everyone can benefit

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[5] Parchi per tutti – fruibilità per un'utenza ampliata. Accessibilità e fruibilità delle strutture e dei servizi da parte di un'utenza ampliata alle persone con disabilità, agli anziani, ai bambini: Linee Guida per gli enti di gestione dei Parchi nazionali Italiani, ACLI, 2003.

"Inclusive design doesn't mean you're designing one thing for all people. You're designing a diversity of ways to participate so that everyone has a sense of belonging[6]"

Inclusiveness should be seen in two dimensions. Firstly, in recognizing the diversity and the "special demands" required to provide social inclusiveness in a non-restrained way. Secondly, if solutions are to be universal, they not only should meet the requirement of the group in question but also to improve the general environment for all citizens. In the second dimension, errors can be easily made. By applying ideal technical solutions might lead to the creation of an inclusive environment for the impaired person but exclusive for the rest of the society. Some of these solutions instead of providing equality for all might stress differences among individuals.

Public spaces should shape following these principles:

- More **focused** on the **pedestrians**;
- The **boundaries** between the road dedicated to pedestrians, vehicles, and bicycles must be well **defined** and **continuous**;
- The character of the public spaces should **provide social interaction** and involvement even for the person with any accessibility impairment.
- **Recognizable spaces** for the blind along with the presence of recognizable elements;
- **Repetition of the landmarks** to provide a secure mental state by making the individuals comfortable by recognizing these elements consistently. If an environment is predictable, it simplifies the navigation process.
- **Presence of comfort cones:** providing several areas dedicated to the visually impaired. These areas serve as resting spots and orientations spots in the city. This can be a space designed in different colors, materials, street furniture appropriate for these users. These areas may be present in spots that are more crowded in people and traffic, mainly between crossing and decision points. This area should be clearly defined and should provide the understanding when the user is inside or outside of it.
- **Destinations** should be all **accessible:** continuous and uninterrupted routes should provide a connection with all the targets in the city. This system may translate in a good network of trails using grid patterns.
- **Non-visual landmarks:** change in surface, which can be understood by the touch with the cane and feet. The changes in the surface can be seen in various forms: A curb, a slope, a change in material. The sound of traffic informs the person when he is approaching a side street, and the traffic density sound gives him the information of the direction he is taking. Green spaces are an important factor not only for the state of well-being but can be orientation elements visually and through smell;
- **Route guidance:** clear guidance provided by continuous guiding lines or tactile paving. Crossing place Striking landmarks should make the areas recognizable when it begins and when the other side is reached. The transition from pedestrian zone to the beginning of the crossing should be felt by feet and long cane through the changes in materials and the presence of the marks. Drivers should also be

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[6] Inclusive Design leader Susan Goltsman.

Fig. 7. Different systems through address impaired people issues through route guidance

assertive of these areas where the speed should be lower. Change in material and color can be a signal of this area. When another guidance is missing tactile pavement should be used which should be detected by foot and cane. Obstacles should not interrupt this type of pavement, and the contrast between color texture and luminance should be detectable. This pavement should be located 60 cm at least from the curb road delimitation and obstacles (Fig. 7);

- **Auditable differences.** Special sound tiles or rubber tiles
- **Decorative use** of materials, color and contrast differences leads to confusion. These differences should be made uniformly. Route guidance line is linear and continuous and is composed of several elements.

Due to the increasing speed of city life, blind individuals cannot rely only on visual signage and landmarks in a city. It is vital to implement technologies to provide to them the use of these spaces. Various new smart tools can be implemented in the urbanscapes - such as GPS Wayfinding Apps - which inform the user for the location of the bus stations, shopping centers or even other public buildings and spaces. These applications can be linked to small transmitters, which can be placed in buildings or other notable spots, and the user is informed through the mobiles devices through auditory information. These transmitters are called beacons and can be positioned indoor and outdoor spaces. This technology is applied in Poland, Warsaw. With the changes in technology, various solutions can be found to ease the accessibility in the urban areas for the visually impaired. These solutions are essential to improve their life quality and future. Most of the people that later became visually impaired are afraid of using the urban environments not only alone but even assisted. This comes from the uncertainty in perception when vision is missing and because urbanscapes are the spaces where echolocation becomes even more complicated, because there is auditory information. Through providing them an urban system dedicated to them, they feel more secure to face with the outside world which offers them the possibility to use the services and interact with the built and urban environment. Therefore, social interaction is made possible, where they are capable of sharing their experiences with others. Through social interaction, they gain their individuality, feel included to the community and trespassing the psychological barrier created because of the lack of the appropriate infrastructure. Moreover, these solutions are a key factor for exploring more about their sensorial system capability, gaining more confidence in navigating in several typologies of spaces.

6 Conclusion and Further Discussion

After pointing out our interest concerning the topic of disability in Albania – and the related user experiences practices – let us finish this paper with a critical reflection regarding our work until now. From the get-go, we did not want to frame the selected topic from a narrow perspective, but we aimed to sparkle a broader dialogue to include not only architects but also experts coming from different fields, to facilitate a lateral design-thinking phase that could link to more effective and long-term applications. Working on accessibility in architecture and design has genuinely been a curiosity-driven initiative from one of us who is currently dealing with this topic within its doctoral research. With this in our minds, we wanted to detach from generic solutions that claim to be fully inclusive, to focus our attention on a specific segment on the society with different problems and needs, and to use lateral thinking in design to better understand disability ourselves. For this reason, through studies of psychology and neurosciences, we proposed some 'strong-concepts' (Höök and Löwgren 2012) and elaborated them to shape our design process following a process inspired by Action Research (Hayes 2011).

In sum, our approach to this work is "non-solutionist". We believe that disability is not an issue per se to solve in any way, but a widespread point to be taken in account by the design community, which deserves a much better understanding and needs for a new way of problem-solving. What we wanted to foster it is a lateral thinking based way of dealing with this topic that could avoid top-down driven solution to focus more on a bottom-up and horizontal approach tailored on the users. With this in mind, our future objectives are three-fold: On the one hand, we aim for developing a shared nuanced vocabulary between architects and HCI designers to tackle multiple issues regarding user experience for impaired people in urban spaces, and helping other designers to benefit significantly from having more speculative design methodologies at hand. On the other hand, we want to propose catalytic interventions for public space where interactive technologies can be used to create a bridge between different typologies of users and to foster communication can help in the creation of diverse and overlapping frameworks of action: architectural, social, education, and economic ones. As we do so, we aim to contribute to an inclusive design agenda to architects, and HCI designers in specific. Moreover, this paper is speculative also for ourselves; the operative categories we identify will set the sparkle for the deployment of a design cell where to gather quantitative and qualitative data to understand better the spatial needs of impaired people, and to offer them a better and more inclusive design experience. The team will develop the latter as an interactive environment that could be used to gather quantitative and qualitative data, that will be further analyzed to understand deeper the needs and requirements when it comes to design accessible spaces for impaired people.

Since we believe that disability issues are not just a matter of quantitative outcomes, that usually leads to a misconception – and simplification – concerning this topic, we aim for focusing our attention on a more in-depth and more meaningful data analysis that could identify a significant cluster that can orientate the research on practical implemented solutions. The deployment phase will see a heterogeneous group of users

– either able-bodied or disabled – dealing with the interactive inner environment of the cell that will simulate a specific disability condition. A series of the survey will be conducted before and after the experiment, to document not only their physical reaction to the simulation but also the changes in their awareness regarding impaired people condition and issues. With this deployment, we hope to define some behavioral patterns that can work as a middle point where the expectations of both kinds of users are satisfied to establish some design categories to trigger the whole designers community to start new debates regarding the notion of user experience for impaired people in Albanian – and not only – public spaces.

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