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Published in:
Universal Design 2021

DOI (link to publication from Publisher):
10.3233/SHTI210406

Publication date:
2021

Document Version
Publisher's PDF, also known as Version of record

Universal Design 2021: From Special to Mainstream Solutions
I. Verma (Ed.)

doi:10.3233/SHTI210406

How to Communicate Universal Design to Architects on a New Website? A Reflection on the Type of Knowledge Requested

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Abstract. Based on experiences with the development of a new research-based website on Universal Design meant to inspire and qualify the work of the Danish building sector, this paper examines the types of knowledge requested by professionals in the building sector when working with Universal Design.
The Danish Transport, Construction and Housing Authority commissioned a website with the aim of increasing the building sector's knowledge of Universal Design and supporting a change in attitude towards universal design. The site is intended to function as a platform for disseminating knowledge about Universal Design that can support the regulatory system.
The empirical material of the study consists of data from qualitative interviews with actors from the building sector and workshops with the advisory board of the website. The analysis shows that, on one hand, the sector requires good examples of Universal Design and knowledge about users and their needs and, on the other hand, it needs detailed help such as comprehensive checklists to ensure the appropriate process is undertaken. However, technical information about, for example, the gradient of a ramp, does not contribute to an architectural idea and will not change any mindsets in regard to Universal Design. This paper reflects on the duality of requests from the sector using the theoretical concept of liminality.
The paper describes and argues for the chosen approach for the website, namely focusing on inspiring and assisting professionals in the building sector to enhance their level of knowledge and support a change in practice towards Universal Design.

Keywords. Inspiration, knowledge, liminality, mindset, Universal Design

1. Introduction

When have you seen human diversity represented in 3D renderings of architectural projects? This was accomplished in my research on examples of Universal Design (UD) in a project focused on homes for people with physical and mental disabilities. However, examples of this are rare, which is in accordance with the limited understanding of bodily diversity in architectural practice that Imrie points out [1].

The legislative framework for accessibility plays an essential role in the practice of architecture and contributes to the understanding of inclusive architecture [2]. The understanding of accessibility is primarily related to technical norms and standards [3]. Without exception, in the Danish context, accessibility is synonymous with the requirements in building regulations in regard to level access, ramps, and toilets

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designated for people using a wheelchair. While UD is not a well-known concept [4, 5, 6], the building sector is in a state of transition towards UD. Furthermore, architecture firms often request insight into users' needs to understand them in light of the requirements [5, 7, 6]. Ryhl stresses that knowledge about users should be communicated in relation to their needs instead of diagnoses or impairments. This calls for a new model of communication and a new approach to understanding users [8]. Van der Linden et al. point out a similar problem and conclude that professionals are interested in knowledge about users, but no format exists to handle this interest [2].

This paper describes the path to the release of a new website about UD and reflects on the format and the type of knowledge the website should present.

2. Danish development

In Denmark, a growing mindset about an inclusive architecture can be traced to the seventies.

2.1. The focus on accessibility and UD in the legislation

Considerations for the participation of persons with mobility problems or reduced ability to navigate were integrated in the Danish Building Law in 1972. Five years later the considerations were carried into effect. Thus, the requirements in the Building Regulations 1977 for residential buildings and buildings with public access focused on access for persons with mobility problems or reduced ability to navigate. Thirty years later, in 2008, when Denmark ratified the Convention on the Rights of Persons with Disabilities, the term accessibility was incorporated in building regulations. In addition, the term 'all people' replaced 'persons with mobility problems or reduced ability to navigate' in the preamble.

In 2010, the Danish Commerce and Construction Agency ordered and funded a study to examine where and why defects occur when complying with the accessibility requirements of building regulations. The study [6] shows that faults occur in all phases of the building process and seem to be linked to a lack of knowledge and experience in practice concerning accessibility by all groups of actors involved in the process. While Danish architecture firms feel well-equipped to work with accessibility, the study shows that when it comes to requirements related to people with visual impairments, the firms and local building authorities do not have the same focus as they have on people with reduced mobility. The study concludes that there is a need for dissemination of the underlying values of the requirements as well as information about anti-discrimination [6].

Consequently, the national disability policy action plan, 'A Society for All' [9], focuses on two initiatives. The first is the dissemination of knowledge about accessibility requirements and innovative solutions that meet these requirements. The second is an analysis of the existing requirements focused on how to support innovative accessibility design.

As a result of this plan, in 2014, the Danish Energy Agency ordered a four-year project to develop and operate a website on accessibility and UD at the Danish Building Research Institute (SBi). The project focused on the dissemination of existing checklists and the production of guidelines on accessibility. The website quickly became a subsite of SBi's existing website with guidelines. It went live with content primarily consisting

of technical and solution-oriented checklists for the requirements of Building Regulations BR10 and provided recommendations on how higher levels of accessibility could be reached (e.g., wider door openings in hospitals).

2.2. The focus on dissemination of UD

In 2018, the Danish Transport, Construction and Housing Authority launched a compilation of initiatives to increase accessibility based on three themes. One of these themes was strengthening the dissemination of information. One initiative was further developing the website on accessibility and UD so it could function as a united entry point for knowledge about UD as well as provide examples of UD.

In spring 2018, the Danish Transport, Construction and Housing Authority began a dialogue with SBi about further developing the UD website. Since the first website was launched, some aspects of the regulatory situation had changed. As early as 2013, a pilot ordered by the Danish Energy Agency indicated interest in a performance-based regulatory model [10]. Later, a comprehensive study revealed the desire for a higher degree of differentiation. The participants (primarily architecture firms) found that the prescriptive requirements were overly homogeneous and unreasonable. For this reason, they suggested a performance-based model with application categories, which was already in use in the area of fire safety [11]. A majority of participants in the study saw a new model as a possible way to move away from the checklist approach, which created situations in which a building and its requirements are handled separately and not considered as a whole [5].

The Danish Transport, Construction and Housing Authority launched a new version of building regulations valid from the summer of 2018. The structure of the regulations was new, along with the approach to accessibility, despite the term ‘accessibility’ no longer appearing in the regulations. Generally speaking, the prescriptive requirements are nearly the same, but the overall scope focuses on users and their use of the physical environment. This represents a first step towards a performance-based regulatory model. Furthermore, it is possible to design solutions other than those prescribed as long as they comply with the intentions of the requirements, namely that buildings, residential areas and parking areas must have access that enables users to enter and access their function [12]. The building regulations were supplemented with ‘guidelines regarding users’ that introduces UD and provides a diverse understanding of users.

An agreement on a new UD website was reached by the Danish Transport, Construction and Housing Authority and SBi. As a result, a new project organization was appointed for the development of a totally new website and content production and management on its own platform.

The aim of the website is to communicate UD to the building sector with the aim of elevating the level of knowledge and enhancing the focus on UD. In addition, it was stressed that the site should support a change in attitude and a shift in practice towards UD (e.g., approaching building projects with a UD mindset from the start). The two aims are interrelated and cannot stand alone. It would be impossible to communicate UD and enhance the focus on it without a change in attitude and vice versa. This is because it is impossible to change attitudes and practice without the dissemination of knowledge. As a quality criterion, primarily research-based knowledge should be disseminated on the website.

3. Theory

It is a canard that architects only look at pictures in books and magazines and never read the text. Bent Flyvbjerg acknowledges the visual aspect of the metier, which means that looking at drawings and photos of buildings and visiting buildings are a way of gaining knowledge and learning. *'Architects look and draw, scholars read and write'* [13, pp. 13].

Examples play an essential role in the design process. Schön points at examples as part of the practitioner's repertoire, which also encompasses images, understanding, and actions [14]. This does not mean that architects create imitations; rather, examples are used as metaphors for their own design process and the formulation of the main concept behind a design [15]. Lawson describes the concept of precedent, stating that designers are aware of details and the entirety of a design [16]. In other words, through education and practice, the designer collects examples from, for instance, lectures, books, and study trips, and builds a kind of individual library in the memory. Lawson [16] uses the concepts of semantic memory and episodic memory to distinguish theoretical memory from experience-based memory. These two types of memory are stored in different ways. Episodic memory contributes to the ability of design students and architects to establish their own precedents. Lawson acknowledges Goldschmidt's critique of precedents and suggests references instead of precedents [16]. Goldschmidt points out that the scope of the concept of references is wider than that of the concept of precedents, which she considers merely pieces of architecture. Furthermore, a reference can function as inspiration in many ways and is less authoritative than a precedent [17]. In this paper, the concept of reference is used to characterize examples and the knowledge that examples offer architects for interpretation.

Thus, while architecture references are a source of knowledge for architectural professionals, references for UD are missing. The Danish building sector, including architecture firms, local building authorities [5, 6, 7, 18], and clients, has requested examples of UD [4]. A similar scenario can be witnessed in Belgium [19]. Such requests are focused on inspiration as well as understanding what UD really is. Heylighen et al. emphasize that the utopian character of UD has resulted in a situation in which uncertainty about the concept dominates [20].

Kirkeby shows that different kinds of knowledge appeal to different phases in the design process among architecture firms with experience in UD. At the beginning of the design process, architecture firms acknowledge understanding, experience, and references as knowledge they can use to structure and make choices during sketching. Later, they find that building regulations are helpful in the final phases of creating detailed designs [21].

Kirkeby uses the concepts of context-dependent knowledge and context-independent knowledge to distinguish between types of knowledge. Context-dependent knowledge can be references, transferable knowledge, thought-provoking knowledge, and metaphoric knowledge. In contrast, context-independent knowledge is knowledge that is generally applicable, such as rules and guidelines [21]. In this paper, I use the concepts of context-dependent and context-independent knowledge to describe and argue for the chosen approach for the website.

4. Research design

Empirically, this paper is based on material from a target group analysis conducted by a design agency chosen for this task and two workshops with the advisory board for the website facilitated by the design agency GRANYON and a senior researcher who also is the project manager of the website. The empirical material for the target group analysis consists of four interviews.

The strategy for selecting informants was information-oriented and primarily focused on critical cases [22]. The intention was to interview architecture firms that are esteemed for the quality of their work and that had not been previously associated with UD or accessibility. It was assumed that knowledge about such firms and their practice is a crucial input for communications to all architecture firms.

4.1. Interviews for the target group analysis

The first interview was conducted with a senior architect from a firm with 67 employees that was founded in 1999. The founder is Adjunct Professor at the Royal Danish Academy of Fine Arts and serves as chair and a member of the board for several prestigious committees and she has received several prizes and honorary grants.

The second interview was conducted with a construction architect from a firm that was founded in 1996 and has 24 employees. The founders were previously part-time teachers at the Royal Danish Academy of Fine Arts, and the firm has received several architecture prizes.

The third interview was conducted with two architects, a partner, and the office manager from another firm that was founded in 2009 and has 10 employees and 10 interns. Like the others, this firm has received prizes, including one from a financial newspaper for the firm's growth. The firm has also presented at several exhibitions, including one that involved moving its office and everyday practice to an architecture gallery so that visitors could view the architects working and interact with firm members.

The fourth interview was conducted with an architect who is the head of property, an architect and the section leader of buildings (he was candidate in political science) in a Danish municipality. The head of property participated in a prior study about clients' approach to accessibility and UD and was selected because of her unique focus on equality in the planning and renovation of buildings for diverse inhabitants of the municipality.

Each interview was conducted as a conversation led by an interview guide structured around five themes. The first theme is focused on how the informants work with building projects. The second theme is focused on informants' familiarity with and understanding of UD. The third theme addresses inspiration and seeks to determine from which sources informants draw inspiration. The fourth theme differs from the others. The informants were told the name of the UD website as a prompt for talking about the future site and what they expect to find there. The fifth theme is how to communicate good examples of UD. The common thread of the interview guide is discovering possibilities for the dissemination of UD.

Notes and photos of the material the informants presented as examples of problems or themes were kept for each interview. This material was used in the target group analysis, with a focus on roles, use of media, motivation, aims, and frustrations.

4.2. The advisory board

On a general level, the objective is to use the advisory board for dialogue during the whole process of designing and running the website. This dialogue should be focused on how to disseminate UD and knowledge about the concept in a forum where the members agree on the inclusive role of architecture. Furthermore, this would enable extracting knowledge from their journey towards UD. Therefore, the first criterion was established as 'a positive attitude to UD'. The second criterion was breadth in professional roles to ensure a dynamic situation with viewpoints from various angles.

Disability organizations have historically played a significant role in questions about accessibility and have been critical to a performance-based model of accessibility. Therefore, the third criterion about representation of the umbrella Disabled People´s Organizations Denmark was developed. Because their perspectives could contribute to the task at-hand and we could ensure they were informed about the initiative of the website. Considering the first criterion that requires a UD-friendly attitude, it is important to involve members that could act as co-players and contribute with new and fresh perspectives.
There were 19 members of the advisory board:

- Eight architects representing seven architecture firms (both building and landscape architecture) and one engineering and architectural consultant; one architect was CEO, two were partners, and the size of the firms varies from 2 to 3,000 employees.
- Four clients representing a municipality, a housing organization, the port of Copenhagen, and a developer.
- The authorities, namely a building inspector from the local municipal authority and an architect from the Agency for Culture and Palaces.
- An urban planner from the largest municipality in Denmark.
- A contractor from one of the largest companies in Denmark.
- The Disabled People´s Organizations Denmark was represented by a senior political advisor, a vice chair from SUMH (Confederation of Young People with Disabilities), and the chair of the Construction and Traffic Policy Committee of the DHF (the Danish Association of the Physically Disabled) who was an architect and former consultant at SBi.

Two of the members have a master's degree in UD. One client was working on a master's degree in UD at the time of participation. Two of the members were involved (as architect and contractor) in the domicile for the Disabled People´s Organizations Denmark. In other words, the advisory board members were interested in UD.

We arranged two workshops that included all the members. The first part of the agenda in each workshop was an introduction to the website project. This was followed by a presentation and a discussion of the website's name and graphic identity. In addition, a prototype encompassing three examples of webpages containing good examples of UD was presented. These three test examples acted as a platform for general discussion about the website and how to communicate good examples of UD (e.g., through the structure

of the webpage, the amount of text). Finally, the participants engaged in a 'user journey mapping' exercise structured around the phases of and roles involved in the building process. The aim of this exercise was to gain insights into the everyday activities involved in building projects and participants' sources of knowledge.

5. Requests from the participants

'It would be fantastic to have a site that is not characterized by a raised warning finger and rules but instead by pictures and inspiration' (architect, partner).

As the quote describes, participants wanted inspiration for UD and a website that included content other than building regulations. The participants quickly moved on to the visual appearance of the site and agreed that the website should be exquisite, like a magazine, and updated as otherwise it would not be interesting to follow. They agreed that there was 'no place' to go for inspiration and knowledge about UD and that legislation was primarily about accessibility. They indicated that they currently found knowledge about accessibility from building regulations and checklists but wanted more.

The presentation of the input from the target group analysis and workshops with the advisory board is structured in relation to the two main themes—inspiration and detailed knowledge.

5.1. Inspiration

Their visual character characterizes the participants' sources of inspiration and knowledge. In general, the architects did not want to read long articles and found inspiration in the form of examples and their details on Instagram and Pinterest and in magazines. One architect indicated a desire to know what functions well and what does not. Actually, the representatives of Disabled People´s Organizations Denmark were more positive or open towards examples that are not 100% perfect in terms of detail than they had been years ago.

A client emphasized that she was inspired by research showing the effects and advantages of UD as well as by participation in conferences and study trips. She used inspiration as part of a dialogue with a person in the municipality ordering a new building or a renovation (e.g., a school principal). *'If we can show the principal that it is possible to do things in a new way and that scientific research shows that it even benefits learning and generates more silence in the classroom, then we have a good case'* (head of property). In addition, she explained that a visit to the domicile for the Disabled People´s Organizations Denmark inspired her to talk about equality as a value they wanted to have in their buildings. Moreover, it was inspiring to hear about how various solutions affected the maintenance budget (e.g., cost reduction for cleaning because of sufficient space to drive machines for floor-washing).

One of the architects explained that sometimes it could be difficult to argue for choosing 'soft areas' like UD. She stated that because it is possible to measure the impact of sustainable initiatives and present concrete advantages, sustainability can be used to support an argument. A similar phenomenon could be possible for UD by measuring what kind of human or social differences a design solution would create. The participants were also interested in examples showing the effects and value creation related to UD as well as other effects.

The advisory board demonstrated particularly great interest in knowledge about users and their needs in different situations. A client asked, *'What is it like for a person with a visual impairment to walk into a building and use it?'* Knowledge about users was seen as an important factor in challenging the regulations as well as preventing some users from being taken 'hostage' when they are involved in the design process. Furthermore, making visible users' conflicting needs was regarded as a positive result of the website.

5.2. Detailed information

The website should provide not only inspiration but also information related to the needs of professionals. It was pointed out that the checklists had an important function and should not be underestimated. The professionals looking for checklists on the new website may also be inspired in the long term by the rest of the site. The representative for SUMH was especially fond of the checklists because the organization could refer to them to ensure they were compliant with building regulations. A client indicated that it was important that the knowledge on the website could be directly used in clients' everyday practice. He requested that the site includes a list of users' needs and a list of issues of which clients should be aware (i.e., advice). Some of the participants accented that clients are different and hence projects are also different (e.g., regarding the time horizon). It could take time to develop a project before it actually became a real project. A client asked, *'How do I start a good process that may last 20 years?'*

Knowledge about how to integrate UD in a project from the start as well as about tools was requested. Details on solutions were also requested. An architect explained, 'The approach of an architect could be: I have a problem with a railing. There, the architect would need a short story, a drawing of a railing, and good examples'. A construction architect mentioned the details in the magazine DETAIL as a crucial source of knowledge because of its tangibility and level of detail.

The participants agreed that the site should function as a kind of decision support by which an architecture firm could ensure clients that by following the guidance on the website they were on the right path. A crucial aspect of this decision support would be arguments for accessibility and UD that architecture firms could use in dialogues with clients to show the effects and value creation. Furthermore, the site was seen as a tool or a platform to initiate a common language with the client.

The different requests for knowledge are characterized by a kind of duality. On the one hand, professionals in the sector want context-dependent knowledge that can provide inspiration—good examples and knowledge about users. On the other hand, they want context-independent knowledge, which is evident from the emphasis on requests for detailed help, to ensure the right process and detailed checklists. A similar duality can be seen in Kirkeby's study [21]. This duality is explored in more detail in the following paragraph.

5.3. Reflection on duality

Does it signal a problem that the architectural profession and the building sector are not capable of designing accessible buildings that incorporate UD without detailed help? Is the competence level really so low? Considering this, the request for both types of knowledge is not remarkable. The request for detailed help can be seen as a result of a 50-year period with the prescriptive requirements of the current building regulations.

Accessibility, as a professional field, has been black boxed because of these prescriptive requirements [23]. *'...the prescriptive requirements are not mere 'matters of fact' but define and shape the way that accessibility is handled, understood and designed'* [23 p. 369]. As a result, no one knows how to do things differently. The requested checklists can be seen as a part of the black box because of their strong relationship with prescriptive requirements. It can be argued that such checklists do not stimulate professionals to think, as they can just look up a solution instead of trying to understand the needs of users and translate them into a design. Furthermore, they contribute to the reproduction of a very limited understanding of users as only wheelchair-bound people and those with visual impairments. It is likely that professionals are not conscious of this effect and are worried about how to handle a situation without a checklist, especially with the new version of building regulations.

The concept of liminality can be used to characterize this situation. We are currently in a transition period because of the new focus on UD and the transformation of the building regulations. Professionals in the sector want to both retain the tools they know—checklists—and seek help to navigate uncharted waters. The anthropologist Gennep [24] introduced the concept of liminality to describe the challenge of a ritual passage. He focused on the middle stage of such a passage, where the past and its rituals have been left behind, but new ones have not yet been received, defined, or imbibed.

Liminality can help us understand the previously mentioned request for knowledge. Professionals in the sector, especially those in architecture firms but also ambitious clients, are interested in UD but do not know how to imbibe and execute the concept. It is understandable that they would request inspiration as this could be seen as a kind of general input. Nevertheless, it is not obvious how UD should be executed. As a result, interested parties requested the tool they knew—checklists— as well as supplemental help to design a UD-based process.

It would be ignorant to disregard the existence of liminality. Nonetheless, it is impossible to initiate and support a change in attitude and practice towards UD by continuing the current focus on checklists. SBi already chose the happy medium for the first website, which could be characterized as double-dealing. With the new website, it was necessary to choose one direction, and we determined that we could not continue with the checklists. It was obvious that we had only one shot and had to make a full effort. We felt the situation was ready for change even though this would require effort from the sector; it was now or never.

Fortunately, the field of fire safety has undergone a similar development from prescriptive requirements to performance-based requirements. Architecture firms acknowledge that such change was a challenge because they were required to think in new ways instead of just leaning on well-known solutions. The firms, however, also acknowledge that the performance based fire requirements afforded new opportunities to develop new architectural solutions. Accordingly, they see the similar potential in relation to accessibility [5]. In the field of fire safety, it is common practice to use a collection of examples and work in dialogue with a consultant specializing in fire safety. Following a similar process would support a change in the field of architecture towards UD.

The point of departure should be a focus on knowledge that can support professionals in their work and initiate a change in attitude. Kirkeby [25] concludes that if the aim is to support the work of firms in inclusive architecture, scientific research should aim at results that do not prescribe specific solutions. Instead, studies should aim at qualifying the design process through reflection, the development of concepts, and

good examples. However, this requires active acquisition and processing of such information by reflective architects. Kirkeby stresses that at first glance, context-dependent knowledge can appear to be 'semi-finished' [21]. Nevertheless, there is strength in this kind of knowledge, and it is in harmony with the way architects work because, in a design situation, it can be transformed and used to address new situations and solutions. It is obvious that this context-dependent knowledge can be used to provide inspirational knowledge through good examples. However, it is also important to emphasize knowledge about users' needs. Insight into the worlds of users could function as an eye-opener that is stored in episodic memory and be used to establish an understanding of users' needs [26]. Put simply, users' needs make more sense if you know their background. Consequently, we developed a format for gaining insights into users' needs.

Because the site should contribute to raising the level of knowledge and change the mindset from accessibility towards UD, our overall strategy for communicating UD to the building sector, especially architecture firms, prioritizes context-dependent knowledge that could inspire them. However, we realize that it should also communicate context-independent knowledge. The following paragraph describes this approach and the characteristics of these kinds of knowledge in this particular context.

6. Approach to the new website

Quite simply, the worst-case scenario would occur if the sector regards UD as a synonym for accessibility for people in wheelchairs, as this would result in solutions that clash with the associated architectural ideas. When considering this situation, it is clear that to achieve the aim of enhancing the focus on and level of knowledge about UD, the point of departure should be a communication strategy focused on architecture firms and a change of attitude. We cannot afford to lose this group, so by addressing architecture firms with the website, the rest of the target audience will follow.

A brainstorming session with the design agency included a workshop about the motivation of the target audience. It is an honour that a project becomes an acknowledged reference by peers of the architectural community. It became clear during the research that the ultimate criteria for the success of the new site would be if architecture firms consider a presentation of their project on the website a kind of professional acclaim or honour.

Because we know that the attitudes of architecture firms towards accessibility and UD are positive but that the concepts are primarily considered in relation to buildings with public access and healthcare facilities [5, 2], we wanted to show general breadth with the website.

With the aim of communicating UD in a way that could support a change of attitude and practice, we define the three most important messages as:

- Diversity; UD is about everybody and not just people with disabilities.
- Architecture; UD is about architecture and is compatible with highly esteemed design.
- Value; UD is about value because the approach not only supports social inclusion and participation but also creates value on several levels, from the individual to society.

We aimed to address the three messages in not only the structure of the website but also every contribution posted on it.

With reference to the recurring request for examples of UD as seen in the literature and heard during target group and advisory board discussions, we chose to focus on examples that can provide inspiration and serve as references for professionals in any phase of a building project. We wanted to create a plethora of examples of different kinds of buildings, urban spaces, nature and interior designs, along with details, as well as more immaterial and process-related materials (e.g., a video about an architecture firm's approach to UD or an interview with a client or consultant about how they integrated UD in a project). The examples can be communicated by features or reports in text, drawings, photos, and video clips.

At the launch of the website and its profile at Instagram, we promoted one example, namely the Wadden Sea Centre designed by Dorte Mandrup. This project has received a great deal of attention from the architecture community, several awards, and a nomination for the 2018 Royal Institute of British Architects (RIBA) International Prize. We presented this project in a feature with a photo gallery and videos showcasing the building in use and the project architect's intentions. The purpose of including examples, particularly this example, was to create an eye-opener for the building sector, especially architecture firms. This example was chosen because the architecture firm had not been previously associated with UD and thus this revealed to the sector that architecture that is universally agreed to be great can also encompass UD.

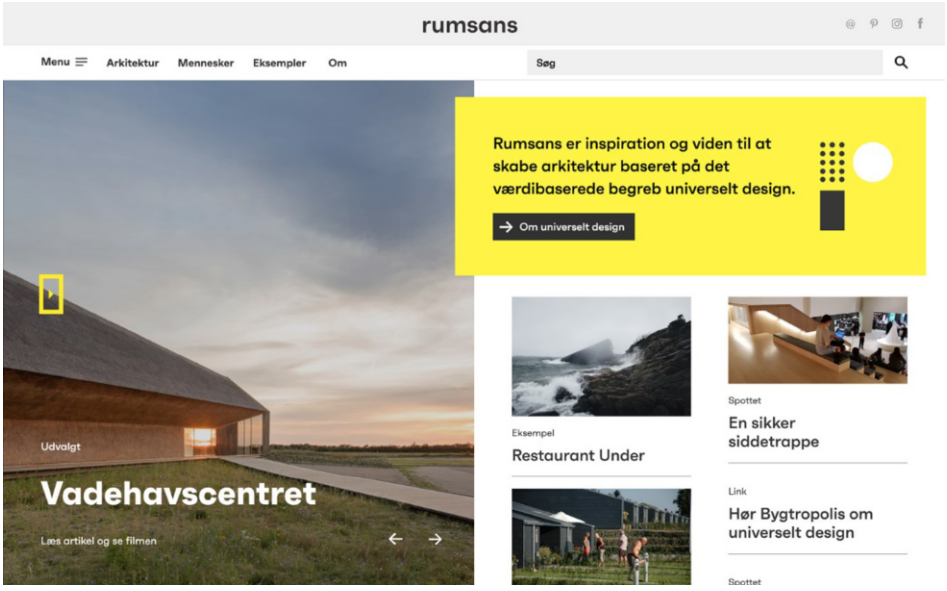

Figure 1. Print screen of the website www.rumsans.dk at the launch November 2019.

It is relevant to note that the intention of the website had never been simply to reproduce a traditional understanding of great architecture in an uncritical manner. The selection of examples was based on criteria that include inclusion, diversity, usability, and quality of experience (e.g., sensory experience). The criteria for curating examples could be further explored in future work.

Regardless of the examples presented, the knowledge they impart can be characterized as context-dependent and transferable. The examples can serve as inspiration and could be transferred to a new context so they can function as a starting point for a new design or new process.

Another common request was knowledge about users and their needs. We developed a model to communicate this kind of knowledge with the aim of visualizing the complexity of users' needs and acknowledging that all people are users. We wanted to create an understanding of users' needs based on the interaction of several components:

- Background (e.g., culture, age, and gender).
- The body (e.g., the senses and cognitive abilities).
- Situation (e.g., dark night, noisy environment, and different scenarios such as carrying many shopping bags or a child).

The interaction between background, personal characteristics, and situation results in various needs (e.g., good lighting) that can be translated into aspects of architecture (e.g., lighting conditions) to meet the needs of all users. It was the intention to present the needs of users in a way that they could serve as thought-provoking knowledge and open the eyes of professionals. By presenting users' needs as an aspect of architecture, we wanted to show that UD is not the same as typical accessibility concerns. We can categorize users' needs as they relate to six architectural themes: wayfinding and orientation, lighting conditions, sound conditions, space, construction, and indoor environment. Furthermore, we wanted to communicate users' needs in a way that would establish a process of learning and support professionals' reflection on them to create an understanding of the needs and their background. It then becomes possible to obtain information about users' needs from two angles: the architectural theme and a model of users' needs that exhibits their complexity.

This type of knowledge about users' needs is context-independent but less technical and prescriptive, as Kirkeby describes. We deliberately focused on presenting users' needs in a format that could provide inspiration and contribute to a change in attitude towards UD. In other words, we framed this kind of context-independent knowledge as if it was context-dependent and focused on the creation of eye-opening knowledge to emphasize that many people have the same needs.

The website, www.rumsans.dk was launched November 2019. Both the site and the approach to the site can be characterized as dynamic. Every month, a production plan is developed and content for the website is developed accordingly. Furthermore, we look forward to further dialogue with the advisory board about how to refine the website and its format and produce content. This paper describes the background and an approach to a new format focused on the communication of knowledge that is suitable for architectural practice and the creation of an understanding of human diversity. The website provides a format that is in demand. The future will show, how it will be received and used. It should thus be kept in mind that there could be other ways to accomplish the task, just as in the world of design.

7. Conclusion

This paper describes the development of an approach to create a new website (www.rumsans.dk) about UD targeted at the building sector and especially architecture firms. Until now, no format has existed to communicate knowledge about users that corresponds with the way architects and designers work.

Findings from the literature and the empirical material show that both inspiration and detailed help such as checklists are requested. This duality is rooted in the historic understanding of accessibility as synonymous with the prescriptive requirements of Danish Building Regulations. The building regulations are in a process of transition towards UD, and the concept of liminality is used to understand and describe the situation of transition and the dual requests from the sector. The aim is to create a website about UD that will enhance the level of knowledge and change the practice of architecture towards UD. Therefore, the paper argues that the website should primarily present context-dependent knowledge (e.g., examples that can not only inspire but also provide context-independent information on users' needs). However, this kind of knowledge should be presented in a way that is informative and also contributes to change the mindset by creating an understanding of human diversity and UD as being for everyone.

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