

## The UNIVAC project: implementing the user journey approach in accessibility research at university

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### **Abstract**

*Work for inclusive, quality education and the reduction of inequalities is among the prioritised lines of action promoted by the Sustainable Development Goals of the United Nations (2015). In the context of higher education, persons with sensory disabilities who study and work at universities face daily accessibility challenges when interacting with their pervasive digital environments. The ongoing UNIVAC research project aims to qualitatively analyse the measures taken by Spanish universities to overcome such challenges, as well as to explore areas of improvement in accessibility at university. This paper presents the project's aim and scope, and proposes the adoption of the cross-disciplinary user journey approach as a form of methodological innovation in accessibility research in higher education.*

**Keywords:** UNIVAC project; accessibility; user-centered research; user journey; persons with disabilities.

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## **1. Introducing the UNIVAC project**

Today, there is a growing interest in the international arena to work for inclusive, quality education. Work for inclusive education and the reduction of inequalities is consistent with the Sustainable Development Goals (SDGs) proposed by the United Nations (2015), which establish, among others, the following objectives:

By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all.

In this context, the project *Sensory accessibility at the Spanish university: current needs and prospective solutions* (henceforth UNIVAC) aims to analyse the response given by Spanish universities to the needs of persons with sensory disabilities (PSDs). In a context of increasing digitisation, which has been exacerbated by the Covid pandemic, the project intends to offer a reliable diagnosis of the reality of our university system. Such a diagnosis is a necessary first step towards the implementation of measures to guarantee PSDs' equal opportunities and their right to quality education. UNIVAC proposes an empirical study based on a wide set of qualitative data aimed at revealing both the needs of PSDs and the actions currently taken to cater for them in the public universities of three autonomous communities in Spain, namely Andalusia, Catalonia, and the Basque Country.

The project focuses on the needs of PSDs belonging to the three main types of university user groups, namely, students, teaching and research staff, and administration staff. The object of study are not PSDs in themselves, but rather the *environments* in which they carry out their daily activities and, more specifically, the digital or digitised environments (the physical classroom in which digital material is used, the software used by university staff, the virtual classroom, registration management applications, and so on). This approach is aligned with the social and the human-rights conceptions of disability, in accordance with which disability is perceived as an experience of avoidable exclusion linked to the environment (Albert & Hurst, 2012; Huete, 2013). In the project's framework, the source of any access barriers is not an individual with disabilities, but rather an inaccessible society, which is not prepared for a digital transition that takes everyone into account. Thus, any interventions to improve accessibility need to take place on the environment. In this context, key digital accessibility services designed for PSDs come into play: the project will report on the degree of implementation of services such as captioning, subtitling, translation and interpretation in

sign languages, audio description, the audio induction loop, audio guides, alternative text, adaptation of texts to the Braille system, large print, or speech synthesis, among others.

Apart from aiming to respond to a social need—the current context of digitisation should not leave PSDs behind; in this case, by keeping them apart from the university system—, the project seeks to advance in both the theoretical and descriptive knowledge gathered in the field of inclusive higher education. Through reports published by entities that work for the inclusion of persons with disabilities in higher education in Spain, such as the Universia Foundation<sup>1</sup>, we have access to statistical data that draw attention to the number of students who denounce situations of inaccessibility faced during their university studies. This kind of quantitative information does not by itself allow to map the types of accessibility challenges faced and propose solutions, as the data must be complemented with qualitative information. The innovative approach of the project is precisely the qualitative insight that is gathered from PSDs through focus groups, semi-structured interviews and student diaries, all applying the user journey approach. Ultimately, UNIVAC is expected to empirically contribute to policy-making. In this regard, the participation of inclusion staff in the project is another strong suit.

## 2. Aims and scope of the project

As has been mentioned, the project aims to offer a diagnosis of the current situation in regard to the challenges and measures taken to provide inclusion for PSDs studying and working at university. More specifically, the project has three main objectives: the first one is to describe the different types of needs described by users with different profiles (year of study, area of knowledge, work field, type of disability). This objective will allow us to interpret the quantitative data already available today in regard to disability and higher education, such as the dropout rates of students with disabilities, as well as the underrepresentation of PSDs in MA and PhD degrees (Fundación ONCE, 2022). In relation to the staff, the project will focus on identifying accessibility challenges and solutions in current workflows.

The second objective of the project is to explore the accessibility services available at this stage, and those on demand by users. Likewise, the project will describe the degree of satisfaction with the present services, both on the users' part and on the providers' (e.g. inclusion service units at the universities under study, teaching staff providing accessible materials to students with disabilities). Research actions connected to this objective will reveal whether access services are applied *ex ante*, i.e., in the design phase and in accordance with the principles of universal design, or *ex post*, after the user's demand, as an adaptation

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<sup>1</sup> <<https://www.fundacionuniversia.net>>. [02.02.2023]

of a previously designed, inaccessible service or product (Greco, 2019; Arias-Badia *et al.*, 2022).

The third objective of the project is connected to its intensive dissemination—as has been argued in the specialised literature, in the case of projects aimed at improving the accessibility of environments or services, it is particularly important for the results to reach and be “understandable” by the main potential beneficiaries of the research conducted (Greco & Jankowska, 2019, p. 8)—in this case, PSDs, university students, and university staff. The right of all citizens to participate in scientific progress and to enjoy its benefits and applications is included in fundamental texts such as the Universal Declaration of Human Rights (art. 27) or the International Covenant on Economic, Social and Cultural Rights (art. 15b). Likewise, the project wants to go beyond raising awareness about the need to pay attention to accessibility and raise specific applicable proposals; the latter is in line with the appeal recently made in the European TRACTION project to European researchers working on accessibility (Orero, 2020).

### **3. Methodological approach**

The study adopts a qualitative methodology. This section briefly reports on the types of data collected for the purposes of the project, as well as on the approach adopted in the research actions involving participants.

#### ***3.1. Data under analysis***

Two types of data will be collected and analysed: data reported by informants and data derived from the analysis of digital materials. The data reported by informants will include the following:

- the recordings and transcripts of focus groups, with active students, with graduated students, and with staff;
- the recordings of the observation of the interaction with digital media by PSDs, to complement the self-reported challenges identified in the focus groups;
- questionnaires to representatives of the three stakeholders involved in the project;
- semi-structured interviews with representatives of non-profit organisations working for the rights of PSDs;
- semi-structured interviews with accessibility professionals who work with users of sensory accessibility services;
- diaries and longitudinal monitoring of a selection of users. A detailed follow-up will be carried out on the experiences related to sensory accessibility of two participants from each of these groups: students with disabilities, university staff

with disabilities and teaching staff (with or without disabilities) with experience in teaching PSDs.

The data derived from materials analysis will consist of the following elements:

- main website (homepage) of the universities of the participants in the focus group;
- website presenting the studies of the participants in the focus group;
- website presenting the inclusion service unit of the focus group participants' universities;
- registration application of the focus group participants' universities;
- main website of the virtual campus of the focus group participants' universities;
- accessibility guidelines and training material offered to university staff;
- selection of teaching materials used by the students participating in the focus group;
- selection of software and digital documentation frequently used by the staff with disabilities participating in the focus group.

The first data set (derived from social research instruments) will be analysed through thematic analysis (Braun & Clarke, 2012) using the computer-assisted qualitative analysis software ATLAS.ti. As explained in the following section, the qualitative data coding will incorporate the phases of the user journey approach as themes. A content analysis will be applied to assess the second data set (derived from the above-cited materials and documents: university websites, accessibility guidelines available to university staff, teaching materials, etc.). This analysis will also be conducted with the aid of ATLAS.ti.

### **3.2. The user journey approach**

The term *user journey* is employed in the field of User Experience Design (UX) to describe the prototypical path followed by users to reach a goal when consulting a website (Endmann & Keßner, 2016). Similarly, the notion of the *customer journey*, from the field of Business research (Tueanrat et al., 2021), is used in state-of-the-art industry research conducted with accessibility users as informants to establish which processes call for the implementation or improvement of accessibility services.

UNIVAC will incorporate this cross-disciplinary notion in the design of all the research activities involving user participants, as well as in the description of the results of the project. The project is interested in mapping the phases of the *student/worker journey* through university in which inaccessibilities arise. Thus, the interviews, focus groups and questionnaires will contain blocks on the following aspects:

- discovery: this block will contain questions about situations of (in)accessibility related to the phase in which users realised their need or desire to study or work at university.
- information: this block will contain questions about situations of (in)accessibility related to the phase in which users tried to find out about possible studies / jobs.
- selection (“sale”): this block will contain questions about situations of (in)accessibility related to the phase in which users opted for studies/jobs.
- follow-up (“acquisition”): this block will contain questions about situations of (in)accessibility related to studies / job performance.

In sum, the UNIVAC project combines several qualitative methodologies to 1) describe the state of sensory accessibility measures in Spanish universities applying a user journey approach, 2) to cross-check university staff (both professors and inclusion staff) and students’ experiences with data derived from the analysis of digital materials, and, ultimately, 3) to encourage policy change regarding current shortcomings in (digital and in-person) accessibility services in higher education settings.

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## **References**

- Albert, B., & Hurst, R. (2012). Disability and a human rights approach to development. Briefing paper. <https://hpod.law.harvard.edu/pdf/human-rights-approach.pdf>.
- Arias-Badía, B., Bestard-Bou, J. J., & Hermosa-Ramírez, I. (2022). Designing, Making, and Validating Accessible Products and Services: An Updated Account of Users’ Perspectives. *Journal of Audiovisual Translation*, 5(2), 57–75.
- Braun, V., & V. Clarke. (2012). Thematic analysis. In H. Cooper (Ed.) *APA Handbook of Research Methods in Psychology, Vol. 2: Research Designs* (pp. 57–71). APA books
- Endmann, A., & Keßner, D. (2016). User Journey Mapping – A Method in User Experience Design. *i-com*, 15(1), 105–110.
- Fundación ONCE. (2022). Informe 7. Principales resultados. Observatorio sobre discapacidad y mercado de trabajo en España. <https://www.odismet.es/sites/default/files/2022-12/INFORME%207.pdf>

- Greco, G. M. (2019). Accessibility studies: Abuses, misuses and the method of poietic design. In C. Stephanidis (Ed.), *International conference on human-computer interaction* (pp. 15–27). Springer.
- Greco, G. M., & Jankowska, A. (2019). Framing media accessibility quality. *Journal of Audiovisual Translation*, 2(2), 1–10.
- Huete, A. (2013). La exclusión de la población con discapacidad en España: Estudio específico a partir de la Encuesta Social Europea. *Revista Española de Discapacidad*, 1(2), 7–24.
- Orero, P. (2020). Born accessible: beyond raising awareness. Policy paper. [https://ddd.uab.cat/pub/estudis/2020/222130/Policy\\_Paper\\_final.pdf](https://ddd.uab.cat/pub/estudis/2020/222130/Policy_Paper_final.pdf)
- Tueanrat, Y., Papagiannidis, S., & Alamanos, E. (2021). Going on a journey: A review of the customer journey literature. *Journal of Business Research*, 125, 336–353.
- United Nations (2015). Sustainable Development Goals. Quality education. <https://www.undp.org/sustainable-development-goals/quality-education>