The Integration of Social-Haptic Communication in Deafblind Interpreting and Educational Settings
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Building Up Social-Haptic Signs: The Portuguese Team

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Abstract Social-haptic communication (SHC) enables interaction for Deafblind and Deaf people with low vision but remains underutilized in Portugal due to geographical dispersion and lack of specialized training. This paper examines work from March to November 2022 within the international *Social Haptic Signs* project, documenting 24 haptic signs used by Portuguese Deafblind people, contributing to 80 national haptic signs published by the project. It details this pilot initiative's methodology and aims to advance understanding of SHC's importance for improving communication accessibility among the Deafblind community in Portugal.

Keywords Social-haptic communication. Portuguese haptic signs. Deafblind people. Portuguese Deafblind. Teamwork dynamics.

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1 Introduction

Social-haptic communication (SHC) is a communication modality that facilitates interaction for Deafblind individuals or Deaf persons with low vision by combining tactile signs and haptices (Lahtinen, Palmer 2008). Despite its potential, Portuguese Sign Language (LGP) and SHC remain underutilized in the Portuguese context, largely due to challenges such as the geographical dispersion of Deafblind people across Portugal and the scarcity of specialized training available in LGP and SHC for professionals working with this community. Additionally, the notable lack of comprehensive demographic data on Deafblind individuals in Portugal, both in national censuses and academic research (Instituto Nacional de Estatística 2021), not only hinders the development of projects in this area but also limits the ability to implement actions aimed at improving the quality of life of Deafblind and low vision people in Portugal.

Despite challenges in implementing deafblindness-related projects, some initiatives exist. This paper offers a reflective overview of the Portuguese team's participation in the Erasmus+ project *Social Haptic Signs for the Deaf and Blind in Education* (SHS), focusing on collaborative efforts from March to November 2022. These efforts resulted in documenting 24 haptices or haptic signs, later included in a published set of 80 national haptic signs (see `https://spreadthesign.com/pt.pt/social_haptic/`). By reviewing this collaboration and its outcomes, the article aims to advance understanding of SHC and its role in promoting communication accessibility for Deafblind individuals in Portugal.

A person is considered Deafblind when, due to partial or total loss of hearing and vision, they adapt communication methods and ways of accessing the environment, including information and mobility. Our team has agreed to use an uppercase 'D' in 'Deafblind' inspired by a convention established in Deaf Studies since the 1970s (Woodward 1972) that intentionally serves as a marker of identity for Deaf individuals. Therefore, our definition of 'Deafblind' not only follows what has been recognized by the European Parliament (2004), but takes it a step further, as we believe that the use of the uppercase underlines the cultural and identity-based features that distinguish the community as a minority group in its own right, consistent with conventions applied to other minority and cultural groups, as is the example of the Deaf Community (Ladd 2003; Gil 2020). Deafblind, as an umbrella term, is multifaceted, as it is considered not merely the sum of blindness and deafness, but instead constitutes a unique condition (Nordic Leadership Forum on Deafblindness 2024). The term also emphasizes identification with the Deafblind Community and mastery of a variety of communication forms, including, among others, both tactile and visual sign languages. Despite this, we also

recognize that "[o]lder adults with acquired impairments are unlikely to identify with the label *deafblind*, having lived most of their lives with functional sight and hearing, and being more comfortable with the term *dual sensory impairment*" (Wittich, Dumassais 2025, 2). Some Deafblind individuals, particularly with Usher Syndrome, may also identify as members of the Deaf community (Wittich, Dumassais 2025). Although the analogous distinction between 'Deaf' and 'deaf' has generated debate in academia due to its potential to create divisions and categories (Kusters, De Meulder, O'Brien 2017), many scholars maintain its relevance (Ladd 2003; 2022; Gil 2020). The intention is not to homogenize the diversity within the Deaf Community, nor, by extension, within the Deafblind Community.

In Portugal, apart from Gaspar et al. (2015), who studied a sample of 135 Deafblind individuals, no demographic studies report the number of Deafblind people. Also, a few institutions and organizations exist attended by Deafblind people offering support, education, or training, and promoting gatherings, however remaining 'invisible' to a great part of the population and policymakers.

2 Social-Haptic Communication: Challenges and Innovations during the COVID-19 Pandemic

This paper, rooted in the SHS project, aims to challenge the social *invisibility* of Deafblind people by involving them directly in the research and development group and by giving them a role in its development. Key stakeholders involved include Deafblind individuals, professionals working with them, and organizations supporting sign language accessibility and research for the Deafblind community.

SHS was initially proposed as a 36-month project, from September 2019 to August 2022, but in March 2020, the COVID-19 pandemic led to health and sanitary curfews and social isolation. Schools were shut down; universities, associations, and other organizations followed similar paths, putting projects, works, and studies on hold. Due to delays in project implementation, a three-month extension period was requested and granted by the Swedish Erasmus+ National Agency, postponing the project's conclusion to November 2022. During the pandemic, social isolation severely hindered not only formal but also informal learning practices in schools; the lack of physical contact and adequate resources for communication during that time aggravated the vulnerability of Deafblind students (Almeida, Cruz-Santos 2022).

The World Health Organization (2020) recommended to "[d]evelop accessible written information products by using appropriate document format (such as 'Word'), with structured headings, large print, braille versions and formats for people who are deafblind". However, these recommendations did not take into account that many

Deafblind people rely on tactile interactions, such as sign-based communication that requires body contact between at least two interlocutors.

Haptic signs are touch-based messages exchanged between two or more people, typically tapped or drawn on the body. Common articulation sites include the back, arms, and knees, though less frequent locations may be used depending on the interlocutors' familiarity and the communication method or pattern.

To meet its objectives, the project teams needed to engage directly with Deafblind individuals – the primary target group – either individually or in small groups, including private individuals and those attending schools or institutions. However, as many Deafblind people rely on direct touch for communication, such as hand-to-hand contact, and numerous Deafblind institutions were closed, the teams were unable to conduct research and development activities as scheduled. This situation led the project onto an unexpected path, presenting new challenges but also a valuable opportunity for social reunion and meaningful involvement of Deafblind participants in the project's post-pandemic development process.

3 Social-Haptic Signs: Establishing the Project

Providing some context, the international project *Social Haptic Signs for the Deaf and Blind in Education* (SHS) (2019-1-SE01-KA201-060404) was an Erasmus+ initiative involving teams from Estonia, Italy, Portugal, and Sweden. The project traces its origins to the multilingual online sign language dictionary Spreadthesign (www.spreadthesign.com). Spreadthesign provided the foundation for expanding accessible resources, and within the framework of the SHS project, the main objective was to investigate the specific field of social-haptic communication.

The SHS project aimed to identify, systematize, classify, document, and make accessible the haptic signs used by and with Deafblind individuals in the participating countries, including Portugal. Another objective of SHS was to create visual materials, including photos, videos, and written descriptions detailing the execution and usage of haptic signs.

The Portuguese team faced the challenge of compiling these resources and disseminating them to a diverse audience, which included professional and in-training LGP interpreters, established professionals in the field, students of sign language interpretation, families, associations, schools, and individuals working with Deafblind people. The overarching aim was to publish the project outputs online free of charge, maximizing accessibility both to specific members of the public with Deafblindness and to wider audiences as a way of

raising awareness on the theme. In this context, this article serves as an additional outcome, enriching the team's efforts and contributions to the field.

The ideas and conditions for this project emerged in the confluence of several factors. First, there was the urge to add new features to the international dictionary Spreadthesign, to address new problems and provide adequate resources, to reach more diverse publics, and to expand its range in terms of social usability and visibility. The ideas were launched by the project coordinator from the European Sign Language Centre, discussed with the partners, and developed until the final version was included in the project application.

Second, the involved partners, experienced organizations, and those with expertise working with Deaf communities, also felt the desire to approach Deafblind communities, seeking to understand and deepen knowledge about Deafblind people's communication channels and means to access surroundings, provide useful resources, and raise awareness about these communities to a wider spectrum of the population.

Third, and in what relates to the Portuguese partner, the participation was facilitated by previous interactions and collaborations with an enthusiastic Deaf and low vision student at the University of Porto, César Casa Nova, who promptly manifested interest in participating in such a project and who was eager to share his story, learnings, and to contribute to the partnership. As a Deafblind person with severe and progressive vision loss, César is more reliant on tactile and supported sign language and frequent use of haptic signs. César Casa Nova became a valuable asset and contributor throughout SHS, assuming the role of advisor, tester, and actor in videos.

The SHS project began in September 2019, with teams initiating work plans. In November 2019, partners convened for the kick-off meeting to outline subsequent steps. However, in March 2020, while preparing for the second international meeting, the COVID-19 pandemic was declared worldwide.

Between March 2020 and the beginning of 2022, very few implementation actions could be taken. The consortium kept continuous communication procedures via e-mail and several online meetings (Zoom or Skype) to check on the progress made and devise plans for the 're-opening'. These meetings facilitated sharing each team's internal advances – namely contacts established with Deafblind organizations and other institutions –, discussing aspects related to research and production, such as details concerning the production of videos, photos, written descriptions, technical aspects to implement on the website, and refining details related to project aims, target groups, outputs, among others. Nonetheless, the substitution of in-person project meetings with online ones has made

it longer for the partners to build common ground for understanding and to share filming practices.

In addition, between November and December 2020, the partners conducted four online training sessions on social-haptic signs: haptices and haptemes[1] (Lahtinen, Palmer 2008). The trainers were Riitta Lahtinen (PhD, senior researcher) and Russ Palmer (Deafblind, International Music Therapist and Vibroacoustic Therapy Practitioner), both experienced researchers and experts in haptic communication,[2] and members of the Social-Haptic Communication research group at the University of Helsinki, Finland.

Despite plans to 'reopen', worsening sanitary conditions in several countries, including Portugal, forced a postponement of project activities until early 2022. By then, the teams' work had been severely impacted, disrupting planned activities and limiting the project's full potential in research, production, and dissemination.

The Portuguese team at the time held periodic online meetings to outline future steps of the project, to discuss matters approached in the international online meetings and contextualize them according to national reality, to provide feedback to the partners and project coordinator, but also to identify specific contact persons and organizations to collaborate in the stages ahead. The contacts were then established with stakeholders, who later integrated the Portuguese team. The Portuguese team's Deafblind advisor, César Casa Nova, and his interpreter, Ana Oliveira, were involved from the start. However, due to the restrictions, the Deafblind advisor was unable to participate in the online meetings and contributed mainly remotely via messages and videos supported by an LGP interpreter.

1 'Haptemes' are the basic tactile units or variables of touch – such as location, pressure, and movement – used to construct 'haptices', which are single, meaningful messages transmitted through touch on the body. Together, haptemes form a structured system enabling complex, multidimensional social-haptic communication (Lahtinen, Palmer 2008).

2 At times, we question the use of the word 'social' in the designation of this form of communication, since all communication is inherently social. Consequently, we sometimes deliberately omit the term 'social' when referring to communication using haptic signs, although we remain aware that it is present in the concept's origins and is the term used by the project and its members, as well as in the official project title.

4 The Phases of the Project

4.1 Creating the Workgroup Dynamics for Data Collection

After the semi-lockdown ended, collaboration unfolded in various stages involving multiple stakeholders from three national institutions: a Deafblind university student, Deafblind youth, several LGP interpreters, LGP teachers, educational technicians, and academic researchers.

Two of the article's authors are team members and stakeholders who later joined the project. The first author of the paper, Cristina Gil, has experience as a former sign language interpreter for the Deaf and Deafblind. She is also a researcher on Deaf Culture and a higher education professor specializing in Sign Language Translation and Interpretation. The third author, Paula Liques, is an educator and Pedagogical Director of an organization with extensive experience in education and training of Deafblind children, youth, and adults working at the Center for Education and Development António Aurélio da Costa Ferreira of Casa Pia of Lisbon (CED-AACF). The second author, Bruno Mendes, and the fourth author, Orquídea Coelho, were involved in developing the project from the outset. By integrating these additional elements, as well as involving more Deafblind people, Deaf teachers Ana Ferreira and Pedro Oliveira, along with staff members from CED-AACF, the SHS project gained renewed momentum, bringing together research expertise, practical knowledge and direct feedback from the Deafblind community. This rapidly established platform of mutual understanding fostered a durable synergy leading not only to the achievement of the SHS project's goals, but also to ongoing collaboration. We detail this collaboration below.

Between March and April 2022, biweekly team meetings were held with three members from CED-AACF. These sessions aimed to contextualize the project and introduce the concept of social-haptic communication. Information from the meetings was conveyed to their institution, prompting internal reflection on communication and guidance practices among the socio-educational team (teachers, technicians, and other personnel). Consequently, participants embraced the challenge to collect and systematize the haptic signs used at CED-AACF. To facilitate this collection, we created a table for the from CED-AACF's team to record specific information, including:

a. the context or area in which the haptic signs are used;
b. the semantic designation of each haptic sign, typically corresponding to an action, behavioral command, or information about a specific event;

c. a description of the haptic sign's execution, including the part of the body involved;
d. Deafblind individuals who use the haptic signs;
e. staff members familiar with those haptic signs used with the specific Deafblind individuals.

Below figure 1 shows an excerpt of the data collection table used by members of CED-AACF. For ease of reading, it has been translated into English from the original Portuguese. The names of participants have been anonymized. The text highlighted in *green* indicates touch-based messages identified as haptic signs and approved for filming.[3]

HAPTIC SIGNS – TABLE FOR DATA COLLECTION

WHERE?	WHAT?	HOW?	WHO?		NAME OF THE VIDEO FILE	REGISTERED BY	OBS.? Y / N
Context/Area	Concept/Sign	Short Description	Young Deafblind	Intervenient			
Residential Care Home	(Bath) Wash the head	Massage the head with the fingertips	*"NAME"*	Special Education teacher (DEE) *"NAME"* + young deafblind *"NAME"*	1. Wash the head	DEE *"NAME"*	N Supported LGP
	Touch with intention	An assertive touch, normally in the hands of the young deafblind, so that he/her perceives that an unpleasant behaviour must stop.	All young deafblind elements	Teacher "NAME"	2. _____	*Teacher "NAME"*	Y HAPTIC SIGN *Variants (hand, shoulder leg)
Guiding and mobility	Go up	Slightly raise the elbow	*"NAMES"*	Special Education teacher (DEE) *"NAME"* + young deafblind *"NAMES"*	3. Go up	DEE *"NAME"*	N Not applicable
	Go down	Slightly raise the elbow	*"NAMES"*	Special Education teacher (DEE) *"NAME"* + young deafblind *"NAMES"*	4. Go down	DEE *"NAME"*	N Not applicable

Figure 1 Table for Data Collection of Haptic Signs. 2022. Digital Document. Erasmus+ project *Social Haptic Signs for the Deaf and Blind in Education*

The internal collection process happened between May and June 2022, involving 16 individuals, including teachers from various areas of expertise and senior technicians. In addition to the table, staff members recorded videos demonstrating the haptic signs in different contexts, showcasing their execution. The team was also able to gather some haptic signs used by Deafblind young individuals and their family members. About 28 homemade videos were recorded by educators and staff to register their practices, which became fundamental material to ascertain and clarify some movements and touch-based messages described in the table, and to discuss which could or could not be considered as haptic signs.

3 All images – except where otherwise specified – are the Authors' own elaborations.

In total, approximately 50 haptic signs were collected, irrespective of their use and purpose at the time of collection. These signs were then discussed in several team meetings during June 2022. This discussion resulted in the selection and confirmation of 24 haptic signs, including variants that were performed similarly in different locations on the body. Some haptic signs were excluded based on various relevant considerations, such as simple touching or redirecting movements, the transposition of LGP lexicon to different body parts without appropriate haptic adaptation, or the locations on the body used to convey information that conflicted with linguistic and cultural norms established within Deaf and Deafblind communities (e.g., head or face).

The detailed table descriptions, videos, and research team experiences were essential for discussing and clarifying the contextual meaning and use of signs. Furthermore, the collaborative approach and meticulous attention to detail, often overlooked early but burdensome later, enabled the careful curation and refinement of the small corpus of emerging haptic signs, which became part of the Portuguese team's outputs.

4.2 Filming and Describing Haptic Signs: Ensuring Deafblind Representation

Following the completion of the data table and final refinements, two filming sessions were held in July 2022. The participants included a Deafblind university student (advisor/actor), two young Deafblind individuals from the educational institution, two Deaf LGP teachers, and one LGP interpreter for the Deafblind. The inclusion of Deafblind participants was a prerequisite established by the team to ensure visibility and representation for the Deafblind community, thereby enhancing the project's legitimacy. Recognizing their privilege, the team acknowledged the necessity of incorporating Deafblind individuals into the process (McKee et al. 2013; Crowe et al. 2022). The involvement of a Deafblind advisor throughout the project and Deafblind participants during the recording phase notably enriched the discussions and contributions. Moreover, including Deafblind individuals in the recordings was crucial not only for the overall quality of the final product but also for ensuring political representation, underscoring the significant implications of this seemingly simple detail. Following Bourdieu (1991) and empirically, how we believed the project should be carried out, we implemented this inclusive approach well before consulting recent research, and only later, during the writing of this article, did we discover that Watharow and Wayland (2022; 2024) highlight these considerations specifically for the participation of the Deafblind community.

These two sessions were essential for filming the haptic signs and reviewing the entire collaboration process, the resulting products, and their implications for the research team, the educational institution, its staff, and Deafblind users. The filming followed guidelines previously agreed upon by all international partners of the SHS project and shared with the teams' Deafblind advisors and technical experts, whose specific feedback led to some suggestions being implemented, while others were not feasible. Those guidelines encompassed orientations regarding:

a. background scenario: it should be green, although it was not possible to use the 'chroma key' effect due to technical, financial, and time constraints – we remind that filming sessions of almost all partners started within the project's final year.
b. lighting: whenever possible, multiple spotlights should be used to avoid shadows; being visual outputs, either static (photos) or in movement (videos), the materials should be as unequivocal and detailed as possible regarding all their elements and performance.
c. clothing: actors should wear black long sleeve shirts, without buttons, branding or artifacts susceptible of interfering with the visualization of the videos or photos; pants or jeans should be colour differentiated (e.g., light blue vs dark blue or light blue vs black), not only to distinguish the lower limbs of each actor while siting for haptic signs tapped or drawn in the thighs or legs, but also to create contrast between the fabrics and the signers' hands; reflective materials such as jewels or glasses should also be avoided to prevent light reflection.
d. body positioning: the signers' hands and body location should be visible to allow people to see handshape, movement and location; this applied to all kinds of haptic signs, whether tapped or drawn in the back, shoulder arm, hand, thigh or leg, chest, or even head, and whether performed standing or sitting, facing towards the camera or the screen.
e. signing pace: actors' movements while performing the haptic signs should be done calmly, not rushed, permitting the public to grasp the handshape, movement, and location, to reproduce the haptic sign in the best way possible.
f. camera's centering and focus: filming staff should be attentive to the actors placement regarding the background scenario (and lighting), to capture all the haptic sign execution and avoid blurred or covered signs; for signs performed standing, all the upper body and head should be within the video frame, and signs done sitting, the body parts below the knees should not be framed, except in the cases in which the signs are performed in the feet.

After filming, videos and photos were edited, adding arrows to represent hand movements. Photos were edited using free software GIMP – GNU Image Manipulation Program, and videos were edited using Adobe Premiere Elements. Each haptic sign was described to indicate how it is performed, detailing handshape, movement, and body location. Some signs required specific contextual information, particularly those used in educational or familial settings, which may or may not apply to the broader Deafblind population. Since the descriptions would also become available to non-technical and non-scientific audiences, the teams were instructed to avoid complicated and technical terminology.

For the description phase, we consulted reference books on LGP to identify and describe handshapes and movements. The first of these books is the *Gestuário* (Ferreira, Fernandes 1991), the first LGP dictionary, which consists of a collection of LGP signs and their description and illustrations; the second book is *Para uma Gramática da Língua Gestual Portuguesa* (Amaral, Coutinho, Delgado-Martins 1994), which introduces the linguistic and grammatical analysis of LGP. Below we show an example of how *Gestuário* was helpful in this work:

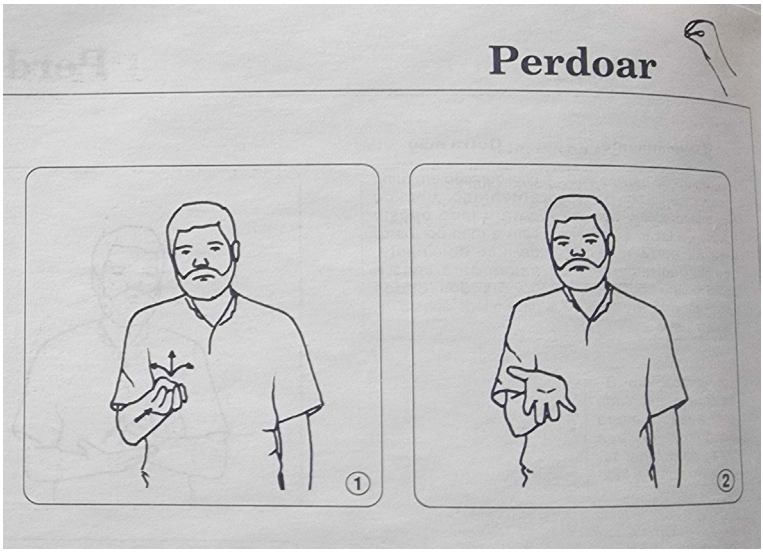


Figure 2 Visual description of FORGIVENESS (*perdoar*) (Ferreira, Fernandes 1991, 542)

Figure 2 depicts an arrow accurately illustrating the movement execution. Although the handshape and movement match those of the haptic sign we aimed to describe, this is not the same sign, as this

is the LGP sign for FORGIVENESS, which is not a haptic sign. Figure 3 shows an example from the website,[4] where the same type of arrow and movement is used:

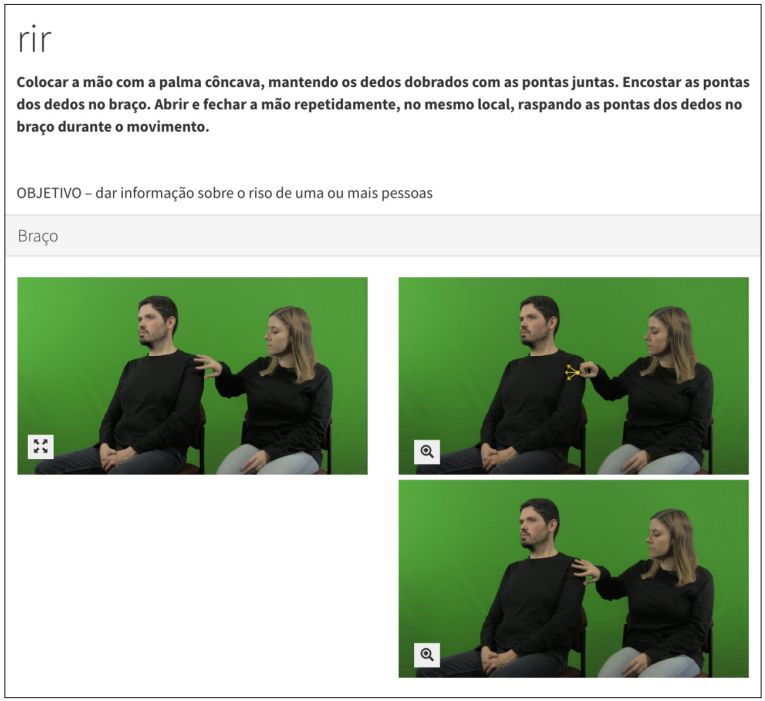


Figure 3 Portuguese haptic sign for LAUGH (*rir*). From the category "States and Emotion", we illustrate how the arrow was chosen, aligned with the *Gestuário*. The description above the images states: "Laugh: Place the hand with the palm concave, keeping the fingers bent with the tips together. The fingertips touch the arm. Open and close the hand repeatedly in the same spot, scraping the fingertips on the arm during the movement.
OBJECTIVE – to convey information about the laughter of one or more people"

The book *Para uma Gramática da Língua Gestual Portuguesa* was invaluable in grounding the team in LGP linguistics, especially for those members who were less familiar with it. It clearly outlined LGP phonology, describing handshapes, locations, and movements, greatly informing team discussions. For certain specific haptic signs, consulting these books facilitated problem-solving by providing clarity and solutions.

4 https://spreadthesign.com/pt.pt/social_haptic_signs/STATES_AND_EMOTION/347?q=&page=1.

4.3 Final Discussions and Creating Haptic Signs Categories

Between September and November 2022, the team reconvened to review the final products (videos, photos, descriptions) before publication on the project platform. This phase included re-filming some videos that failed to meet quality standards. The team met eight additional times, via virtual or on-site sessions. In each meeting, members ensured consistency with prior decisions, followed established description guidelines, using clear, accessible language that emphasized iconicity in handshape and movement descriptions (e.g., V shape, U/O shape), while avoiding technical or linguistic terms.

During revision, every detail was considered and finalized, from the designation of each sign to the corresponding description, crafted to be concise, clear, and accessible, along with the performance of the signs in the videos and photos. In total, the Portuguese team produced and published 80 haptic signs, from which 24 were collected through the process described in this article. The remaining 56 signs were documented and filmed by another Deafblind team member in collaboration with an LGP interpreter. Those haptic signs arose from his social-haptic communication with interpreters in various settings, including university classes, national and international conferences, cultural activities, and friendships with other Deafblind individuals. Given his social and cultural experiences, he could more easily document a greater number of haptic signs he has used over several years. It should be stated that all 56 signs documented outside the teamwork dynamics previously described were also subject to the same discussion and revision process by the team.

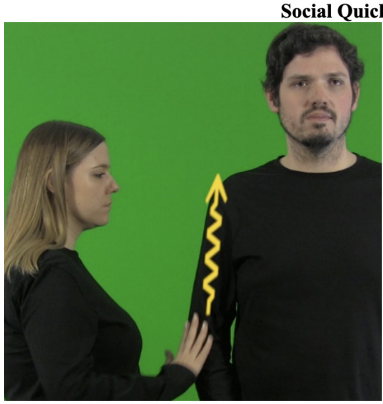
The description and classification stage also served to categorize and frame the haptic signs according to a list of 15 categories defined by the project partners in earlier phases. These categories, which were established based on research as well as emerging types of signs and signing contexts, include *Social Quick Messages*, *Guiding and Directions*, *Environmental Descriptions*, *Descriptions of Objects*, *Descriptions of Persons*, *States and Emotions*, *Cooperation with Interpreters*, *Food and Beverages*, *Weather*, *Colors and Patterns*, *Healthcare*, *IT and Technology*, *Letters*, *Numbers*, and *Other*. Additionally, the signs were classified according to the filming position (*Standing – Side*, *Standing – Behind*, *Standing – Front*, *Sitting Side by Side*) and the place of articulation/body location (*Head/Forehead*, *Face*, *Neck*, *Chest*, *Back*, *Shoulder*, *Arm*, *Forearm*, *Hand*, *Leg/Thigh*). Next, we present a collection of photos of haptic signs, of different categories, published by the Portuguese Team and available at the link `https://spreadthesign.com/pt.pt/social_haptic/`.

Guiding and Directions

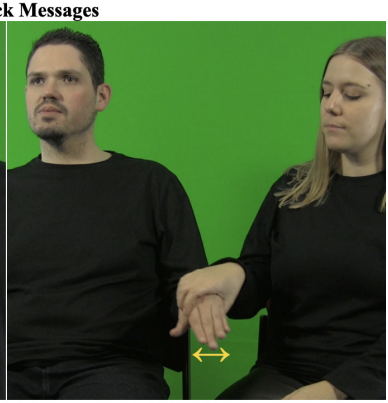
Draw an arc with the cane

Stairs

Social Quick Messages



Emergency



Thanking

Environmental descriptions

Crowd

Cooperation with interpreters

Interrupt/Break off

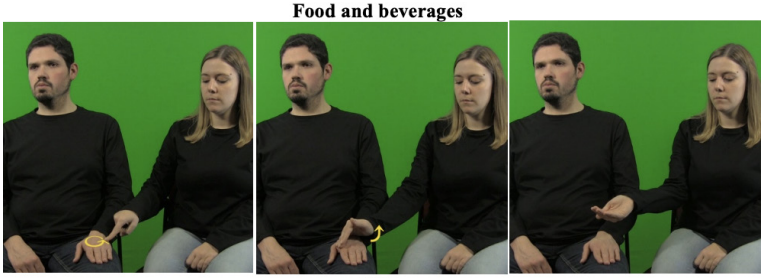
States and emotions

Laugh

Descriptions of Objects

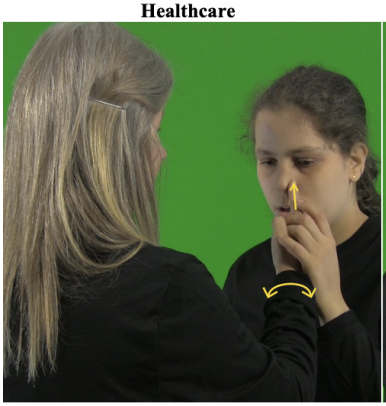
Clothes worn inside out

Food and beverages



Soup

Healthcare



Covid-19 test

Weather

Rain

Figures 4a-g Examples of pictures with a collection of haptices from each category

5 The Several Impacts of the SHS Project

From a meta-reflective perspective, this collaborative effort to document and develop haptic signs within Portugal has yielded various impacts and implications.

Firstly, the project has validated the work conducted at the CED-AACF for Deafblind. Feedback from staff, gathered on multiple occasions, revealed that their involvement prompted critical reflection on their practices and highlighted the need to continue enhancing communication and accessibility. While many staff were familiar with the touch-based messages, they previously lacked awareness of the importance of social-haptic communication for Deafblind people.

A notable finding concerns the potential of haptic communication in interactions with young Deafblind people in moments when they are engaged in physical activities: staff members add haptic information directly on the body while performing other actions, avoiding interruptions through hand-in-hand communication. For example: 1) during a Polybat game (adapted table tennis), the ball trajectory is signaled on the player's back to aid defense without hand contact; 2) while kneading clay with dirty hands, instructions on when to turn the clay or add water are given on the forearm.

Secondly, the project has facilitated essential collaboration between academia and educational institutions serving Deafblind people. This partnership deepens understanding of Deafblind communication access and fosters knowledge production that positively affects Deafblind lives. Crucially, including Deafblind individuals throughout the process grants them agency and ensures community visibility and recognition.

Finally, the initiative has created a national database of haptic signs to be used by educators, families, and others with minimal communication skills. It also supports educational purposes, such as training sign language interpreters specializing in Deafblind communication, thereby enhancing their professional skills. Looking forward, organizing nationwide Deafblind meetings is a key priority to encourage the emergence and development of additional social-haptic signs for integration into this database.

This article reports that the project significantly impacted practices at CED-AACF by prompting in-depth reflection on social-haptic communication with Deafblind pupils. This reflection was fostered through internal dissemination led by Paula Liques and LGP teachers Ana Ferreira and Pedro Pereira, enabling team members to critically engage with SHC concepts and methodologies. Consequently, CED-AACF staff participated in live and online meetings with researchers, creating a collaborative environment that offered practical insights for their daily work.

Furthermore, the participation of the professionals involved in the project, particularly the two previously mentioned teachers of LGP Language, introduced a novel pedagogical approach tailored to the needs of Deafblind young individuals. This training challenged educators already skilled in implementing SHC, promoting a more effective learning environment. After the project, these LGP teachers took on the responsibility of observing haptic communication, documenting new signs, and sharing them within the socio-educational community.

Another important outcome of this project is the creation of an opportunity for self-representation for Deafblind young people through a globally disseminated website. This initiative has empowered them to express their identities, contributing to a sense of agency within a broader community. By showcasing Deafblind individuals, this website is an example of a positive practice, thus fostering understanding and awareness about Deafblind lives and challenges.

The involvement of families of Deafblind youth from the project's start has been crucial. By sharing their communication strategies and celebrating successes with the educational community, families have expressed pride in the publicly available outcomes. This collaboration highlights the essential role of family engagement in educational and communicative processes.

Another impact was created through the implementation of Multiplier Events (ME), which are dissemination and exploitation sessions with diverse publics to present and promote the project's results. These ME allowed the Portuguese team to reach:

a. one higher education institution (University of Porto) with research groups in Deaf Studies, reaching 7 international researchers.
b. one higher education institution (School of Education of the Polytechnic Institute of Setúbal) with courses in the areas of LGP Translation and Interpretation, with an audience composed of 42 people, among which higher education teachers, sign language interpreters, and Deaf and hearing students, which consist on one of the project's main target public: future professionals in the area of sign language translation that will work with Deaf and Deafblind population and that can integrate the projects materials in their professional activity;
c. one educational and social institution for deafblind people, CED-AACF, our partner in this project, where we provided feedback to the technical and educational team that had members directly involved in the research process. We presented the outputs to 20 participants, including Deaf LGP teachers, a pedagogical coordinator, teachers, educational

technicians, a psychologist, a Deafblind adult, and other staff. Besides feedback, this ME was also a way to publicly recognize the work done by those who were heavily involved. This recognition was immediate from the project team, peers, and management of the organization.

The MEs not only opened the project's doors to the community, showing the tools and materials that would become available to use in a free and open access modality through the project website (Portuguese page: `https://www.spreadthesign.com/pt.pt/social_haptic/`), but also served as a way to collect valuable feedback and input from different sectors of academic, educational and training settings.

Lastly, the project has facilitated the development of a database of haptic signs, contributing to the documentation of this unique form of communication as result of an international effort. While it is essential to note that this effort does not imply standardization within the Deafblind community, the creation of such a database represents a valuable resource. It provides a foundation for future research and practice, promoting greater awareness and understanding of haptic communication methods among professionals and the community. This initiative highlights the potential for ongoing exploration and adaptation of communication practices that honor the diverse needs of Deafblind individuals.

6 A Letter to the Future: Portuguese Protactile

Having presented our project on social-haptic signs, we would like to address the future of the Deafblind in our country. During our meetings, the team embarked on discussions concerning the developments needed for the Deafblind in Portugal. Recent research led us to discuss the emergence of the Protactile language, which is now a focus in the field of sign language linguistics.

The pro-tactile social movement started in Seattle in 2007, under the premise "that all human activity can be realized via touch – that hearing and vision are not necessary for co-presence, navigation, interaction, or communication" (Edwards 2014b; 2018). After that, many started to acknowledge that the language, called Protactile, that the American Deafblind community was using, more specifically in Seattle and in Washington, D.C., is a full-fledged language. Protactile surely stems from American Sign Language, but it is now an autonomous linguistic system that emerged from the interactions of Deafblind people. Recent linguistics research shows that Protactile has distinct morphology and syntax from Visual American Sign Language. Terra Edwards wrote about the transition process from a

spatial to a tactile language and called it re-channeling. We believe that this re-channeling also happens from sign language to haptic signs, and they are preceding the possible emergence of Portuguese Protactile.

We can affirm that for most Deafblind people in Portugal, LGP is rarely a viable means of communication. This is largely because Deafblind individuals are often placed in institutions that are neither prepared nor adequately trained to support their needs. Furthermore, deafblindness is frequently misconstrued as merely another form of multiple disability, resulting in many Deafblind people being isolated in environments where staff possesses little or no knowledge of LGP, including its visual, tactile, or hand-supported forms.

LGP has been the language of choice for years by several Deafblind people in our country without relevant linguistic adaptations, since we sign on each other's hands (hand-supported LGP). Therefore, any LGP signer can fully understand interactions between Deafblind people in LGP. What Edwards (2014a) unveils as the "redistribution of sub-lexical complexity in a tactile field" elements such as the migration of spatial elements to the body, using the body of the interlocutor/addressee's body as a linguistic space, three person configurations, and matured proprioception linguistic dynamics and tactile habitus are processes that are yet to happen in our country and with LGP. The primary obstacle to this, which can also be framed as a human rights concern, is the absence of a cohesive Deafblind community in Portugal, along with the social and cultural dimensions that a community typically encompasses. This remains so because Deafblind people are subjected to invisibility in social, educational, and cultural contexts. This invisibility is fuelled by the concept of multi disability (*multideficiência*), although research has pointed out that these frameworks do not serve the best interests of Deafblind people (McInnes, Treffry 1982).

Now and then, a Deafblind person gains social visibility, usually in Deaf community contexts, academia, or in media articles with ableist contours that regard Deafblind people's achievements regardless of sensorial impairments, instead of looking at societal limitations to include and give equal opportunities to Deafblind people. So, the Portugal Deafblind network and the Deafblind community *per se* are yet to emerge.

We believe that haptic signs collected in this project in Portugal may be the very genesis of a possible future for the Portuguese Protactile, since the proprioceptive sense is widened with haptic signs and the project itself allowed Deafblind people to gather and have conversational moments (although insufficient, and this is still a goal of ours), thus allowing for linguistic experimentation, not only among Deafblind people but also with Deafblind interpreting teams. It has become clear that gathering Portuguese Deafblind

people and allowing them to meet and communicate will provide the atmosphere for the emergence of more haptic signs, and one day, a future Protactile language, but no less important, a Portuguese Deafblind community.

7 Conclusion

Social-haptic communication is a tactile-based communication modality for Deafblind and Deaf individuals with low vision, yet it remains underutilized in Portugal due to geographic dispersion, lack of specialized training, and insufficient demographic data on the Deafblind community. This paper reflects on the Portuguese team's involvement in the international project *Social Haptic Signs for the Deaf and Blind in Education*, focusing on the process of documentation and production of 24 haptic signs integrated into a national collection of 80 signs.

Within the Portuguese context, the project fostered strong collaboration between academic researchers, educators, Deafblind individuals, and professionals, resulting in the collection and documentation of 24 haptices. Filming sessions ensured Deafblind representation, enhancing the legitimacy and quality of the materials produced. The project promoted reflection and learning among professionals working with Deafblind people, introduced innovative pedagogical practices, and empowered Deafblind individuals through self-representation. Multiplier events allowed dissemination to academic, educational, and social sectors, expanding the reach of project materials. Overall, the initiative established a valuable database of haptic signs that supports future research and education.

The haptic signs documented through this project represent an important stepping stone. We hope these resources serve as more than practical tools, as they lay the groundwork for both linguistic innovation and community formation. By expanding proprioceptive communication and facilitating interactions among Deafblind people and interpreting teams, and educators, the project not only fosters language experimentation but also launches the emergence of a cohesive Deafblind community in Portugal in the future.

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