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ECSCW CONTRIBUTION

An Institutional Perspective: How Gatekeepers on a Higher Education Interact for the Organization of Access

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Abstract. There is growing research on how collaborative systems could support equity in shaping access for marginalized communities in different contexts. Higher education institutions are essential contexts for examining issues around equity-based organization of access for diverse populations, including people with disabilities. However, there is a shortage of research in CSCW investigating equal access in higher education settings. To address this gap, in this case study, we aim to have a closer look at how gatekeepers (people who are responsible for accessibility) in a higher education institution organize access for members with disabilities. Gatekeeping has long been discussed in disability justice to examine systemic and institutional barriers for people with disabilities. We reveal how gatekeepers interact and collaborate around existing institutional communication channels to collect access-related requests and distribute access in the higher education setting. Our data shows that existing practices come with institutional challenges hindering equity and inclusion for members with disabilities. Key issues revealed through our findings are (1) communication tools and non-shared definitions around access, (2) lack of tools for experience documentation, (3) ineffective feedback loops around access requests, (4) impact-based prioritization for access requests. We discuss how our analysis contributes to equity-oriented system design for future collaboration around organizing higher education access at the institutional level.

Keywords: Institutional Perspective, Collaborative Accessibility, Collaborative Systems, Higher Education, Gatekeepers, Disability Justice

1 Introduction

Gatekeeping has long been discussed in disability activism, disability justice and disability studies literature to examine systemic and institutional barriers for people with disabilities. These barriers take new shape with the introduction of technology. CSCW has been increasingly exploring how technologies and systems

for collaborative interactions shape the equity-based organization of access for the members of marginalized communities (Devito et al., 2019) along with gendered (Chang et al., 2014; De Choudhury et al., 2017; Haimson et al., 2015; Nova et al., 2020), racialized (Hagen et al., 2019), ethnic (Maheshwari et al., 2017; Rao and Hemphill, 2016; Vigil-Hayes et al., 2017) and economic lines (García-Gavilanes et al., 2014; Schaefbauer et al., 2015), for collaborative experience sharing and collective decision-making processes. Previous research further covers the equity-based organization of access in the context of diversities within a body, for example, aging (Lazar et al., 2017; Yong et al., 2020), mental health (Feuston and Piper, 2018; O'Leary et al., 2017), and with an emerging interest in people with disabilities (Buyuktur et al., 2018; Ding et al., 2017; Jalit et al., 2020; Liu et al., 2016; Porter et al., 2017; Vines et al., 2015; Zyskowski et al., 2015). These research reveals how collaborative systems might support equity-oriented interactions through providing related tools to help social interactions, information sharing, community building, visibility, and activism.

Beyond CSCW, higher education institutions are essential contexts for examining issues around equity-based organization of access for different populations (Forsyth and Furlong, 2003; Mdepa and Tshiwula, 2012), including people with disabilities (Hutcheon and Wolbring, 2012; Kroeger and Kraus, 2017; Leyser et al., 1998; Lombardi and Lalor, 2017; Murray et al., 2008; Pearson and Samura, 2017). Studies on higher education and university campuses showed that on an organizational level, decision-makers around accessibility in higher education had a restricted understanding towards disabilities, missing the diversity of complex and individualized needs (Vaccaro and Kimball, 2017). It is also reported that not all the administrative personnel involved in accessibility-related situations on campus have the same level of knowledge about the topic (Shaw and Dukes III, 2005). Further, they have different perceptions and attitudes towards their work (Guzman and Balcazar, 2010) primarily informed by the Medical Model of Disability (Shallish, 2017). The Medical Model is prone to positioning disabled people as deficient or dysfunctional, and locating the'problem' of disability within the individual. This over-medicalized, individualistic and not equity-oriented perspectives of disability has led to oppression, discrimination, and exclusion of disabled people from important parts of public life (Shakespeare et al., 2006), including education. The global politics of disability rights and disability movements have surfaced thorny questions regarding the nature of dominant explanations, such as the Medical Model. Equity-oriented perspectives (Chancellor et al., 2019; Dye et al., 2018) and collaborative approaches regarding organization of access have started to gain visibility. CSCW research has a vital potential to contribute to this by providing related tools and technologies for integrating equity into the collaborative organization of access.

Inspired by the existing higher education research from the Disability Studies literature and the existing equity-oriented work in CSCW, we look into the perspectives and practices of decision makers (gatekeepers) around organizing access in a higher education campus. Our aim is to better understand: 1) how the gatekeepers organize access in the higher education institution through collaborative systems and 2) how CSCW research can support the equity-based organization of access by integrating institutional level changes for the equity supportive collaborative systems in the case of higher education. Therefore, in this case study, we conducted in-depth interviews with 10 gatekeepers at a higher educational institution located in Turkey. Coined by Kurt Lewin, the term "gatekeeper" refers to people who are able to arbitrate access to a social role or structure (Lewin, 1943) in any context. The term is also used to refer to people who make decisions around accessibility (Shallish, 2017), including higher education institutions. In higher education institutions, gatekeepers collectively organize and distribute access for the campus members with disabilities. They are responsible for receiving, prioritizing and responding to accommodation requests from campus members with disabilities. In our paper we call these people "gatekeepers" who collectively negotiate, organize and interact around access and are all accountable for access-making processes for their offices. Their roles and responsibilities in campus vary from deciding on the physical accessibility of the campus (e.g., construction office manager), to digital accessibility (e.g., IT members), or accessibility of dormitories (e.g., dormitory services office manager). Even though the majority of the gatekeepers do not have official titles around access (e.g.,'responsible for physical accessibility'), they have institutional roles and are the critical agents of decisions related to accessibility for campus members with disabilities.

Our findings aim to make two primary contributions to CSCW. Firstly, our analysis provides an initial understanding of gatekeepers' current definitions, decision-making processes, measurements and interactions around organization of access through communication channels at the institutional level. We reveal insights into how gatekeepers interact around existing communication channels to organize and distribute access in the higher education institutions and how future equity-oriented collaborative systems might support this interaction. Prior work focuses on collaborative negotiation of access in different contexts such as home (Branham and Kane, 2015a) and workplace (Branham and Kane, 2015b; Das et al., 2019) and around the interactions between small mixed-ability dyads (Branham and Kane, 2015a, 2015b; Das et al., 2019), leaving open questions of how the collaborative organization of access at an institutional level can be improved from an equity perspective. Our data shows that existing communication channels (collaborative technologies and interaction patterns -or lack of them-) come with institutional challenges that hinder equity and inclusion for members with disabilities. These are revealed as (1) communication tools and non-shared definitions around access, (2) lack of

tools for experience documentation, (3) ineffective feedback loops around access requests, (4) impact-based prioritization for access requests. Secondly, our findings also reveal insights on how future equity oriented collaborative systems can support gatekeepers' organization of access by providing tools and technologies for equity oriented collaborative experience sharing, decision making and evaluation tools to overcome institutional challenges around access. Our discussion provides practical insights for future collaborative systems where gatekeepers operate to overcome existing institutional challenges that hinder a more equitable organization of access in higher education institutions. These collaborative systems have potential to enhance communication and collaborations between the gatekeepers that can lead to an equity-based organization of access. So, the insights from our study are around defining the terms of non-biased access, campus-wide collection of actions, dynamic content creation, documentation and archiving. Focusing on equity-based organization of access, future studies may explore potential collaboration between campus members with disabilities in relation to gatekeeping processes.

2 Related Work

This paper brings together literature from the following threads. We first look into how HCI and CSCW approach collaborative access to better under- stand the collaborative negotiation of access at an institutional level, such as in a higher education campus where access is negotiated by a larger gate- keeper group. Then, we examine Disability Studies literature on how access is organized by gatekeepers in higher education campuses. Finally, we look into studies of collaborative systems in CSCW, specifically focusing on the ones that are dealing with equity-based organization of access, to better understand how institutional level collaborative systems where gatekeeper operates can be better designed to support equity-based organization of access for campus members with disabilities. When we refer to campus members with disabilities, we include all the members with disabilities, including students and staff. Below, we critically examine existing work with a focus on how each of the introduced sections helps us frame our study on interactions and negotiations that shape the organization of access at the institutional level.

2.1 Collaborative Negotiation of Access in CSCW and HCI

Our work closely relates to the collaborative negotiation of access advanced by scholars working on social and collaborative accessibility in HCI (Branham and Kane, 2015a; Das et al., 2019; Jalit et al., 2020; Wobbrock, 2019). These works looked into the situational and collaborative nature of the disability and the accessible experience which are dynamic, and include people with different abilities (mixed-abilities) (Branham and Kane, 2015a; Hamraie, 2016; Wobbrock, 2019). Branham et al. highlight the accessibility processes as not static,

but instead changing over time and continually being negotiated by people who share the same space (Branham and Kane, 2015b). In another work, Thieme et al. consider disability as "something that is not fixed or manifested alone through the body but created through a person's social and material interactions with the world" (Thieme et al., 2018). According to Bennett et al., access is something changes over time, rather than being static (Bennett et al., 2018). Access needs to be "continually renegotiated" based on social norms through social interactions (Bennett et al., 2018). Branham et al. illustrated how accessibility continually renegotiated collaboratively through various activities between the partners at home (Branham and Kane, 2015a) and in the workplace between co-workers (Branham and Kane, 2015b). Further, Das et al. also highlighted that mixed-ability co-workers create accessibility by negotiating practices (Das et al., 2019). In another study, Wang and Piper illustrated that accessibility emerges through interactions and practices (Wang and Piper, 2018).

Previous work examines the mixed-ability workspaces, introducing concepts such as "invisible work" to define the extra effort put by workers with disabilities to ensure accessibility (Branham and Kane, 2015b; Das et al., 2019), rooted from the concept of invisible work in organizations (Star and Strauss, 1999). This body of work focuses organization of access around the interactions between small mixed-ability dyads (Branham and Kane, 2015a, 2015b; Das et al., 2019), pointing to the value of mutual labor, dynamic definitions, the importance of work distribution, independence as well as inter-dependency (Bennett et al., 2018). However, the question of how access is collaboratively organized and negotiated at an institutional level such as in a higher education context remains open. Our work aims to extend the body of literature in collaborative access by presenting institutional and systemic level collaborative interactions and negotiations around access to illustrate the importance of systemic perspectives for designing for equity-based organization of access.

2.2 Disability Studies Perspective: Gatekeeper Roles on Accessibility in Higher Education

Using the Disability Studies lens would support assistive technology-related work in HCI by providing a more nuanced perspective on a complex interplay of issues related to accessibility (Mankoff et al., 2010). Scholars pointed to the individual challenges of people who are involved in accessibility-related situations in higher education (faculty and administrative personnel, named as gatekeepers (Shallish, 2017)). These challenges include the perceptions of disability that come from the Medical Model (Shallish, 2017), lack of formal training with regards to students with disabilities (Lombardi and Lalor, 2017), and administrators who are underprepared to support students with disabilities (Leyser et al., 1998; Murray et al., 2008). Existing work also argues that the gatekeepers have recognized their lack of knowledge about the issue, and they want to learn more

about their role in supporting students with disabilities (Leyser et al., 1998; Murray et al., 2008). Here they relied on institutional resources such as the office for disability services to provide support for students with disabilities (Lombardi and Lalor, 2017). Further, any type of training such as enrolling in a disability-related course or workshop or reading disability-related books or articles proved to support gatekeepers. Additional training helped to improve perceptions that gatekeepers hold regarding disability, would lead them to develop more positive attitudes (Murray et al., 2008; Vaccaro and Kimball, 2017), make them more aware in terms of invisible disabilities (Albanesi and Nusbaum, 2017) and not miss the diversity of complex and individualized needs of people with disabilities (Vaccaro and Kimball, 2017).

Existing literature also emphases positioning of disability office/disability services workers within the ecosystem of gatekeepers. Researchers highlighted that disability services administrators are resourceful since they collaborate with disabled students frequently and have the power to influence larger campus culture around diversity based on the social model of disability (Kroeger and Kraus, 2017), even though they feel resourceless in terms of staff and budget (Griffen and Tevis, 2017) and have positioned to work individually and reactively (Kroeger and Kraus, 2017). Our study inspired by these studies, exploring gatekeeper interactions around negotiating and distributing access. We believe that this exploration is important for the CSCW community when designing collaborative systems around access.

2.3 Collaborative Systems around Access in CSCW

Gatekeeping and organization of access for marginalized communities, including people with disabilities in collaborative systems is an important area of exploration for CSCW. Previous studies centered equity and equity-based organization of access into the center, by examining collaborative interactions of marginalized communities around access and how socio-technical systems might support these interactions. As a frequently used concept, equity refers to fairness and justice. Previous literature examining the meaning of equity in education highlights equity as an active process of being equal and concentrating on equality and fairness in distribution (Unterhalter, 2009). From a socio-technical point of view, equity refers to the extent to which all users receive the same functional performance through their interactions (Siddiqi and Heydari, 2019). While saying "equity centered", we aim to center and prioritize fairness and justice in the organization of access against the barriers arising from systemic, socio-technical and institutional structures.

Previous work shows how the equity-oriented design of socio-technical systems and related tools might support access for marginalized communities through the negotiation of social interactions, information sharing and

community building, as well as visibility and activism. Previous research on collaborative technologies for people with disabilities focused on how socio-technical mechanisms and related tools organize online social or work-related interactions (Ding et al., 2017; Liu et al., 2016; Porter et al., 2017; Zyskowski et al., 2015), such as sharing accessibility-related experiences (Ding et al., 2017; Vines et al., 2015). For example, Zyskowski et al. showed that collaborative platforms to support the participation of people with disabilities in crowd work could improve the experiences of finding tasks by matching them with abilities needed such as the ability to hear audio (Zyskowski et al., 2015). Even further, employers can label tasks, stating the required abilities for a task (Zyskowski et al., 2015). Liu et al. coined the term"communally mediated integration", which describes how people with disabilities gained confidence through organizing activities or creating employment opportunities (Liu et al., 2016). Beyond just finding jobs, Ding et al. highlighted the social relationships developed through online crowd work communities (Ding et al., 2017). They suggested a hybrid of multiple stakeholders from crowdsourcing and online communities which combines supervising and training, as well as socializing and community building activities within crowdwork platforms (Ding et al., 2017). Another study focusing on online interactions among people with disabilities, suggested adopting a story-based approach while sharing lived experiences and information around using assistive technology (Vines et al., 2015). Community members can share their journey around assistive technologies when providing and requesting advice, enabling community members to relate to others with similar experiences (Vines et al., 2015).

This research highlighted equity issues around disability disclosure, content creation, visibility and independence. For example, to ensure people with disabilities may flexibility to build their worker profiles, Zyskowski et al. recommended that work platforms should allow people to identify their disabilities optionally (Zyskowski et al., 2015). Similarly, focusing on disability disclosure around online dating communities, Porter et al. suggested using information filtering systems such as questions or ambiguous options like "Ask Me" rather than requiring marginalized groups to disclose disabilities (Porter et al., 2017). As Bennett explains in the context of image descriptions, AI-generated image descriptions may cause potential harm and inequalities for blind people accessing visual information. They suggest image descriptions should be authored by the person being described, and remain open to updates for changing identities and consider power imbalances (Bennett et al., 2021). Further, researchers stated that such platforms might benefit from enriched profiles, and contributions that allow multiple forms of content creation such as sketches, photos and videos (Vines et al., 2015). To support independence in digital care networks that include multiple stakeholders, researchers highlighted the

importance of centralizing the person with the health condition in the system to support their agency and independence (Buyuktur et al., 2018).

Overall, the studies introduced in this subsection center equity for the organization of access. These studies show how technological design decisions may either amplify or silence the voices of people with disabilities. In this study, we extend previous research by showing how individuals' experiences can be better supported by designing collaborative systems that support equal organization of access. How collaborative technologies are designed shapes who has access to these platforms and what type of interactions may take place there. Our study contributes to the existing work by uncovering collaborative gatekeeping through technologies, an act that plays an essential role in managing and negotiating access.

3 Method

In this paper, we aim to look into the processes of institutional negotiations around access on a higher education institution. Therefore, we reached out to a sample of people who take part in this process on different levels and concerning various aspects of the accessibility work. We set the appropriate sampling procedures, interview guidelines to interview a distributed network of "gatekeepers" at the [Anonymised] higher education institution renowned for its accessibility practices. Below, we describe context of our research and the characteristics of the [Anonymised] higher education institution regarding division of labor on access. We conclude by presenting our sampling procedures, participants and data analysis process in detail.

3.1 Context of Our Research

The [Anonymised] higher education institution is an accredited research university that accommodates + 7000 students and + 400 staff. The campus is at the outskirts of a city in Turkey, where more than 90% of the students, and staff members live. The university has both formal and informal structures to support diversity and inclusion (e.g., center of excellence for gender studies, migration, preservation of intangible knowledge, student clubs for LGBTQI +, to increase the awareness of non-violent communication). [Anonymized] higher education institution has an "Office of Disability Services" working under the Dean of Students, and it received an award of "A Campus with no Barriers" for its physically accessible campus for people with differing abilities.

3.2 Sampling

Ethical approval for this work has been taken from the ethics board committee of the [Anonymized] university. For the sampling, we used the snowballing sampling as the most widely employed method in qualitative research in different disciplines to gather interactional types of social knowledge (Noy, 2008). We started reaching out to"gatekeepers" who involve in accessibility-related situations on campus rather than trying to spot those cases. Starting from the disability office, we snowballed our sample based on the information gathered in the interviews. In this way, we aimed to concentrate on the actions taken by people in charge rather than spotting singular events that would potentially limit a holistic understanding of campus accessibility. Towards the end of each interview, we asked our interviewee about other people whom they work with around accessibility-related situations. We continued doing this until we started to hear the same names and make sure that our snowballing sampling was saturated for the people-in-charge on campus (see Table 1. and Figure 1.). Although not all the gatekeepers were the highest managerial positions of the offices they belong to, they were all the accountable persons for access- making processes for their offices, and the critical agent of decisions related to accessibility for campus members with disabilities.

Among the participants, P1, P10 and P2 (Group 1) have official accessibility titles in their job definition (P1 and P10 as disability office directors and P2 as construction office manager responsible for accessibility) and the rest of the participants (Group 2) become responsible and involved in when there is an accessibility-related situation related to their offices. We note that through our Findings section, when we provide a direct quote from a participant, we refer to their group (G1 and G2), rather than the participant number (P1, P1…) to ensure the anonymity of our participants (Table 1). Interactions of the gatekeepers appear in the snowballing process (Figure 1.). As presented in the table above, P1 and P10 (current and formal disability office members, respectively) are the centers of each disability and accessibility-related situation at the campus, as a contact office for the campus members with disabilities. As an authorized person for accessibility at the construction office, P2 is involved in many of the accessibility-related situations, especially the ones related with physical accessibility. Unlike other participants, P1, P2 and P10 have access to resources and official documents (related to accessibility regulations). Since other participants do not have official titles related to accessibility, they become involved when the case is related to their office. They are not familiar with official documents and accessibility-related regulations. Despite our participants are collectively responsible for accessibility on campus, how and in which ways they relate to the topic was not explicitly or officially articulated (i.e., written down).

Table 1 Participants of the study, along with the offices they belong to and their involvement in accessibility-related situations on campus.

Participant	Office	Involvement in Accessibility Related Situations
P1, G1	Member of disability office	Center of disability related situations, involves in each case. Collect demands from disabled students, convey that knowledge to related offices (other gatekeepers)
P2, G1	Member of construction office (accessibility department)	Involves when there is construction related accessibility situation such as making ramps, making doors of buildings accessible etc
P3, G2	Member of dormitory services office	Involves when there is a disabled student that would stay in dorms, arrange their rooms along with construction office
P4, G2	Member of IT (support services)	Involves when there is digital accessibility-related situation
P5, G2	Member of IT (digital solutions)	Involves when there is digital accessibility-related situation
P6, G2	Member of process improvement office	Involves when a disabled student participate in the events that the gatekeeper is responsible from and if there is accessibility-related situation in the event
P7, G2	Member of quality management office	Involves when there is accessibility-related situations regarding physical services
P8, G2	Member of facilities management office	Involves when there is accessibility situation related to services that business facilities management responsible from
P9, G2	Academician, organizational psychologist	Involves when there is an official process going on in campus related to accessibility such as deciding on accessibility standards and reporting those and organizes events related to disability on campus
P10, G1	Former member of disability office	Center of disability related situations, involves in each case. Collect demands from disabled students, convey that knowledge to related offices (other gatekeepers)

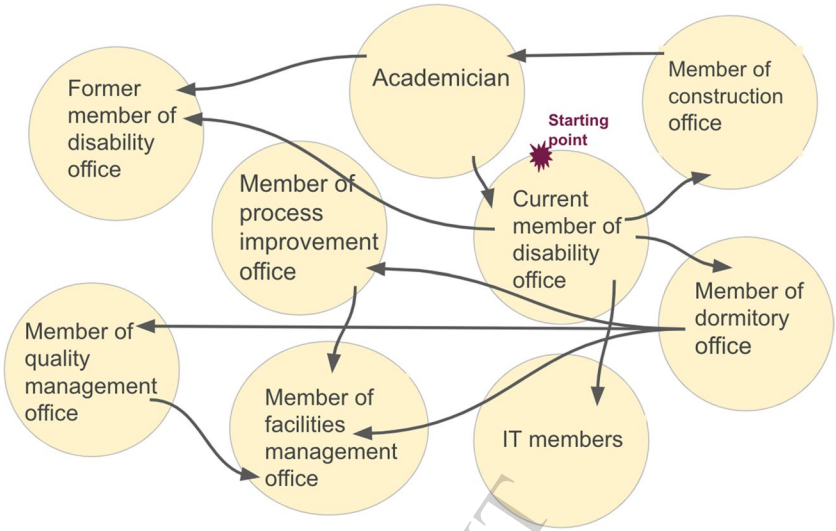

Figure. 1 Schematic view of the snowballing process. Illustrates how the snowballing process proceeded and how different gatekeepers referred to each other. Image caption: 9 division names are placed in circles in light yellow, possible interactions are illustrated with grey arrows. The current disability office member is placed around the middle and marked as the starting point. Other 8 division names are placed around it also in circles. 12 arrows show the pointers from each division to another, the disability office having the most (5).

3.3 Interview Protocol and Data Analysis

We conducted 10 semi-structured interviews during this study. All of the interviews were led by the primary researcher, self-identified as disabled person with a visible disability. Interviews took between 40 to 60 min and took place in each gatekeeper's office at the [Anonymized] university campus. The interview with a former disability office member was conducted via Skype since she was no longer working at the campus. In terms of how interviews were conducted, the protocol was set in advance by two researchers and interviews were conducted in a semi-structured manner. The aims of our interview protocol were to understand how gatekeepers are called and get involved in various accessibility related-situations around campus, what kind of a process they have when they are involved in an accessibility-related situation (e.g., whom they work with, how they make decisions), how they perceive and approach accessibility, and how they negotiate around access. We applied the same interview protocol in each interview.

All interviews were anonymized, transcribed and coded by two independent coders (first and the second author), using the inductive thematic analysis method (Braun and Clarke, 2006). We began with open coding of our interview data around our main question: "How the accessibility in the higher education institution is perceived, received and organized?" Each coder defined the code, and what it means individually. Once this part is finished, we compared the code sets,

defining different codes with similar content. We merged those and extended the codebook to encapsulate both codes. After several iterations, the main themes are saturated. Although independently conducted, our analysis does not claim to be generalized since it has presented as a case study. Still, our findings indicate many inspiring conclusions for institutional level negotiations around access.

4 Findings

Our findings reveal how gatekeepers interact and collaborate around existing institutional communication channels to organize access in higher education institutions. The following subsections reveal institutional challenges around access as (4.1) communication tools and non-shared definitions around access, (4.2) lack of tools for experience documentation, (4.3) ineffective feedback loops around access requests, (4.4) impact-based prioritization for access requests.

4.1 Communication Tools and Non-Shared Definitions around Access

The interactions around accessibility take place between gatekeepers and other campus members via use of different tools. Most of the interaction between the gatekeepers takes place via direct email and direct phone calls. There is no email group or any other platform that involves more people at a time. There is a WhatsApp group that campus members with disabilities and the disability office members use frequently. Through the WhatsApp group, campus members with disabilities can communicate accessibility-related requests to the disability office member. The disability office member acts as a person to deliver the requests and convey them to relevant gatekeepers. There is mobile application includes a map of the campus, announces events and organizations on campus and provides easy access to contact information (official university email address) of students, faculty and staff. However, the application is not used as a communication tool since it does not provide a space to communicate one-to-one or in groups around specific topics. Lastly, not specific to accessibility-related topics, there is a track-it system in the university where all the campus-related requests are submitted and conveyed to the IT office including issues around assistive technologies and accessibility requests. How- ever, this platform works according to a rating system that prioritizes requests that include the majority of the people. The algorithm of the rating makes accessibility-related situations seem less important since they affect a small group of people, mostly even one person (or it seems so). This generally causes a delay in solving accessibility-related situations. Also, there is no shared plat- form that all the offices are involved in to collaborate around a specific topic (e.g., accessibility) and where all the requests coming from campus members with disabilities are shared and discussed. Previous

communications via above mentioned tools include general accessibility requests of campus members.

Within the current structure, one of the prominent practices of gatekeepers takes place around the contextualization of disabilities and access requests. Our data showed that there is a great variation in how gatekeepers conceptualized accessibility, experiences of campus members with disabilities, how they perceived accommodation requests and decided whether to apply those or not. We found that these definitions were both disjoint and unarticulated yet influential in individuals' gatekeeping and in the tracking of accessibility success in the campus. Considering the existing practices around the communication channels, there is no space for gatekeepers and campus members with disabilities to share, compare or jointly redefine equity-oriented definitions and experiences around access.

Gatekeepers' divergent understandings of accessibility led to conflicts when enacting accessibility on campus. The following quotes illustrate how an accessible solution according to one gatekeeper can be perceived as a non-solution to another gatekeeper as well as other members with disabilities on campus:

> G1: (self-identifies as a disabled person): 'Take the example of the dining room on campus. They (referring to other gatekeepers) say that if you cannot get your meal yourself, you can ask for help, and there will be someone to help you there. They present this as a solution. But this is not accessible. We (she refers to her alliance with other people with disabilities on campus) do not want to be labeled as spoiled or stubborn because we asked for accessibility.'

Similarly, various offices disagree about when an accessibility accommodation has been successfully provided. For example, in the case of in-campus doors:

> G1: 'They (referring to other gatekeepers) say that a disabled person would be able to use this door one way or another. Yes, she can. She used it up until now, but did she use it in a dignified way? What were the things that she had to think about and organize each time? Did she wait for someone to open it, asking for someone to come with her to help?'

G1's questioning also makes us aware that these questions are not voiced out loud, which makes the quest of campus members with disabilities to live in equity invisible for the gatekeepers. While gatekeepers enable accommodations around the campus, and shape the campus experiences of members with disabilities, they are reluctant about and unaware of the expectations of members of living a dignified life.

We found the notion of "bringing access" to a place was pervasive, as were assumptions about which parts of the campus students with disabilities frequent:

G1: 'There are disabled people coming and going into the disability office. For sure, I would make this room accessible (adding an automatic door actuator). But, if another office asks for that, I would say it is unnecessary. We want to bring access to the places where disabled students circulate more.'

The quote from G1 shows a clear cut in equity among how campus members should circulate. It is accepted as unnecessary to build door actuators everywhere. The decision procedure remains nontransparent.

Our findings also revealed that while trying to define campus members with disabilities, disability office members tended to group disabled members on campus into "types," and it functions for the disability office managers by enabling certain disability types--and hence their problems and solutions--to be prioritized: G1: 'First thing I do at the beginning of each semester is to group my students in terms of their disabilities. For sure, we focus more on students with visual impairments, hearing and mobility impairments.'

However, the visibility of different disability types varies based on who is checking it. Without an institutional and shared agenda, for some, people with visual impairments are less of a focus, for others 'mental health' is a minor issue and can be ignored:

G2: 'As a campus community, we are not aware of differences between various disability groups. When you say "disabled," people just think about someone with a wheelchair, a person with a mobility problem. Nobody thinks about blind people or, say, a person with psychiatric problems. It is even visible in official checklists. So, everyone has a blind spot about some forms of disability because there are various types.'

Interestingly, the gatekeepers themselves identified a disjuncture in the way that their counterparts oriented to and defined the necessary work around accessibility:

G1: 'They (referring to other administrative offices) say that what we are doing in the accessibility office can be done in 2-3 days every week, so I can also deal with other stuff. No, I just want to focus here. It is not just hanging brochures around campus; we live here. What else can we do? There is no end to work for accessibility.'

Here, we see that G1 identifies as an ally with members of the disability community on campus ('we'), a positionality that she perceives as setting her apart from some of their counterparts in other divisions. Accessibility is not just about brochures and checklists--essential parts of the service management process--it is also and primarily about the individual and social experience of

people with disabilities. Accessibility is not a part-time effort to achieve baseline physical access; rather, it is ongoing, expansive work ('2-3 days', 'there is no end') that seeks whole-life inclusion ('integration' (G1), 'welcoming,' (G2) 'we live here' (G1)).

We see that existing collaboration practices between the gatekeepers and campus members with disabilities do not support sharing experiences. No examples for a joint platform, a checklist, a vocabulary or a suggestions sheet is mentioned that can help gatekeepers make these decisions in an equitable way. Communication channels like WhatsApp groups, emails or Track-it systems may not encourage to exchange definitions since the interactions taking place here are more outcome-oriented, not supporting the sharing of definitions and considerations behind the decisions. Also, there is no juried system and no support request from the direct experience. The gatekeepers are left alone with their interpretation of the situation.

4.2 Lack of Tools for Experience Documentation and Transfer

Our interviews did not reveal an instance that gatekeepers mention any obligatory practice of documentation or any specific tool or technology to sup- port their accessibility-related decision-making practices. Our findings showed that gatekeepers working in different administrative positions seek to develop accessibility solutions that are one-time, person-specific, not documented and therefore hardly sustainable. Further, while gatekeepers negotiate their motivations behind decisions we also observe a strong and recurring influence of lack of documentation practices. This was especially visible while the gatekeepers frame accessible experience or how they make decisions for it.

For example, there was no documentation transferred from the former disability office manager to the current one. Similarly, experiences of members with disabilities also become invisible through generations:

> G2: 'There was a student with a hearing disability who requested a sound blockage system for the classes. It was too expensive, but with the student's efforts, we bought the system and set up the system in her class. Then she graduated, and we removed the system from the class.'

However, as our data shows, when carrying out routine activities around access, it matters who is doing the work, what gatekeepers, and members with disabilities, learn in the process and later on, their memories of prior accommodations. Even though a documentation and experience transfer culture is non-existent, the following example shows a unique occasion of interaction between intergenerational campus members with disabilities:

G1: 'We try not to lose our contact with our graduate members with disabilities. One of our students started to work in a big technology company, and with his initiation, the company purchased 3 We-Walk technology for our students with visual impairments.'

Many of the available assistive technologies were purchased by the university, representing the university's willingness to invest in these. Technologies to enhance the overall accessibility of the campus include Braille printers (emboss braille characters into paper for tactile reading by a blind reader), automatic door actuators (mechanism that locks and unlocks doors with the push of a button) navigation systems, sound blockers (systems for deaf or hard-of-hearing users that amplify sounds they want to pay attention to and reduce the irrelevant ones), smart kitchen and smart room mechanisms adapted to specific dormitory rooms (e.g. a kitchen with a labeling system for blind or people with low vision, low in height kitchen countertops for wheelchair users), a We- Walk system (a smart cane) provided to members with visual impairments. However, as our data shows, the calculations for determining whether or which technology to purchase are diverse and potentially inconsistent. Many different parameters determine investing in these technologies. The process by which these technologies come into view (i.e., by requests of current members with disabilities, recommendations of alumni, or personal observations of gatekeepers) and the process by which gatekeepers decide to invest effort and resources (i.e., by assessing how many members would benefit and whether it is possible budget-wise,) do not intersect with each other. Since these processes are not documented, there is no mechanism to track why that high-end technology is bought for the dormitories, whereas the x student did not get the relatively cheap Braille printers.

In contrast with individual cases around access, larger-scale one-time efforts, like organizing an important campus event such as the 'commencement', was marked by more formal collaboration features and documentation practices. The commencement and its being a yearly repeating event were the main drivers for the development of documentation for the following years. Multiple gatekeepers were involved and communicated, teams were gathered, procedures were documented and they operated collaboratively under explicit success criteria.

G2: 'To get ready for commencement, almost all the offices on campus get involved in fulfilling their part. Now we are preparing a document to show who is responsible for what. If all the members of these offices of this campus disappear one day, the new team should know what to do by following that document.'

Similarly, for the process of applying for an accessibility award, over several months gatekeepers held regular meetings to coordinate the application and bring

the campus into compliance. This required coordinating with other gatekeepers on campus, whose respective offices modified protocols, developed new documentation and even included these changes in their annual reports. As mentioned previously, apart from the two big events (commencement and the application for an accessibility award) the coordination across groups, communication, documentation and evaluation were not seen as important for individual accommodations. These two instances (the yearly commencement and the one-time application for an accessibility award) showed that the trans- fer of previous experiences, collaborative preparation of the experiences that include all members, as well as collaborative efforts and their documentation are possible. The questions then are why such efforts (effective collaboration, documentation) are not integrated into the activities and interactions and why related communication tools are not explored for organizing access.

4.3 Ineffective Feedback Loops around Access Requests

Our data showed that gatekeepers express a lack of communication, evaluation and feedback through related tools. The expectation of guidance from the disability office - and the lack of it- was especially prominent. From the perspective of the disability office members, lack of communication was also problematic. In such occasions that a disabled campus member requests an inaccessible condition (through the disability office), the rationale behind the decisions of the gatekeepers may become invisible to both the disability office and the disabled people who proposed the request through the process:

> G1: 'They (referring to different gatekeepers that the disability office works with) generally do not communicate the reasons and rationale behind their final decisions to us. 'We can do it, or we cannot do it' for no reason. However, there should be a meeting, where all people involved in the situation come together and talk about the issue that remains unsolved.'

Further, the disability office may lack the authority to lead that kind of collaboration or enforce any of its recommendations within other divisions:

> G1: 'I was authorized to guide the other gatekeepers to make accessible changes, but I did not have that power to make them change things or even come together to discuss the issue if they did not prefer to do so.'

For collaborations on various scales and between different participants, different technologies were used to facilitate collaborations for implementing accessibility accommodations across campus. Our participants reported using some of the following strategies: 'I would post the request of disabled members to my group's WhatsApp (G1),' 'I would write it to our collaborative

to-do list (G2)' or 'I should call Mr. X. who was responsible for a similar project last year (G2)'. In one case, members with disabilities and their assistants (mixed-ability campus members group) as well as decision-makers from the disability office were able to communicate through the WhatsApp messaging platform in groups managed by the disability office manager and sustained by campus members with disabilities themselves:

> G1: 'I believe that having effective communication with disabled students and other students who work in my office to support them is important. We have a big WhatsApp group that is active day and night, disabled members and others are in connection, even sometimes without needing my moderation.'

Membership in these group chats was in near-constant flux because campus members with disabilities and their assistants change as members transfer to other institutions, graduate or leave their student employee positions. The information generated in these group chats becomes inaccessible in the long term to the wider disabled community on campus and is not documented for future generations. We did not see such communication channels and communication tools are available or used for collaborating around accessibility in other divisions on campus:

> G2: 'We (at the IT office) have a period each year that we collect projects from other offices to consider. We never received a proposal from the disability office. They are the ones who know about the experiences of disabled people on campus, but we never learn about those if they do not communicate with other offices.'

The disability office then, plays an intermediary role, interpreting "experiences" of campus members with disabilities for various other offices. Perhaps one challenge with this model, as indicated by P4, is that the timing of requests from members may not align with annual calls for projects from partner offices. Another, hinted at by G1, is that having such an intermediary may not be as effective as when members approach individual offices themselves:

> G1: 'I sometimes guide students to communicate their demands to related offices, rather than just communicating with the disability office. Sometimes they do, and things change, sometimes not. If not, students find a way to deal with those in their ways. Before the disability office was created, it was the efforts of students that led to accessible changes anyways.'

However, finding correct channels and correct communication tools for their access requests and dealing with feedback loops may also lead to additional burdens for members with disabilities.

Overall, our data refer to access requests from members with disabilities being ineffectively approached and tackled by the gatekeepers. As our data shows, these ineffective feedback loops between members with disabilities, the disability office, and other gatekeepers are indicators of a lack of institutionally identified systemic and collaborative efforts supported by effective collaborative systems, including related tools and technologies.

4.4 Impact-based Prioritization of Access Requests

One of the most important considerations gatekeepers cited was the perceived measurable"impact" of proposed accommodation changes. The impact was often constructed as how many current campus members with disabilities would be affected and how often they might take advantage of the change. Based on perceived impact, gatekeepers prioritize the change and deliberate whether the change is strictly necessary. The existing technological systems that students communicate their requests (e.g., track-it system) are also using the impact and evaluations based on prioritizing the issues that concern more members.

> G1: 'What I consider and ask myself when I make decisions are: is it going to make sense, how many people are going to use it and do we need it and is it appropriate for disabled people--meaning that, is the spot we are planning to change close to the places disabled people use often? Is it going to be impactful for them? To answer these questions, I use my years of experience.'

In the above example, instead of any real-person feedback from the campus members with disabilities, the gatekeeper decides based on numeric measures such as"how many people""own years of experience." In multiple instances, numbers of members who would benefit--as opposed to the quality of life, equity and inclusion considerations or the official guidelines from the government--figured literally into rationales: G2: 'We contacted the disability office saying that we can buy Braille printers for our campus. It turned out that we do not need this. For now it is just one student who is visually impaired.'

As the example illustrates, there is a motivation to buy the Braille printers and there is a resource that is already allocated for them ('we can buy'). Still, gatekeepers change their minds when it becomes clear that there is 'only' one student who needs materials printed in Braille and buying the printers becomes less valuable considering the perceived impact (the number of students). G1 also characterizes this approach as one based on 'statistics' and recognizes the inaction that typically follows requests by 'just one' (G2's words) student:

> G1: 'It is obvious that people make decisions based on statistics. If one student requests something, we would just wait for a long time for people to consider

that. We (referring to gatekeepers) think that it is about one person. But no, if we make this change now for one person, there will be another one coming next semester, and the campus would be ready for the needs of that person.'

Beyond how gatekeeping impacts members with disabilities on-campus, gatekeepers also considered how an accessible solution would affect the comfort of non-disabled people around campus. In the example below, G1 contemplates the impact of adding an automatic door actuator at an entrance that is frequently used by 'so many [non-disabled] people.'

G1: 'The disability office asked us to make the main door of the student center accessible (using an automatic door). However, so many people on the campus use this door and an automatic door would probably negatively affect the circulation around the gate, so we are not able to change it.'

Again, the impact to (i.e., number of) campus members with disabilities is weighed against perceived impact to (i.e., number of) non-disabled members. In this particular situation, the efficiency of movement on campus is a concern, with the implicit assumption that moving more people through the door in a shorter time is commensurate with the door being more accessible. We see that campus spaces utilized by both disabled and non-disabled members can surface perceived tensions between proposed accommodations and non-disabled members' needs. Overall, our data made it obvious that gate- keepers make decisions around accessibility requests, whether or not applying for accommodation or buying an accessible technology based on their disconnected individual experiences. There is no systematic training, tracking tool or communication tool to avoid inequities created through such actions. As it is stated previously, the numerical tracking and ableness-centered prioritization and decision making practices are also visible in technologies where the gatekeepers and campus members communicate around their campus experiences. As our data reveals, these systems also tend to support the prioritization of experiences of the majority. Campus members with disabilities generally use other communication channels such as WhatsApp groups or organize in- person meetings to communicate directly with the disability office manager, who conveys their request to the related gatekeeper(s).

5 Discussion

To understand the institution-level interactions for ensuring equal access, we explored the perspectives and norms of the gatekeepers. We also explore how the collaborative tools used by gatekeepers both shape and are shaped by their interactions Gatekeepers are people who are responsible for organizing access in any institution, in our case in a higher education campus. In this study, we

also approach higher education as an institution, as previous CSCW literature highlights that educational settings present a work environment in which technology and social and cultural interactions continuously take place (Wardrip et al., 2013). Previous research highlights the importance of effective collaborations between gatekeepers and campus members with disabilities (Dolmage, 2017; Hamraie, 2016; Leake and Stodden, 2014) to ensure equal access in higher education institutions. By looking into the interactions around access, our data reveals institutional-level challenges and how tools and interactions are shaped around them. We make suggestions below for rethinking institutionalized accessibility as a part of equity oriented CSCW practices. Our challenges and suggestions may apply to many other institutions other than higher education.

As our data shows, multiple inequities arise as a result of gatekeepers' practices, including gatekeepers' perspectives on inaccessible areas of campus, how they make decisions around accommodations and how they prioritize request. These decisions interact with each other to shape the higher education experience of campus members with disabilities. With the support of insights that previous CSCW research that reveals how collaborative systems might support the collaborations around equal access for marginalized populations (Chang et al., 2014; De Choudhury et al., 2017; Hagen et al., 2019; Haimson et al., 2015; Nova et al., 2020), we argue that future collaborative systems for higher education institutions around organizing equal access should enable power-balancing and continuous communication around organizing an accessible higher education institution. Our findings reveal how institutional challenges disrupt equal organization of access and therefore creates systemic inequities for campus members with disabilities. Based on the findings on four categories of institutional challenges that collectively hinder equity and inclusion around accessibility, we identify opportunities for CSCW to build, appropriate and integrate better systems where the collaborative organization of access takes place to support equal organization of access for the higher education institutions.

5.1 Space for Defining the Terms of Non-Biased Access

Recent literature in CSCW showed how individuals conceptualize accessibility significantly impacts how accommodations are made (Jalit et al., 2020). Supporting this, our data also shows how divergent understandings affect gatekeepers' decision-making processes regarding accommodations. Having a space where accessibility-related definitions and experiences are transparently, openly, collaboratively shared and discussed by the gatekeepers and campus members with disabilities would support the negotiation of dynamically and collaboratively created access definitions. This can help rethink gatekeepers' biases around these experiences more transparently, leading to a set of shared definitions and related actions. In conversation with the Disability Studies literature, recent HCI research brought new perspectives in conceptualizing disability and accessibility,

focusing more on the collaborative (Branham and Kane, 2015a; Das et al., 2019; Jalit et al., 2020), social (Hamraie, 2016), situational (Wobbrock, 2019), interdependent (Bennett et al., 2018) aspects of disability and accessibility, more aligned with the Social Model of Disability, which focuses on the systemic inaccessibilities (Oliver, 2013).

Collaborative systems for higher education institutions should open a space for dynamic negotiation of accessibility definitions and terms through negotiating experiences around access. Diverse access definitions between members and gatekeepers should be continuously negotiated, contextualized and shared based on the institutional level interactions. The imagined system should provide tools to exchange and negotiate interactions while enabling the continuous creation of shared definitions between gatekeepers and campus members with disabilities. For example, accessible versions of brainstorming and voting tools such as Tricider (2021) and Dotstorming (2019) can be integrated into collaborative systems for institutional definitions to enable gatekeepers and members to continuously create and negotiate definitions around access. For our case, members with disabilities may share why the suggestion of "you can ask for help" is not accessible, or gatekeepers may share how they define their work around accessibility (e.g., "not just hanging brochures around campus") with each other.

5.2 A Campus-wide Collection of Access-related Actions

Existing studies that focuses on accessibility in higher education discusses the importance of enhancing collaboration and partnership among different offices to better address physical and social barriers to equal access for students with disabilities (Burnett and Segoria, 2009; Leake and Stodden, 2014). A collaborative digital system may provide a transparent and continuous experience for parties to share their experiences of each case related to accessibility. They can further share the process of accommodations, whether the accommodations are applied or not, what kind of decisions are made, and sharing the motivations for their decisions. Therefore, it might be possible to overcome challenges around institution-level negotiating which reveals issues with feedback loops and disconnection of parties' experiences around accessibility. A collaborative system may allow campus members with disabilities to give feedback on the applied accommodation (e.g., through reactions, (Grimes et al., 2008)) to support gatekeepers to learn about lived experiences around a planned or applied accommodation, which previously stated as an essential part of applying accommodations. In our case, it is revealed that the current communication channels in the higher education institution allow only one-way communication, letting campus members convey their requests either directly to the disability office (WhatsApp, emails) or through Track-it systems that make statistical-based prioritization of all the requests in the institution. For example, collaborative opinion sharing, discussion, decision making and prioritization platforms like Loomio (2022) or 1000minds

(2019) may be applicable for the collaborative organization of access in higher education institutions. These tools can be helpful in bringing together all the accessibility-related actions that include different members in one common and open platform. Inaccessible features of these platforms should be restructured.

Our data also showed that more importance was attached (e.g., more gatekeepers are involved and the process is documented) to high-profile campus events that are more public, visible and open to many people such as commencement or accessibility awards, whereas everyday accessibility requests have been trivialized. Previous research in CSCW showed the importance of building systems that support equity perspectives for decision-making that include and support diversities (Fox et al., 2017). Impact-based prioritization systems, practices and decision-making processes of the campus should be reorganized to support the visibility of members' requests with disabilities. As our data shows, the decision-making processes of the gatekeepers are tied to statistics, which makes campus members with disabilities disadvantaged in making their requests and experiences visible to the decision-makers. The lack of appropriate systems leaves gatekeepers to act upon their norm practices, ignoring the needs of minorities unless statistically significant. Considering how gatekeepers understand statistics and "impact" while making their decisions, it is likely that more impact is attached to high-profile events by the gatekeepers. Even though how campus members with disabilities experience these high profile events are also important, how everyday access is experienced is equally important. The everyday access request that may become invisible or ignored through communication channels is more likely to become more visible and actionable when it comes to high profile activities. This may be due to public visibility, attention and how accessibility will be represented. Through future collaborative systems, making everyday access stories visible via constant sharing will also help eliminate the imbalance in this perception. It may also help to reorient attention to enhancing everyday accessibility on campus.

5.3 A Dynamic Tool for Content Creation

Providing multiple options for content creation are also important to ensure accessibility for the case of higher education. Since gatekeepers also refer to their "own experiences" while they make prioritizations around accessibility, we believe that it is important to help gatekeepers relate more with the request that is coming from members with disabilities. Previous CSCW research suggests multiple forms of content creation (such as sketches, photos, or videos) in the case of experience sharing around assistive living technologies (Vines et al., 2015). This may allow members to enrich their contributions and support a more significant amount of authenticity (Vines et al., 2015). We believe that this is also helpful for the case of the higher education institution to overcome ineffective feedback loops since the current problems refer to gatekeepers giving no feedback about

their decision making process or lack of context in their feedback (e.g., "we can do it or not, without any reason"). Here, using a story-based approach (Vines et al., 2015) would allow campus members with disabilities to share their journeys and stories around campus (about an inaccessible situation or a positive, accessible experience). It might enable gatekeepers to learn and identify more with the experience, and have a more experience-based, collaborative decision-making process that would support equity-based organization of access in the higher education institution for the members with disabilities.

However, it should be considered that sharing experiences would also come with concerns around stigma which is directly related to social norms, structural and systemic barriers and power relations. Considering how previous work provides the perspective of students with disabilities dealing with inaccessibilities in higher education (Jain et al., 2020; Shinohara et al., 2021), systemic power structures may also affect how campus members with disabilities would share their experiences. Further, existing studies with disability office members also show how graduate students with disabilities are concerned about the tendency for an ableist mindset (Tamjeed et al., 2021) while communicating around accessibility. Being aware of these concerns, we argue that opening a space to discuss and negotiate experiences still would support the campus community to communicate more effectively about access. It may also open a space to spot and discuss how the organizational power-relations and stigma shapes the experience of sharing around access.

5.4 Documentation, Archiving and Visibility of Access Efforts at Campus

Documentation is a classical domain for talking about silencing for marginalized communities in socio-technical systems (Fox et al., 2015). Previous CSCW literature also argued that the documentation is an essential aspect in the process of marginalized communities gaining "visibility" in the case of ageism (Lazar et al., 2017) and racism (To et al., 2020). Resisting documentation of accessibility processes can be considered as another form of silencing. Ineffective feedback loops around access requests can be optimized by getting the rationale of the interactions captured, systematized and archived transparently. This may ensure systematic, equity-oriented and sustainable accessibility as an institutional culture and help to overcome issues around lack of institutional memory and invisibility of access work. Our data showed issues around the lack of practices around experience documentation and transfer, especially in day-to-day accessibility-related situations such as deciding whether to buy a braille printer. Current communication and evaluation technologies do not support the creation of institutional memory around accessibility, leading to the invisibility of experiences and efforts around access. Even though some of the individual cases are solved with a student with a disability and one or two gatekeepers, the process is not documented and archived. Our suggestion is not to neglect the need for custom-tailored

arrangements for the specific needs of each member but to place them in a system where each case, accommodation and experience is archived and therefore sustained through generations for the gatekeepers and the campus members with disabilities. Such a systemic placement may support the development of more repeatable and reusable policies (Griffen and Tevis, 2017) and may lead to the prevention of efforts of campus members with disabilities being invisible.

The collaborative system may support current members' engagement with the-recorded and archived- experiences of members who are no longer active members of the campus (e.g., graduated). Members who have been involved in accessibility-related situations can share their knowledge and experience in a more contextualized way (what was inaccessible, which accommodation was provided, who provided it, which divisions were involved, how much time was required etc.) potentially using the collaborative tools for mixed-ability groups (Das et al., 2019). As highlighted in previous literature, mixed-ability collaborative tools should provide multiple approaches to facilitate communication (Michelle, 2016). This system also might be supported by existing tools to promote collaboration through shared goals and interactions (Aubé et al., 2013) and emphatic experiences (Kors et al., 2016). Such a system would be essential to preserve accessibility-related experiences, histories and efforts of members through generations which may support a more holistic understanding of "impact". Equity oriented collaborative systems around access should support the reorganization of power within institutional interactions of gatekeepers by providing spaces where the information from all divisions can be collated and where the whole action like organizing the documents for the award coordinated collectively and relevant resources shared between the gatekeepers. For example, as our data shows gatekeepers complain about a lack of guidance from the disability office. In contrast, the disability office managers highlight how they feel powerless in communicating with the gatekeepers and trying to collaboratively take action around accommodations. Within the interactions in the collaborative system, empowering the disability office to organize the gatekeeper interactions to leverage their positive attitudes, experiences and resources would support equal organization of access. Previous literature also supports that the documentation of accommodations should be centralized around the disability services. Considering the power issues revealed through our data, we also support that the disability office should be empowered to document and archive the processes accessibility-related situations in collaboration with other gatekeepers and campus members with disabilities. This can support changing the position of the disability office as only being a passive mediator between the campus members' experiences and gatekeepers' decision-making processes.

Overall, through our discussion we highlighted the gatekeeper interactions and tools with the help of the related CSCW literature. Our high level suggestions

on how future collaborative systems can support gatekeepers' organization of access by providing them with equity supporting tools and technologies for collaborative experience sharing, decision making and evaluation of work can help approach institutional challenges around access in a more equitable way. We provided practical insights for future collaborative systems where gatekeepers operate to support more equitable access organization in higher education institutions. The institutional-level challenges around organizing access from an equity oriented CSCW perspective can extend the previous work on equity and marginalized groups. Also, rethinking these challenges will be helpful for other institutions other than higher education to support equal access for marginalized groups, including people with disabilities.

6 Limitations

Our study has some limitations. First, in this study, we looked at the experiences of gatekeepers who are important agents for ensuring equal access for people with disabilities in many settings, including higher education. However, we are also aware that understanding disabled members' first-hand experiences are key to unpacking institutional access in higher education (Jain et al., 2020; Shinohara et al., 2021), and we believe this is an important opportunity for future work. Future studies may explore potential collaboration between campus members with disabilities concerning gatekeeping processes. Also, we are using only the existing definitions that were available to the gatekeepers. We are aware that there are campus members with disabilities (e.g., faculty, staff) other than students with disabilities and we choose to use this term throughout the paper. However, the quotes of the gatekeepers generally specifically refer to students with disabilities. We are also aware that campus community with disabilities include members from a diverse spectrum of disabilities (e.g., neurodivergent people), definitions and examples of the gatekeepers do not reflect this diversity. Finally, our snowballing process did not lead us to faculty members (except P9), even though they might be considered gatekeepers regarding the educational content. We present exploring how gatekeeping might take place by faculty as a significant opportunity for future work.

7 Conclusion

In this case study, we reveal how gatekeepers interact and collaborate around existing institutional communication channels to collect and distribute access in the higher education setting. Our data shows that existing collaborative technologies and interaction patterns -or lack of them- come with institutional challenges hindering equity and inclusion for members with disabilities. Our paper aims to make two primary contributions to CSCW. Firstly, our analysis provides an initial

understanding of gatekeepers' current definitions, decision- making processes, measurements, and interactions around organization of access through communication channels at the institutional level. Secondly, our findings also reveal insights on how future equity oriented collaborative systems can support gatekeepers' organization of access by providing tools and technologies for equity oriented collaborative experience sharing, decision making, and evaluation tools to overcome institutional challenges around access. Our discussion provides practical insights for future collaborative systems where gatekeepers operate to overcome existing institutional challenges that hinder a more equitable organization of access in higher education institutions.

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