

Towards Professionalization in an Online Community of Emerging Occupation: Discourses among UX Practitioners

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ABSTRACT

The occupational landscape of the digital economy is rapidly changing, resulting in the emergence of multidisciplinary occupations. Emerging occupations such as user experience (UX) design are in high demand, but these occupations lack clear boundaries and have yet to develop into a profession with a specified, coherent body of knowledge. While traditional occupations such as medicine and law successfully claimed their professional jurisdiction and high social power and status long before the Internet, how do these emerging occupations work towards professionalization, particularly as they are increasingly supported by and through online communities? In this paper, we investigate an online UX community to understand how UX practitioners specify their occupational knowledge and professional boundaries. Using this case as an example and provocation, we discuss how online communities support the emergence of new occupations and may play an indispensable role in modern day patterns of professionalization.

Author Keywords

Professionalization; online communities; community of practice; user experience design; UX; discourse analysis.

ACM Classification Keywords

H.5.3. Group and Organization Interfaces: Web-based interaction; H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

The computer-supported cooperative work (CSCW) community has been largely concerned with collaborative work of professionals such as designers, engineers, and scientists within organizational settings, with a few scholars mentioning professionalization but not as the primary

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research focus [27,28]. Today rapid technological changes are transforming the character of existing work and informing the creation of new occupations that are yet to be defined and specified. These nascent occupations are defined by the United States Bureau of Labor Statistics as *emerging occupations*, which become “numerically important or emerging due to technological change” [10].

CSCW researchers have previously recognized the important role of online communities in supporting amateurs and professionals in the collaborative creation and development of knowledge in areas such as software development [45], graphic design [44], and fanfiction [19]. However, most research has focused on the professional development of individuals within existing occupational or hobbyist domains, with a few exceptions such as Pace et al.’s [48] study of handcrafters on Etsy.com who desired to professionalize their art and craft practices. As shifts in technological capability continue to shape the types of occupations and professions that exist, there is a need for more research that examines the role of online communities in supporting, shaping, and defining professionalization processes in relation to emergent occupations.

In this paper, we focus on one emerging occupation, user experience (UX) design, and one related online community, the ‘/r/userexperience’ subreddit, to document and analyze the discursive practices of UX professionals as they articulate and specify relevant knowledge and the occupational boundaries this knowledge may represent. While aspects of UX practice have existed for decades, we consider this occupation to still be in the process of professionalization because it lacks a coherent body of disciplinary knowledge [38] and only very recently have a few universities recognized the necessity to create UX academic programs at the undergraduate level [3]. Through thematic analysis [9,13], we identify how UX professionals in this online community discussed the status and development of this occupation.

The contributions of this study are three-fold. First, we discuss discursive activities within this online community, revealing potential connections among online interactions and community cohesion. Second, we characterize the interaction and knowledge-sharing practices of practitioners that indicate a tendency towards professionalization,

describing the kinds of knowledge work that are necessary to construct appropriate and beneficial occupational boundaries. Third, we demonstrate the bridging of a methodological gap between existing sociological work on professionalization and CSCW knowledge about online communities, resulting in a fuller understanding of the potential role of online communities in professionalization.

RELATED WORK

Occupations and Professions

While *occupations* “represent the organization of productive labor into the social roles by which tasks are performed” [23], *professions* are organized occupational groups whose members have shared identity, commitment, as well as control over defining and regulating their work [23,39,56]. Professionalization can be understood as “the process whereby an occupation works toward becoming a profession” [56]. It is important for the CSCW community to investigate emerging occupations from the perspective of professionalization to understand how technologies can best support individual professional development as well as the production, consolidation, and circulation of occupational knowledge, both within and without formal organizations.

In the sections that follow, we describe how UX design, as one example of an emerging occupation, relates to these constructs of occupation and profession, and the ways in which these constructs become salient in the construction and performance of online communities.

UX as an Emerging Occupation

User experience has emerged as a distinct discipline [18,32], and at the same time, remains closely tied to the disciplines of human-computer interaction (HCI) and interaction design. The emergence of UX can be attributed to multiple reasons such as the ubiquity of technologies in everyday life, and increasing attention to users’ interactive experience, which exceed the focus areas of related disciplines such as marketing, graphic design, interaction design, or product design [30]. More recently, the incorporation of UX into digital and physical products has been considered a strategic advantage in knowledge-based companies [20].

Despite rapid job growth, UX faces substantial learning and educational challenges due to a lack of consensus over required disciplinary knowledge [52]. Few higher education institutions have developed UX-specific undergraduate academic programs, and graduate UX academic programs have roots in and thus are heavily influenced by distinct disciplinary traditions such as computer science, library science, and information science. Although licensure and certification programs have become more common and accessible in recent years, their legitimacy and usefulness is still contested among practitioners. Consequently, newcomers and enthusiasts find few concrete paths to become a UX professional; and existing practitioners must continuously maintain and develop their UX competency.

UX is interdisciplinary, drawing from many disciplinary perspectives, identifying common problems, and generating new knowledge [35,40]. The UX discipline has absorbed a wide range of knowledge, theories, methodologies from disciplines such as computer science, engineering, sociology, and psychology [22], resulting in a fusion of interests related to interaction and service (e.g., [7]). Hassenzahl and Tractinsky [30] argued that “UX is about technology that fulfils more than just instrumental needs in a way that acknowledges its use as a subjective, situated, complex and dynamic encounter. UX is a consequence of a user’s internal state, the characteristics of the desired system and the context within which the interaction occurs.” Law et al.’s survey study among 275 UX researchers and practitioners [42] concurs with this view of UX as a discipline that engages with dynamic, context-dependent, and subjective problems and outcomes. In this regard, UX is distinguishable from user interface (UI) design, which is primarily concerned with the development and testing of visual interfaces. This range and diversity of disciplinary interests present in UX practice reflects the occupation’s emerging state and its potential future growth of influence.

Professionalization of Work Practices

Professionalization indicates that a specific occupational group is able to establish a “market monopoly,” or exercise control over certain services that excludes other occupations. Much research on the professionalization of traditional work such as architecture design [8], teaching [31], medicine [1], and management [49] has adopted a historical lens, valuing the long-term development through which professionalization had been accomplished over years or decades.

The professionalization of medicine provides insight into this development process, as described by Conrad and Schneider. In the early 19th century, medicine began to develop into a full-time profession [12]. At first, anyone could claim to be a doctor and practice medicine, but as practitioners with different skillsets and training arose, around 1,800 physicians persuaded state legislators to pass laws that limited access to practice to practitioners based on specified levels of training. In 1847 regular physicians founded the American Medical Association (AMA) to promote medicine within the society, marginalizing unskilled medical practice and establishing and enforcing standards and ethics of medical practice. Scientific breakthroughs in the last three decades of the 19th century allowed medical professionals to demonstrate their superior effectiveness in treatment and healthcare, which aided the formation of new licensing laws that created regular medicine as a “legally enforced monopoly of practice” [16]; This medical monopoly was further enhanced in 1910 when medical Abraham Flexner visited nearly all the medical schools in the U.S., found medical education insufficient, and suggested the closings of most schools. Flexner’s recommendations helped create a “near total AMA monopoly of medical education in America” [12]; to secure

a monopoly, the AMA also pushed for professional dominance in the sense that Medicine could define its own territory and evaluate itself based on its own standards.

While medicine represents only one trajectory towards professionalization, sociological studies across many domains of practice have revealed multiple factors that impact the process of professionalization. For instance, professionalization drivers include the desire of the occupational groups that were previously marginalized to seek more power and control and obtain higher social status [8,17,26,57]. In addition, international pressures from other economic competitors with more developed education and training of certain professions or internal political ideologies have stimulated professionalization [49].

Previous studies have stressed the important role of traditional institutions in either facilitating or constraining the professionalization of traditional work, including tensions between a taught vocationalism that is too specific and technical, and the need to create a space for profession-specific knowledge production that is acknowledged by broader societal and governmental structures [23,39]. For example, in managerial studies, Reed and Anthony [50] highlighted that universities should incorporate reflection, thoughtfulness, and responsibility in the curriculum, rather than retreat into “a narrow vocationalism” that emphasizes functional and technical skills [49]. Türegün found that the professionalization of Canadian settlement work with immigrants relied upon the continuity of governmental funding and broader social support for the profession [55].

It is important to note that professionalization does not occur in every occupation, but is conditioned by the occupation’s organizational and historical development [57]. For example, it would be implausible for the occupational group of low-rank clerks to claim a specific body of knowledge and skill, although these groups might organize in other ways (e.g., labor unions). In addition, professionalization is not always an ideal trajectory. For example, Silin warned that the professionalization of early childhood education might “entail a loss of control for teachers as the design and implementation of curriculum become two discrete functions” [33]. In the context of vision care, Stevens et al. reported that the division of labor brought about by professionalization actually weakened inter-professional coordination and lowered occupational satisfaction among vision caregivers [51].

Professionalization and the Development of Online Communities of Practice (CoPs)

Digital technologies facilitate communication, coordination, and opinion expression among workers, which can have an empowering effect and promote the development of online communities [43]. These online communities have the potential to become sites of interaction and socialization for groups of individuals with shared occupational interests, but also frequently create opportunities and infrastructure for professional learning [14,34].

In extant CSCW and HCI research, the concept of Community of Practice (CoP) has been highly influential in allowing researchers to interpret and analyze knowledge production and social structure in these online communities. Lave and Wenger introduced the concept of CoP [41] as an extension of traditional learning practices and validation of informal learning, marking a departure from only understanding formal educational settings as appropriate places to study learning and professional development. According to Amin and Roberts, CoPs comprise “*relatively stable communities of face-to-face interaction between members working in close proximity to one another, in which identity formation through participation and the negotiation of meaning are central to learning and knowledge generation*” [4]. These communities can be found in multiple contexts, and individuals can belong to multiple such communities at any given time [59].

In previous research, HCI and CSCW scholars and practitioners have researched and implemented systems to support the development of online CoPs in a variety of domains [21,46,47,54,58], building on expectations of knowledge exchange, leadership, and community cohesion around a key area of community identity. The most relevant quality of CoP for this study is its emphasis on the communication between practitioners, through which people share tips, best practices, learn from each other, ask questions, and seek support from each other. The CoP lens supplies us a general framework for understanding the online community of UX practitioners in our specific context of occupational interaction, informal learning practices, and the development of consensus towards occupational professionalization.

METHOD

We draw on case study methodology [59] to deeply describe and analyze the interactions within one emergent occupational online community. A single case study approach was chosen to deeply investigate one bounded system, a subreddit focused on UX design, and within that bounded system, provide a rich and nuanced account of phenomena of interest—in this case, the emergence of occupational focus and professionalization.

The Online UX Community Under Study

Reddit was the 4th most popular website in the United States and 7th in the world by the time of writing this paper [2]. Initially designed as a source for socially curated news, Reddit has accumulated more than one million subreddits supporting a diverse range of communities [48]. The ‘/r/userexperience’ subreddit supports a vibrant, growing UX community. In a 13-month period of community interactions captured in our data collection across over a dozen related subreddits, this subreddit had accumulated more threads than all the other UX-related subreddits combined. In addition, UX practitioners in this community exhibited substantial engagement in terms of the number of authors and comments: this subreddit had the largest

number of unique authors and the largest average number of comments per post among all of the related subreddits. This subreddit supports an egalitarian community where students, junior designers, and senior designers with varied educational backgrounds and work experiences socialize and discuss a range of UX-related topics.

Data Collection

We used PHP and the official Reddit API to retrieve posts, comments, as well as the metadata from the subreddit, which were stored in a local MySQL database for further analysis. The final dataset included 1,790 posts and their 11,373 associated comments from January 19, 2016 to February 16, 2017. The metadata of each post included the title, author, timestamp, content, shared URL (if applicable), number of comments, and score. Comment metadata contained the content, author, timestamp, upvote number, and score. Connections between posts and comments, and among comments were maintained through a relational key. The dataset also included 2,933 distinct users who had either made a post or a comment, with 1,010 having made at least one post and 2,576 having commented at least once.

Data Analysis

Because interactions in online communities are highly conversational, taking place among two or more UX practitioners, we decided to focus on those posts that had at least one comment for data analysis. Within the initial set of 1,790 posts, there were 670 posts having 11,373 comments.

We employed thematic analysis [9] to analyze the final dataset. We began by questioning how UX practitioners in this community defined and discussed UX knowledge, given its volatile nature. Two researchers engaged in reading and analyzing those posts and comments, and met weekly to discuss relevant themes. We took note of interactions that related to UX as an emerging occupation, such as the professional identity of UX professionals, the selection of entry points or career paths of becoming a UX professional, and the discussion of the general public's understanding of UX. We gradually recognized that while most conversations regarded individual UX professionals goal of acquiring UX knowledge and skills and obtaining a well-paid job in industry, the overarching theme within this particular community was the movement towards professionalization of UX through defining, redefining, and specifying boundaries around UX knowledge.

Keeping the central question of professionalization in mind, we began using an open coding approach to understand how the statements of UX practitioners were related to the production, development, and circulation of UX knowledge. Through memoing and constant comparison with existing codes [13], we iteratively and inductively developed a list of codes. We then used axial coding to connect and consolidate discovered codes, which were eventually developed into three major interactional themes: highlighting the emerging nature of UX, specifying UX knowledge, and enhancing societal recognition. Each theme

includes sub-themes that contain connected ideas. When we report quotes from forum threads, we use pseudo-username (e.g., U1, U2...) to represent UX practitioners.

FINDINGS

UX practitioners in this online community discussed how UX was becoming an important area of industry focus in recent years, but was still in a developmental stage in terms of professionalization. Many of the members' discourses—covering various UX topics such as trends, design tools, and general design heuristics—expressed the desire and anticipation of practitioners' that the body of UX knowledge and its relevance for industry become concrete and bounded. They also discussed actionable strategies for practitioners to increase the recognition of UX as a unique approach to industry partners and the general public.

Highlighting the Emerging Nature of UX

On this subreddit, UX was widely considered to be of important value for the success of companies. As one practitioner wrote, "It's 2016. If your company doesn't get UX you can either look for a new job now or when they go out of business." Practitioners considered UX to be a still emerging, young field in which much remains undefined. In the following conversation, two users discussed the boundaries of UX as a design field, particularly in relation to the contexts in which UX would be appropriate.

U1: I am trying to find out if the term "user experience design" can be used for anything that involves a user, customer, or and type of end-user using a service or product. To increase an end-user's satisfaction. I just find it odd how "UX design" only applies to computers or refers to computers only. Isn't there a term that encompasses how to improve [UX] design for any type of product, service, etc. regardless what of what industry?

U2: I honestly think that it's just a result of the field being young and people are still figuring out what to call stuff. Older design disciplines don't really break every part of the design process into its own special snowflake of a discipline (as far as I know). I think/hope that we will eventually just say "I'm a software designer" [...] or "I'm a software designer and I specialize in layout."

In this excerpt, U1 found inconsistency within the UX terminology and its potential scope, seeking others' opinions on this issue. U2 attributed such inconsistency to "the field being young." U2 envisioned that future usage of the term "UX design" will be simultaneously expanded and made more precise to overcome the present issues recognized by U1. Even the term "UX design," as discussed by practitioners, does not have a consensual meaning: "keep in mind that 'UX design' in the job market today is very ambiguous in meaning, and can mean any combination of marketing, graphic design, development, and IA/IxD."

Practitioners also recognized the increasing popularity of UX in technology-related industries, both as shorthand for being current and trendy, and as a pointer towards a specific

philosophic commitment within the organization to be customer-centered in a holistic way:

U3: A couple of weeks ago i saw a vacancy for a "Helpdesk UX lead", which basically boiled down to being the team leader of a helpdesk [...]. I think the people who come up with these titles are people who do not really understand what UX really is, but have heard enough about it to think of it as some kind of buzz word they can just put into job titles to makes them more in keeping with current trends.

U4: Yeah it's a buzz word and companies are exploiting it so they can say they are following newest trends and competing in showing bigger diversity numbers.

In this excerpt, both practitioners observed that due to the emerging nature and popularity of UX, companies want to hire relevant professionals but lack basic understanding of this emerging occupation. While the sentiment of “UX” in the context of an IT helpdesk aligned with philosophic commitments towards the end user in similar ways as traditional UX roles, this conversation demonstrates the permeability of UX and its disjointed or inconsistent use.

Practitioners expressed their dissatisfaction with the status of UX in companies, and the need to constantly justify the role of UX designers and the value of UX to the enterprise:

Since I've been in UX, [...]we have been trying to prove value of UX. They have come around to see UX as important. But we still have to work on showing the value of user research. I guess it will always be something.

Another practitioner detailed many difficult situations that a UX practitioner might encounter in organizational settings where the practitioner has to negotiate with other roles regarding the same product:

Fighting corporate apathy and inertia. Getting devs to build what you want, not what they know. Getting the graphic artists to draw EXACTLY what you sketched, without adding their own interpretations that piss the boss off [...]. The constant begging for a budget to do some meaningful testing. Joining a project one month before UAT when there was no previous UI or UX consideration, and being told "just clean it up a bit, but don't make any big changes because we don't have time." Getting stakeholders to treat you like an expert [...].

Practitioners were generally experienced in industry, and were thus aware of the immaturity of UX as an occupation; this immaturity was manifest both in conceptual thinking and in practice. Dissatisfaction and complaints were common sentiments within practitioners’ conversations, laying ground for professionalization efforts.

Specifying UX Knowledge

We identified three major activities where practitioners sought to specify UX knowledge. They listed essential UX knowledge and skills that made this occupation *unique*—

not merely a cobbling together of existing occupational perspectives and knowledge. Practitioners regularly shared practical UX knowledge as a means of discussing criteria or standards for conducting UX work, and these conversations frequently included instances of boundary work, where practitioners attempted to define what knowledge or skills belong to UX, often as contrasted with other occupations.

Stressing the Uniqueness and Importance of UX

We observed many occasions where practitioners raised and reinforced a common argument regarding UX—namely that effective practice requires a combination of diverse skills, rendering this occupation challenging for many.

I think being a good UXer requires a combination of skills which are often kind of polar opposites. You have to be logical but also empathic. You need have technical skills as well as being personable and easy to talk to. A lot of people fall into logical & technical OR empathic and personable but not both.

In this account, the practitioner underlined the “specialness” and rarity of the combination of these skills using the description “polar opposites.” These descriptions not only identify a specific set of characteristics unique to UX as an occupation, but also underscore practitioners’ views of themselves as a unique type of professional or individual as well. One practitioner described their UX approach:

Along with the skills of knowing how to design and conduct quality research, I also have to know how to work with vendors and a ton of other logistical/practical aspects... When my research helps to save a hundreds of hours of time [...] by either doing something right the first time or not building a bad product to begin with my position pays for itself many times over. User feedback has been critical in educating users and preventing problems that result not only in a better overall experience, but drastically reduce the burden on our CX team. Identifying unmet needs in the current product has increased engagement, growth, and retention.

In this account, the practitioner described how their UX research approach and skills facilitated other teams’ work, creating substantial value for the organization. This form of legitimization of UX not only relied upon knowledge of specific skills and methods (e.g., user research), but also the power of this knowledge in producing outcomes that are desirable in industry (e.g., cost savings). While these arguments regarding value are powerful, practitioners generally agreed that this occupation is not easy to enter:

Unless your walking in the door with a Masters in HCI or some other related field [...], I highly doubt the first gig you get will be in UX. UX is not a field of study where you simply kick down the door and get started.

To this practitioner, a Master’s degree in a related field was a necessity for entering the UX field. As practitioners’ conversations around their occupations underscored the

uniqueness of UX as an approach or philosophy of action, they also noticed the trend towards specialization, where aspects of UX work are pointing towards more niche roles:

U5: Sure, not all projects require research, just as not all require a high fidelity prototype, but you're still not a UXer if you don't know how to do Qual and Quant, you're a visual designer. I was a visual designer for 6yrs, and only in the last 2yrs been UX. The only difference between the roles has been the research.

U6: What you describe is not the case for the companies I have worked for/with or am very familiar with the folks in their UX team [...]. UX needs research, but it should be done by a researcher and not a designer. [...] At places like Google these are all separate and distinct roles: UX designer, visual designer, motion designer, UX researcher. Of course they all work together as a team, but only the last one does research...

In this conversation, U5 and U6 engaged in hot debate regarding the already present specialization of UX roles into UX designer and UX researcher. This specialization has implications for the boundaries of UX more broadly, and the requisite skills needed for areas of specialization.

Sharing Practical Knowledge

In the previous subsection, we showed how practitioners exchanged their industry-informed perspectives around high-level questions regarding UX. In this subsection, we identify online conversations where participants shared practical advice on concrete topics, such as the standard UX tools that a practitioner shall master. Here is an example:

U7: A UX designer should be using photoshop and illustrator. Nobody, not even a dev, should be using dreamweaver.

U8: We use Sketch for all of our UX stuff now. I use Illustrator and Photoshop to work on assets, but design is all done with Sketch. We'll try out Comet once it is available too. Dreamweaver isn't installed on a single machine in our office. I don't even know what possible argument anyone would make to justify using Dreamweaver over all the other better options out there.

In this example, two practitioners detailed their rationale behind choosing certain tools while rejecting others. The strong phrases such as “not even a dev” and “isn’t installed on a single machine” included normative judgments towards tool choice in UX, serving as a means of establishing standards in this emerging occupation. It is interesting to note that tool choice was not a sufficient boundary in itself, but also underscored the kinds of thinking and visualization that were possible in these tools.

Experienced practitioners also shared highly practical knowledge derived from their many years of industry experience. In this conversation, diversity and years of experience was used as a way of establishing expertise,

while also demonstrating the often unusual pathways towards UX practice.

U9: I've run teams [...] and I could care less about the school they came from. It's really unimportant. Why? because you know theory, methodology and that's about it... Source: 18+ year UX Architect / Sr. UI Designer.

U10: If you have advice on how to get an internship without school or where to get solid certification, please let me know.

U11: You might be lucky and find a job where you have a senior UX practitioner who can really help hone your own practice, but this is going to be rare. Grad school isn't just about education, it is also exploring the breadth of the field and discovering what you like and don't like, an opportunity to do your own research, and maybe most importantly, learning how to advance research in UX. The discipline to write papers and explore what it means to contribute to the field of knowledge [...] is a huge skill you won't get in industry work but it resonates well with industry and will make you a better practitioner yourself... Source: 25+ years in the software industry in leadership roles as a developer, ux designer, ux researcher, and university HCI educator.

In this conversation regarding the necessity of graduate education for UX and the potential of certifications or other forms of experience outside of formal academic settings, both U9 and U11 attempted to be more convincing by showing their experience in the UX field. The conversation drew heavily from U9 and U11’s individual practices to generate practical knowledge that could help to inform U10 of proper or reasonable career paths in UX. Interestingly, U11 uses academically-focused examples from graduate school as a lever to discuss what skills or ways of thinking would make a practitioner more successful in industry

Conducting Boundary Work

Practitioners attempted to draw clear lines between UX and other related concepts or fields, often delving into definitional work surrounding the “user” or “experience” and its relation to existing occupations.

U12: UX is about designing for a person's experience specifically. It's certainly a very broad field. But you can design many things without ever considering the experience somebody has. Design is just doing something with intent. Your intent need not be concerning the experience of a user. It might be designing an efficient system, or designing a store layout to maximise the money you make. It might be designing the architecture of some software. This isn't UX design, but it is design.

U13: I disagree. The purvey of "user experience" has to stop somewhere, or it becomes a useless term. It's highly useful in the realm of digital design [...], and 90+% of its usage is within that realm, so let's keep it specific and

useful. Design is always for a purpose, and it's always for humans, already.

In this example, U12 and U13 articulated their own understandings of UX and design in order to draw a distinction. However, it is also clear that different disciplinary language is being used to show the uniqueness of UX as an *approach* that is relevant in all areas, and not as a context- or outcome-bound occupation. Similarly, another practitioner sought to define the boundary, but in a more succinct manner:

UX != design/UI. UX is a broad term. Everything should consider UX: interface design, car design, [...] API design, furniture design... You get it.

Practitioners' intentions to identify clear boundaries among different occupations was also manifest in their reflection on the current status of the UX field:

Most UX jobs in the software industry are UX/UI frankly. UX != UI because UX is much broader, but when a big chunk of your user experience involves software the vast majority of UX designers are going to be making wireframes to various levels of fidelity. [...] The objection to the UX/UI phrase is not that those roles don't exist, it's the confusion it represents that UX is just UI design.

This practitioner was aware of the popular job descriptions that placed UX and UI together, but expressed a clear rejection of this conflation because it might introduce confusion about these two occupations' different functions. However, not all conversations were oriented towards defining boundaries between UX and others. In contrast, some practitioners found the boundaries to be diffuse, and that blurring the lines could be beneficial:

U14: This is why "user experience" is a really goofy term to begin with. If a user is someone who uses something and an experience is some combination of interaction, perception, and emotion, then really all disciplines of design add up to create a user experience.

U15: [...] I think it vaguely works well for digital because of the terms: "user" is a standard software industry term for the, well, user of the product; and experience usefully differentiates an interactive digital experience from a static or non-digital one. [...] More specific might be "digital interactive design" or something (hey that's not so bad).

Here U14 and U15 critically assessed the term of UX, noting its vagueness, particularly in relation to other disciplinary perspectives that can be more easily defined or bounded. While conversations like this contributed to a better articulation of what UX is or could be among practitioners, these comments also rejected traditional notions of disciplinary boundary in that UX represents a superset of disciplines or trans-discipline that could be applied as an approach in numerous areas of design.

Enhancing Societal Recognition

Practitioners discussed ways to gain greater social recognition of UX and its value within their organizations as well as in a broader societal context. These interactions contain actionable strategies that enable UX practitioners to gain power and control over their own work, describe their approach to other stakeholders, and ultimately distinguish UX as a legitimate and valuable way of approaching design.

Negotiating with Other Teams in Organizational Settings

Practitioners who worked in an environment with little recognition of UX's role or importance often faced challenges in demonstrating the value of their work. Many junior practitioners sought suggestions from others regarding coping strategies to effectively claim and communicate the value of UX as an approach, including the importance of identifying and implementing aspects of UX practices into organizations that were hostile or indifferent towards its inclusion.

U16: How do I introduce more UX into my role? My main issue is that the place is very much development driven. They build first, and ask questions later. How do I go about changing this? [...] Design decisions should come to our design team first for advice, but they don't.

U17: [...] your company is fairly immature when it comes to UX and before you can really bring about a change you need to "wake them up". The best way to accomplish this is to force them to see how users can't use what they develop. Often this is done through usability testing [...]. Once they see that their product don't work, they might say things like "those users are stupid, we don't want them to use our product". you then need to explain that excluding "stupid" users, have a significant impact on the revenue. after you have waked them up, you'll most likely have a chance to run one project the "right way". [...] Once you have done this you will have more ability in your role.

In this example, U16 described a situation where their working environment placed an undue focus on meeting development targets, with insufficient emphasis on or understanding of UX. U17 provided a strategy through which U1 could improve the recognition of UX within the work environment, both as an approach that brought value to the organization (e.g., expanding the pool of potential users) and as specific professional role and set of strategies that could uncover these kinds of opportunities in the future.

This finding about how UX practitioners discussed ways to improve social recognition within organizations echoes the findings from Gray et al.'s interview study [26], where designers had to both build their own competence in relation to UX as a design leader and contribute to organizational change that allowed the recognition of UX.

Promoting UX in the Public

Practitioners recognized that UX was not yet widely accepted as a legitimate, standalone occupation. This lack

of broad awareness also meant that UX was not well understood by many businesses. It is against this backdrop that practitioners discussed the importance of publicly promoting UX as a means of self-preservation, thereby gaining the power that results from defined occupational roles and outcomes. As a practitioner wrote:

UX has the power to improve everyone's life, through designing solutions based on actual needs [...]. But we can't aim that high if we can't even convince small business owners that UX can help them have more loyal and satisfied customers.

The practitioner noticed great potential in the benefits and scope of UX as a practice, but also pointed out the necessary path that UX as an occupation must take in order to achieve that potential. This indicates a need not only to convince large businesses of the value of UX as a professional perspective, but also the need for grassroots understanding of UX by small business owners. An interesting practice among practitioners on the subreddit was to share strategies of how they might describe UX to a layperson. These strategies were frequently framed as a means of informing the public about UX.

U18: How do you describe what you do (to those who don't know UX)?

U19: I take complicated information and simplify it so that even your 70yr old grandma knows exactly what she should be clicking, tapping, or buying.

U20: I say I design phone interfaces. If that fails, I leave it at 'I work in computers.'

U21: I design user interfaces.

U22: I take out my smart phone and hold it up: "I design the apps you use." [...] I sometimes go into greater detail; but, giving people a vague understanding is sufficient.

U23: I say "I make it so people can use products without trouble."

Ultimately, these strategies of informing the public demonstrated the contested nature of UX as an occupation, and the difficulty in communicating the transdisciplinary nature of UX as an approach. Even though practitioners were bothered by the conflation of UX and UI in other discussions, explanations that centered on UI and usability seemed to be common and accepted in this community. UX practitioners in this subreddit choose to use umbrella terms to explain their work, and did not focus on specifying disciplinary differences between UX and UI. This is likely due to the clear distinctions shared among these community members between these terms, and the self-selected audience of participation in a UX-focused subreddit.

DISCUSSION

We have described how UX practitioners' professional discourses on the '/r/userexperience' subreddit reveal the emergent nature of UX and barriers in its drive towards

professionalization. Practitioners perceived that both organizations and broader society did not give UX sufficient recognition that would be necessary to communicate value and ultimately establish a space for professionalization. Discourses exhibited a tendency towards consolidating UX knowledge by specifying normative guidelines (e.g., essential skills, paths to becoming a professional), but practitioners also outlined actions that could enable both individual practitioners as well as the UX occupation to gain more social recognition and control over the production process in industry contexts.

Despite the existence of aspects of UX practice across multiple decades, UX can still be considered as an emerging occupation that has just begun to reach rapid growth. Only in the past five years has job demand begun to outstrip supply, and in reaction, UX-specific academic programs at both undergraduate and graduate levels have begun to accept and graduate students. While academic programs for related occupations or disciplines (e.g., HCI, interaction design, UI design) have existed for some time, none of these occupations have resulted in a clear path towards professionalization. In the present industry climate, UX practitioners appear dissatisfied with their current status, seeking to initiate changes that could supply more autonomy and power. As one element of this desire for power and legitimacy, UX practitioners have made efforts towards debating and clarifying the boundaries of their disciplinary knowledge, tools, and methods, including how these elements should be expressed as a unique professional approach. While interactions on this subreddit do not represent the entire UX occupation, these conversations indicate the desire of some practitioners to professionalize their work, including concrete strategies and steps they have taken to do so.

We refrain from suggesting that UX will or should be highly professionalized similar to law or medicine. The emergence of UX, concurrently with other technological occupations, represents a timely response to trends in evolving technologies and user needs, which are highly conditioned by neoliberal and consumerist philosophies [11,29]. Our findings concur with previous literature [57] that UX practitioners are employed and work in corporate organizations, and are thus subject to the influence of stakeholders and practitioners in potentially overlapping occupational domains (e.g., developers, marketers, visual designers). Traditional occupations may want to seize power and authority to define UX and how it relates to existing forms of production and design activity. The transdisciplinary nature of UX foregrounds an approach that champions knowledge discovery and action independent of context as opposed to a specific means or outcomes, making the drive towards professionalization difficult, and the resulting boundaries and liminal spaces problematic to draw, communicate, and defend. These obstacles to professionalization are unprecedented when compared to law and medicine.

In this paper, we do not presume a final, optimal state that UX will eventually evolve into. Rather, we use “towards professionalization” in the title to stress the ongoing processes which represent UX practitioners’ desire and intention to further professionalize their work and status. UX practitioners’ professionalization efforts mirror many bottom-up actions from other occupations, such as the professionalization of medicine [12]. Both UX practitioners and doctors continuously identified existing issues in their occupation and attempted to resolve them, making efforts to specify and develop more sophisticated forms of domain knowledge. While these processes might grow stronger or fade in the future, at the present time, the directions of these processes are unanimous, and in alignment with the major changes in the UX discipline and industry, such as more universities are establishing UX academic programs at both undergraduate and graduate levels.

“Bubbling Up” Through Practice-led Research

HCI researchers have long recognized the existing research-practice gap between the academic community and the industry [50], and some have made calls for more research to understanding the actual practices of practitioners [53]. We align this study with Stolterman’s [52] call to further understand design complexity from the perspective of practitioners. While the initial drivers of the *turn to practice* literature [37] were focused on physically collocated design practices, our approach towards UX practitioners’ online conversations focuses on the digitally-mediated competency-building practices that point towards the professionalization of UX. This indicates both an expansion of the turn to practice research agenda and a deeper investigation regarding UX practitioners’ *rationality resonance* [52] that impacts the professionalization of the UX community. The practitioners in this community engaged in a designerly practice of negotiating new knowledge and deciding how—or *if*—that knowledge was resonant with their understanding of UX practice. This example of designerly discourse indicates that the turn to practice literature could productively engage with the distributed interaction activities of practitioners. Previous research [36,37] demonstrates that this social yet professional space for knowledge sharing *informs* practice while also *enabling* that practice in direct, pragmatic ways.

It is against this backdrop that Gray et al. [25] proposed the need for knowledge to be bubbled-up from practice to academia—where “efforts are taken to refine and abstract situated knowledge and practice of methods, tools, or concepts into refined theory and defined tools and methods.” Bubbling up knowledge through practice-led research has the potential to not only inform HCI theoretical development, but also facilitate the professionalization of HCI-related occupations such as UX. Better knowledge exchange between the realities of industry practice and the distinct goals of academic research may facilitate the specification and alignment of occupation and disciplinary boundaries. While we do not propose a direct mapping from

industry to academia, as would be the case in vocational education, there is potential value in more greatly aligning curricula with the current and projected future realities of practice.

The Role of Online Communities in Professionalization

The online community in this study served as a catalyst for practitioners to collectively identify the status of their occupation and reach consensus regarding its possible future. This case indicates the importance of understanding the organizing and knowledge-sharing potential embedded in information communication technologies, particularly as they relate to organizing and professionalization.

General-purpose social media tools such as Reddit allow practitioners to form and sustain community interactions. We have shown that this subreddit supported communication among practitioners from diverse backgrounds, providing opportunities for practitioners with differing levels of expertise and lived experience to share knowledge in ways that would be difficult or impossible in an offline setting. This egalitarian approach to knowledge and consensus building does not operate without expertise, but values expertise in a more diffuse way. While a traditional CoP model relies upon a relatively stable body of knowledge and practices which is passed from senior to junior members, knowledge and practices in this community resulted from a confluence of inexperienced and experienced practitioners alike.

Newcomers and experienced practitioners have different roles to play in these discursive activities. Although the subreddit is a largely anonymous space open to UX practitioners at different levels, existing work shows that in the community newcomers and experienced practitioners have different ways of presenting themselves and participating in discussions [37]. Newcomers are more likely to ask questions regarding occupational knowledge that focus on entering the occupation (e.g., how to get a UX job; the relevance of particular skills). Self-claimed experienced practitioners tended to engage in deep discussions about the challenges to and future directions of UX, drawing on their rich industry experiences. Therefore, newcomers and experienced designers’ engagement in professionalization discourses differed dramatically. Newcomers often recognized the emerging nature of UX and shared their stories about difficulties they were facing; however, we observed little to no engagement of newcomers in topics such as specifying UX knowledge and enhancing societal recognition, possibly because they were inexperienced in providing valuable insights in these topics.

Based on this case, we consider a *community of emerging occupation* as a type of community of practice where members’ online activities revolve around negotiating, defining, and defending occupational boundaries. The CoP lens is powerful in structuring a synchronic description of what activities are happening in a community at a particular moment. However, the perspective of professionalization is

more concerned with the diachronic dimension of the community, seeking to locate these activities within the practice's history of evolution and desire for a bounded and specific future. This perspective is vital in understanding communities that are focused on a rapidly changing practice or topic, and represents an important area for future study.

Implications for CSCW

While much CSCW work concerns how technology supports collaboration and social learning between multiple occupations in organizational settings [5,6,15], little attention has been paid to these interactions as they relate to professionalization and the evolution of occupations. Professionalization will become an increasingly significant factor as occupational groups in these emerging spaces demand more power and recognition from organizations. Our case study shows that UX designers desired to obtain more power in negotiation with developer teams and assume more authority in everyday management of design activity. It is important for CSCW researchers to leverage the perspective of professionalization and attend to the liminal tensions between emerging and existing occupations.

In attending to professionalization in the development of information and communication technologies, this work also highlights opportunities for CSCW researchers to study the relation of online community interactions (and the knowledge generation and learning practices these interactions represent) to practitioner interactions in formal organizational contexts. Our case study shows that UX practitioners who were distributed across various organizations gathered in the same online community to discuss issues of importance to their shared occupational identity. Such a phenomenon echoes the open call from the Facebook co-founder Mark Zuckerberg to build global communities that “strengthen traditional institutions in a world where membership in these institutions is declining” [60]. These bottom-up movements organized by practitioners depend on a robust social infrastructure that enables effective communication, organization, and collective action, and may inform organizational policy and the education of future practitioners in profound ways.

Implications for Policymaking

Emerging occupations at the edge of the digital economy create the potential of an ever-enlarging talent gap. Unless the occupation is properly professionalized to the extent that a definite career path can be created, the future of emergent disciplines that captures the original character and distinctive occupational features could be in jeopardy. For professionalization to occur, there needs to be a general recognition that such work—if it is to be sustained and made consistent—requires a specialized body of knowledge that can be obtained only through formalized procedures such as training, education, or licensure. These formal means of standardization are what UX and other emergent disciplines still lack, resulting in volatility in relation to the skills of job seekers and the expectations of companies.

While universities are beginning to create relevant programs to address this gap, these programs often reside in traditional disciplinary spaces including library science and computer science, thus taking on different (and sometimes contradictory) areas of focus. While such a decentralized approach partially corresponds to the interdisciplinary nature of HCI and UX and allows a growing diversity of topics and interests, it also hinders the professionalization of UX and other related disciplines.

The professionalization of emerging occupations may be difficult or impossible to achieve if disciplinary discourses are highly decentralized. This set of factors may render the occupation sufficiently underdeveloped to consistently meet projected talent needs, introducing chaos into the process of professional preparation and licensure. There are opportunities for policymaking to play an important role in shaping these professionalization processes. For example, the U.S. government has previously defined STEM majors and passed numerous corporate, educational, and immigration bills to facilitate the training and education of more science, technology, engineering, and mathematics professionals [24]. In a similar vein, policymakers might identify and define emerging occupations of high job demand and provide benefits at the policy level. However, it is critical that these definitions—regardless of the source—remain flexible, able to adapt to changing industry needs and the creation of still other emergent occupations.

CONCLUSION

We reported a study of online discourses where professionals attempted to set occupational boundaries and move towards professionalization. The online community allowed practitioners to collectively identify the immaturity and rapid evolution of their occupation, engage in deep conversations about their disciplinary knowledge, and brainstorm actionable strategies to further develop this occupation. While this occupation lacks a centralized governing body—perhaps a trend as new inter- and trans-disciplines begin to emerge—these grassroots interactions among practitioners appear to be essential to the maturing process of occupations in the digital age.

More research is needed to understand the role of digital technologies in the definition, negotiation, and professionalization of emerging occupations. This research will not only enrich existing theories of professionalization, but also carry practical value for educational systems, industry partners, and society as a whole to better prepare for the opportunity of emerging occupations enabled by advances in information and communication technologies.

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