
Exploring the Knowledge Creation Practices of UX Designers on Stack Exchange

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Abstract

The contours of user experience (UX) design practice have been developed by a diverse array of practitioners and academics in an array of disciplinary traditions, leaving UX without a coherent and agreed upon body of disciplinary knowledge or a concrete path to become a professional. Consequently, UX designers rely upon online knowledge resources to develop and maintain their competence. In this work-in-progress, we conducted an exploratory investigation of question and answer (Q&A) communication within the UX Stack Exchange community, analyzing the topics that UX designers have raised in questions and answers. Our preliminary analysis contributes a typology of knowledge needs that were articulated by UX designers as a support for their practice. Drawing on prior work, we discuss three distinctive characteristics of UX knowledge desired by designers.

Author Keywords

User experience; UX; UX knowledge; Question and answer; practice-led research; design practice.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

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Introduction

The notion of user experience (UX) has existed for decades, but has recently begun to garner additional attention from industry [16] and academia[18]. However, UX lacks what can be considered a coherent body of disciplinary knowledge [17], and there is not a concrete path to become a UX professional. As a result of the dynamic and evolving nature of UX practice, we embrace the presence of multiple, contradictory definitions (e.g., [7]) that complicate both the practice and study of UX. Both junior and senior UX designers face unique challenges in developing and maintaining their UX design knowledge over time [3], and in efforts to overcome these knowledge challenges, they increasingly rely upon distributed online resources such as social media and online communities to learn and share design knowledge [4,13,19]. In parallel, design researchers have also called for more attention to understanding practitioners' *actual* design practices [17], bubbling up knowledge from their work [5]. At the intersection of these two forces, we consider UX designers' online communication to be a valuable resource in characterizing UX knowledge, with a potential for use in UX research and education.

Given the dynamic nature of UX knowledge, online design conversations provide a means for UX practitioners to maintain their design competency and facilitate the discovery and consolidation of designerly ways of knowing through numerous scenarios described in questions and design suggestions laid out in responses. In this work-in-progress, we focus on a UX question and answer (Q&A) online community within Stack Exchange. To characterize this community, we conducted an exploratory analysis of nine years of Q&A communication to understand the knowledge needs of

UX designers in *actual* practice. The typology of knowledge needs yields a preliminary understanding of online Q&A of UX designers, allows cross-comparison with prior work on practitioners' understanding of UX.

Related Work

According to Cross, designerly ways of knowing consists of five aspects: designers tackle 'ill-defined' problems; their mode of problem-solving is 'solution-focused'; their mode of thinking is 'constructive'; they use 'codes' that translate abstract requirements into concrete objects; and they use these codes to both 'read' and 'write' in 'object languages' [14]. In this study, we explore the instrumental value of ICTs—and specifically Q&A sites—in supporting designerly ways of knowing. The process of engaging in Q&A conversations commonly addresses instances where UX designers meet ill-defined problems, and cannot seek definite answers from established knowledge resources because the design situation is inherently unique and messy. These designers' mode of Q&A is focused on finding a pragmatically relevant answer to a design problem. In collectively formulating an answer, they rely upon codes to translate their problems and solutions into the rigid and objective-like format of online Q&A.

Methods

Our study site is the user experience community supported by Stack Exchange. The rationale behind choosing this site was informed by the observation that UX designers rely on social media for developing and maintaining design competence [3,6], and the site's explicitly claimed mission of documenting accurate depictions of UX knowledge. We used the official Stack Exchange API to collect Q&A communication among UX practitioners from September 2008 to September 2017,

Topics	Freq.	Example Questions
user interface design (UI)	34%	Close Button on Drop down carts - better for UI/UX or not?
interaction design (IxD)	19.5%	How should user unselect a date from a calender?
usability	18.5%	Web Usability: pagination and column sort
user mental model	7.5%	Is it possible to make a game design, where I can respect the user's intellect?
design process	5.5%	How do you keep track of the process of an UX project?
privacy/security	2.5%	should there be a 2-step process when asking for permission to user data?
accessibility	2%	What type of users use exclusively the keyboard to navigate a site?
information architecture	2%	Categories Description: Secondary Information for Categories
persuasion	2%	When to ask the user the complete a survey via an email?
visualization	2%	How to visualize data with extreme value differences?
UX knowledge resource	1%	What book would you recommend as a decent 'intro to UX' aimed at non-practitioners?
UX team	0.5%	Should the UX team be organizationally with IT or Product Management?
other	3%	What kind of legal protection can I obtain for a user interface design?

Table 1. Typology of Knowledge Needs.

including a total of 21,216 questions, 56,486 answers, and 9,936 unique authors who had written at least one question or answer. These data were stored in a local MySQL database for analysis. We used emergent thematic analysis [2] to code the types of knowledge that UX designers seek help with. We randomly selected 200 posts, distributed equally over time, to generate a suitable volume for qualitative coding.

Findings

We identified thirteen primary topics among the 200 Q&A threads. Table 1 lists types of UX knowledge that were shared, debated, and articulated by practitioners in this Q&A community. The “other” category contains knowledge that is not specific to UX, such as software standards, domain naming strategies, and legal issues. Although the site is entitled “user experience,” knowledge covered a range of related disciplines such as information architecture and UI design.

Strong connections with UI, IxD, and usability

UX has strong connections with UI, IxD, and usability, with 34% of Q&As focused upon the design of a specific interface element such as a button, a list, or a menu, 19.5% on the design of patterns of interactions between users and systems such as click, unselect, and mouse hover, and 18.5% on usability issues concerning how to make an object easy to use and learn. However, there were notable differences between Q&As about UI and IxD, and those addressing usability. In UI posts, practitioners primarily raised specific design scenarios that they were dealing with, in hopes of obtaining quality design suggestions. In usability posts, they often referenced existing, well-constructed usability guidelines.

Blurry knowledge boundaries

Related to the first quality, what was considered as UX knowledge was not clearly defined by practitioners in this community. While community policies clearly stated that “off topic” questions would be closed, the discussions seemed open and inclusive to many branches of knowledge that have received increasingly more attention, such as persuasion and privacy/security topics. UX practitioners did not consider these knowledge branches irrelevant to UX, and actively participated in related discussions.

Practice-oriented

Lastly, all knowledge topics were practice-oriented in the sense that they reflected distinctive design goals or design contexts that the UX practitioners wanted to address in their practice. We found few Q&As there were dedicated to either defining or theorizing UX in an academic tone. Instead, UX practitioners tended to be pragmatic and solution-oriented.

Discussion and Future Work

More than a decade ago Hassenzahl and Tractinsky observed that “User experience (UX) is a strange phenomenon: readily adopted by the human-computer interaction (HCI) community—practitioners and researchers alike—and at the same time critiqued repeatedly for being vague, elusive, ephemeral” [8]. Acknowledging the breadth of UX knowledge, we suggest that researching designers’ Q&A provides a way of capturing the paradigms, links, and trends within UX. Other sites may have different and complementary roles to play based on their different socio-technical affordances as well as UX designers’ learning practices (e.g., see a comparison of between Reddit and Stack Exchange in [10]).

In contrast to prior work that solicits opinions from UX practitioners with predefined questions [9,11,12], our study captured designer interactions in settings where everyday design practices took place, with similarities to knowledge transfer between designers in offline design settings such as a studio. Different from offline, face-to-face Q&A practices in a classroom or a studio with a small number of participants, online Q&As represent a collaborative community where a large number of members can edit or upvote both questions and answers, with the shared community goal of building “a library of detailed answers.”

As an increasingly number of universities establish standalone, UX-focused programs, an urgent question for scholars and educators is: How do we best prepare students in terms of knowledge acquisition and competence development? Our analysis points towards a contribution to nascent UX pedagogy by identifying the primary types of knowledge needs of UX designers. This typology raises the question of how future UX designers should relate to present and relevant topics of interest; to what degree should UX pedagogy be oriented towards present, pragmatic concerns versus potential UX futures that are still ill-defined?

This work-in-progress represents an exploratory analysis of this Q&A community, but future directions might include additional longitudinal analysis across the dataset to document evolutionary trends in UX knowledge, facilitated by computational methods. Building upon this analysis, we can map out more recent knowledge branches that are substantial or gaining importance, investigating how collaborative digital technologies support UX designers collectively generate design solutions [1,15].

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