

Making the Sacred: Craft, Ritual, and Computational Imaginaries in Postcolonial HCI

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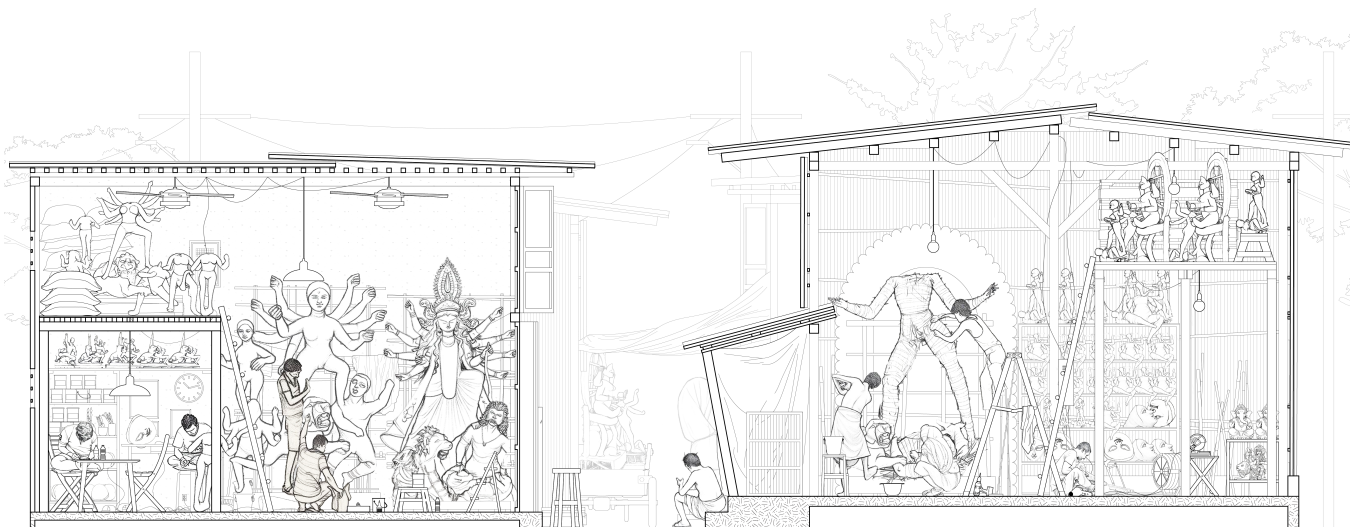


Figure 1: A sectional drawing of Kumartuli’s workshops, illustrating the layered spatial arrangements where artisans live, work, and store idols. The drawing, created from field sketches, photographs, and notes, depicts how multiple phases of idol-making unfold simultaneously across these dense, overlapping spaces—revealing how “making” Durga in Kumartuli is embedded in material arrangements, rhythms of labor, and collective devotion.

Abstract

Human–Computer Interaction (HCI) scholarship has begun to examine religion and spirituality; yet, devotion as a lived, material, and world-making practice remains largely overlooked. For millions across the Global South, devotional labor such as sculpting, tending to, or worshipping sacred figures forms a primary mode of engaging with the divine and shaping everyday social and technological imaginaries. Drawing on a four-month ethnography

with an idol-maker community in Kumartuli, Kolkata, India, this paper examines how artisans bring gods into being through materials, gestures, obligation, and collective care. Their practices reveal forms of knowledge, intentionality, and agency that complicate HCI’s predominantly secular and instrumental understandings of craft, creativity, and technology. Building on anthropological craft studies, postcolonial computing, and scholarship on religion and materiality, we show how sacred making foregrounds relational, embodied, and cosmological dimensions of practice. We argue that devotional craft constitutes an under-recognized site from which HCI can critically rethink its assumptions about materiality, mediation, knowledge, and the sacred.



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CCS Concepts

• **Human-centered computing** → **Empirical studies in HCI**;
Empirical studies in collaborative and social computing.

Keywords

Making, Craft, Urban Heritage, Faith, Religion, Spirituality, Post-colonial HCI, Global South

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1 Introduction

Recent years have seen a growing body of HCI scholarship engaging with Faith, Religion, and Spirituality (FRS), responding to the reality that more than 80–85% of the world’s population identifies with some religious tradition and that religious sensibilities deeply shape how communities adopt, refuse, reinterpret, or resist technologies [20, 90, 126, 127]. This work has examined how secular design values, including efficiency, convenience, productivity, and scale, can marginalize religious routines and moral worlds [75, 82, 85]. It has documented how faith-based communities negotiate technologies in domains such as healthcare, development, privacy, communication, environment, and ritual life [22, 46, 67, 73, 78]. Yet despite this emerging attention, FRS research in HCI remains largely oriented toward belief, ritual performance, and digital mediation, with far less engagement with the materiality through which religious life is enacted, sustained, and made meaningful. In many parts of the world, devotion is not only spoken, but also felt, or cognitively held; it is crafted, touched, carried, worn, fed, washed, embodied, and materially negotiated. Muslims lift a printed Qur’an with deliberate reverence, never placing it directly on the ground; Buddhist devotees circumambulate statues whose stone surfaces have been polished by generations of hands; many Catholic practitioners kiss rosaries that travel with them across life stages; Hindu worshippers offer *prasad* (ritual offering) to idols whose material form must be tended, renewed, or ritually dissolved; artisans in South Asia sculpt, paint, and transport divine figures whose material transformation is itself a devotional act. These are not peripheral embellishments to religious practice. Rather, they are constitutive of how the sacred becomes present in everyday life. To date, FRS scholarship in HCI has paid scant attention to materiality: the politics of sacred objects, the craft labor that animates them, the spatial configurations required for ritual, and the material infrastructures that support devotional life. This omission leaves a major gap in how HCI conceptualizes the sociotechnical dimensions of faith [21, 69, 70].

One of HCI’s most influential bodies of work that deeply engages with materiality is the scholarship on craft, making, fabrication, and unmaking [55, 100, 117]. This research has shown how material practices shape computational imaginaries and design methods, whether through the embodied reasoning of artisans, the tacit knowledge transmitted through apprenticeship, or the hybrid assemblages of craft and digital fabrication tools such as CNC, 3D

printing, and modular looms [95, 98, 117, 130, 137]. Studies of repair and unmaking further expand this material lens by examining breakdown, maintenance, and the afterlives of computational artifacts, emphasizing that technologies are sustained through ongoing craft-like labor rather than singular moments of creation [54, 86, 101]. Across these diverse threads, craft scholarship foregrounds skill, gesture, material manipulation, creativity, and the politics of human–material interaction [11, 30]. Yet this rich literature remains largely secular in orientation, rarely considering forms of making oriented toward the divine, nor does it engage with craft practices whose techniques, temporalities, and embodied expertise are inseparable from spiritual obligations. As a result, the non-secular dimensions of craft, including devotional making, cosmological meaning, sacred materiality, and spiritually attuned forms of skill, remain understudied within HCI’s dominant accounts of making and material practice.

This paper addresses this gap through an in-depth ethnographic study of Kumartuli, Kolkata’s historic neighborhood of idol-makers, renowned across South Asia and the global Bengali diaspora for crafting/sculpting/“making” the goddess Durga. Our study combines extended fieldwork, interviews, spatial mapping, participant observation, and analysis of artisans’ digital and material archives to understand how devotion, craft, and urban political economy intersect in the making of sacred forms. Drawing on critical scholarship in HCI, anthropology, craft studies, and postcolonial theory, we document how artisans learn, sculpt, and negotiate their labour in ways that bind material practice to cosmological meaning. Building on this multi-layered inquiry, the paper makes a three-fold contribution to HCI. First, it provides a detailed ethnographic account of devotional craftwork, foregrounding the material, embodied, and relational processes through which artisans bring the divine into presence—dimensions largely absent in existing FRS or craft-and-making research. Second, it expands HCI’s theoretical understanding of making by showing how sacred craft is shaped not only by ritual obligations but also by gendered hierarchies, spatial constraints, digital visibility, and the shifting pressures of capitalist craft economies. Third, it advances postcolonial HCI by revealing how secular assumptions in design and theory render devotional knowledge, sacred temporalities, and embodied spiritual attunement as forms of “otherness,” and by demonstrating how attending to such practices can broaden HCI’s conceptual and design horizons toward more plural and culturally grounded ways of understanding making.

2 Related Work

2.1 Faith, Religions, Spirituality, and HCI

We open our literature review by looking at the existing work around Faith, Religions, and Spirituality (FRS) in the broader HCI landscape. Ignited from an urgency to look at how a significant portion (85%) of the world population, who subscribe to organized religions, see, adopt, use, or resist technologies, FRS has paved its pathways at different venues in HCI [22, 90, 94]. Predominantly, there are three threads of scholarship that FRS in HCI is developing. The first line of inquiry examines how some material values, such as profit, efficiency, scalability, and convenience, that often drive

computing, largely reflect secular impulses [20, 90]. This thread exposes the often-unintentional processes through which computing contributes to secularization and the kinds of harm such technologies can produce [46, 77, 90]. Case studies range from analyses of how domestic technologies overlook religious routines such as prayer, Sabbath observance, and ritual cleanliness, thereby normalizing non-religious domestic life [133] to how secularly designed online marketplaces replace religious festival-oriented market rituals, eroding religious values, sentiments, access, and spatial justice in contexts like Bangladesh [75]. Collectively, this body of work argues that design research in HCI often assumes a secular user and environment, relegating religious practices to the margins of technological “use cases” [41, 131]. This line of scholarship is now expanding its horizons through data, annotation, and meaning-making, which demonstrates how annotation schemes render FRS categories invisible in datasets, a mechanism that produces and proliferates secular label ontologies, erasing religious meaning and leading to downstream model biases [91].

The second line of inquiry focuses on studying the existing values and practices with computing technologies among FRS-based communities across the world. A significant portion of these studies puts emphasis on considering these values and practices when addressing several core discussion issues in HCI, including healthcare [78, 111, 114], finance and development [48, 88], market systems and culture [75], agency [85], sustainability [92], privacy [8, 89], and communication [134], among others. This line of inquiry also includes how, at the margins of technological use mentioned in the paragraph above, FRS-based communities come up with strategies in tweaking/adjusting/appropriating technologies for their FRS-oriented usage [102, 107]. For instance, Maulida et al. conducted a study about the possibility of using TikTok for Islamic learning [72]. Kozubaev et al. further diversify this notion by including how Zikr groups craft online/hybrid remembrance rituals, adjusting audio, sequencing, and leader cues across platforms [59]. In a similar spirit, Claisse and Durrant added their study on a UK Buddhist sangha that reorganized ritual and teaching via Zoom/YouTube, tweaking cadence, camera rules, and shared silence to preserve sacred ambiance [26]. Together, these studies extend HCI’s reach to include communities whose faith, religion, and spirituality are integral to their everyday lives, while also offering unconventional design insights that challenge dominant assumptions within the field.

This leads to the third line of inquiry around FRS in HCI, which addresses the unique needs and values of the FRS communities through design interventions. In their very recent study, Wolf et al. [128] divided these design conversations into four threads. The first thread of designs engages in developing or analyzing technologies that help religious/ spiritual institutions integrate digital tools for communication, teaching, or outreach [35, 58, 132]. Then there are designs that support religious or spiritual practices in everyday life without explicitly generating transcendent experiences. These include tools, devices, or systems that blend rituals with everyday technologies (e.g., smart home integrations, ambient systems for ritual ambiance, or live-broadcast tools) [25, 123]. The emphasis is on functional facilitation, making practice easier, smoother, or aesthetically enhanced. There are also designs aimed at evoking or deepening spiritual, religious, or transcendent experiences

through technology. Examples include VR experiences, interactive rituals, and digital visualizations that provoke reflection, calm, or self-transcendence [26, 57, 64]. The design priority is on affective and embodied engagement, creating emotional, sensory, and spiritual depth. Finally, there are design interventions that strengthen social bonds and belonging within faith-based groups/ communities. These focus on connectivity, participation, and mutual care, especially in conditions of isolation (e.g., during COVID-19). The design work centers on platforms, online gatherings, and communication systems that sustain communal presence and shared identity.

While this growing scholarship has brought important visibility to faith, religion, and spirituality in HCI, it still leaves out how craft-based ecosystems participate in these conversations. Most studies focus on digital mediation or design interventions, but rarely on the material and devotional labor through which people meet and sustain the divine in everyday life. This gap limits how HCI understands the relationships between technology, belief, and embodied making. By foregrounding devotion, craft, and human–divine encounters, our study addresses this gap and advances FRS scholarship in HCI that questions its prevailing secular and instrumental assumptions.

2.2 Craft, Making, and Material Practice in HCI

Now, we will turn to HCI’s long-standing engagement with craft, making, and material practice, treating these as important sites for exploring design methods and materialization processes in computing. One of the most dominant threads in this domain examines crafts, in shaping and reshaping material assemblages (where natural materials are combined with sensors, electronic components, and streams of code and data to create new hybrid computational composites) [24, 80, 81], in advancing technologies to “smooth” human-material interactions in production [118–120], and in making novel material experiences that combine the digital and the physical together [98]. For instance, think about “push-to-print” and CAD/CAM systems that automate or augment handwork, using CNC, 3D printing, and rapid prototyping to reduce repetitive labor and open new possibilities for design and reproduction [24] or a small social group weaving digital audio messages into hand-made knits for gifting to loved ones [98]. These material-oriented conversations between craft and computation essentially activate an interdisciplinary narrative that associates craft with human agencies [49].

Foundational work in the above-mentioned area has traced how craft involves embodied reasoning [38, 45], apprenticeship [61, 68], and situated expertise [49, 113], often challenging assumptions around innovation and efficiency in computing. This line of thinking are often heavily inspired by Sennett’s account of “*thinking with hands*” that positions craft as an intellectual practice rooted in bodily action [105] or Polanyi’s influential concept of *tacit knowledge* which cannot be codified into explicit rules but are instead transmitted through apprenticeship, observation, and repeated practice. For instance, Cheatle and Jackson [24] explicitly mobilize craft to rebalance computational practice away from abstraction and toward material, embodied, situated ways of working. Rosner’s

studies of repair, feminist craft, and technological heritage highlight how making is shaped by memory, identity, and material constraints [31, 95, 97]. This scholarship has been further developed to examine how digital tools intersect with traditional craft processes, emphasizing the persistence of skilled hands. Design intervention like the *Loom Pedals* enhances a weaver's creative agency by allowing them to improvise and manipulate digital Jacquard designs through modular foot pedals that respond directly to their embodied craft practices [130]. Wallace's account further underscores that crafted artifacts take shape through the maker's embodied judgments and sensitivities, foregrounding human agency as inseparable from the material processes of making [122]. This line of work often defines "making" as a human-centered and intention-driven act of constructing stable artifacts [108].

Alongside this emphasis on making, a growing body of HCI scholarship also focuses on *unmaking*, a concept focusing on frictions, breakdowns, repairs, endings, and material afterlives of computational systems as a way to complicate dominant narratives of innovation [108]. Jackson's landmark work on repair and "broken world thinking" argues that technologies live within ongoing cycles of decay, improvisation, and maintenance rather than linear paths of creation and progress, repositioning craft not only as a practice of construction but also as one of continual tending [52]. Building on this, Sabie and colleagues show how unmaking can itself be a form of craft, an intentional, creative, and ethical practice in which dismantling, reworking, or undoing objects becomes a site for care, sustainability, and alternative futures [100, 101, 101]. Together, these perspectives unsettle the assumption that value lies primarily in production, revealing the material life of technologies as shaped by ongoing acts of negotiation, crafting through maintenance as much as through creation.

Yet even with this expanded attention to both making and unmaking, HCI's engagement with craft remains overwhelmingly secular in orientation. The values articulated across this scholarship, including embodiment, care, maintenance, sustainability, tacit skill, among others, are undeniably rich, but they take for granted a worldview in which making and unmaking unfold entirely within human and material relations. What remains largely absent is an understanding of craft that is also devotional: where skilled practice is oriented toward sacred presence, ritual obligation, cosmological meaning, and relations between humans and the divine [28]. It is precisely this form of craft that our study brings into view.

The literature reviewed above points to the need for HCI to engage more deeply with religious values, ritual practices, and the sociocultural worlds within which sacred traditions evolve. Our study of Kumartuli extends this conversation by focusing on a setting where craft and devotion are intertwined, and where making a deity is both a material practice and an act of sustaining relations with the divine. The tensions that emerge in this community, between inherited ritual obligations and shifting urban economies, between intergenerational knowledge and contemporary pressures on craft labor, are not simply local frictions, but are rooted in a longer history of colonialism, market transformation, and the uneven recognition of non-Western religious worlds. In this sense, the study contributes to postcolonial HCI by foregrounding how sacred craft practices carry cosmological, ethical, and relational meanings

that are often displaced or rendered invisible in computing's secular framings of making and design [10, 50, 51, 114].

3 Background

Durga Puja, one of India's most significant annual festivals, especially in West Bengal, celebrates the goddess Durga's victory over the buffalo-demon Mahishasura. The origins of Durga Puja are deeply entwined with Vedic traditions and early Hindu rituals. References to the worship of Durga, a powerful deity symbolising divine feminine energy, can be found in ancient texts like the Mahabharata [4] and the Devi Mahatmya (a part of the Markandeya Purana) [1]. In these texts, Durga is portrayed as a warrior goddess who brings balance by vanquishing the forces of chaos and evil. The festival's core myth, where Durga defeats Mahishasura, is symbolic of the restoration of cosmic order.

Historically, it is believed that Durga Puja was first celebrated as a community event in the 15th century in the region of Bengal, though the roots of the festival stretch back much earlier in various forms of goddess worship across India. The first recorded instance of Durga Puja as a public celebration dates to the 16th century in Bengal, when the *zamindars* (landowners) of the region began hosting large-scale celebrations to honour the goddess. From elite patronage, Durga Puja evolved into a public event in the 18th–19th centuries through *baro-yaari* and *sarbojonin* models (celebrations open to the public). This era saw increased participation, elaborate rituals, and the rise of pandals (temporary structures made out of bamboo, wood, clothes, and decorative materials). During the Bengal Renaissance, the event was promoted as a symbol of cultural identity and unity.

Post Indian independence from the British colonial power, the festival became a blend of religion, art, and commerce, marked by extravagant installations, global recognition, and heavy media coverage. Today, it is a dynamic showcase of tradition and modernity. Modern celebrations integrate technology like AR [5, 7], 3D projections [6], and interactive installations, to enhance aesthetic appeal and social messaging. Live-streaming and virtual tours connect the global diaspora [2]. Eco-conscious efforts such as biodegradable idols and digital campaigns now drive sustainable practices. Now celebrated globally, especially by the Bengali diaspora, Durga Puja is a confluence of devotion, creativity, and socio-political commentary. The rise of theme-based pujas, where pandals are designed around cultural, historical, or political narratives, has added a new dimension to the festival, attracting wide public engagement and artistic experimentation. Themes often reflect current events and environmental awareness, merging age-old customs with global conversations.

Kumartuli [3], located in the northern part of Kolkata, is a historic potter's colony renowned for its century-old tradition of idol-making, particularly for the Durga Puja festival. The name "Kumartuli" is derived from the Bengali words *kumar* (potter) and *tuli* (lane or locality), indicating its origins as a settlement for potters and artisans. Kumartuli's history dates back to the early 20th century, when it was established as a hub for potters who migrated from rural Bengal. These artisans settled near the Hooghly River, drawn by the availability of raw materials like clay and bamboo, essential

for making idols. Over time, the colony became a center for creating religious idols, with Durga Puja being the primary focus.

By the early 20th century, as Durga Puja evolved from a family ritual to a large-scale community celebration, the demand for idols grew exponentially. Kumartuli responded by expanding its workshops, and artisans began receiving commissions from families, pandals (temporary structures), and cultural organizations. The colony became known for producing idols of exceptional artistic quality, each crafted with precision and devotion. The artisans of Kumartuli became celebrated for their craftsmanship, and the area itself became a key player in Kolkata's cultural and religious life. The legacy of Kumartuli was solidified when artisans began producing idols for prestigious Durga Puja celebrations in the city, further cementing their reputation, and some artisans began exporting idols to Durga Puja celebrations organised by the global Bengali diaspora. In current times, artisans face rising costs, short production cycles, and pressure from mass-produced alternatives. The push for eco-friendly idols, while crucial, requires investment in new materials and skills. Many families struggle with financial instability due to the seasonal nature of their work.

4 Methods

We carried out a four-month ethnographic study in Kumartuli, Kolkata (West Bengal, India) between May and August 2025. Our research team included academically trained ethnographers, anthropologists, artists, and computer scientists, all rooted in South Asia, with expertise in critical social science research. One of our research team members has deep personal ties to Kumartuli: her family has been involved in the idol-making trade for three generations. As both a community insider and a gatekeeper, she facilitated our entry into workshops and everyday life in Kumartuli. While her position enabled us to build trust with idol makers, it also required deliberate reflexivity and careful attention to ethics, particularly in recognizing how her dual role shaped our access, the data we collected, and the interpretations we drew.

In addition to participant observation, fieldnotes, and audio-visual documentation, data collection proceeded in five phases. First, we conducted semi-structured interviews with 26 idol-makers. Second, we visited and spatially mapped nine studios/workshops to document material and spatial arrangements. Third, we held focus group discussions (FGDs) with 12 idol-makers to explore shared challenges and collective practices. Fourth, we observed publicly available websites and videos to analyze artisans' digital presence. Finally, we conducted semi-structured interviews with other stakeholders, including clients, ritual organizers, material suppliers, and worshipers, to situate idol-making within broader social, economic, and religious networks.

As is common in ethnographic and qualitative research [47], we began with a broad objective: to explore whether the recent boom in technology has begun to affect traditional idol-making practices and, if so, in what ways. We were also interested in examining whether digital tools might support artisans in designing and visualizing idols. To ground these questions, we conducted a series of pilot interviews that probed idol-makers' familiarity with some advanced making technologies, including those with limited technological literacy. These exploratory conversations helped us better

conceptualize the highly intricate and deeply devotional process of idol-making, an embodied and spiritual practice that extends far beyond the quantifiable behaviors on which most technological tools for artists or religious groups are typically based. Through this preliminary work, we recognized that HCI and idol-making intersect in distinctive and context-specific ways. These insights guided us to focus our study more specifically on the design and making of the goddess Durga, allowing us to capture the cultural, artistic, and affective nuances embedded in this process.

With the assistance of a community gatekeeper, we gained entry into Kumartuli and expanded our participant pool using snowball sampling [43]. We conducted 27 semi-structured interviews, each approximately 1.5 hour in length, though some were completed in shorter segments or over the phone due to participants' limited availability during the pre Durga Puja season. The interviews asked artisans' roles in idol-making, idol-making processes, sources of inspiration, everyday practices, challenges, power relations, gender hierarchies, and use of technology, as well as their hopes and concerns regarding technological change. As mentioned in the previous paragraph, our findings from the pilot interviews helped us refine the topics we intended to ask. We also encouraged the participants to share their stories that oftentimes went beyond our preplanned set of semi-structured interview questions. Only three participants were women, reflecting the male-dominated nature of the field. All participants were compensated at the standard hourly rate of their trade.

In parallel, we conducted spatial mapping of the idol-making environments. This involved documenting material flows and transformations at each stage of production, recording the use and circulation of tools, and mapping the arrangement of partially completed idols within constrained workshop spaces. We also examined the integration of workshops into the broader urban fabric of Kumartuli and traced interdependencies across workshops, including material exchange, labor support, and collaborative networks that sustain the craft ecosystem.

We conducted two focus group discussions (FGDs) in Kumartuli with 12 idol-makers representing different age groups and areas of specialization, including skeletal framework construction, facial sculpting, and ornament design. The FGDs focused on systematically mapping the idol-making process. In both FGDs, participants were divided into three groups: the first analyzed preparatory activities (taking orders, procuring raw materials, hiring laborers), the second examined sculpting practices (from head to toe), and the third addressed post-production tasks (designing attire and ornaments, transporting idols to Puja pandals, adjusting decorations, and immersion rituals). Each of the FGDs was 3 hours long. These FGDs provided both conceptual insights into artisans' understandings of creativity and structured accounts of the sequential actions, materials, and tools involved in idol-making.

Finally, we examined the digital presence of idol-makers through their websites, public social media pages, and YouTube channels. These platforms were typically maintained either by technologically adept artisans or with assistance from younger family members to promote their work. This phase of data collection involved systematic observation of online content, with detailed notes on documentation practices, archival displays, and strategies of online self-presentation. In addition to digital sources, we studied the



Figure 2: A series of photographs documenting the gradual sculpting of idols: beginning with straw frameworks, followed by successive layers of clay, and culminating in the detailed shaping of faces, muscles, and other features.

physical photo albums maintained by workshops, which contained annual documentation of completed idols¹.

In total, our study generated 26 semi-structured interviews, 2 focus group discussions (FGDs), approximately 28 hours of online observation, over 300 pages of fieldnotes, more than 800 photographs, 25 video clips, 17 sketches, and over 50 hours of audio recordings. The interviews averaged 95 minutes in length. With informed consent, all interviews and FGDs were audio- and, where appropriate, video-recorded. Data collection was conducted in Bengali, and all recordings were securely transferred to an encrypted, password-protected computer. Transcription, translation, and anonymization were carried out by members of the research team, who are fluent in both Bangla and English. This ensured both linguistic accuracy and contextual fidelity in the preparation of textual data for analysis.

We analyzed the anonymized qualitative data using an inductive approach [115]. The research team conducted a systematic examination of interview and FGD transcripts through iterative close readings. During this process, we identified and excluded irrelevant segments while foregrounding excerpts pertinent to the research questions. To ensure rigor and inter-coder reliability, team members engaged in frequent virtual meetings to review excluded passages and verify that no significant material had been overlooked. The relevant data, including interviews, fieldnotes, and FGDs, were then coded using open coding techniques [112] and further organized through thematic analysis [18]. No a priori categories were imposed, allowing themes to emerge inductively from the data. Codes were clustered into patterns based on similarity and difference, which were subsequently synthesized into higher-order themes. Multiple rounds of coding and theme refinement were conducted collaboratively among team members until consensus was reached on the final thematic structure presented in the findings. The study protocol received approval from the Research Ethics Board of a North American academic institution.

5 Findings

Our data revealed various forms of devotional engagements that define the very moments where (and how) human “meets” the goddess/divine in the material process of idol-making. This gives us an alternative narrative on human–divine interactions that are widely understudied in HCI, particularly within HCI’s literature

on making, materiality, and creative practice. To better articulate our findings, we group these devotional engagements into three key phases of idol-making in Kumartuli: learning, sculpting, and trading. In the subsections below, we present the complex human-material assemblages on the backdrop of the socio-cultural and material construction of the sacred.

5.1 Learning

For many artisans in Kumartuli, learning to sculpt the goddess is less a technical pursuit than an initiation into a spiritual journey. Some began in childhood, watching fathers or grandfathers absorbed in shaping Durga or other deities such as *Kali* or *Vishwakarma*; others entered through a passing interest that grew into devotion. For many, the path was obstructed by gender bias, caste prejudice, social disapproval, or even technology, making the process far more difficult. Yet overcoming these barriers brought them closer to Durga herself, the goddess who embodies resistance against injustice. The following narratives trace these varied journeys.

5.1.1 Inherited Craft, Inherited Spirit: In Kumartuli, idol-making is a craft mostly passed down through generations in *Paul* community, predominantly from fathers to sons. This inheritance blends devotion with skill, beginning with quiet observation of elders and maturing through years of practice. More than perfecting form and proportion, it instills an ethic of care and reverence, making sculpting both a livelihood and a spiritual journey, where each generation bears the responsibility of preserving the craft’s sanctity.

Case 1: At 55 years old, Participant 8 (P8) represents the third generation of idol-makers in his family, with roots in Kumartuli that extend long before he entered the trade full-time. His grandfather migrated from Bangladesh during the Partition of India, when P8’s father was just ten, and the family settled first in Jadavpur before establishing a Kumartuli workshop that quickly earned renown. As a child, P8 apprenticed under his father, who handed him small but formative tasks. Such as painting the eyes of a swan or an owl, adding a wash of color to an idol during the festival rush, through which he learned how to hold and control the brush. His father, who became a celebrated artisan for Kolkata’s major Pujas, including *Samajsebi*, *College Square*, *Ahiritola*, *Beniatola*, *Kumartuli Sarbojanin*, and others, won accolades such as two consecutive *Sharad Samman* awards and remained P8’s most influential teacher. When his father passed away, P8 feared he could not carry the legacy alone, but, as he put it, “*Ma (Mother Durga) helped me.*” Senior artisans who had

¹These albums, often printed and displayed in workshop spaces, served as archives as well as marketing tools to attract clients for subsequent Durga Puja seasons.

Table 1: Demographic and occupational characteristics of study participants

Participant ID	Age	Gender	Education	Specialization
1	48	female	8th grade	sculpting
2	55	male	8th grade	structure making, sculpting
3	32	male	bachelor’s degree	making face of the idol, sculpting
4	64	male	10th grade	eye drawing, sculpting
5	52	male	8th grade	medium labour, sculpting fiber idol
6	60	male	10th grade	structure making, sculpting
7	52	male	9th grade	making face of the idol, sculpting
8	55	male	bachelor’s degree	making face of the idol, sculpting
9	55	male	5th grade	main labour, sculpting clay idol
10	53	male	12th grade	sculpting fiber idols
11	28	male	8th grade	sculpting fiber idols, medium labour
12	52	female	10th grade	sculpting
13	52	female	8th grade	making face of the idol, eye drawing
14	35	male	10th grade	medium labour, sculpting
15	57	male	12th grade	sculpting
16	53	male	bachelor’s degree	making face of the idol, sculpting
17	58	male	12th grade	making face of the idol, sculpting
18	40	female	12th grade	eye drawing, sculpting
19	54	male	grade 9	sculpting
20	52	male	bachelor’s degree	sculpting
21	27	male	bachelor’s degree	structure making, sculpting
22	55	male	can sign name	sculpting
23	48	male	bachelor’s degree	sculpting
24	45	male	3rd grade	idol carrier
25	63	male	12th grade	making face of the idol, sculpting
26	50	male	12th grade	sculpting



Figure 3: From left to right: (1) artisans sculpting the fingers of an idol, (2) an artisan shaping the face of an idol using his personal sculpting tool, the Cheyari, (3) painting the eyes of Durga—a delicate and highly significant stage of idol-making, and (4) idols receiving their layers of paint.

once worked with his father guided him through those early years, teaching him how to speak to customers, how to decide on idol designs, and how to set prices. With their mentorship, P8 eventually established his own reputation. He says,

“I love my work, so I do it. I can’t say I’m an owner or a businessman here. Since this is God’s work, it’s for worship; it’s not like any other business. If it were, then I might call myself a businessman. But because it’s connected to the deity, I won’t confuse it with business. I

came into it out of love, because I enjoy it.” -Participant 8, male, 55-year-old, artisan and workshop owner.

Yet the continuity of this devotion is uncertain. P8 notes that only a small fraction of the younger generation shows interest in the trade. His own daughter, a software engineer, working in another city in India, enjoys the opportunities, travel, and financial stability of her career, and has no interest in returning to a workshop where earnings are modest and the labor is mostly physical. P8 adds,

“...learning this craft across generations is not just about passing down skills. It’s about passing down devotion to Durga. Without real interest and genuine devotion, it’s impossible to sustain this work. It doesn’t earn the kind of salary or lifestyle that other jobs do. The ones who stay are here not for money, but for the chance to feel spiritually connected to the goddess.” -Participant 8, male, 55-year-old, artisan and workshop owner.

In many cases, it is the strength of family ties - the memories of fathers, uncles, and grandfathers immersed in clay and color - that kindle this connection. Without such ties and the commitment they foster, the line of inheritance risks fading, and with it, the devotion that has shaped Kumartuli for generations.

5.1.2 Embodying the Goddess: In Kumartuli, some artisans do more than just learning to sculpt the goddess. They learn, through years of struggle, to carry her spirit within themselves. Their journeys echo Durga’s own: confronting resistance, defying disapproval, and sustaining life amid scarcity. For women, this path is doubly burdened, as they must claim space in a male-dominated craft while proving themselves as artisans and business leaders. In embodying the goddess they learn sculpting, they master not only proportion, color, and form, but also the resilience, strength, and devotion needed to protect and sustain their work. The following case tells the story of one such woman, whose life and craft remain inseparable from the spirit of Durga.

Case 2: In her early fifties, Participant 13 (P13, female) has spent more than twenty-five years in Kumartuli’s idol-making trade, running the workshop her father built. The craft runs in her family: her grandfather made idols of all sizes, and her father inherited both the skill and the hardships. As a child, she quietly helped in the workshop, painting jewelry or applying *alta* to the goddess’s feet when artisans had left for the day. Her father, a gifted painter, would outline faces, and she would fill in the colors. Though she longed to learn more, women were discouraged from working in the male-dominated lanes of Kumartuli. Her father often worried, *“What will people say?”*

Everything changed in the early 90s, when her father fell gravely ill before *Vishwakarma Puja*. Since none of her brothers showed any interest in this craft, confined to bed, her father urged her to *“look after the business”*. He reminded her that presence alone would not do. She needed to learn the handwork to guide artisans and judge their craft. By the time he passed away, she had already begun working in the workshop, without a formal teacher, learning instead through careful observation and persistence. She says,

“My entry to this business met skepticism. Customers asked, ‘Who is this?’ and even some of my family tried to take over without involving me. I had to fight to prove myself. I kept arriving before work began, returning promptly from every break, and making myself a constant presence. Over time, I took charge of every aspect of the trade- sculpting faces, mixing colors, setting prices, negotiating with clients, managing accounts, paying workers, and handling the banking.” - Participant 13, female, 52-year-old, artisan and workshop owner.

For P13, survival in this profession required more than craft mastery; it depended on building a network of collaborations in a space where she had few allies. With her artisans, she fostered loyalty by treating them as family and valuing their skills, while continuing to learn from their expertise in sculpting and finishing. With clients, she positioned them as co-creators, blending their ideas on posture, ornamentation, and attire with the sanctity of tradition. And with technology, she adapted by using WhatsApp for design discussions and digital payments to streamline transactions. These collaborations, rooted in trust, openness, and adaptability, became the scaffolding that sustained her business in a male-dominated, highly competitive craft economy.

Women remain rare in Kumartuli’s workshops, especially in heavy labor. For P13, survival meant more than running a business. It meant becoming a force in a space that once doubted her. By mastering every stage of idol-making and building networks of trust with workers, clients, and modern tools, she became the living embodiment of the goddess she sculpts. Like Durga, she battled skepticism, gender norms, and economic fragility, prevailing through both strength and the power to unite others. In P13’s words, learning to craft the goddess is also an act of learning to become Her.

5.1.3 The Spatial Labor of Devotion: As part of the learning phase, Kumartuli artisans also master the craft of making idols within extremely congested spaces, both inside their narrow workshops and in the dense lanes outside. The neighborhood has grown tighter over the years, but the physical layout of workshops (only seven to ten feet wide, twelve to twenty feet deep, and ten to fourteen feet high) has remained the same. Transporting completed idols through these cramped passages adds further strain. Our spatial mapping showed how, within these constraints, artisans develop remarkable precision in sculpting, maneuvering, and mobilizing idols with extraordinary care and patience, skills sustained by their devotional connection to the divine. This spatial negotiation is itself a crucial part of their learning journey. The following case illustrates this.

Case 3: Participant 14 (P14), a 35-year-old male artisan specializing in sculpting, walked us through the spatial logic of his narrow workshop. The workshop is long and deep, divided into two distinct halves. The front half, closest to the entrance, is a double-height space that stretches from floor to roof, allowing light and air to circulate. The rear half, by contrast, contains an additional mid-level floor made of bamboo and wood, creating two stacked floors, each with half the height of the front section. Within this tightly constrained layout, P14 arranges his work through a careful layer-by-layer technique: he begins by sculpting the smaller idols, which he stores on the upper level of the back half, freeing the ground floor to accommodate the larger idols that require more space. He says,

“The idols are extremely fragile in the early stages, and moving them around the workshop is a careful, delicate act. My gurus taught me how to make the base and the back support with small handles so we can carry them without causing damage. It took me years to learn how to stack the smaller idols on the upper floor, fitting in

as many as possible, but never harming a single one. You have to be extremely careful and patient. These are vessels of the divine, and even the smallest fracture or break hits you hard." - Participant 14, male, 35-year-old, Artisan.

P14 receives orders from clients based on the spatial limits of his workshop. When additional requests for larger Durga idols arrive, he often begins work long before the ritual season. Once the straw skeletons are complete, he shifts them to a rented storage space on the outskirts of Kumartuli, creating room to begin a second batch. Transporting these idols through the neighborhood's narrow lanes, often during the monsoon, is extraordinarily difficult unless one has years of experience with the material, an intuitive sense of the sculpture's center of weight, and a working knowledge of its structural vulnerabilities. P14 emphasized that without a strong devotional connection to the idols, it is nearly impossible to calculate their movement with the precision required both inside and outside the workshop. Accidentally breaking an idol is considered deeply inauspicious, adding another layer of tension and care to every step. This level of expertise takes years to learn.

Taken together, these narratives show that devotion is not merely expressed in the finished idols but woven into the very processes of learning to "make" the divine through inheritance, struggle, spatial negotiation, and collaboration. Whether passed down through generations, as in P8's case, fought for in the face of resistance, as with P13, or cultivated through years of mastering cramped workshop spaces and precarious movements, as in P14's account, learning within idol-making becomes a series of distinctive "meeting moments" between human and divine. These moments are sustained by care, resilience, and relationality... qualities that are not peripheral to making but constitutive of the very possibility of bringing the goddess into being.

5.2 Sculpting

The sculpting of a Durga idol unfolds through a sequence of interdependent stages, each requiring precision and patience. It begins with a sturdy wooden base, over which artisans construct a bamboo framework that suggests the goddess's form, later filled out with tightly bound straw to give volume to Durga and her companions—*Lakshmi*, *Saraswati*, *Kartikeya*, *Ganesh*, *Mahishasura*, and the lion. Clay is then applied in layers: the first to cover, the second to refine, followed by *bele maati*, a sandy clay that permits correction and fine detail. While still soft, the clay is sculpted to shape faces and bodies, giving rise to musculature and expression. The *Mahishasura* (demon), for instance, is modeled after powerful giant-like figures to convey menace. At this stage, artisans must work quickly, for once the clay dries, it will no longer "listen" to their hands. The dried figures are wrapped in *nekra*, cloth strips coated with mud that stabilize the surface and prevent cracks, before being smoothed and readied for their final transformation. Paint then breathes life into the idols: Durga's skin is rendered a luminous yellow, layered with subtle tones, while demons take on bold greens and other hues created not from synthetic pigments but from mixtures of indigo, chalk, and yellow clay. Through this careful, deliberate labor, raw

materials are transfigured into divine presence. Devotional engagements in this phase of idol-making are presented in the following paragraphs.

5.2.1 Craft, Tools, and Mastery. From our participants, we learned that idol-making has seen no fundamental structural or sculptural changes in the past 30 years. Participant 15 (male, 57, artisan and workshop owner) noted that straw is still bound with rope as before, and wood and bamboo remain the primary materials. Some machines, such as drills, electric cutters, and paint sprayers, have entered the once fully handcrafted process. Yet the continued use of traditional tools is not just about relevance, efficiency, or cost; it carries a spiritual weight, with mastery of these tools seen as part of the sacred craft. The following case illustrates this connection.

Case 4: Participant 4 (P4, 64, male) has lived in Kumartuli for nearly sixty years, carrying forward the legacy of his father, an accomplished artisan who migrated from Bangladesh in the 1950s. Idol-making has remained the family's sole livelihood, and P4 entered the trade out of duty to preserve his father's establishment. Like his father, he treats the craft as both art and work, proud of public recognition yet aware of its economic necessity. Trained from age fifteen in the family workshop, P4 now specializes in providing the finishing touch to the idols, especially the faces and eyes, the features most visible to worshipers once bodies are adorned with sarees and ornaments. He believes this final act gives the idol its life and bears his personal signature, achieved through the handmade sculpting tool known locally as the *Cheyari*. He says,

"I use a cheyari, a smoothing tool used for the idol faces and eyes I make myself. I never give my cheyari to anyone else. Once it's tamed in my hand, if it gets lost, it drives me mad, because it takes a long time to get used to a new one. I make them from bamboo, usually 10 or 12 inches long, and smooth them with sandpaper until they're perfectly fine. Then I polish them on a jute sack and scrape them clean with a shaving blade. Over time, they become oily and easy to work with. I keep cheyaris of all sizes- larger ones for big faces and smaller ones for fine details...You can't buy a cheyari in the market; we all make our own." -Participant 4, male, 64-year-old, Artisan.

P4's account underscores the centrality of tools, particularly the *cheyari*, in the sculpting of Durga. For worshipers, the spiritual bond with the idol is concentrated in the goddess's appearance, her posture, expression, smile, and gaze. Without mastery of the *cheyari*, that bond would be diminished. The artisan's embodied skill in taming this tool directly shapes the *bhakti*, the reverence and devotion that worshipers extend toward the goddess. In this sense, devotional engagements are mediated through tools and their mastery, influencing human-divine interaction across domains, within the practice of artisans as well as in the experience of worshipers.

5.2.2 Measurements, Proportions, and the Sacred. Kolkata's Durga Puja celebrations are undergoing a notable transformation in the design and experience of *Puja Pandals* (temporary, large, open-sided pavilions traditionally built for religious ceremonies or festive events in South Asia). Increasingly, hundreds of pandals are being adorned not with conventional idols of Durga, but with *theme*



Figure 4: From left to right: (1) artisans designing and crafting shaaj—the decorative ornaments and props for the idol, (2) completed shaaj ready for dispatch, which are typically used to adorn the idols once they arrive at the Puja pandal from the workshops, (3) an artisan displaying albums that archive idols produced in his workshop over past years, and (4) a sample face of Goddess Durga displayed in a participant’s workshop to attract potential clients.

goddesses. In these cases, the idols and the entire pandal are conceptualized around a specific theme. Organizers often hire professional designers, many of them art-college graduates, to create the overall spatial design, lighting, decoration, and soundscape, as well as to reinterpret Durga and her accompanying idols in ways that depart from tradition. In local parlance, a “theme” refers to the use of these creative elements to convey a socially relevant message, such as environmental degradation, the struggles of migrant workers, or other pressing contemporary issues. Themes may also celebrate iconic Bengali figures, the richness of the Bengali language and literature, or the cultural importance of historical events.

This “*theme culture*” has become especially popular among urban audiences, drawing enthusiastic crowds who engage in *pandal hopping* to witness Durga in diverse artistic interpretations and to immerse themselves in the unique atmospheres these spaces create. Sponsors now actively invest in theme-based pandals, knowing they attract millions of visitors. However, this trend has also diminished opportunities for traditional idol-makers. Many of our participants lament that *theme pujo* has affected their livelihoods. Some have begun accepting commissions for *theme thakurs* (themed idols) to adapt to the changing market. Yet, even as theme idols grow in popularity, they cannot be worshiped according to Bengali Hindu ritual norms. Thus, despite their creativity and potential to raise social awareness, such idols often lack the spiritual resonance of traditional forms. The following case illustrates this tension.

Case 5: Participant 6 (P6), a 60-year-old artisan, entered idol-making in 1983 after completing secondary school, when his father, facing labor shortages and rising wages, urged him to join the family trade and arranged for senior artisans to train him. Under the guidance of renowned *Gurus* such as Anil Paul, Ranjit Paul, and Nitai Paul, he learned the meticulous art of proportioning Durga’s body, measured in relation to itself with the navel as the central reference point and every span and curve derived from rules of human proportion. His teachers also showed him how to work with straw and paddy husk, how much husk to mix, how to bind straw tightly, and how to mold it by hand into the goddess’s form, always using the human body as a living template. With these foundations, P6 practiced tirelessly until the shapes began to emerge from his hands with the ease and precision of an experienced artisan. He mentions the following about the themed idols,

“These theme-based idols are really undermining the foundations of our work. They mess with the core proportions of the goddess’s form.... Sometimes they’ll give Durga a thousand hands instead of the traditional ten, or make her head much bigger than her hands. It might fit the theme, but idols like that can’t really be used for worship. The rituals of Durga Puja just can’t be performed with these idols because their distortions and lack of resemblance to what’s described in the religious texts make them ritually invalid. And when that happens, what gets lost is the essential devotional element, the bhakti, that makes Durga a goddess to be worshiped.”
– Participant 6, male, 60-year-old, Artisan and workshop owner.

P6 and other participants noted that in every themed pandal, a small traditional idol is placed to the side, and it is this idol that is actually worshiped, with all rituals centered around it. According to the participants, the themed idols are solely for exhibition. For the idol-makers, priests, and followers, preserving the original form and proportions of the goddess is essential for ritual legitimacy. This underscores the deep spiritual significance and devotional validity embedded in the precise measurements and proportions of the sculpted idols.

5.2.3 Expertise, Observation, and the Profane: One might assume that fixed measurements and proportions in traditional Durga idols leave little room for creativity compared to themed idols, but our fieldwork shows otherwise. Within these constraints, artisans exercise considerable imagination in shaping gestures, arranging hand postures, composing Durga with her companions, designing backgrounds, selecting ornamentation, and adding decorative elements, often drawing inspiration from their surroundings, provided they have the observational eye to do so. This division of creative responsibility is reflected in workshop roles: “workers” or “laborers” (sometimes called “mediums”) construct the wooden base, bamboo framework, straw forms, and early clay layers; “*Shilpi*” (artists) sculpt bodies and faces and paint the eyes; and “all-rounders” master every stage from foundation to the goddess’s final gaze. For the *Shilpi* and all-rounders especially, the drive to create is experienced as divine, weaving together inspiration from ordinary life with a

spiritual connection to the sacredness of Durga. As Participant 22 explains,

“An artisan must train his/her eyes to create Durga Ma’s (goddess Durga) face. It doesn’t happen automatically. Whenever I look around, and when I see Ma in a woman, I observe with full attention. Whose eyes are beautiful, whose nose, whose smile tells me something more... When I create Ma, those eyes, that gaze, that smile, I have seen around me stay alive within me. I feel an urge to portray the goddess that way. While making Her, that impulse comes automatically... how can I bring devotion into Her face? A face that, when seen, will make one bow their head in reverence. I cannot sleep, I cannot eat... until I can make that face, that gaze... This is not easy; it cannot happen just like that.”- Participant 22, male, 50-year-old, Artisan and workshop owner.

As the discussion above shows, Kumartuli’s idol-makers serve as vital intermediaries, shaping the connection between worshipers and the goddess through their craft. This mediation of spirituality is far from a straightforward or mechanical process. Rather, it demands a delicate orchestration of three intertwined elements: the artisan’s tools and the embodied mastery required to wield them; the canonical proportions and forms prescribed in religious texts; and the artisan’s ability to draw upon everyday, often profane, inspirations and translate them into a sacred presence. Together, these forces allow the idol to become not merely an object of devotion, but a living conduit between the divine and the human.

5.3 Trading

In this section, we turn to the economic, transactional side of making Durga idols, where artisans confront the friction between sacred devotion and market forces. Negotiations are often fraught, as they balance demands for quality and reverence with the harsh realities of pricing and profit. Many lament that, unlike earlier times when lower material costs left enough to pay workers and support families, today’s rising expenses have “risen above their noses,” leaving little breathing room. What follows shows how the sacred labor of idol-making is continually negotiated against the demands of the market.

5.3.1 Deviations. Our fieldwork shows deviations from traditional idol-making at various scales (for instance, making *theme-idols* or *fiber idols*) to protect the artisans’ profit margin. The workshop owners highly depend on their generational clients as their primary source of profit from this craft. In most cases now, there are few options available to negotiate or secure subsidies, as they cannot afford to lose the generational clients, even at the cost of underpricing their work. Consequently, some encourage their children to pursue other livelihoods, while others adapt by taking orders from *theme pujo* committees, despite the limited creative freedom and the reduced likelihood that such idols will be worshiped. As Participant 3 explains,

“We take orders for themed idols. But we don’t design the theme ourselves. The theme makers handle that. They’re a separate group, people who work only on themes. They design everything for their designated

Puja pandal. The same people who design the themed pandals also design the idols for them. Our role is only to sculpt the idol. They arrive with the full design and concept ready, showing us photographs (sometimes 3D renders/Photoshoped images) that specify exactly how the idol should be made.”- Participant 3, male, 32-year-old, artisan

Several participants noted how Kumartuli’s artisans are adapting to shifting markets, from producing “*fiber Thakurs*” (fiberglass idols) for fragile-free shipment to Bengali Hindu communities abroad, to using the internet to attract national and international clients by incorporating new ornament designs, building websites, and showcasing work on YouTube and social media, though many expressed frustration that their ideas are often copied without credit.

According to Participant 10 (P10, male, 53 years old), making a fiber thakur begins with a fully finished clay idol, completed up to the stage just before painting. From this original, he prepares either a plaster mold, which yields only one casting, or a more expensive fiber-reinforced mold that can be reused multiple times. Liquid resin is then poured in three to four layers until it hardens, and the idol emerges in separate pieces that must be cut out and assembled by hand. Though basic tools like drills and cutting machines assist the work, P10 stresses that the process remains fundamentally manual and dependent on skill. To set his idols apart, he designs and produces all the jewelry, clothing, packaging, and even export-quality molds himself, overseeing the entire process from design to client communication. P10 says,

“From our workshop, we export 30-35 fiber idols every year to the Bengali Hindu communities around the world. My overseas clients don’t book again the very next year; they book every two, six, eight, or even ten years, because they keep the idols and worship them for that long. Since they do not place orders regularly, like local clients, we need to keep our online appearances up-to-date to attract new clients.” - Participant 10, male, 53-year-old, fiber idol maker.

P10’s account highlights not only departures from traditional idol-making but also the digital and technical skills artisans must now learn to sustain these shifts. Many explained that photographing their creations, building websites, and maintaining Facebook or Instagram pages have become essential, as the visibility of their craftsmanship is increasingly tied to their digital presence. P3 mentions,

“I only publish the images of the finished idols on social media to get views, likes, and shares. I tried posting images from our workshop, including the making of the clay and straw idols, to share the labor-intensive sculpting process. However, I am not skilled in photography. So, the workshop images always came out as messy ones, and they are less liked on Facebook.” - Participant 3, male, 32-year-old

P3 also noted that this preference for “end product” over process on social media often leads some younger artisans to seek shortcuts in crafting, such as relying heavily on molds rather than crafting

idols entirely by hand. This often leads to a form of deviation in traditional practice reinforced by the online world.

5.3.2 Marking the end of a spiritual journey. The adjustments mentioned in the paragraphs above help sustain livelihoods. However, according to our participants, these deviations cannot reduce this sacred craft to a purely transactional pursuit. In Kumartuli, every negotiation and exchange of money is underpinned by an inescapable devotional connection to the goddess, one that overrides economic logic and often compels artisans to make choices against their financial interests. The pull of seeing Durga worshiped, of ensuring that the divine form they have shaped fulfills its sacred purpose, outweighs the pressure to maximize profit, which is a tension that the following case captures in its most urgent and human form.

Case 6: For Participant 22 (P22, male, 50), making Durga each year is not just craftsmanship but sacred participation in the goddess's descent to vanquish the demon. The idol maker's hands, he says, are the starting point of this divine journey: the meticulous sculpting of clay produces not only a figure but the vessel through which Durga enters the mortal world. Once the idol leaves the workshop, it enters the pandal, draped in *shaaj*, adorned with ornaments, and crowned in mythic colors, before the moment of awakening. The priest's chants and rising *mantras*, mingling with the curling smoke of *dhup-dhuno*, veil and reveal her gaze until the clay form becomes Durga herself, ready to receive devotion and offerings. Yet this presence is fleeting. On the festival's final day, the community gathers at the riverbank to bid farewell as the idol dissolves back into the elements. For P22, this cycle of arrival, adornment, worship, and return is the goddess's sacred journey, one that begins quietly, yet irrevocably, in the hands of the idol maker. He says,

"If an idol breaks while I'm making it, the pain is no less than if my own daughter were hurt. When they leave the workshop, all the care, love, and emotional investment I've poured into them leaves me raw. But above all, these idols are meant to be worshiped...they are not made to remain here. They must embrace Durga's spirit and complete their sacred journey." Participant 22, male, 50-year-old, Artisan, and workshop owner.

Like many artisans in Kumartuli, P22 lives in constant tension between economic survival and the sacred purpose of his work. The idols he shapes with care, devotion, and struggle are not mere commodities but vessels destined to carry Durga's spirit, a conviction that often leads him to accept prices far below their worth, even at a loss, simply to ensure idols from his workshop are worshiped as intended. For P22, devotion is placed above profit, and spiritual fulfillment is placed above financial stability. This tension between market demands and the goddess's journey is not incidental but constitutive of their craft, repeating each year as clay is gathered, forms shaped, ornaments placed, prices bargained, losses absorbed, and the goddess sent forth to be worshiped. In the end, the value of their labor lies not in money but in the enduring truth that the divine has passed through their hands on her way to the world.

These and similar cases of learning, sculpting, and trading from our fieldwork show how the making of Durga in Kumartuli is not simply an act of craft or commerce, but a devotional process through which the goddess herself comes into being. While prevailing notions of human-divine interaction often emphasize scripture, ritual

specialists, or inner faith, our ethnography reveals a different account, one rooted in material labor, embodied care, and collective devotion. This context-specific narrative highlights how artisans' practices actively shape and reshape the boundaries where humans "meet" the divine. This also offers a critical vantage point on what is at stake when HCI's popular secular frameworks define craft, obscuring the devotion through which artisans bring deities into being.

6 Discussion

In the sections above, we have presented a set of cases that illustrate how the sacred process of making Durga idols in Kumartuli unfolds through learning, sculpting, and negotiating the marketplace. We documented how artisans inherit both craft and devotion across generations, framing learning as a spiritual journey that binds them to the goddess; how sculpting is not merely technical labor but a mediation where tools, proportions, and embodied observation coalesce to bring divine presence into being; and how economic pressures complicate these practices as artisans balance spiritual commitments with financial survival. Insights from our study open new possibilities for HCI in both design and theory.

6.1 Designing for and with Devotional Craft

We open our discussion by focusing on the design implications that our study generates for HCI. In the immediate phase, we can think of computational tools that meaningfully support the Kumartuli artisans across the three stages of learning, sculpting, and trading. During the learning phase, the findings suggest the necessity of initiatives that preserve tacit, lineage-based knowledge through video archives of hand movements, clay preparation, and tool-making [56, 135], while also creating safe pathways for women and newer entrants to access guidance that has traditionally been restricted by gender or kinship (which can be significantly built upon Feminist HCI [16]). HCI has a long tradition of participatory and community-based design, especially in non-Western settings (see [29], for a summary), which can be extended to address such issues. A wide range of design artifacts can be imagined, ranging from supportive tools that respect sacred proportions and canonical rules to providing spaces for artisans to document, curate, and preserve everyday inspirations, such as faces, expressions, and postures that animate Durga's form. Such tools can also help develop communal memories through documenting moments, recording ornament designs, and capturing the embodied mastery of tools like the *cheyari*, enabling both preservation and refinement of craft. In the trading phase, artisans would benefit from systems that protect copyright [103, 110], ensure cybersecurity [60], and help structure client management. Across these stages, the design must remain aligned with devotional rhythms, community values, seasonal constraints, spatial limitations, and moral obligations that shape idol-making, foregrounding augmentation rather than automation so that digital tools strengthen artisans' creative agency while honoring the sacred labor through which the goddess is brought into being.

Beyond these immediate interventions for the artisans, our study demonstrates several broader design lessons for HCI to integrate



Figure 5: The two images on the left depict the traditional proportions and arrangement of the Durga idol. The two images on the right show examples of themed idols which, according to our participants, are not considered eligible for worship and are created solely for aesthetic exhibition.

its increasing focus on craft and making with devotional practices. For instance, our fieldwork shows that Kumartuli artisans manage clay, water, air, and seasonality through practices that sustain both their craft and their surrounding ecosystem. Their work demonstrates a form of material stewardship in which extraction, use, and return are carefully attuned to a sense of devotional responsibility. These situated forms of material negotiation offer HCI a concrete way to reconsider how computational materials (whether for fabrication, prototyping, or repair) might also be approached through cycles of careful sourcing, reuse, and return. Through participatory design, these insights could translate into small-scale tools or collaborative practices that help communities or design teams trace the origins, transformations, and afterlives of their materials, foregrounding local constraints and relations rather than abstract efficiency metrics. By drawing on HCI’s rich scholarship on sustainability [19, 54, 55, 92], these projects can expand the field’s design thinking by incorporating culturally specific and alternative interpretations of material ecosystems.

A more contemporary design challenge that our findings present concerns about how existing digital platforms often fail to align with the temporal, aesthetic, and cosmological commitments of devotional craft. As artisans like P3 and P10 describe, maintaining visibility on Facebook or Instagram demands forms of digital literacy, frequent posting, and aesthetic conventions that disturb the slow and attentive rhythms of sculpting and assembling sacred figures. These platforms not only impose labor that detracts from making, but also propagate image cultures that frame workshops as “messy,” “dirty,” or “chaotic,” obscuring the devotional discipline and moral intentionality embedded in the work. A deeper participatory design project would therefore question not how artisans can adapt to social media, but how representational infrastructures themselves could be reconfigured [66, 75, 76]. This might include co-designing alternative archival or sharing platforms that privilege process over polish, highlight ritual meaning alongside material labor, and allow collective curation that resists decontextualized judgments [17, 33, 34, 93]. Rather than optimizing artisans for platform logics, such interventions would explore how visual and informational ecologies might better honor the epistemic, temporal, and spiritual values of devotional craft (see [44, 65, 124] for similar design interventions). We argue that several HCI design paradigms, including Value Sensitive Design [39] and Participatory Design [15], are essential in making such design interventions more inclusive of devotional values and practices. Beyond these design

implications, our study contributes to several broader tensions in HCI, which are presented in the following subsections.

6.2 A Missing Link Between FRS and Making in HCI

Although in HCI, Faith, Religion, and Spirituality (FRS) and craft-making-unmaking scholarship are both well-established areas of inquiry, they have developed largely in parallel. FRS research has focused on how technologies intersect with belief, ritual, and religious life, while craft scholarship has examined material practice, embodied skill, and the politics of making. Yet these conversations rarely meet. Our ethnography of idol-making in Kumartuli sits squarely at this intersection, showing how devotional practice is inseparable from material craftwork and how craft is animated by ethical, ritual, and relational commitments. By bringing these two bodies of scholarship together, the Kumartuli study opens up new research directions for HCI. The following paragraphs provide further insight.

A novel research direction becomes visible when we attend to how learning in Kumartuli unfolds through spatial practice. Cheattle and Jackson’s work encourages HCI to learn from the situated, intergenerational, practice-based character of craft [24], and FRS scholarship has shown how ethical and moral learning can be mediated through technology [92, 129]. Our study adds a complementary lens by showing how artisans develop devotional and technical skills through the spatial arrangements that shape their everyday work. In Kumartuli, space is not merely a setting but an active influence on learning. Artisans master their craft by navigating cramped workshops, maneuvering fragile idols through narrow neighborhood lanes, and participating in the larger spatial choreography of Durga Puja across Kolkata city [87]. These spaces teach lessons about weight, balance, fragility, timing, scale, and reverence, embedding devotion directly into bodily movement and spatial judgment. For HCI, this suggests new directions for understanding how spatial parameters, embodied navigation, and relational attunement shape learning and collaboration, and invites designs or participatory methods that treat space itself as a pedagogical force rather than a neutral container for activity [27, 62].

Another crucial research direction emerges at the intersection of devotional craft and political economy. Craft scholarship in HCI typically examines what computing can learn from making, through skill, materiality, creativity, and embodied practice, yet it rarely

attends to the market infrastructures that enable, constrain, or reshape craft itself [12, 40, 52, 86]. FRS research in HCI, meanwhile, often frames religious or spiritual practice as operating outside pure capitalist exchange, as if insulated from commercial pressures [75, 88, 127]. This separation risks reproducing an ahistorical divide between the “religious” and the “secular,” overlooking how modern capitalist logics, including those centered on efficiency, productivity, and scalability, are themselves historically entangled with Protestant and colonial value systems [14, 23, 125].

The Kumartuli case unsettles both assumptions. Devotional craft here is embedded within export logistics, profit-driven economies, platform algorithms, diasporic demand, and competitive workshop labor. Rather than existing outside capitalism, sacred making is sustained, strained, and transformed through economic infrastructures that actively govern what counts as legitimate devotion, viable craft, and collective obligation [13]. Attending to this entanglement opens a deeper research agenda for HCI, one that examines how technologies mediate the political economy of devotional labor not in abstraction, but in the historically situated conditions through which such practices endure, adapt, or disappear.

6.3 Postcolonial HCI, Otherness, and Idol-making

Our study of Kumartuli contributes to and advances the postcolonial computing movement in HCI and ICTD (Information and Communication Technologies for Development) [50, 51, 74]. Building on the concept of “otherness,” postcolonial computing shows how mainstream computing often ignores or misinterprets local and Indigenous knowledge systems, creating conditions in which communities experience marginalization, resistance, and ongoing forms of postcolonial struggle [9, 83, 114]. This scholarship resonates with broader historical and social science research illustrating how colonial power has long marginalized Indigenous knowledge systems and subjected colonized bodies to neglect, scrutiny, exploitation, and deprivation [104, 109]. Our study joins this conversation by demonstrating how dominant HCI narratives lack a significant understanding of “otherness” in making.

First, our study reveals a dominant presence of non-secular values that are deeply embedded in the learning, sculpting, and trading of their craft. However, within HCI, craft and making are predominantly framed through secular, technicist, and materialist lenses that emphasize skill, gesture, material manipulation, creativity, and production [38, 42, 63, 99]. Such frameworks understand craft as a human-material interaction or a mode of fabrication, but not as a devotional, relational, or cosmological act. As a result, the sacred dimensions that shape Kumartuli artisans’ work, including moments of presence, ritual obligations, moral responsibilities, and cosmological meaning, become largely illegible within dominant craft paradigms in HCI. Our findings show that these elements are not peripheral but central to how artisans understand making itself, and their systematic exclusion positions devotional craft as an “other” to what HCI recognizes as legitimate craft knowledge [24, 37, 96, 137].

Second, Kumartuli artisans demonstrate a unique resistance toward speeding up the making of the divine. They work within

temporalities shaped by seasonal cycles, ritual calendars, and cosmological rhythms. These are temporal orders that sharply contrast with the accelerated pace demanded by contemporary craft economies [32, 84]. Clay must rest, dry, crack, and be reworked on its own schedule; monsoon humidity restructures daily labor; and the goddess’s arrival during *chokkhu daan* (painting the eyes of an idol) follows a sacred timing that cannot be rushed. These temporal commitments collide not only with the accelerated rhythms of social media, where visibility depends on constant posting, rapid updates, and uninterrupted aesthetic labor, but also with broader pressures to modernize, mechanize, and hybridize craft practices in the name of speed [32, 71, 136]. This misalignment produces a form of temporal otherness: artisans operate in sacred and ecological time rather than in platform time or productivity time. This reinforces postcolonial scholarship that argues such temporal frictions are structural, not incidental, reflecting how colonial modernity installs time regimes [36, 106, 116, 121] that misfit and marginalize local craft practices. In doing so, traditional craft practices such as idol making, by its nature, offer resistance to an omnipresent global time, reject the modernist acceleration, and create avenues for re-appropriating local temporalities [121].

Third, this work extends postcolonial computing by revealing how embodiment in Kumartuli is not merely a material manipulation but a spiritual attunement, an epistemic mode that current HCI frameworks often struggle to recognize [69, 79, 88]. While HCI has long attended to embodied and tacit forms of craft knowledge [24, 53, 96], the Kumartuli artisans reveal a mode of embodiment that exceeds the material and sensory categories through which the field typically understands skill. Their expertise involves devotional attunements: feeling the clay’s moisture not only as a technical cue but as part of the goddess’s gradual emergence; sculpting the gaze through a sensitivity to presence rather than geometry alone; and synchronizing posture, muscles, and tempo with the imagined stance of the deity. These capacities are cultivated through apprenticeship, ritual familiarity, and cosmological obligation, blending bodily reasoning with spiritual connection. Because such embodied-devotional knowledge does not fit neatly within secular frameworks of craft or interaction as we have previously discussed, it remains largely unaccounted for in HCI’s current models of material engagement. This produces a form of embodied otherness: the artisans’ ways of sensing, responding, and knowing are not easily legible within HCI’s prevailing accounts of embodiment or skill.

By bringing these forms of secular, temporal, and embodied otherness into view, our study outlines a research direction in HCI that takes devotional craft seriously as a site of epistemic and technological possibility. Rather than treating such practices as peripheral to design, we show that they unsettle core assumptions about what counts as skill, time, value, and mediation in computing. This expands the field’s design imagination beyond secular craft paradigms and toward more plural, relational, and culturally grounded ways of understanding making.

7 Limitations and Conclusion

We note that our study is situated in Kumartuli, Kolkata, and focused specifically on the idol-making community, which is central

to the production of Durga idols. As a very context-specific and community-oriented study, our findings are not generalizable beyond this setting. Following the tradition of ethnographic research, we emphasize that the value of this work lies in the depth of its contextual insights rather than in the breadth of coverage across diverse geographies or communities.

From a caste perspective, most of the artisans we engaged with belong to the same Vaishya caste. While this shared background offers a unique window into how craft, devotion, and livelihood are intertwined, it also means that we did not examine the complex caste hierarchies that shape interactions between idol-makers and other communities in their ecosystem. Questions of how caste-based marginalizations and privileges affect divine-making practices in Kumartuli remain important, but are beyond the scope of this paper.

Similarly, while our study foregrounds the artisans' practices, divine-making is never limited to the workshop alone. The city, its residents, worshippers, organizers, and institutions all play an equally vital role in making the Durga Puja festival possible. Kolkata's infrastructures, governance systems, and cultural institutions all contribute to sustaining the festival at scale. How these urban, infrastructural, and institutional dynamics intersect with Kumartuli's practices is a significant question for future research but lies outside the boundaries of our present study.

Additionally, we acknowledge that our data are derived from a specific moment in time—the lead-up to Durga Puja during the period of our fieldwork. Seasonal cycles, generational changes, and shifting market dynamics likely shape artisans' practices in ways that extend beyond what we were able to capture.

Finally, as with other ethnographic work in the Global South, our findings should not be read as representative of all artisanal or devotional practices, nor of all postcolonial contexts. Instead, we situate this study within broader conversations in HCI that seek to understand how technological systems intersect with historically marginalized communities, often in ways that reinscribe power imbalances and erasures. By presenting Kumartuli as a case where craft, devotion, and livelihood intertwine, we aim not to universalize its practices but to highlight how situated traditions of sacred-making challenge dominant trajectories in HCI. In this sense, the findings from Kumartuli contribute to ongoing efforts in HCI to recognize the politics of knowledge production in the Global South, foreground human dignity in technological design, and strengthen solidarities across diverse communities of practice.

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