CROWDFUNDING: An Emerging Field of Research

Abstract
Crowdfunding, the request of resources through social media, has generated much discussion in the popular press; however, there have been few systematic empirical studies of this growing phenomenon. We bring together the leading HCI researchers in crowdfunding and crowdsourcing to discuss this potentially transformative socio-technical innovation that may advance (or harm) human capabilities to create and collaborate. We will discuss current empirical research on crowdfunding and the future of research in this field from diverse perspectives including computer science, social science, communications, and design, using both qualitative and quantitative research methods. To make real progress towards realizing future research, we will lead a discussion with the audience.

Author Keywords
Crowdfunding; Enterprise crowdfunding; Qualitative Methods; Quantitative Methods; Digital divide

ACM Classification Keywords
H.5.3. Group and Organizational Interfaces

Introduction
Crowdfunding allows people to use social media to request small amounts of funds to support a valuable large-scale project from a distributed audience online.
Unlike traditional fundraising methods, such as applying for funds from banks or foundations, crowdfunding allows creators, people who request resources, to appeal for funds directly from supporters, people who give resources, through online platforms. Crowdfunding is particularly attractive to those who have limited access to traditional sources of financial backing, such as banks or venture capitalists, because of a lack of capital or connections [1]. Beyond the financial backing, crowdfunding participants report motivations to participate in crowdfunding to expand awareness of their work with others, learn new skills, collaborate with others, and identify collective concerns within a community of practice or an organization [1,4] even when financial goals were not met [2].

Crowdfunding platforms, such as Kickstarter and DonorsChoose, provide dedicated project pages structured around a project with well-defined goals, fundraising campaign dates, and completion criteria. Project creators rely on existing social media and payment technologies to allow people to pitch their project and receive financial payments online. While HCI researchers have significantly advanced our understanding of social media over the last decade, our understanding of the crowdfunding platforms it supports remains limited.

Over 400 platforms exist, supporting thousands of people pursuing a wide range of new projects fundraising goals—from a video game design team that raised more than $1,000,000 from 60,000 supporters to create a game console on Kickstarter, to a band teacher who raised over $120 from 4 supporters to purchase reeds and mouthpieces for his students’ clarinets on DonorsChoose, to creating an adaptive graphical front-end for legacy applications on IBM’s internal crowdfunding platform. While most platforms exist independently, a growing number of platforms are integrated into existing enterprises [4].

Crowdfunding platforms employ one of two funding models: return rule or direct donation. The platforms that use an all-or-nothing return rule return all donations to supporters if a creator doesn’t meet his or her fundraising goal. By contrast, platforms that use direct donation allow project creators to keep all money raised even if the goal is not reached [5]. Research finds that the return rule mechanism leads to a marginal improvement in productivity of a site by eliciting more donations and more money in total. However, the return rule can also lead to a loss in efficiency (defined as percentage of projects funded) because donations can become spread across too many projects and are not coordinated to achieve the maximum possible impact. In contrast, the direct donation model encourages coordination, creating a more efficient but less productive marketplace [5].

To launch a crowdfunding campaign on an online platform, creators must first prepare the campaign material. Preparation involves creating a project profile, which typically includes a title, video, description of planned use of funds, funding goal, campaign duration, and reward descriptions [3]. HCI researchers find that successful campaigns within zero-sum enterprise environments have smaller funding goals than unsuccessful campaigns [4]. A proposer fills out the required fields on a project description page, and then submits it. If the site’s administrators accept the proposal, then the platform either accepts or rejects a project. If accepted, the platform presents their work in a pre-formatted page where visitors can choose to donate. Next, they test their campaign material. In this
stage, creators solicit feedback on their video and campaign description and may engage their audience in deciding the project's direction. Third, they publicize the project during the live campaign. Publicizing involves reaching out to potential supporters to request support [3]. Creators use a variety of means to reach potential supporters, including the crowdfunding platform itself, email, and online social media [5], as well as offline advertisements and demonstrations [4]. Once the campaign is over, they follow through with their proposed project. This stage of work involves producing and delivering the promised rewards. Rewards range from having one's name acknowledged in the movie credits, to getting the new crowdfunded product, to receiving a simple “thank you” email from the creators. Many creators contribute back to the community after their campaigns end, providing advice and funding to other projects [3].

Projects posted on crowdfunding platforms have a surprisingly high likelihood of being funded. 43–47% of projects on Kickstarter are fully funded and almost 70% of projects on Donors Choose are fully funded [6]. Completing projects leads to larger donations and a greater likelihood of a supporter returning to donate again [6]. Interest in crowdfunding has been growing; the US Congress recently expanded what can be crowdfunded through the JOBS act (H.R. 3606, 2012).

Because crowdfunding is a relatively recent phenomenon, initial HCI research has only uncovered motivations for participation and strategies for reaching crowdfunding goals. While this research has occurred across a variety of contexts, many research questions remain unanswered.

1 http://www.kickstarter.com/help/stats

Topics
The panel discussion will be framed around the following ten unexplored themes:

• How is crowdfunding changing the way people, work, learn, and live that transcend geographical and cultural boundaries?
• What new distributions of risk and opportunity does crowdfunding make possible or limit?
• Does crowdfunding empower or disempower people? Does it help people to achieve their goals, improve well-being, and enhance creative expression or does it inhibit professional development and freedom of expression?
• How does crowdfunding enhance or limit virtual collaborations to enable and improve technical innovation?
• How does crowdfunding enhance or diminish people’s ability to work together and distribute and assimilate information and knowledge as required? What is the role of crowdfunding in the digital divide?
• Does crowdfunding advance or stifle society's cohesiveness, innovativeness, security and sustainability?
• How does crowdfunding influence computer-mediated human communication, collaboration, competition, and distribution of work?
• How does crowdfunding influence the ways we perceive ourselves, groups, community, and society?
• How does crowdfunding inform our knowledge and practice of human–computer interaction?
• What are the merits and challenges of different methodological approaches to answering these research questions? What questions can be asked given the available data?

Panel Format
As Crowdfunding research is relatively new to CHI, we will provide time for open participation. We hope to
attract researchers who study and build interactive systems and those who experiment with mechanisms for engagement in such systems.

Before the panel. We will invite questions/comments from CHI participants through Twitter 1 month prior to the conference to inform the direction of the panel and to allow participants to build on one another’s ideas.

During the panel. To frame the discussion, the moderator and each panelist will provide a brief overview of their work and perspective as it relates to crowdfunding research and practice. During this time, attendees who were not able to contribute their questions via Twitter will be invited to do so, for curation by an assistant or a student volunteer. The moderator will then pose the series of questions outlined above. The remaining time (~50 minutes) will address the questions proposed by the audience. Should we lack questions, we will draw on the questions proposed in this panel. The conversation will be captured in real time by two student volunteers. One will capture the dialogue to be placed on a blog we have created for crowdfunding research (www.crowdfunding-research.com) for review after the panel, and the other will be tweeting to the CHI community and beyond using hashtags #CHI2014 and #crowdfunding.

After the panel. Taking inspiration from crowdresearch.org, a blog that invites crowdsourcing researchers to write posts on their research, we will foster participation on crowdfunding research on www.crowdfunding-research.com

Moderator and Panelists
The workshop moderator and panelists are leading researchers in crowdfunding and crowdsourcing and have explored the use of crowd-based systems in enterprise, entrepreneurship, and education. While their backgrounds vary (social science, computer science, communication, and design), they all share a common interest in crowdfunding and crowdsourcing research and practice and the impact of these systems on society. They have multiple publications on the topic and have been invited to speak nationally and internationally on the topic. We believe that this expertise and diversity will inspire a stimulating and critical discussion.

Elizabeth Gerber (Moderator) earned her MS and PhD in Product Design and Management Science and Engineering at Stanford. She is the Cordell Breed Junior Professor of Design at Northwestern, specializing in design and human computer interaction, particularly how social computing supports the innovation process. Her current design and research investigates crowdfunding as a mechanism for reducing disparities in entrepreneurship. Her NSF- and NCIIA-funded work has appeared in peer-reviewed outlets, including CHI, CSCW, TOCHI, Design Studies, Organization Science, and other venues.

Position: Crowdfunding radically changes what and how new ideas are brought into the world. The biggest opportunity for crowdfunding is to recruit, train, and retain novice entrepreneurs who traditionally have lacked access through resources due to lack of equity or established track record. Yet this unique opportunity is at risk as experts entrepreneurs become the predominant models of success. Without careful
design, crowdfunding could come to serve only those traditionally able to access funds.

Elizabeth Churchill is director of human computer interaction at eBay Research Labs, where she is starting a group focused on human centered commerce. Originally a psychologist by training, she has focused on understanding people’s social and collaborative interactions in their everyday digital and physical contexts. She is the current Executive Vice President of ACM SIGCHI, a Distinguished Scientist of the ACM, Distinguished Visiting Scholar at Stanford University’s Media X, and serves on the advisory board for the Mobile Life Research Center in Kista, Sweden.

Position: At the centre of crowdfunding is human-human communication. From understanding how to position and propose an idea, to promoting it, to communicating with potential and actual backers, to setting expectations about the final deliverable or outcome, to building an ongoing relationship for potential ongoing funding, crowdfunding is about communicating information, managing expectations, building trust and taking investors on the journey with you. I will address my experiences of crowdfunding as a scholar of formal and informal mediated communication/collaboration, I will offer some insights into the building and management of productive projects.

Lilly Irani is an Assistant Professor of Communication & Science Studies at University of California, San Diego. Her work examines and intervenes in high-technology work practices in situ to understand their relationships with broader cultural, political, and social processes. Her work has appeared at CSCW, CHI, New Media & Society, Science, Technology & Human Values and other venues. Her work has also been covered in The Nation, The Huffington Post, and NPR. Previously, she spent four years as a User Experience Designer at Google. She has a B.S. and M.S. in Computer Science, both from Stanford University.

Position: Crowdfunding is a part of a larger shift towards making money and labor flexible in a global economy. We need to ask what this flexibility serves and what older arrangements does it supplement or replace. I will draw on ethnographic research on design to argue that this shift distributes both opportunities and vulnerabilities – some enterprises shift research and development risks to consumers, and new enterprises on shoestring budgets seek similarly shoestring or unpaid labor as support.

Michael Muller has been recognized as an ACM Distinguished Scientist. At IBM Research, Cambridge MA USA, he studies participatory processes, including the uses of social media for innovating and collaborating, now focused on crowdfunding inside the organization. His PhD in Cognitive Psychology was from Rutgers University.

Position: Internet crowdfunding is often viewed as an arena for a solitary, individualistic entrepreneur. Our experiences inside of IBM have highlighted the collaborative and community aspects of crowdfunding, as a group of supporters gathers not only to fund a proposal, but to promote the proposal and to join in the work of making it real. What are the opportunities to add community and collaboration to Internet crowdfunding?

Rick Wash is an Assistant Professor at Michigan State University in the School of Journalism and the Department of Telecommunications, Information
Studies, and Media. His research focuses on understanding how people think about and reason about their use of technology, with particular attention to information security, crowdsourcing, and online communities. He completed his PhD at the School of Information at the University of Michigan. Prior to studying information, Rick completed his masters degree in Computer Science from the University of Michigan, and his bachelors degree in Computer Science from Case Western Reserve University.

Position: Crowdfunding websites are surprisingly efficient systems for coordinating contributions from a variety of people.

Amanda Williams is co-founder and CEO of Fabule Fabrications, which makes expressive devices for creative homes. They launched their first product on Kickstarter, where it was successfully funded in June 2013. She has worked at Xerox PARC, Adobe, Intel Research, and Microsoft Research. Indecisively, she loves both qualitative user research and hardware design. She holds a Ph.D. in Information and Computer Sciences from UC Irvine and a B.S. in Symbolic Systems from Stanford University.

Position: Crowdfunding isn’t just about funding. Before and during your campaign, it’s a huge opportunity for marketing and PR. Fulfilling the promises of your campaign will be a crash course in manufacturing, testing, quality control, supply chain management, and international shipping that you’re probably not remotely ready for (I wasn’t). But the most important takeaway from our crowdfunding campaign was this: our backers are fantastic first customers to have, and communicating openly with them has been great for the health of our company.

Conclusion
Crowdfunding is a complex topic that involves computer science, social science, economics, communications and design. Effective research is highly interdisciplinary and the CHI community provides a unique ability to bridge multiple disciplines and the conference provides an ideal opportunity to gather people who both study and build systems in the same time and place to discuss the future research of crowdfunding.

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References