Bridging Communities for Better HIT: Streaming Conversations from WISH on Challenges, Strategies, and Opportunities

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Abstract

Health Information Technology (HIT) has enormous potential to transform healthcare, and optimal design and implementation of HIT has to incorporate diverse fields' perspectives, including medicine, engineering, design, anthropology, and other related disciplinary areas. WISH workshop at CHI 2017 is designed to bring together researchers and practitioners for shared conversations and nurture a common community of practice. This SIG will further facilitate open, cross-disciplinary conversations with diverse CHI participants about the future of WISH, disclosing the closed conversations among steering committee members and organizers of WISH to the CHI audience for additional input. We will discuss methods, study designs, and dissemination within and across communities. We will discuss issues around challenges of designing, implementing, and evaluating interactive health technologies. This SIG will explore opportunities in growing a nurturing community and developing a research agenda that will drive future innovations in healthcare.

Author Keywords

Interactive systems; human computer interaction; user experience; healthcare; informatics.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous; J.3 Life and Medical Sciences: Medical information systems.

Introduction

Healthcare Information Technology (HIT) has the potential to improve healthcare quality, efficiency, and accessibility, while reducing costs of care [7]. As of 2014, electronic health records (EHR) adoption rate doubled from 2008, with over 80% of physicians having adopted the EHR [6]. Close to four in ten Americans were offered electronic access to their medical records [5]. Besides access to personal health data, advancement in self-monitoring technologies and data science also provided unprecedented opportunities in self-management of chronic conditions.

However, reports on HIT implementation and outcomes have been mixed, revealing unanticipated and undesired consequences of HIT [1,8] which could undermine patient safety [2,9]. Such undesirable outcomes of HIT implementation often come from the interplay between HIT and the existing social and technical systems, including workflows, culture, and social interactions [3]. A similarly holistic view is emerging in HCI and interaction design, where boarder issues of social, contextual and culture aspects of computing have been brought into discussion [4].

The Workshops on Interactive Systems in Healthcare (WISH) [10] started in 2010. CHI and American Medical Informatics Association (AMIA)—a premier venue for the medical informatics field, have been alternating hosting of the WISH workshop for 7 years. WISH has been cross-pollinating discussions between CHI and AMIA audiences who otherwise would have been disconnected. WISH produced long-lasting mentor-mentee relationships as well as new, innovative collaborations. Despite the successes, several challenges still remain in facilitating conversations among the research communities, which remain disconnected and are critical in improving HIT.

The steering committee members and participants of WISH have developed closed conversations over the years in increasing participation from diverse communities, understanding methodological differences among different fields, and involving more cross-boundary participations between CHI and AMIA. We would like to use this SIG as an opportunity to expose these conversations, updated with this year's WISH on Sunday, and open up conversations with the rest of CHI community who increasingly are becoming interested in the topic of health.

This SIG will further establish meaningful connections that bridge inter/cross-disciplinary communities, and provide a supportive platform to bring together students, researchers, and practitioners at CHI who are working on developing, implementing, and evaluating innovative HIT—and particularly those who have not had a chance to participate in WISH.

Targeted audience

Participants from various backgrounds interfacing with healthcare technology are welcome to join this SIG, such as:

- Practitioners and researchers interested in creating quality user experience for HIT
- Biomedical informatics researchers and practitioners
- Clinician users of HIT
- Researchers who address social, cultural, and other contextual aspects of design and evaluation
- HIT developers, designers, and implementers

Discussion Topics

Introductions
The facilitator (first author) will welcome the participants and give an overview of the goal of the SIG. Three panelists (selective authors of this SIG proposal and members of the WISH steering committee), and participants will introduce themselves and their backgrounds. (5 minutes)

Panel discussions
Panelists will present their thoughts and experiences on each of the following discussion topics: (10-15 minutes each topic)

1. Discuss existing methodological and technical challenges and develop consensus in designing, implementing and evaluating HIT (i.e. How to balance medical community's need for clinical trials versus the need for other types of evaluation and validation).

2. Identify strategies, research agendas and opportunities to implement HIT research and to bridge research and application.

3. Discuss venues for research funding and research results dissemination. (i.e. How to obtain funding from NSF, NIH, foundations or industry with this type of interdisciplinary work).

4. Develop training and educational programs to bridge communities, such as cross-training for interested individuals from the medical community and the HCI community (i.e. continuing education, webinar).

5. Establish mentoring and networking opportunities for students and junior researchers, provide them with networking opportunities with leading researchers and internship/externship opportunities to apply their training.

Participant discussion
During the panel discussions, participants can enter additional questions or topics of interest into a publicly shared online document or bring up those issues openly during panel discussions. The facilitator of the SIG will monitor these conversations in the document and bring up the topics to the panel as she sees fit. After the panel discussion, the SIG will break into small groups with participants from different backgrounds. Each group will tackle one topic where the participants will be asked to discuss experiences relevant to that topic. Each group will present a brief summary of their discussions.

Conclusion

The facilitator will thank the organizers and participants and provide plans to follow up with this conversation.

Outcomes

After the SIG, we will generate a summary of the discussions that address ways to bridge these communities, including but not limited to research design, study dissemination, training, and career development. The summary will be submitted as a letter to medical informatics journals to disseminate discussions at CHI to the medical audience.

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