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To the CHI Community Chairs:

Please accept this proposal for the creation of a new Health Community as part of ACM SIGCHI and the 2011 CHI Conference. We welcome any feedback you may have and would be pleased to answer any further questions.

Sincerely,

Gillian Hayes and Madhu Reddy

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# SIGCHI Health Community

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**Abstract**

In this paper, we describe a vision for a Health Community as part of the CHI conference. Significant interest in issues related to interactive systems for health has been demonstrated repeatedly within SIGCHI. An explicit community focused on health would serve to foster further collaboration, dissemination of research results and findings from practitioners, and discussion of some of the most pressing issues facing our society as a whole currently.

**Keywords**

Community, Health, Medicine, Well-being, Aging, Assistive Technologies, Nutrition, Wellness, Fitness,

Healthfulness, Healthcare

**ACM Classification Keywords**

J.3 Life and Medical Sciences: Health; K.4.1 Public Policy Issues: Computer-related health issues, ethics, human safety, privacy; K.4.2 Social Issues: Assistive Technologies for Persons with Disabilities; K.4.3 Organizational Impacts

**General Terms**

Human Factors, Legal Aspects, Management

**Introduction**

In recent years, the medical informatics community has begun to recognize human-computer interaction (HCI) and better understanding of the social and human elements as important to a sound Health Information Technology (Health IT) strategy. Meanwhile, research in HCI has found healthcare a rich and interesting domain of inquiry. Furthermore, concepts of health, including fitness, nutrition, mental health, aging, assistive technologies, and other considerations of well-being have often been core to research and industry projects related to HCI and interactive systems. Despite this interdisciplinary interest, however, there exists a largely untapped potential to create deeper and more profound connections among the medical, informatics, human-computer interaction, design, medical sociology and medical anthropology communities.

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Thus, this proposal requests support for the creation of a Health Community as part of the CHI conference and the ACM SIGCHI. This effort follows on the heels of a successful two-day interdisciplinary research conference, Workshop on Interactive Systems in Healthcare (WISH, <http://chi2010.org/wish/>) collocated with the ACM CHI 2010 Conference on Human Factors and Computing Systems. This workshop, with 140 attendees, represented the first step towards fostering conversation and bridging communities. WISH included specialists in medical informatics, nursing informatics, medical sociology, human-computer interaction, and related fields and will take place again in 2012, this time co-located with the American Medical Informatics Association Annual Symposium.

Additionally, a new ACM conference was begun this year, the ACM International Health Informatics Symposium (IHI). Although this conference includes a wide variety of people from across computer science, medicine, medical informatics, and other related fields, there has been significant representation from CHI related researchers both in terms of submissions and in the composition of the program committee.

These efforts demonstrate the substantial interest in interactive systems for health from within the CHI community.

### **Goals of the Health Community**

The formation of a Health Community will bring together a diverse set of researchers from across a range of disciplines, all which intersect with interactive systems for health. This community will enable both in-depth discussions with senior-level individuals and the development and encouragement of a broader range of

scholars. Furthermore, bringing together these researchers during CHI will support the development of interdisciplinary dialogs, creating an environment for exchange and conversation that will further enable progress on a variety of efforts related to health and HCI.

Addressing the complex interplay between human, organizational, and technological systems in healthcare is a significant research area with the potential to impact quality, safety, efficiency, and effectiveness of health care in America. Given the recent emphasis on Health IT solutions as part of efforts towards health care reform and in conjunction with the American Recovery and Reinvestment Act of 2009 (ARRA), these issues are timely and of the utmost priority to be addressed. Medical informatics, human-computer interaction, and other related research areas, however, can be trapped in their disciplinary silos making significant trans-disciplinary progress challenging.

Specifically, the goals of the Health Community at CHI are consistent with those articulated in ACM SIGCHI policies and descriptions and those recognized by various healthcare agencies around the world. They are to:

1. Bring together groups of scientists from a variety of disciplines all focused on issues of human-computer interaction and health;
2. Guide the work of new researchers by having world experts provide them advice;
3. Provide encouragement and support for engagement in research in interactive systems for health;

4. Make it possible and rewarding for promising new entrants to the field, many of whom are highly respected professionals in other fields but relatively new to HCI, to attend the CHI conference;
5. Illustrate the interrelationship and diversity of HCI research, in particular as it related to Health IT;
6. Make interdisciplinary researchers' experiences at the CHI conference enjoyable and rewarding, encouraging them to return and submit papers, panels, demonstrations, posters, etc. to the conference.

### **Evidence of Interest in a Health Community at CHI**

In 2010, CHI hosted the first Workshop on Interactive Systems in Healthcare (WISH). This event took place over two days, including a steering committee meeting, mentoring dinner, full day program of invited and refereed talks and panels, and a poster session and reception. The full day open event was attended by 140 participants and represented by far the biggest event collocated with CHI that year.

The steering committee members in attendance includes some of the most recognized scholars in both HCI and health from around the world:

- Gregory Abowd, Georgia Institute of Technology
- Mark Ackerman, University of Michigan
- James Anderson, Purdue University
- Suzanne Bakken, Columbia University
- Jakob Bardram, IT University of Copenhagen
- Tim Bickmore, Northeastern University
- Karen Cheng, Charles Drew University
- Kay Connelly, Indiana University
- Karen Courtney, University of Pittsburgh

- Sheba Miriam George, Charles Drew University
- Gillian Hayes, University of California, Irvine
- Bonnie Kaplan, Yale University
- Alex Mihailidis, University of Toronto
- Margaret Morris, Intel Research
- Scooter Morris, UCSF
- Elizabeth Mynatt, Georgia Institute of Technology
- Philip R.O. Payne, The Ohio State University
- Wanda Pratt, University of Washington
- Madhu Reddy, Pennsylvania State University
- Cornie Scheffer, Stellenbosch University
- Chris Seebregts, South African Medical Research Council
- Desney Tan, Microsoft Research
- Lauren Wilcox, Columbia University

At the steering committee meeting, the attendees concluded by arguing strongly for the continuation of events in future years. WISH itself will be co-located with another conference, AMIA, next year, but the seeds of interest at CHI begun with WISH can and should be continued with a Health Community.

Due to the interdisciplinary nature of the emergent field of interactive systems for healthcare, one of the primary goals of WISH was to foster communication and mentoring between junior members of the field, including undergraduate and graduate students, post-doctoral scholars, and junior faculty or researchers who had recently begun work in this area with those who are more experienced. Thus, a mentoring program was included in WISH 2010. Researchers wishing to receive mentoring through WISH indicated this interest by submitting their CV, a brief statement of interest in the program, and an indicator of support from a faculty advisor or research supervisor. Senior researchers and

faculty members wishing to serve as mentors provided brief statements about their interest in mentoring junior students and were primarily recruited from the steering committee but also from outside. Both mentees and mentors were selected by the Co-Chairs with steering committee members providing guidance and review for the mentee applications.

There were 57 applicants for people to be mentored in the program (23 were accepted). The institutional breakdown of our mentees was as follows: US (17), Canada (2), Sweden (2), Mexico (1), and the Netherlands (1). Fourteen mentees were females. The participants were at a wide variety of levels of academic progress: 1 undergraduate student, 13 graduate students, 4 post-doctoral scholars, and 5 researchers or faculty members who either had recently become faculty or had recently changed into a healthcare focus.

### **Conclusions**

Health, broadly construed, is one of the most fundamental needs of the human experience.

Increasingly, the CHI community is recognizing the importance of this area and in particular the potential for the design, development, and evaluation of interactive technologies and HCI solution to support health. The substantial research efforts over the history of the CHI conference, various related workshops, and most recently the heavily attended WISH workshop at CHI 2010 all demonstrate the need for a new community focused on Health. As part of this community, we will be able to support junior researchers, make interdisciplinary connections amongst researchers and practitioners, and generally broaden and deepen the knowledge in these areas.

### **Acknowledgements**

We thank the WISH steering committee and attendees, in particular Desney Tan, WISH 2010 co-chair, and Lena Mamykina, WISH 2012 co-chair for their help in pushing this agenda forward. The WISH 2010 workshop that serves as the foundation for much of this proposal was generously supported by NSF IIS 1018582, the SIGCH Development Fund, and Microsoft Research.

## **Description for CHI 2011 Website:**

Health is a fundamental aspect of human life. So, it is not surprising that CHI has long had an interest in the intersection of HCI and Health. As our understanding of technologies, systems, and practices related to health continues to increase, it is an exciting time to be a part of a CHI health community. Contributions to this community focus on a wide variety of issues related to health, both within and outside of a clinical setting.

Researchers and practitioners have been examining health-related issues in many different contexts. For some, health begins at home, is preventative, and uses a holistic approach including nutrition, exercise, and mental and emotional well-being. For others, the greatest concerns may be centered on acute care and hospital settings. For still others, health means tackling human development, growth, and eventually decline. Interactive systems for health, therefore, can include assistive technologies, personal informatics and persuasive technologies, clinical systems, home healthcare devices and communication technologies, telemedicine, and much more.

Some of the most interesting research, compelling designs, and innovative technologies represented at CHI over the years have been related to health. A strong Health Community at CHI ensures continued interdisciplinary discussion around health, technology, and interaction as this exciting area of research and practice continues to evolve.

Please check out the calls and start working on your submission. We hope to see you in Vancouver!