# HCI 2020: Looking Back To the Future

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In March, 2007, a forum entitled HCI 2020: Human Values in a Digital Age, was held in Sanlúcar la Mayor, Spain, just outside Seville. Its purpose was to gather luminaries in computing, design, social sciences, and scientific philosophy to discuss, debate and help formulate an agenda for human-computer interaction (HCI) over the next decade and beyond. This resulted in a detailed report, released in April 2008, in the form of a book called Being Human: Human-Computer Interaction in the Year 2020[1], authored by 45 members of the wider HCI community.

In this panel, we shall build from four core questions. How successfully did the HCI 2020 forum and report recognize trends and shape HCI? What major trends or issues did they fail to anticipate? How valuable to the HCI community, to the participants, and to the sponsoring organizations was the forum and the report? And finally, what does this history suggest about both the process and the ultimate value to HCI, to computing in general, and to the world, of creating a HCI 2035 vison?

CCS Concepts: • **Social and professional topics → History of computing**.

Additional Key Words and Phrases: hci2020, beyond human, research, hci

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## 1 MARCH 2007

*Being Human: Human Computer Interaction in the year 2020* begins with these words, introducing the project and the report:

"In March 2007, Microsoft Research organised the 'HCI 2020' meeting at the El Bulli Hacienda Hotel near Seville, Spain. The event's title expressed its key question: what will Human-Computer Interaction (HCI) be like in the year 2020? That question is important because HCI, significant as it was in the late 20th century, has a pivotal part to play in the 21st, when computers will become so pervasive that how humans interact with them will be a crucial issue for society.

HCI 2020 produced many ideas, both thrilling and troubling. The report is not a conventional publication of an academic conference but seeks to convey the passion of those ideas, both for the general reader and the HCI practitioner. For the general reader, this is important because knowledge of what the future might be may empower, while ignorance of it harm. For the HCI

[1]https://www.microsoft.com/en-us/research/project/being-human/


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practitioner, its purpose was to map out the terrain and suggest new approaches while keeping an eye on the main prize: the embodiment of human values at the heart of computing. The two-day forum brought together academics from the fields of computing, design, management science, sociology and psychology to debate, contribute to, and help formulate the agenda for Human-Computer Interaction in the next decade and beyond. Participants also came from the commercial world, including representatives from software companies, hardware manufacturers, and content providers.

The forum was convened because the field of HCI has moved on and matured in many significant ways since its emergence in the early 1980s. Over the years, a number of influential books and articles have helped to shape its goals and perspectives. As HCI has developed, many of the questions posed by its past research agendas have been answered, while others have become less important with the passing of time. Computing itself has moved on from what was possible when HCI first developed. As a result, many members of the HCI community have begun to voice concerns that HCI needs a new agenda if it is to continue to be relevant for the 21st century.

If there was one thing that the participants in this forum had in common, it was a recognition that any new direction for HCI would need to place human values at its core. The great accomplishment of HCI has been, to date, that it allows investigations of matters beyond what one might call the mechanics of the interface, such things as the design of the graphical user interface, and of keyboards and of mice. Its success now allows researchers to focus on how computers can support human-to-human concerns, rather than simply human-machine interaction. HCI has helped to produce a world in which interacting with computers is easier and richer. The real HCI issues now include what might be our aspirations, our desires for self-understanding and expression, and our willingness to use imagination to create a different future.

The questions that result are far-reaching and profound. HCI can no longer be solely the scientific investigation of what role technology might have – it will need to be part of the empirical, philosophical and moral investigation of why technology has a role. It will entail asking new questions about how we ought to interact with technology in this new world and it will even entail asking what the use of computing implies about our conceptions of society. Even philosophical questions will be important. For example, our concepts of how the mind works will affect the way we design technologies to support memory, intelligence and much more besides. All of this implies that other disciplines from the Arts and Humanities will become more relevant as the remit of HCI becomes broader. The goal of the forum was therefore to uncover and articulate new paradigms, goals and perspectives for HCI.

By bringing together some of the world's leading thinkers on this topic, the hope was that their discussions, debates and scholarly commentaries would help define how HCI can deliver this 'human face' of computing."

## 2 MAY 2021: TODAY'S PANEL

In this panel, we bring a selection of authors and participants from the HCI 2020 process who still active in the CHI community together to discuss and address the issues raised by looking at the impact of this report from 14 years ago. We have identified four questions we believe are core topics of inquiry.

(1) How successfully did the HCI 2020 forum and report recognize trends and shape HCI?
(2) What major trends or issues did they fail to anticipate?
(3) How valuable to the HCI community, to the participants, and to the sponsoring organizations was the forum and the report? How do we know?

(4) What does this process suggest about the value of creating a "HCI 2035" vision? How might we do that in today's environment?

This will be a highly interactive, dynamic panel with provocations and questions posed by the Chair, the panelists and audience, starting from but not limited to those four questions. We would expect the panel to attract a diverse and enthusiastic audience - those who participated in the original event; new to CHI attendees interested in seeing the visionary mistakes we all made; and, those looking for inspiration to drive the field forward. This is an unusual opportunity; to our knowledge there are no other reports in HCI's history that took such a wide-ranging and deliberate attempt to characterize the field; being able to reflect on it and look to the future should provide hope and direction for a field (HCI) that will have so much to do in the next several decades as we face the challenges the world presents (both natural ones like pandemics and climate change; and those of our own making, such as AI).

We will enthusiastically engage with our audience, both before and during the panel. While the details may rely on the infrastructure otherwise provided by the conference, we provisionally will include posts on social media such as Twitter and the CHI Meta group to encourage discussion and the generation of questions; a system such as sli.do for providing realtime participant involvement; and realtime monitoring of Twitter during the event to connect the social media discussion with the organizer panel. For example, we will post links to the report to give interested audience members time to read the report – again, or for the first time. Furthermore, we recognize at least the potential for this panel to spur the development of a "HCI 2035" report.

## 3 PARTICIPANTS

While the original report was created under the auspices of Microsoft Research Cambridge, it relied on the participation of authors from some forty institutions. This is not, in any way, a company panel: it reflects that breadth of participation, including five researchers from five organizations and three countries.

**Jofish Kaye** runs research teams to produce thoughtful and ethical HCI and AI products, and is currently working with anthem.ai to improve healthcare. His research explores the social, cultural, and technological effects of technology on people, and how people's decisions, needs, and behaviors can change and improve those technologies. He recently ran a research group at Mozilla, chaired CHI 2016, and has a long running interest in improving diversity, inclusion, and accessibility. He was the most junior participant in the HCI 2020 forum.

**Abigail Sellen** is Deputy Director at Microsoft Research Cambridge in the UK. She also oversees the lab's portfolio of research exploring the Future of Work, taking an interdisciplinary approach to designing and developing new productivity tools that work in partnership with people. This approach recognizes that radical transformations in the world of work mean that we need to keep human aspirations front and centre in the technologies we build. It means recognising what people do best, while at the same time playing to the strengths of digital systems in order to make our working lives more fulfilling.

**Yvonne Rogers** is a Professor of Interaction Design, the director of UCLIC and a deputy head of the Computer Science department at UCL. Her research interests are in the areas of ubiquitous computing, interaction design and human-computer interaction. A central theme of her work is how to design interactive technologies that can enhance life by augmenting and extending everyday, learning and work activities. This involves informing, building and evaluating novel user experiences through designing, implementing and deploying a diversity of technologies. A current focus of her research is on human-centred data and people in the Internet of Things in urban settings. She is also researching what human-centred AI means in practice.

**Richard Harper** is concerned with how new technologies shape us and how we in turn shape our technologies - in the space that is often known as Human Computer Interaction or HCI. He has written 13 books, including the IEEE award winning "The Myth of the Paperless Office"; "Texture", (the A.o.I.R. book of the year 2011); and "Choice" (2016). Prior to becoming Co-Director of the Institute for Social Futures at Lancaster University, (where he is also Professor of Computer Science and Communication),he led research groups at Xerox (Euro) Parc and Microsoft, and was the director and founder of The Digital World Research Centre at the University of Surrey. He is a Fellow of the IET and of the Royal Society of Arts. In 2014, the ACM elected him Fellow of its Academy in honour of leadership in the field of Human-Computer Interaction. He is also a Visiting Professor in the College of Science at the University of Swansea, Wales. He is very tall.

**Matt Jones** is the founding Director of the Morgan Advanced Studies Institute (MASI), Wales' first insitute of its kind (www.swansea.ac.uk/masi). His HCI work has focussed on emerging technologies (such as speech assistants, haptics, computational materials) and emergent contexts (particularly in sub-Saharan Africa and India). He helped to build the Mobile HCI community and wrote two books and many articles on the subject (more at www.undofuture.com). He was dazzled by the luminaries, and overwhelmed by the food, at the HCI 2020 forum: he still sizzles due to the experience.

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