The Computer-Mediated Living Group, Microsoft Research Cambridge

As told by Abigail Sellen, Richard Banks, Richard Harper, and Steve Hodges

How do you describe your lab to visitors? ? The Computer-Mediated Living group (or CML) is one of five main research groups at Microsoft Research in Cambridge, England. The lab itself is the European arm of Microsoft Research, located in the heart of Cambridge in a new building next to the main train station. CML is the most interdisciplinary group in the lab, and the one most concerned with the human-facing aspects of technology. The roots of the group began a decade ago with an agenda to design and fabricate new human experiences with computing. The technologies we are interested in can be situated in any aspect of everyday life, and play on many different kinds of human values, from increasing productivity in the workplace to respecting the tenderness of family life. As a part of Microsoft, we aim to build new technologies, map out new design spaces, and provide different ways of looking at human behavior from low-level interaction to the social and cultural ramifications of technology.

**What is a unique feature of your lab?** Microsoft Research is quite different from many industrial research labs. We see tremendous value in engaging deeply with academia—collaborating closely with professors, mentoring students, holding our work up to the scrutiny of peer review, and immersing ourselves in the community. Of course, we also work closely with Microsoft's many business units, helping them to build great products and experiences, to understand the broader technological landscape, and to shape the company's future devices and services. As a group, we are also unique in drawing on diverse perspectives across the sciences, engineering, arts, and humanities, which is quite rare in the corporate world.

How many people are in the lab, and what is the mix of backgrounds and roles? There are about 30 of us in the group, but this can grow by 50 percent when our summer interns arrive and things get livelier! We have a range of backgrounds, including computer science, social science, hardware

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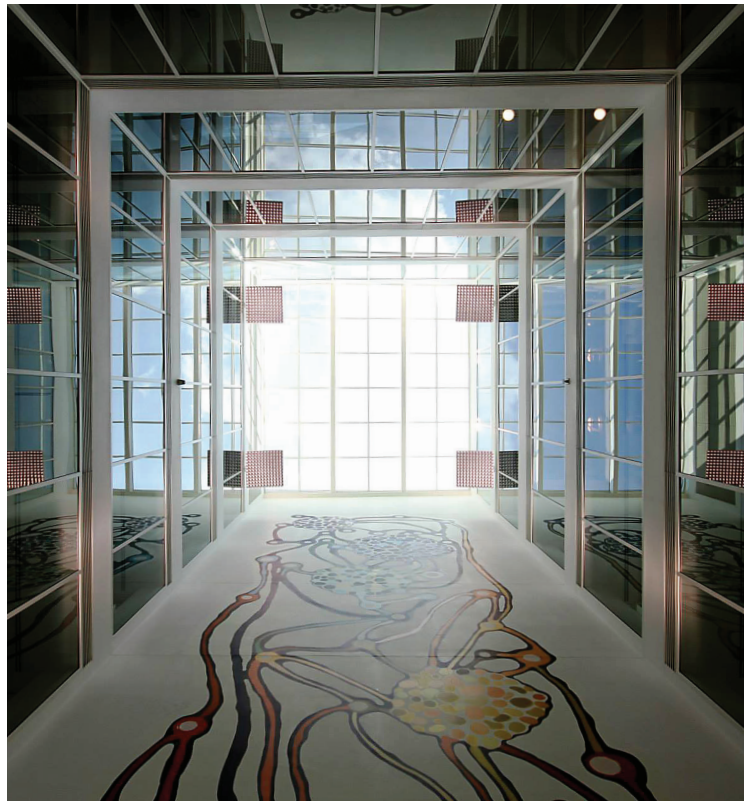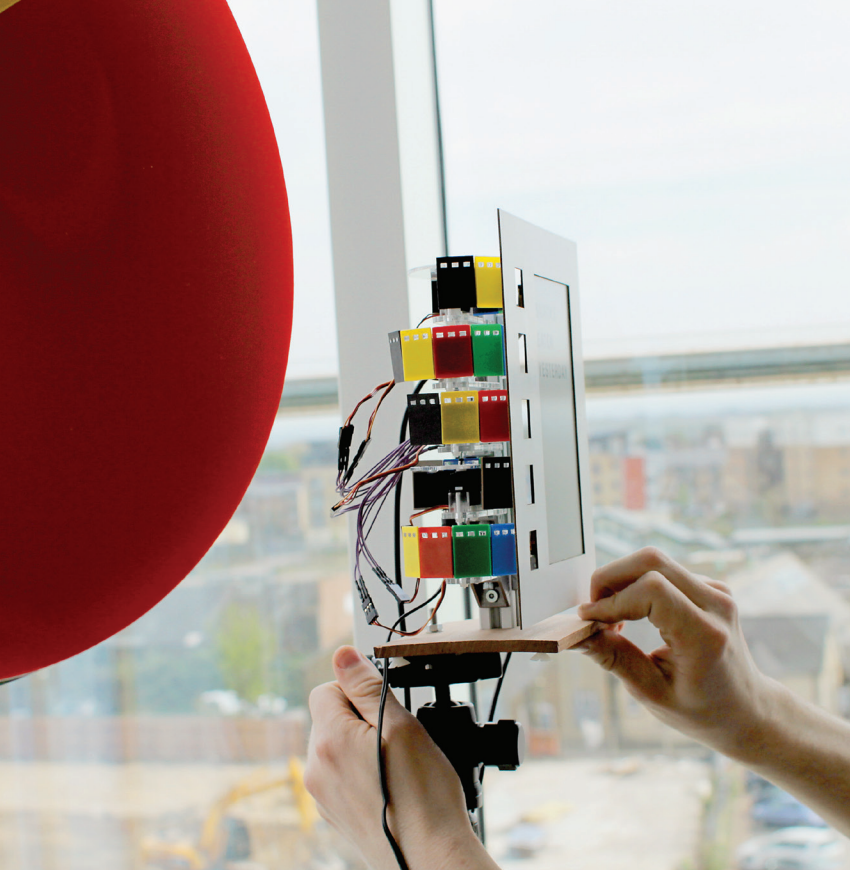
engineering, and design. Sometimes projects are design-led, such as our work on technology heirlooms and how technologies are passed on from generation to generation. Sometimes projects are technology-led, like our work using depth cameras to scan in the physical world, and our 3D-printing research. And sometimes we lead with social science, for example, exploring how people think about their digital possessions. Projects often have important contributions from several disciplines—a good example of this is our work on the long-term preservation of digital content.

Describe a day in the life of your lab.
As most people in a research lab will tell you, no day is routine. Some days seem like a whirlwind of meetings, talking, and Post-it notes, while on other days we have our heads down, writing code, building things, or working on papers. The designers' spaces tend to be busy and frenetic, as do the hardware and

electronics labs. These are the places where things get built and ideas come to life.

What is one feature of your lab that you could not do without? We couldn't do without our "making spaces" and all the gadgetry and tools we have on hand. In our electronics and hardware labs we have oscilloscopes and analyzers, the latest equipment for assembling PCBs, 3D printers, a laser cutter, a milling machine, a bandsaw, and so on. Wonderful things come out of these labs!

What is one feature of your lab you want and do not have? It would be great to have more of a studio space in the lab for our designers to have the flexibility to spread out their work. As it is, the work spills out into the hallway outside, which has the advantage of allowing us a view of

what they're up to, but hallways aren't the best space for making or showing design work.

How would you describe how people interact in your lab? We tend to be opinionated, occasionally combative, but ultimately respectful of each other. None of us likes to work alone—the best ideas always emerge when different perspectives are brought to bear on a problem. We like to convene around cakes, chocolate, or a few pints down the pub.

What is the one thing you see as most important about the work you do there? As a lab we are increasingly encouraged to have big ambitions and set long-term research goals that will open up our imaginations, and the company's, to new possibilities. This is both the challenge and the luxury of working in a lab like ours.