



<b>Job title</b>	Research Fellow in Human Computer (Data) Interaction	<b>Job family and level</b>	Research and Teaching Level 4
<b>School/ Department</b>	Horizon, Computer Science	<b>Location</b>	Jubilee Campus

## Purpose of role

We seek a talented researcher with a background in Human-Computer Interaction and/or IoT Design to research and contribute to be part of an exciting new 2-year £1.2m interdisciplinary research project funded by the UK Engineering and Physical Sciences Research Council called “Fixing the Future: The Right to Repair and Equal-IoT”. In this project, we will investigate how the lack of repairability in the consumer Internet of Things (IoT) will adversely impact citizen inclusion, cybersecurity, and sustainability in the digital economy. IoT products are becoming the default, with wireless connectivity and automation bundled into mundane household items like TVs, energy meters, toys and phones. Whilst the IoT can still be a consumer choice now, its growth means citizens may see it imposed on them in the future. We use theory and methodologies from Human-Computer Interaction (HCI), Design, and Law to anticipate the future impacts of a digital divide caused by redundant IoT devices. We will envision how to build more equitable IoT devices that redress poor long-term cybersecurity, exploitative uses of data, and lacking environmental sustainability that define the current IoT. Our research programme is driven by stakeholder engagement and co-creation with citizens and our project partners from repair communities (The Making Rooms, Blackburn), artists (Active Ingredient), government bodies (Canadian Government), public service media organisations (BBC) and cybersecurity firms (NCC Group). The project involves academics from across human computer interaction, design, computing, law, ethics and digital humanities.

We will create prototype future user experiences and technical design architectures that showcase best practice on how Equal-IoT can be built to be more repairable and address inequalities posed by current IoT design. Our series of blueprints, patterns and frameworks will align needs of citizens, technical requirements and reflect constraints/opportunities manufacturers face, providing routes to improve design. This is key to operationalising our vision of Equal-IoT and answering our Research Question: how can HCI help operationalise repairability and enable creation of Equal-IoT?

We seek a postdoctoral researcher with a background in Human Computer Interaction who will bring a mix of IoT, design and empirical research expertise to the project. Furthermore, a demonstrable interest in IoT design and/ or designing for data sensitivity and/ or sustainability, such as experience in human-centred design, useable privacy/ security or Human Data Interaction would set the candidate apart.

Key responsibilities in the role would include conducting a systematic literature review of HCI literature, interviews with online repair communities, facilitating design sprints and rapid prototyping of user experiences, enabling evaluative studies and workshop sessions, disseminating findings by contributing to academic papers, theories, frameworks, research & impact activities and being a core member of an interdisciplinary team.

You will work with colleagues from the Universities of Nottingham, Lancaster, Edinburgh and Napier, along with any of the partners involved. You will be expected to undertake independent research as well as working as part of a highly interdisciplinary team - this will include using approaches or methodologies and techniques appropriate to the type of research and being responsible for writing up your work in order to contribute to published outcomes.

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You will have the opportunity to use your initiative and creativity to identify areas for research, develop research methods and extend your research portfolio.

The post will be held at Horizon Digital Economy Institute (<https://www.horizon.ac.uk>) within the School of Computer Science at The University of Nottingham.

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time per year</b>
1	To plan and conduct research using recognised approaches, methodologies and techniques within the research area.	50%
2	To analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights to research area.	10%
3	To contribute to writing up research findings for publication.	15%
4	To assist with the preparations, proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.	5%
5	Public and community awareness to bring our research to a wide audience.	5%
6	To co-ordinate the operational aspects required for the TAS hub	5%
7	To assist in supervision of postgraduate and undergraduate students.	5%
8	To plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others.	5%

## Person specification

	<b>Essential</b>	<b>Desirable</b>
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ Quantitative and/or qualitative methods for data collection and analysis</li> <li>▪ Creative methods applicable to design of interactive systems (e.g., prototyping, storyboarding)</li> <li>▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information.</li> <li>▪ Developing research skills, with the ability to creatively apply relevant research approaches, models, techniques and methods</li> <li>▪ Analytical ability to facilitate conceptual thinking, innovation and creativity.</li> <li>▪ Ability to build relationships and collaborate with others, internally and externally.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Design, implementation or evaluation of user experiences involving IoT.</li> <li>▪ Ability to foster a research culture and commitment to learn in others.</li> <li>▪ High analytical ability to analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights.</li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Quantitative and/or qualitative research experience (e.g., user studies, surveys, interviews and focus groups, workshops)</li> <li>▪ Creative/design research experience (e.g., Participatory Design or Research through Design)</li> <li>▪ Evidence of sufficient breadth or depth of research methodologies and techniques to work in research area.</li> <li>▪ Some practical experience of applying the specialist skills approaches and techniques required for the role.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A demonstrable interest and/ or experience in IoT Design, Human Data Interaction and/ or Sustainability of IoT/ Technologies.</li> <li>▪ HCI or human-centered design in IoT systems</li> <li>▪ Experience of working within diverse and interdisciplinary teams.</li> </ul>
<b>Qualifications, certification and training (relevant to role)</b>	<ul style="list-style-type: none"> <li>▪ Degree, or equivalent in relevant subject area</li> <li>▪ PhD or substantial practical research experience</li> </ul>	<ul style="list-style-type: none"> <li>▪ Master's Degree, or equivalent in relevant subject area.</li> </ul>



The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

## Key relationships with others

