

The main aim of the proposed workshop was to create a platform of collaboration on digital healthcare solutions for 'Transforming Health and Care Beyond the Hospital' – one of the key themes set by UKRI. We have considered Smart healthcare as a socio-technical challenge, and therefore, found it essential to promote research of an interdisciplinary nature, involving computer scientists, subject experts, social scientists, and communication experts who can address problems from different points of view by combining their expertise.

The event was organized with the help of, who functioned as panellists, mentors, and members of the jury.

- Dr David Bell, Reader, Computer Science, Brunel; co-director of STAHR centre and a multi-disciplinary researcher who has applied digital service solutions in health settings.

-Dr Dorota Filipczuk, Software Engineer at Microsoft

A very experienced hackathon organiser who served as the Hackathon Chair for ACM women courage for several years.

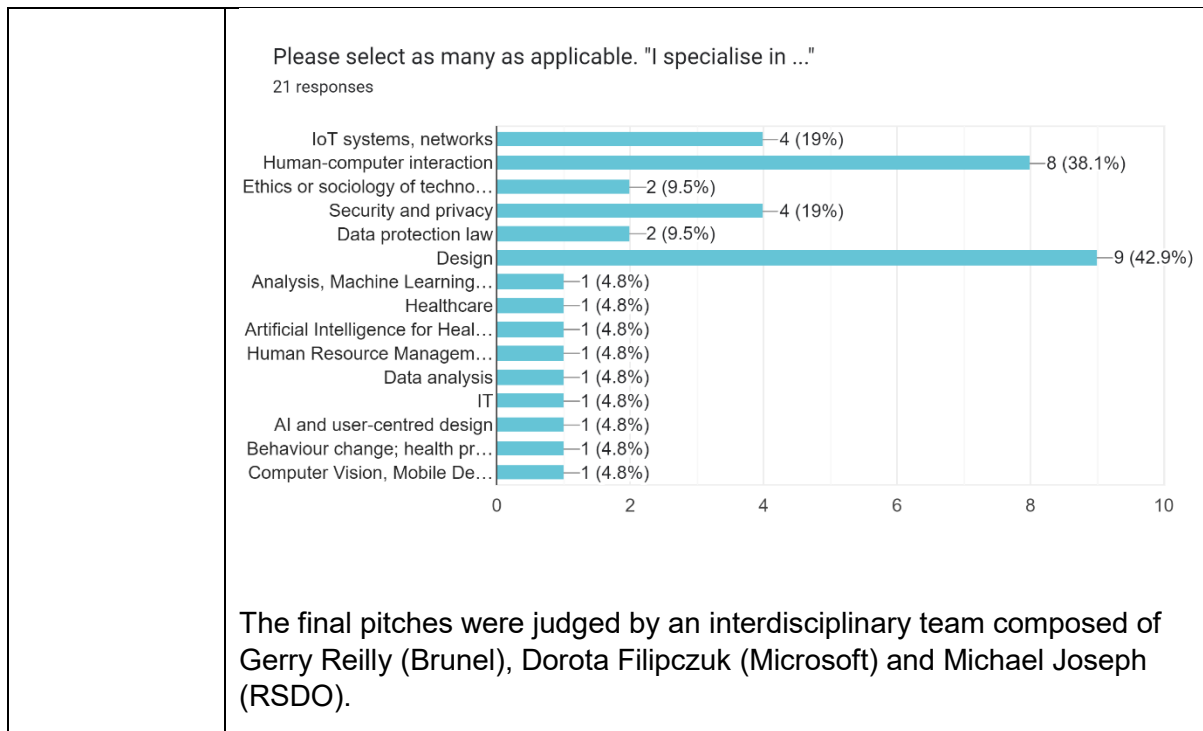
-Dr Isabel Sassoon, Senior Lecturer, Computer Science, Brunel; one of the Brunel's first Open Research Award winners and a co-Investigator on IMMUNE (Immunity Passport Service Design funded by UKRI

-Dr Poonam Yadav, Lecturer, University of York, Computer Science

A 2020 N<sup>2</sup>Women Rising Star in Computer Networking and Communications, with experience in cyber-physical systems and citizen science.

The main objectives of the hackathon were set as:

Objective	How it was met
To enable interdisciplinary co-creation in the area of digital health	<p>The event ran two panels with interdisciplinary stakeholders (see Figures 1 and 2), who shared their vision and experiences in working with novel technologies in the health setting. The Panel 1 was attended by thirty-two people and in Panel 2, fourteen people attended online, and sixteen people attended in-person.</p> <p>The hackathon attracted participants from Design, Health Sciences, Mechanical Engineering, Business, Computer Science, ranging from MSc students to Senior Lecturers, mainly from Brunel, but also from Imperial and Open University. The applicants selected a wide range of areas as their specialisation, while HCI and design were leading areas.</p>



<ul style="list-style-type: none"> <li>- To move the focus away from the presentation of established results but on ideas, sketches, and open problems.</li> <li>- To facilitate discussions of key unresolved challenges and emerging problems in the field</li> <li>- To promote personal interaction and open discussion of ideas.</li> </ul>	<p>To meet these four objectives, we created a programme of activities for participants, to guide them through an innovation process. On the first day, participants used the Miro Boards created for the event to get to know each other, form teams, and identify a problem they would like to solve together. On the second in-person day, we have guided participants to work on their pitch to the judging panel.</p> <p>Mentors from the main organizing team as well as Computer Science lecturers Tahmina Zebin and Fotios Spyridonis, and Gurnam Selvarajah helped the groups in breakout rooms to converge into teams and ideas. The mentors have served as facilitators and sounding boards, questioning, challenging, as well as encouraging and supporting further development of ideas.</p> <p>Majority of the participants got to know each other during the two days of the hackathon and were able to collaborate successfully on developing ideas, pitching them successfully based on the provided template.</p>
<ul style="list-style-type: none"> <li>- To identify and emphasise emerging technical directions and take steps for future</li> </ul>	<p>At the end of the event, five projects were pitched, and the jury selected a winner and two runner-up projects. The jury gave detailed feedback to these projects and several avenues for further investigation were recommended.</p>

<p>collaborative research grants.</p>	<p>The winners: Charlie Bradley (PhD student, Brunel Design), Elizabeth Aladejare (MSc Student, Data Science, Computer Science, Brunel) and Mit Trivedi (MSc Human Resource Management, Business School, Brunel) proposed BreatheFreely which investigated effective monitoring of Asthma patients.</p> <p>Two runner-up projects:          Keyur Mevada (MSc Data Science, Brunel) project on E-Health Passbook: A portable Electronic Medical Health record application that securely captures and stores comprehensive patient history and serves as a foundation for future health technology advancements through seamless IoT integration          Kei Long Cheung, PhD (Senior Lecturer, Public Health) and Isabel Sassoon, PhD (Senior Lecturer, Computer Science)'s project on Argument-based AI Chatbot for Smoking Cessation. Their project aims to innovate computer-tailored health communication programs (e.g., aiding smoking cessation and physical activity) by building a chatbot based on combining Computational Argumentation (an A.I. approach) with an integration of behaviour-change theories.</p>
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**HACKING THE DIGITAL HEALTH PANEL**  
**May 12, 2023 9:30 - 10:40**  
**Online in Teams**

**Want to join us?**  
**Contact: cigdem.sengul@brunel.ac.uk**

**Organised by**  
**Computer Science for Social Good**  
**Research Seminar Series Awards 2022-23**

				
<p><b>Dr Steven Sam</b>  <b>Moderator</b>  <b>Computing for Social Good</b></p>	<p><b>Gerry Reilly</b>  <b>Visiting Professor</b>  <b>Brunel University</b>  <b>Health Data</b></p>	<p><b>Trishna Bharadia</b>  <b>Consultant/Visiting Lec</b>  <b>Kings College</b>  <b>Patient Engagement</b></p>	<p><b>Dr David Bell</b>  <b>Reader</b>  <b>Brunel University</b>  <b>MedTech</b></p>	<p><b>Dr Hongying Meng</b>  <b>Reader</b>  <b>Brunel University</b>  <b>AI in Health</b></p>

Figure 1 - Panel Day 1 (Online)



Figure 2 - Panel Day 2 (Hybrid)

The hackathon helped initiate a conversation on digital health that is interesting, informative, and valuable to:

- Established computing research professionals with strong interests and/or viewpoints about digital health.
- Younger computing researchers, including MSc and PhD researchers, who are interested in exploring a career path in digital health.
- Research colleagues whose interests focus on areas and disciplines where advanced computing, data science, artificial intelligence, and related capabilities represent an existing or emerging enabler for digital health.
- Industry technologists and policymakers interested in shaping the future of digital health.
- Research policy professionals and those concerned with the advancement of digital health research in a larger societal or economic context.
- Science and technology communicators and others interested in the emergence of new digital health paradigms.

The co-creation activity is expected to lead to new collaborations, seeding new research projects, and exciting demonstrations for dissemination.