Dr Dan Richardson
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Human-Computer Interaction researcher and software engineer with a passion for collaborative systems and Digital Civics research. I design and develop mobile applications and full-stack web technologies, and conduct HCI research using participatory design.

SKILLS SUMMARY

Human-Computer Interaction (HCI) Research

- My primary research interest is in the design and production of collaborative systems: particularly, how technology can support communities of interest in producing and sharing authentic content about the subjects they care most about.
- Strong understanding of organising and leading engagements with research participants and co-designers: from one-off workshops and deployments with international institutions, to multi-year relationships with grass-roots community groups.
- Extended experience of participatory technology and service design and software development. Experience in capturing and handling sensitive qualitative and quantitative data, including that of healthcare patients and children.
- Strong track record of publishing research at leading international HCI venues (see *Publications*).

Software Development and Publishing

- Programming experience in multiple languages, frameworks, software and tools, including C# (Xamarin Android & iOS, Xamarin Forms, ASP.Net, Unity3D), HTML, CSS, Python, C++, JavaScript (Vue.JS, Google Firebase, FreeSWITCH), Java, Git, Visual Studio, XCode, AWS and Microsoft Azure.
- Published multiple open-source mobile research applications, including OurPlace, MySkinSelfie and TalkFutures on both Google Play and the iOS App Store.

General

- Strong communications and organisational skills (e.g. co-organising and hosting ACM COMPASS '21)
- Experience of content production in many software suites, including Microsoft Office, Adobe Creative Cloud (Photoshop, Illustrator, Premiere Pro, Lightroom) and LaTeX.

EXPERIENCE

Research Fellow Action Lab, Monash University, Melbourne; 2020 - Present

Involved with multiple ongoing research projects: leading the technical development of telecoms technologies and engagements with stakeholders on two research projects in partnership with Oxfam Bangladesh; ZoomSense, a platform investigating the limitations of Zoom as a tool for teaching during social distancing. I was also one of the lead organisers of ACM COMPASS'21 and chaired the opening paper session; helped design, develop and run an engagement programme for offshore students starting university during the pandemic; and am a Delivery Lead in student volunteer programme *Action.IT*.

Visiting Researcher & Developer International Federation of the Red Cross Red Crescent, Geneva; 2018

Spent several months at the IFRC's Geneva headquarters as part of the Innovation Team, conducting research for *Strategy 2030*: a project which aimed to understand the challenges the IFRC will face in the near future and needs to prepare for. We developed TalkFutures: a Xamarin Android and iOS app which made it easy for participants from 86 different IFRC National Societies to contribute semi-structured, qualitative audio data.

Visiting Researcher International Computer Science Institute, Berkeley; 2017

Assisted with the Mooqita project, which aimed to give users of massive online learning courses (MOOCs) opportunities to solve real-world challenges created by potential employers. Ideated, designed and developed a prototype student onboarding experience for Mooqita as part of a small team, and planned and tested a series of participant research workshops and think-aloud walkthroughs.

Research Associate Culture Lab, Newcastle University, Newcastle upon Tyne; 2014 - 2015

Working as a research associate gave me opportunities to contribute to several research projects, including: MySkinSelfie, a mobile application to support patients' self-monitoring of skin conditions, deployed within the NHS with the goal of reducing the burden of unnecessary patient referrals; Speeching, a mobile application designed to assist in speech and language therapy to people living with Parkinson's; and VoiceBoard, a Raspberry Pi-powered technology probe which acted as a peer support platform for people experiencing homelessness.

Gameplay Programmer Lemon Moose Games, Gateshead; 2014

Worked as part of a team, using Unity3D and server-side technologies to develop a variety of video games.

EDUCATION

MRes & PhD in Digital Civics Open Lab, Newcastle University; 2015 - 2021

Thesis: **Local Communities as Infrastructure for Place-Based Mobile Learning**

A joint MRes and PhD programme, which provided a foundational understanding of the field of HCI: including interaction design research and methods, and a conceptual and practical understanding of qualitative and quantitative research methods. I developed the OurPlace platform, which supports the creation, sharing and completion of highly customizable mobile learning activities by combining together bite-size modular tasks which ask the user to perform a particular action (e.g. 'Take a Photo', 'Record Audio'). OurPlace was developed using a participatory and iterative design process with multiple stakeholders, including local community experts and enthusiasts, school teachers and students, through small design workshops with park rangers and teachers, mixes of short and longitudinal studies with local schools and ethnographic studies with local heritage groups. The app has been used by dozens of community groups and hundreds of students across nine different schools in contexts ranging from local parks to lighthouses, and is continuing to be used in ongoing engagements by Newcastle City Council. PhD examined by Professor Yvonne Rogers and Dr Vasilis Vlachokyriakos in Feb 2021.

Computer Science Games Engineering MComp Newcastle University; 2010 - 2014

This four-year programme introduced me to a wide variety of programming skills and development practices. Spanning from database design to physics simulation, the course involved solo projects (e.g. website development) and working within teams (e.g. producing a cross-platform online multiplayer game in a team of 8 developers). My larger personal projects were HCI related: one project attempted to motivate stair usage over elevators through gamified data tracking and team goals (combining a website and QR/NFC scan points), and another utilised real-world NHS data to simulate aging populations, highlighting the issue through a procedural narrative.

FIRST AUTHOR PUBLICATIONS

- Dan Richardson and Ahmed Kharrufa. "We are the Greatest Showmen: Configuring a Framework for Project-Based Mobile Learning" In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI) (2020).
- Dan Richardson, Pradthana Jarusriboonchai, Kyle Montague, and Ahmed Kharrufa. "Parklearn: Creating, Sharing and Engaging with Place-Based Activities for Seamless Mobile Learning." In Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI) (2018)
- Dan Richardson, Clara Crivellaro, Ahmed Kharrufa, Kyle Montague, and Patrick Olivier. "Exploring Public Places As Infrastructures for Civic M-Learning." International Conference on Communities and Technologies (C&T) (2017).

See full, up-to-date list of publications at https://danrichardson.me