Activities Report

July 2018 – January 2019

NOT-EQUAL

REWIRING OUR DIGITAL SOCIETY FOR SOCIAL JUSTICE

EPSRC Network+ Social Justice through the Digital Economy

INTRODUCTION

This report presents the main finding from Not Equal's initial engagements with network members to find out what issues matter to them when thinking about social justice in the digital economy. We conducted engagements through surveys, workshop style events and informal discussions with academics, third sector and community groups.

BACKGROUND

Not-Equal, the EPSRC Network+ on Social Justice through the Digital Economy is a three-year project led by Newcastle University, in collaboration with Royal Holloway University of London, the University of Sussex and Swansea University. It aims to bring together and *resource* collaborations between academia, industry, government and civil society to *explore* and *respond* to issues of social justice in technology design and the potential for technologies to make the UK socio-economic life fairer.

The Network+ has identified three challenge areas in need of attention.

- **Algorithmic Social Justice** explores the challenges posed by exclusive access to data and the opacity of algorithmic classification in automated decision-making that affect us all.

- **Digital Security for All** investigates new ways to model digital security that increase people's sense of agency, while meeting their security needs in online services.

- **Fairer Futures for Businesses and Workforces** considers how new 'gig economy' platforms can be designed to realise equal opportunities for economic development.

As a Network+, the project includes calls for proposals for micro (£5K) and pilot cross-disciplinary collaborative projects (£20-40K) led by academics in collaboration with non-academic partners as well as offering support to organise and deliver a range of events and activities (symposia, workshops, hackathons, design sprints, summer schools).

ENGAGEMENT ACTIVITIES: APPROACH AND OVERVIEW

Between July 2018 and January 2019, we designed and delivered a number of engagements aimed at Network+ partners and interested parties to guide the development of the Network+ programme of activities, commissioning process, ensuring that its agenda meets their needs and interests.

We adopted a mixed-methods approach to publicise Not Equal and engage our members through online and offline activities, gathering information about issues that were important to them. Online methods included two tailored surveys, one for academics and one for non-academic partners. The Not Equal website included a sign-up page through which new members could record their interests. Twitter and Facebook accounts were also set up to advertise activities.

Offline methods included engagement workshops and drop-in sessions with academics and community groups. We also held informal meetings with Network+ existing and new potential members to gather views. Finally, we delivered two official launch event, marking the launch of our first call for proposals. The advantages of the methods we chose were:

- **Surveys:** Tailored surveys for academic and non-academic partners enabled us to target network members and academics with an interest in the Not Equal Network+. The surveys were sent out to non-academic partners and potentially interested academic communities in October 2019. We received 81 responses from academics and 21 responses from non-academic partners. The surveys' results were used to tailor both our first call for proposals and the Network+ overall programme of activities.

- **Press and general communications:** Press releases, our website (www.notequal.tech) and social media enabled us to publicise the Network+, our events and activities and the launch of Not Equal, including our first call for collaborative research proposals. A press release article was issued by Newcastle University, University of Sussex, Royal Holloway University of London and Swansea University in January 2019. An article about the project was published by the Association for Computing Machinery (ACM) Interactions Magazine, and will be featured in the March/April issue. Interaction is published bi-monthly by ACM, the largest educational and scientific computing society in the world. These enabled us to reach out to communities globally.

- **Public engagement activities:** We delivered one public engagement activity at the Victoria and Albert Museum as part of the V&A Design Weekend on the theme of Artificial Intelligence in September 2018 where we engaged with over 60 people through our activities; and two community workshops where we engage with over 20 third sector organisations' beneficiaries and front line service providers staff in Sunderland and Hull. These engagements enabled us to gather perspectives and open discussions on the Network+ topics and activities with members of the public.

- **Academic Engagements:** We engaged over 160 academics from social sciences, computing and engineering communities through lectures and workshops designed to open up discussions and unpack issues on each of our challenge areas. A public lecture was delivered by Co-I Lizzie Coles-Kemp at Royal Holloway University of London (October 2018); a keynote talk was delivered by PI Clara Crivellaro as part of a symposium at Sheffield Hallam University (November 2018); and 4 workshops took place respectively at Royal Holloway University of London (October 2018), Swansea University, Newcastle University and the ACM conference of Computer Supported Cooperative Work in New York City (November 2018) were delivered by Co-I and PI.

- **Informal meetings:** We held face-to-face meetings with the Network+ existing partners and potential new members. These provided an opportunity to understand their needs and inform the agenda of the Network+.

- **Launch Events:** Two events held in London, on the 29th of January and Newcastle on the 31st of January marked the launch of the Network+ and our first call for collaborative research project proposals. The events provided an opportunity for Network+ partners and interested parties to come together and share ideas on possible practical responses within each challenge area; as well as hear about the funding criteria, process and support available. Over 90 people and included 69 attendees from academic communities, 15 third sector organisation representatives, 4 public sector representatives and 5 representatives from industry and SMEs.

- **Steering Committee:** we held online meetings with each one of our steering committee members to discuss our plans for network+ activities and gain feedback. For logistical reasons a group meeting with all members was not possible between July and January 2019, but plans for a group meeting in 2019 are currently under way.

SURVEYS

What was the purpose of the surveys?
We used the surveys to gather information to tailor future Network+ activities such as the Open Events Programme and the first call for collaborative research project proposals, part of our Open Commissioning Programme. To this end, the survey included questions inviting respondents to tell us about their interests and latest research in social justice and digital innovation.

What questions did the survey ask?
The survey included a contact information and GDPR section, followed by a more detailed section on how the recipients research interests were related to the Network+ and what issues the Network+ should explore. The survey recipients were then asked about which types of activities they would like to take part in and sectors they would like to engage with.

Who did we send the survey to?

A survey designed for the academic communities was sent to more than 300 UK academics with an interest in aspects of social justice and fairness from social science as well as computing science disciplines affected by the developments related to Big Data, Artificial Intelligence and Algorithmic Social Design.

A survey designed for our non-academic partners was sent out to our initial 34 non-academic partners and has since been sent to new partners who have joined the Network+.

In the following section, we provide a summary of the results from survey for academic communities and network+ partners from civil society and industry.

SURVEY FOR ACADEMIC COMMUNITIES: RESULTS

Surveys gathered 81 responses from early career researchers and more experienced academics from a variety of disciplines across Humanities, Social Sciences, Law, Geography and Computing. Respondents highlighted the kind of Network+ activities they were interested in (see Figure 1).

18 responses related to Algorithmic Social Justice, 14 related to Fairer Futures for Business and Workforces and 6 to Digital Security for All. The remaining 43 responses related to social justice issues that cut across our challenges areas. Below we summarise the issues and key themes that have emerged within each challenge area from the survey results.

ALGORITHMIC SOCIAL JUSTICE

For the Algorithmic Social Justice challenge, respondents highlighted issues related to participation and inclusion in the design and application of data-driven systems, the need to further investigate data discrimination, data colonialism and ways to promote better understanding of the consequences and workings of algorithmic machine learning systems used for decision making.

On one hand, respondents highlighted a fundamental need to challenge technical binaries, narratives of efficiency, time saving and production, and on the other promote greater public understanding of the workings of these emerging technologies as a way to raise awareness and develop critical data literacy skills. Many highlighted the complexities at play in data-driven machine learning and AI systems and the

impossibility to look at their inner workings. Below we outline the 3 broad sub-themes that emerged for this challenge area.

Processes to support public discourse, understanding and awareness

Public understanding on the design, workings and application of data-driven socio-technical systems is currently significantly low.   Survey respondents suggested a number of possible explorations/responses, including:

- Supporting digital literacy and fluency: supporting people's uses of technology, but also raising awareness of hidden implications of technology use through critical interventions;
- Developing methods to foster public understanding, such as digital methods for experimenting with algorithms as socio-technical phenomenon and use of methods as sites of participation and public involvement; visualisation and mapping to "un-conceal" algorithmic bias; physical computing as a method to explore making technologies more transparent.
- Exploring the contexts of algorithmic justice when dealing with social class/mobility.

Transparency and accountability

Transparency and accountability in algorithmic profiling and particular application of data-driven systems for decision making were flagged as a significant challenge. Respondents suggested the need to explore further the following areas as a way to tackle this issue:

- Open auditing toolkits, ethical indexes and ways of quantifying and qualifying ethical Machine Learning (ML); finding new ways of monitoring or auditing the very many areas in which AI is applied; developing processes that shows how design considerations are prioritised by organisations.
- Machine Learning literacy course to certify lay-users of usable Machine Learning products/end-user Machine Learning.
- Using methods biases and data provenance methods to test these algorithms that fully characterise their behaviour; creating methods to extract explanations from Machine Learning models.

Frameworks for participation in the design and application of algorithmic systems

- Inclusivity in algorithmic design was considered crucial, particularly as a way to tackle algorithmic bias, fairness and access to services; inclusivity in such systems was also seen as a way to explore how it might be possible to build and design systems that account for those who are currently invisible (because their data is not being traced, for example).   Possible explorations within the development of a framework for participation are multi-faceted and include: Public explorations of current systems in use and public mapping of their consequences as a way to examine how personal data-related innovation can be made to be more socially-responsible.
- Explorations of algorithmic governance, social justice-informed design, the personalisation of services versus equal treatment of individuals.
- Using data in social justice groups, promoting civic access to data and data regulation – particularly in relation to digital literacy and power.

DIGITAL SECURITY FOR ALL

For the Digital Security for All challenge, responses highlight the need to explore further issues of privacy and consent in digital services, the human, societal and technological security implications of new and emerging technologies, and how these may impact differently on different communities, businesses and societies. The survey's responses are grouped under the following 4 themes:

Digital security problems for the AI era and digital services

This theme explores the human, societal and technological security implications of emerging technologies. Survey response highlighted the following themes for further exploration: the security impacts of the potential for algorithmic services to exclude and isolate; the implications for trust building and maintenance caused by increased surveillance particularly through the collection of everyday activities through "smart" devices; malicious uses of data generated by everyday activities collected through "smart" devices, exploitation of sensor data from smart devices that harm populations; issues of consent and trust in pervasive systems, and the normalisation of security and data breaches.

Potential areas for future calls and workshops:

- Technological, societal and individual security issues that arise from the changing nature of social interactions.
- Technological, societal and individual security impacts of social exclusion and isolation. Expansion of the concept of digital security to respond/repair to some of these impacts.
- Capabilities and skills necessary for an individual to control and monitor their personal data in algorithmic services.

Threat and pressure landscapes for different communities

This survey theme highlights the need at the socioeconomic effects on digital security practices and behaviours. The survey responses related to this theme included questions related to the threat landscapes for marginalised and underserved communities; how underserved and marginalised communities might conceptualise digital security problems; and the identification of threat actors and who or what needs protecting for specific communities.

Themes for future workshops and calls include:

- Conceptualisations of digital security problems within marginalised and underserved communities.
- Relationships between the risk model in a market design and everyday information sharing and protection practices.
- Capability gaps in the use of digital services.
- Exploration of fake data (jobs, product descriptions, news) issues within marginalised and underserved communities.

Transparency, accountability and responsiveness of digital security.

This theme explores ways to promote transparency and accountability in digital security. Potential themes for workshops and calls include:

- Transparency and accountability needed for the data security components of an algorithm.

- Relationships between digital security which amplify structural inequalities and the effects each have on the other.
- Examination of the implications of what seamless and resilient cyber security infrastructure means in such a way that the benefits are transparent, responsive and accountable to both individual and communities.

Security innovation and futures

Responses highlighted the need for engagement that make accessible the innovations of the digital economy so that institutions and regulations can respond. For example, exploring how Digital Health innovations (e.g. electronic health records, health tracking, and the potential influence of large health insurers) might shape our futures with adverse impact; how to make people and small businesses resilient to cyber-incidents and how to support IT specialists to be aware of and responsive to such issues.

Themes for workshops and calls include:

- Examining, designing and evaluating the security innovations that accompany innovations in the digital economy.
- How to make cybersecurity seamless for people and businesses, especially small businesses.

Capacity building

Responses highlighted the need to develop programmes to increase digital security literacy and to exchange security knowledge between communities, including data ownership, privacy, access to an individual's aggregated data, access to insights gained from such aggregated data and protection of intellectual property. Survey participants proposed to explore this via:

- Developing tools and processes for critical data literacy to respond to the challenge of alerting data users to data quality issues and enabling people who often haven't been trained to look for data problems to identify such problems.
- Developing campaigns to raise awareness of how digital technology uses people-generated information.
- Creating tools for empowerment, data security and privacy protection for digital health.

FAIRER FUTURES FOR BUSINESSES AND WORKFORCE

Responses for this challenge area highlighted the necessity to (i) explore issues within the platform economy at its regulatory level; (ii) address issues with workers' conditions through greater visibility and the development of campaigns to raise awareness; (iii) examine the (incipient) changes in digital labour through AI developments and (iv) find ways in which we may be able to support businesses moving into more ethical practices. The 3 themes and related proposed explorations are summarised below.

Visibility of workers' conditions and workers' protection

Respondents highlight the need to support institutions and regulations catching up with activities in the digital economy and the range of innovative practices. Workers often have little training or knowledge

themselves about their rights. Additionally, there is a need for digital methods to study professional communities online: how workers discuss challenges, find peer support and opportunities, Q&A and continuity in methods (labour survey indicators versus new forms of evidence). Particular themes were:

- New methods and procedures for ensuring protections from harm (e.g. overwork or underpay) as a response to precarious digital labour, working conditions, the quantified worker—where increasing numbers of people who do not benefit from organisational or collective support and are being targeted as individuals; loss in entitlements; vulnerability and bad working conditions. Responses might include working with platform developers for more progressive support arrangements for gig workers.
- The need to develop awareness of issues of ethics and social justice when it comes to platform economies among businesses and the public. This might include challenging celebratory policy discourses and accounts of the online gig economy; making visible the everyday lives of marginalised workers in accounts of the platform economy; expose and tackle the re-inscription of long standing gendered labour market inequalities through new online platforms and algorithms.

Digital Labour and AI

This theme sets out to explore how new digital tools and tech are reconfiguring workplaces and workforces, in particular the future of 'digital labour' in increasingly AI driven systems. Respondents called for a fundamental questioning of the overarching societal goals for the role of technology in the future of work: juxtaposing the use of technology to more efficiently create profit at the expense of people, with making things better for an imagined societal goal – such as working fewer hours, or running companies for ethics rather than profit. Responded recommended the pursuit of explorations of surveillance, data ownership, circulation and distribution in the workplace and the role of AI and digital technologies in producing/reproducing forms of inequality.

Supporting businesses and industry moving into more ethical practices

- Responses under this theme proposed to address the disconnect between academia and industry, by looking at ways in which academics can help industry recognise and assess their design practice and ways in which unethical design practices can be prevented via policy/legislation. Responses highlighted the need to explore discriminations against SMEs (Small and Medium-Sized Enterprises) and family-run businesses in their attempts to enter digital manufacturing value chains. Developing accountability tools and practices to change work practices in the gig economy (fair work)
- Finding new synergies with environmental and economic sustainability/justice issues, including developing sensibilities towards sustainable and manageable digital innovation.
- Exploring fair taxation of digital services and redressing the power of big business and their overwhelming access to data generated by people without fair compensation.
- Responding to the gendered nature of the gig economy.

CROSS CUTTING THEMES

The following broad themes emerged from the surveys responses cutting across all the challenge areas.

Re-thinking ethics, social justice and digital rights

Respondents called for a re-thinking of ethics in the current landscape of new and emerging technologies. They asked to address the disconnection in values between communities of practice and scholars committed to social justice work and those working in technology design and implementation. Developing a shared vocabulary and understanding for what may constitute ethics and values becomes paramount given the critical differences between communities (including use of language, different values, ethical practices, etc.), which affect problems and solutions definitions. Respondents also highlighted the need to address the disconnect between Social Justice and the Digital Rights by exploring what social justice might actually mean when thinking about Digital Rights and how we might be able to operationalise it. They also highlighted the need to clarify and explore what legal protection of human rights exists within our current digital society and what might need to be developed.

Critical data and digital literacy

New tools and processes to support digital literacy, particularly around understanding how algorithms work, was a recurrent theme across all challenge areas. This ranged from a call to democratise access and people's ability to use technology (with upskilling in both civic and civil society organisations) to developing better ways in which we can ensure communities have the resources, legal and technical assistance, and capacity to shape the technology that affects them. Suggested explorations included:

- More appropriate frameworks and processes for anticipating the unintended consequences of scaling technologies applications,
- Exploration of the challenges of representing the complexity of the world with data;
- The development of more critical approaches to the implementation of new and emerging technologies (e.g. blockchain technology, etc.) in a variety of societal contexts.

### *Enabling Universities to support social justice*

Surveys responses highlighted the necessity to critically explore the current limitations of academic practice and work in supporting social justice. For example, respondents highlighted the difficulties associated with long-term engagement embedding researchers in contexts given the rigid structures (funding, institutional momentum) and called for a better look at the role/responsibilities of academia around social justice, and how this impacts communities. Relatedly, respondents suggested the following issues:

- Equal representation and engagement with technology across diverse stakeholder communities with differential access to and interests in technology;
- Support of sustained engagement with services designed as 'digital innovations' - moving beyond short-term trials where researchers artificially promote engagement, collaboration and partnerships across CoPs, organisations, domains and borders;
- Exploring in more depth current partnerships between academia and resource-constrained organisations in the UK, and examining the geographical focus of research projects

- eg poorer areas such as rural West Wales (Ceredigion) are often ignored and there is a focus on larger more-wealthy urban centres.

Are there any particular Network activities you would like to take part in?
Please select any activities you are interested in.

Answered: 84   Skipped: 4
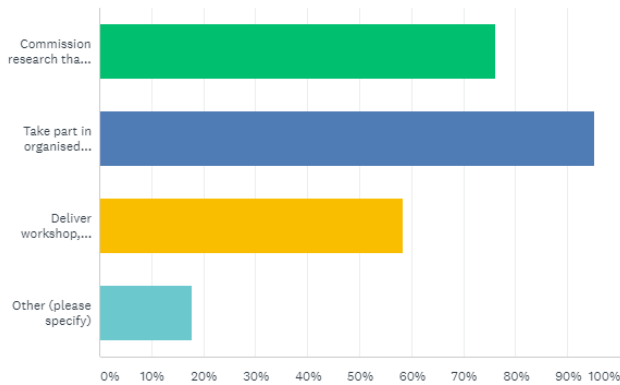
ANSWER CHOICES		RESPONSES	
Commission research that tackles a particular issue		76.19%	64
Take part in organised events from the Network (e.g symposia)		95.24%	80
Deliver workshop, design sprint, hackathons or similar on a topic (please tell us more in the box below)		58.33%	49
Other (please specify)	Responses	17.86%	15
Total Respondents: 84			

Figure 1: Responses detailing the type of network activities respondents would like to take part in

SURVEY FOR NON-ACADEMIC PARTNERS: RESULTS

The survey for our Network+ partners from the public sector, third sector, industry and SMEs asked them to select which activities they would be interested in taking part in (Figure 2) and which challenge areas they were most interested in. 12 partners were interested in all challenge areas, 4 in Algorithmic Social Justice and Fairer Futures for Business and Workforce, 3 in Algorithmic Social Justice, 1 in Fairer Futures for Business and Workforce and 1 in digital security for all and fairer futures for business and workforce. The non-academic partners were also asked to outline a topic they would like the Network to explore within each challenge area. These topics (listed below) were incorporated in workshop activities and into the call for collaborative project proposals.

ALGORITHMIC SOCIAL JUSTICE

Two main topics emerged for this challenge area: (i) develop understanding and public awareness on current systems and (ii) support the development of socially *just* digital services.

Develop understanding and public awareness on current systems:

- Explore whether algorithmic systems such as NHS 111 support or reduce patient satisfaction and can demonstrate accuracy in diagnoses and advice.
- Research how to assist in providing advice to people who suffer the consequences of failures of automated decision making processes.
- Increase understanding among the general public of the needs of people with multiple complex needs and build social connectivity.

Socially just digital services:

- Gather information from local people about what social injustices they experience and consider how we might use technology to respond to these.
- Acknowledge transport poverty and equality of access, the role of walking and cycling in future mobility, and how digital approaches can support equitable access.
- Consider knife crime/youth violence/gangs. How can we invest in local innovation and co-create smart city products/services that tackle the root causes of knife crime/youth violence and/or improve youth opportunities?
- Support voluntary and community organisations to embrace digital innovations to provide enhanced services to some of the most vulnerable members of society.

DIGITAL SECURITY FOR ALL

- Understand the digital journey from a user perspective for victims of sexual violence and the barriers and challenges they may face.

FAIRER FUTURES FOR BUSINESSES AND WORKFORCES

- Re-balance power between employers (platform owners) and workers to address the injustices of the gig economy.
- Research alternative system models for computing that allow true multi-user engagement not just atomised and connected individuals (i.e. beyond existing client/server model).
- Find an effective model of regulation for the use of algorithms in the workplace.
- Promote understanding of how the development of algorithms can be regulated to protect workers.

Are there any other particular activities that you would like to take part in?
Please tick the box below of any of the activities you are interested in and feel free to expand wherever you wish.

Answered: 21   Skipped: 0
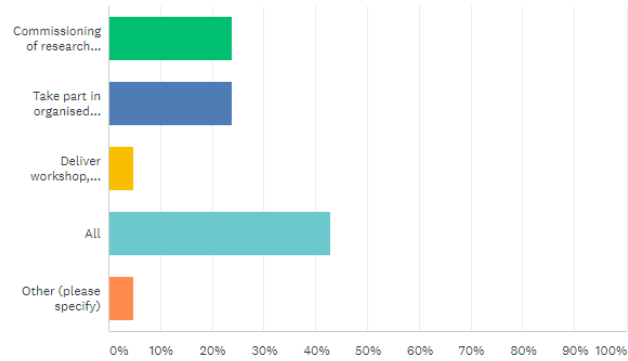
ANSWER CHOICES		RESPONSES	
▾ Commissioning of research that tackles a particular issue		23.81%	5
▾ Take part in organised events from the network (e.g symposia)		23.81%	5
▾ Deliver workshop, design sprint, hackathons, or similar on a topic (please tell us more in the box below)		4.76%	1
▾ All		42.86%	9
▾ Other (please specify)	Responses	4.76%	1
TOTAL			21

Figure 2: Responses detailing the type of network activities partners would like to take part in

PARTNERS ENGAGEMENTS

Between October 2018 and January 2019, Not Equal delivered six engagements events with academic communities and other stakeholders from partner organisations. These included: 4 workshops with academic communities, informal meetings and two launch events. The two launch events held in January 2019 in Newcastle and London, marked the official launch of the Network+ and the first call for collaborative research proposals as part of the Open Commissioning Programme.

WORKSHOPS WITH ACADEMIC COMMUNITIES

The workshop event at Royal Holloway in October 2018 was designed to invite participants to explore critical social justice issues in technology design and application across challenge areas, and the kind of collaborative responses that would be necessary to respond to these issues. The workshops events in Swansea and Newcastle during November took on a similar shape starting with provocative talks from invited speakers leading to small group activities where participants were invited to explore critical issues within a specific context and scenarios and formulating possible responses (see Figure 3). A workshop delivered at the ACM conference on Computer Supported Cooperative Work (CSCW 2018) held in New York with attendees from North America and Europe, focused specifically on tensions and themes within the Fairer Future of Businesses and Workforces challenge.

Below we report on the key themes, issues and ideas from the four workshops arranged into emergent themes across the Network's challenge areas.

Figure 3: Not Equal workshop event held in Swansea on 15th November 2018

ALGORITHMIC SOCIAL JUSTICE

Within the challenge area of Algorithmic Social Justice, participants across the engagement activities highlighted issues around data provenance and procedures to assess its quality. This was discussed in the context of legislation and corporate responsibilities, with emphasis on regulation at different levels, rather than simply educating citizens or raising awareness of risks and issues. There was also a focus on the relationship between human and algorithmic factors for decision-making.

Legislation and standards
Participants highlighted the need to consider regulations and laws as a significant way forward. Many participants highlighted the need to regulate institutions rather than simply educating the citizenry or building capacity within communities. This involved thinking about who has responsibility at different levels and points in the life of a data-driven algorithmic decision-making system. The following explorations and questions emerged:
- How the legal system can 'catch up' to govern and legislate for the ever-changing role of technologies and algorithmic decision-making systems in public life and services;
- What kind of cultural changes and working ethics are necessary for designers to ensure these digital innovation are just;
- Who participates in enlisting risks associated with any algorithmic decision-making system and in deciding ethical standards and who should be in charge of enforcing them and how;
- Algorithmic decision-making system as advisory rather than not decisive—assisting rather than replacing human-decision making.

Provenance and ground truth
There is a need to better understand the roots of algorithms and assess the quality and provenance of data sets. These includes the need to get better 'ground truth' datasets; assess what sample data based on homogenous groups should be considered unfair and procedures to fully understand where data comes from.

Infrastructure and technology solutions
Participants discussed several technological solutions to issues related to data sharing between organisations, consent issues, use of IoT to solve algorithmic injustices, as ways ot respond to issues of 'quality control' of data in institutions. They also highlighted the need to develop cases for successful systems and ways in which these might be transferred across contexts.

We don't know enough
The need to map out and learn more about what the risks and vulnerabilities in societies are was highlighted.
- Communicating risk of data sharing practices and consent as a collaborative practice
- Understanding consequences of technology (e.g facebook)
- Research needed around risk of data driven algorithmic decision making systems.
- Problems need to be reframed as social science questions for qualitative method

Algorithmic decision making systems as a reflection of society

Across engagements participants highlighted the need to acknowledge digital innovation an din particular algorithmic decision making systems as a reflection of societal bias and called for a critical analysis of the cultures in which these are designed and implemented.

DIGITAL SECURITY FOR ALL

Participants across this challenge area were concerned with citizens' individual rights, and in particular with what it means to give informed consent to your data when those who collect it may not know exactly what it is used for in the future or who else may be able to access it.

Individual rights and consent
Participants called for a critical look at what consent means, the changing contours of 'consent' at different point of data life course (collection, sharing, etc.), the way perceptions of value and risk are fluid, making consent problematic, the instance in which data is no longer a by-product; it becomes the output of the system.

Corporate responsibilities

Workshop attendees called for more transparency in institutional data-practices and explorations on boundaries and limits to how much data should any institution collect and be shared at any one time and the aims of their data usage.

FAIRER FUTURES FOR BUSINESS AND WORKFORCE

Within the Fairer Futures for Business and Workforce thematic area participants focused on workers' rights, the new protections needed as AI and automation changes ideas and practice in the workplace and the complexity of regulating industry.

Individual issues and rights
Platform and gig economy systems are profoundly affecting the individual rights of workers and there needs to be a push to better understand this better and raise awareness.
- How do the ways that institutions are part of a global competitive system promote exploitation of workers' rights?
- What happens when technology becomes surveillance? Data can be collected and aggregated, recording and monitoring workers' every action.
- Platforms are tuned so that consumers, not suppliers, are satisfied and adjust supply according to demand.
- In the gig economy do workers know their rights/what they are getting into?

Widening divides
The reliance on technologies and the working practices they enable and promote seem to serve to widen socio-economic gaps in society. Those whom the platforms serve are the creators, or those with enough financial capacity to 'gig' jobs. For others, there is no discretion and they are at the mercy of bad working conditions.

- There are people who suit this way of working, but it has a detrimental effect on those it does not.
- Work is not always flexible: it may mean working in the middle of the night (global south) to align with when requesters (west/north) are setting tasks
- Where there were no jobs or only very poorly paid day/piecework labour, flexible working across platforms enables new pockets of viability.
- Might we see all sector ownership of drones/robots/human replacements centralized into monopoly companies?

New workplaces

People thought about changes in the function and meaning of workplaces.
- How does people's value become more visible in the process and how might this result in better remuneration? (meaningful transparency).
- The boss as algorithm – working for a system in which no person has the final say.
- How do we ensure that it isn't a centralized future where power in the form of the future workforce exists in one place and with one person/company?

New work practices

One challenge might be to explore what new jobs will exist in the future and think about how education and training needs to change accordingly as well as look into what it means to work remotely.
- What new job roles in business could there be around data? Perhaps different roles to understand and mediate the role of algorithms, such as data practitioners, data interpreters, mediators of people's data as well as visualisations to demonstrate how data was used.
- Working with multiple phones/apps to keep track of different perspectives, gaming the system, yet hooking themselves in at the same time.
- Can employees track their own data rather than be tracked? What would the socio-technical infrastructures look like? What additional resource would be needed? Who would bear the cost of those additional resources?

Automation and Decision-making

Participants highlighted current issues with automation in the workplace as well as imagine future uses of automation.
- Shortlisting algorithms for (Amazon) recruitment were found to be biased against women as sample data was based on an all-male group.
- Vulnerability of workers in platform economy – workers are incentivised through apps.
- Data becomes 'locked in' platforms meaning that any benefits from re-use or sharing are lost
- Data collection might be used to train AI to perform the work of people; equally workers could be collecting data to train algorithms that will eventually replace themselves and their work.

Legal and Regulatory

There were concerns that the regulation required is difficult to achieve as digital innovation is moving at too fast pace for Governments; at the same time, Governments are siloed compared to global industry/ platforms. Still participants highlighted the need to tax platforms in the country of use, not the country of registration, to compensate for loss of tax revenue, as well as the need to regulate Universal Basic Income.

INFORMAL DISCUSSIONS WITH NON-ACADEMIC PARTNERS

A number of informal discussions with non-academic Network+ partners and new members took place over skype and in-person. These included VONNE, VODA, Citizens UK, Northumbria Police, Parker Trust, Meadow Well Connected, WEvolution, Open Rights Group, the Alan Turing Institute, Changing Lives. These provided opportunities to develop understanding on their interests and help tailoring the agenda of the network. Some of the key discussion points included: digital technology and changing social dynamics, financial credit and exclusion, risks associated with new technology such as facial recognition and how this type of innovation can be regulated, civic participation in digital innovation—including questions of legitimacy of public consultations around digital technology applications in public services; the development of a better framework to support people gaining the digital skills necessary to access and use digital services.

LAUNCH EVENTS

The two launch events held in Newcastle and in London in January 2019 were an opportunity for Network+ partners to come together and share ideas on possible practical responses to issues flagged up by partners within each challenge area; as well as hear about the first call for collaborative research proposals, funding criteria, process and support available.

The events featured provocative talks from invited speakers and experts from academia, civic and civil society, who shared their views on the social justice dimensions of emerging technology design and application and the challenges facing us today.

The events followed the same agenda but featured different speakers and panel members. Both events kicked off with a short presentation delivered by the Network+ Principal Investigator, Dr Clara Crivellaro.

Not Equal's London launch featured a keynote talk on the issues of social justice in the digital economy delivered by Chi Onwurah, Labour MP for Newcastle Central and Shadow Minister for Industrial Strategy, Science and Innovation. This was followed by a panel discussion with Kutoma Wakunuma (Senior Lecturer and Researcher at De Montford University), Rachel Franklin (Professor of Geographical Analysis at Newcastle University), Jamie Woodcock (Researcher at the Oxford Internet Institute) and Froi Legaspi (Community Organiser for Citizens UK).

Not Equal's Newcastle launch event featured a keynote talk on 'Advancing social justice in an age of datafication' by Lina Dencik, Founder of the Data Justice Lab at Cardiff University. The Newcastle panel discussion included Bettina Nissen (Interaction Design Lecturer at the Edinburgh University), Matt Stokes (Senior Researcher at Nesta) and Karen Wood (Parker Trust).

The afternoon agenda for both events included lightening talks on the Network+ three challenge areas from the Co-Investigators of Not Equal Professor Alan Dix, (Director of the Computational Foundry at Swansea University), Lizzie Coles-Kemp (Professor in Information Security at Royal Holloway University), Ann Light (Professor of Design and Creative Technology at the University of Sussex). Each talk introduce key issues within each challenge areas. and how key topics from the challenge areas had been incorporated into the call for proposals. This was followed by a briefing on the call for proposal and commissioning process delivered by the Principal Investigator, Dr Clara Crivellaro.

Both events included workshop activities in which attendees were invited to set a challenge for the Network+ and work in small groups to unpack issues related to their challenges and generate ideas for possible responses and expressions of interest.

Not Equal's London launch event was attended by 31 people. Many of the attendees were from academia but there were also 7 representatives from third sector and industry. Some of the organisations that were represented included National Ugly Mugs, New Economic Foundation, Proboscis and the Digital Catapult.

Not Equal's Newcastle launch event was on the 31st January and was attended by 60 people. There was a mix of sectors represented with 43 attendees from academia, 11 from the third sector, 4 from the public sector and 2 representatives from industry. Some of the organisations in attendance included VODA, Changing Lives, Sunderland City Council and Northumbria Police. Non-Academic Organisations in Attendance: Changing Lives, Parker Trust/Pallion Action Trust, The Forge, NESTA, Jumping Rivers, Northumbria Police, Sunderland City Council, Vonne, Consult and Design, West End Trust, Traidcraft, VODA, Meadow Well Connected, Fulfilling Lives, Open Rights Group, Proboscis, New Economic Foundation, National Ugly Mugs, Citizens UK, Digital Catapult, Geekyoto.

PUBLIC ENGAGEMENTS

OVERVIEW

Between September and November 2018, the Network+ organised and hosted three public engagement events. A workshop with beneficiaries and front line staff was delivered at Parker Trust in Sunderland around the theme of Algorithmic Social Justice; at the Victoria & Albert museum in London on the 22 & 23 September members of the public were engaged in two activities that invited views and reflections on the boundaries between what may be considered just and unjust in digital innovation (see Figure 4); on the 15th of November 2018, in Hull we engaged with members of the Giroscope community where they were asked to talk about their everyday computer use and think of how Giroscope might support its community's computer use.

Issues that emerged across these engagements are organised into sub-themes within the three challenge areas. Some issues and concerns, such as the ideas of individual rights and exposure to misinformation on social media are included in both Algorithmic Social Justice and Digital Security challenge areas, which is indicative of the overlapping nature of these two challenge areas.

Figure 4: Attendee of V&A event on the 22nd and 23rd September completing just/unjust response cards

ALGORITHMIC SOCIAL JUSTICE

Social media privacy, individual rights and building capacity

Privacy and rights on social media was a big concern for participants. Facebook in particular was discussed as something that was problematic in many ways, but also as something people could not live without or relied on for support in other ways from people remotely, and even for job searching.

For example, people were concerned that social media would be used by corporations, and even public bodies to keep tabs on what people are doing in a way that could be used against them, or that their data

could be sold to benefit corporations without their consent or knowledge. Else, social media was considered an 'unsafe' place where malevolent but anonymous "keyboard warriors" exist and we can be exposed to unpleasantness and where people are argumentative. Finally, there was a concern that the polarization and echo chambers of the internet, and situations where curated lifestyles are presented as 'normal', are particularly unjust for young people, by limiting and narrowing their worldview in ways that are 'unhealthy'. Participants felt that more education and training would help on using social media safely, becoming less prone to manipulation or victims of different kinds of fraud.

Getting left behind

The group members talked about several types of resource constraints stemming from a lack of money: obsolete technology, access to reliable internet and no access to anti-virus software. These have implications for the maintenance of digital technology: in particular the inability to download software patches. For example, people were concerned that digital transactions are a way of collecting data on people, when everywhere is "paid by card".

When simple transactions like paying for something rely on the use of software and hardware, people feel they are left behind because they don't have the means to take part. This also means keeping up to date with the latest hardware, and having 'mobile data' as well as home internet. As such, computers and digital technology in general become unreliable and a space for inequalities because they become obsolete and then there is no tech support for them. And, when digital resources aren't equal, such as high speed broadband, the reliance on technology to simply take part becomes more profoundly unfair, from completing simple transactions like booking a cinema ticket to something like online government services (such as Universal Credit [UC]). There were concerns in particular in Sunderland about UC making people feel a loss of control and security.

Automation

There was discussion around the idea that automating transactions and communication would mean less physical communication and that something important would be lost. There was a sense of lack of trust in automated processes, too. For example the automated member reading was used as an example of something that could cause worse problems for those who are less economically privileged. In this idea is the assumption that computer errors are more likely than human error, or that the computer error is more difficult to diagnose early or reverse. In general terms there was a lack of trust in automated processes and decision-making but whether this mistrust was in the technology or the organisations that deploy it was less clear.

DIGITAL SECURITY FOR ALL

Transparency and Identity

Issues of security were bound up in ideas about 'safe places' online. People were concerned that in particular, anonymity enables people to be, for example, abusive online, hiding behind "fake profiles". As such there are calls for procedures and policies to prevent such behavior.

Individual rights, consent and misinformation

There was another sense in this thematic area of people wanting to stay away from certain social media platforms (due to issues highlighted in ASJ theme) but feeling pressure or a need to use it. For example invitations to events. However, using social media is seen to come with a cost in terms of privacy, and ownership of data which included the use of images that could be used "out of context", and data about personal activities that may be used by corporations to at best target advertisements, and at worst violate human rights. This make people feel exploited. The groups we encountered were particularly vulnerable to fake goods and fake job adverts, this came up strongly in Hull and Sunderland, in particular.

FAIRER FUTURES FOR BUSINESS AND WORKFORCE

Job Searching and manipulation of workers' rights

Participant-respondents were concerned that moving much job search activity and unemployment procedures online would lead to unfairness. For example, through errors and missing data in online-only adverts, and making it more difficult to 'provide evidence' or whether that evidence is actually required at all. Participants had direct experience of each of these things. There was also a concern that changing traditional procedures online (e.g. digital signature) delays payments further. Participants also discussed issues related to the consequences of tracking workers in the 'gig economy'.

YOUTH ENGAGEMENT

Not-Equal Youth Engagement Programme aims to include youth voices in the development of the call for proposals and Open Commissioning Programme thourgh the delivery of activities that generate insights within each network+ challenge area. As part of the Youth Engagement programme, we conducted a short pilot study to test a model for engaging Network+ partners, Computer Science undergraduates and school pupils. The pilot project enabled us to test the effectiveness of a model and process that could be replicated in 2019. The pilot engagement included a 5 steps process.

(i)   A Network+ partner is invited to commission a research question to undergraduates on a topic that is relevant to their current work within one of the Network+ challenge areas.
(ii)   Undergraduate students develop engagement material that is presented back to the Network+ partners for feedback;
(iii)   Undergraduate students deliver engagements with school pupils to gain insights;
(iv)   Data and insights are analysed and compiled into a short report;
(v)   The report is shared with Network+ partners and used to generate ideas for further research as part of the Network+ Open Commissioning Programme.

PILOT SUMMARY

For the pilot delivered in December 2018, we invited Open Rights Group to commission a research question they were keen to explore with young people in order to gain their perspectives, perception and practices. A discussion with Open Rights Group, led to the formulation of the following questions: What are young people's thoughts on and practices relating to safety and privacy online? How young people experiences and understanding of online safety and privacy changes the way they control and share their data?

In December 2018, computing undergraduates helped facilitate a workshop with Year 10 GCSE computing students at Churchill Community College, North Tyneside. The aim of the workshop was to understand young people's thoughts and practices around data, safety and privacy online and to help them to frame their concerns as potential research commissions for the Not-Equal partners.

The workshop included a playful activity, which invited young people to create their own card game around safety and privacy online, that could be played by other pupils in other classrooms around the UK. Pupils were split into smaller groups and each group was provided with blank playing cards to fill in with challenges, questions and scenarios where points could be awarded for their decisions and discussions. Once the cards had been created, the young people tested the game and discussed their own thoughts and practices about safety and privacy online. When the game had finished, we asked the young people to summarise how companies, charities and academic organisations could respond to their concerns. Below we report on the issues and themes that emerged through this pilot engagement.

"We should be aware, because it's our data"

The young people raised the issue of the lack of control over their own data and how little control they had over it once it was in the public sphere. A particular concern was how companies could purchase and control what happened with their data for their own commercial benefit, and that users were not involved in decisions that were made about their data. During the game, the young people questioned which organisations they felt more comfortable sharing their data with and how they felt about social media sites buying data about them from external sources.

When they were asked what was the most important thing they had learned from this experience, the young people mentioned that developing awareness about the amount of data being shared around companies had been an important experience.

"We aren't sure what we're agreeing to"

The young people understood the importance of reading terms and conditions when signing up to services online and through mobile apps, but admitted that they often skipped reading their terms and conditions as they felt they were too long. The main suggestion from the young people was to create shorter, simpler T&Cs that were explicit about the data they are gathering from users and how it will be used. This would help people be more in control of how their data is being used.

"Company responsibility"

Young people also expressed concerns that when they did trust technology companies with their data, a data breach could cause their private data to be revealed or their passwords to be compromised. Some of the young people created cards that involved entrusting their details with one platform, rather than multiple platforms and services to reduce the risk of losing their details in breaches. We discussed how these issues could be addressed by public and private bodies like companies, charities and universities. The young people wanted companies to be more obvious about what they do to protect the privacy of their users.

"How do you tell someone's true identity?"

When considering safety online, the young people picked up on the problems of determining someone's true identity online. Catfishing came up as a particular topic - the practice of someone stealing a user's name, photos and other identifying data to masquerade themselves as you online. In this way, young people explored the notion of truthfulness and reliability of the things they observe online and how to they could protect themselves from this problem.

"Putting data to use"

Throughout the session, young people also began to realise that data could also be empowering and used for personal and social good. During the card game creation, they created cards such as "Through the data collected on you, you can learn and expand your knowledge" and "Through sharing your data in a research study you could help others". At the end of the workshop, we informally ran through the different types of data and observations that we had collected throughout the session with the young people, and asked if they felt comfortable for us to share this data with the Not-Equal partners or if there were things they wanted us to remove from the report.

WHAT NEXT?

OPEN COMMISSIONING PROGRAMME

Not Equal first Call for collaborative research proposals opened on the 29th of January and will close on the 30th of April 2019. The call included application for Micro (up to £5k and 3 months duration) and Pilot projects (between £20k to £40k and between 6-8 months duration).

Funding for Micro project are intended to support short-term research by doctoral students and ECRs, and to allow researchers to work with an industry, government and/or civil society organisation. This can also be used to support secondments, short qualitative work and knowledge exchange. Funding for pilot project aim to support longer collaborations and can entail the rapid prototyping and proof of concept of a new technology, or reconfiguration of existing technologies for testing and evaluation; or might support the development of toolkits to better understand social justice implications of existing technology or guide their application within a social justice framework.

Interested applicants will be invited to submit an Expression of Interest (EOI) that will help the Network+ core team gain an idea of the volume of applications that are to be expected as well as offer help and support finding collaborators and project partners if needed. Applicants will be offered financial support in the form of travel costs to meet collaborators and support the development of their EOI into full proposals. In early May proposals will be reviewed by a panel of experts, comprising of members of Not Equal Steering Committee and a panel of citizens, who will be tasked with scoring proposals according to the criteria described in the call for proposals. The Network+ investigators team will then convene in mid-May 2019 to decide on application to be awarded.

Successful applicants will be notified in late May 2019 and an award event bringing together successful applicant is planned for mid-June 2019. Successful projects will start in September 2019.
A second call for project proposals is planned for November 2019.

OPEN EVENT PROGRAMME

Issues emerged from Not Equal engagement activities will also inform a range of events, and activities (symposia, workshops, hackathons, design sprints) that will run from February 2019. These activities will include a theory-hack, a design sprint on ethics of blockchain technology and workshop on the theme of the future of work.

YOUTH ENGAGEMENT PROGRAMME

The Youth Engagement process tested in December 2019 will be replicated with engagements activities taking place between February 2019 and June 2019. These engagements will center around research questions and topics commissioned by interested Network+ partners across our three challenge areas.

COMMUNITY AND PARTNERS' ENGAGEMENTS

A community champion joined the Network+ team in January 2019. The community champion, Jennifer Lees will focus on engaging and facilitating dialogues between Network+ partners and communities of interests around the challenge areas, gaining insights that will help guide the second call for proposal.

SUMMER SCHOOL

The first Not Equal Network+ Summer School is planned for the 27th -30th August 2019. This will take place at the Computational Foundry in Swansea. The Second Not Equal Network+ Summer School will take place in June 2020 at the School of Computing, Urban Sciences Building, Newcastle University.

EVALUATION

A meeting to evaluate the Network+ programme of activities with Steering Committee members and investigators' team is planned for mid-May 2019—following the reviewing process of the first call for collaborative project proposals.