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# Introduction

The first Digital Personhood Network Meeting took place on the 6th & 7th of March 2014 with keynote presentations from Research Council staff, Professor Chris Hankin and Laura Hood from The Conversation, as well as updates on the five Digital Personhood sandpit projects.

The sandpit projects cover a diverse range of Digital Personhood aspects, from the business of generating new socio-economic models, to dealing with multiple digital personas and significant life transitions. They involve academics and collaborators from a wide range of backgrounds, from microeconomics and anthropology, through to web science and law.

The meeting was attended by a wide range of both project members and other stakeholders. Its purpose was to collectively generate a '**research landscape**' for this area, and in addition identify potential joint impact activities.

In preparation for the Network Meeting, delegates were asked to answer two questions:

1. "What do you personally see as the three major challenges in Digital Personhood over the next 3 - 5 years?" and
2. "What are the three most important impact activities that you personally foresee for your project?"

After providing their answers delegates were invited to take part in a remote, online study in which they each sorted all of the submitted responses into groups of similar answers. This information was used with the 'Well Sorted' tool to produce the 'average' sorting. The resulting groups of challenges and impact activities were used to drive breakout sessions which generated the different sections of the Digital Personhood research landscape. **Please note: this document contains the output of the challenge breakout groups, with a second document detailing the impact activity output.** The process was designed to be transparent, open, and democratic, and to maximise use of delegates' time at the meeting. The following pages describe the Digital Personhood research landscape and potential impact activities generated by the community.

The projects and the Network are funded under the Research Councils UK (RCUK) Digital Economy (DE) Theme. The total funding committed over 3.5 years is £5.5M.

The five funded projects are:

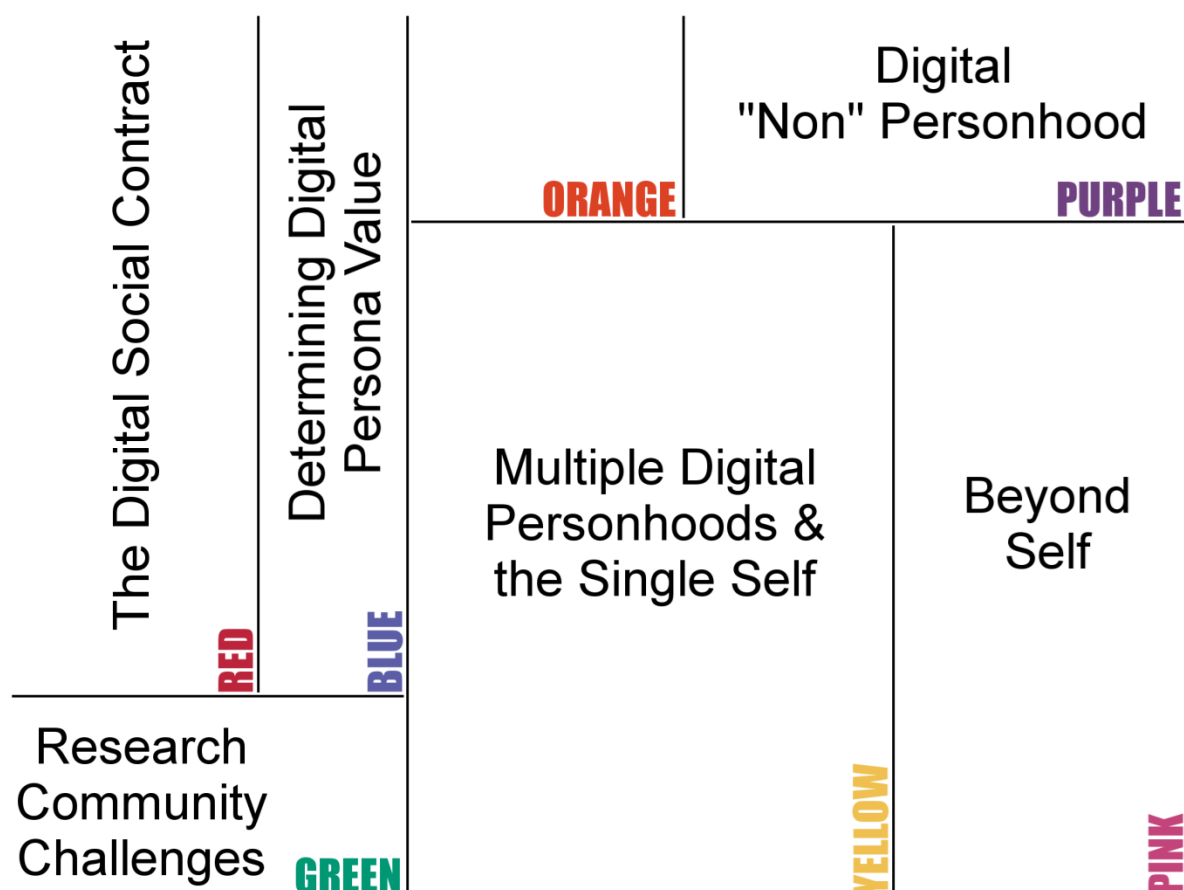
- Creating and Exploring Digital Empathy
- Charting the Digital Lifespan
- Being There: Humans and Robots in Public Spaces (HARPS)...
- Digital Prosumer -- Establishing a 'Futures Market' for Digital Personhood Data
- Reel Lives: personal documentaries constructed from digital data.

The ICT methods, clustering algorithms and associated support were provided by the EPSRC funded 'ICT Perspectives' project. We would like to very gratefully acknowledge support from both the RCUK Digital Economy and EPSRC through grants EP/K003542/1 and EP/I038845/1.

For further information contact Prof Mike Chantler (m.j.chantler 'at' hw.ac.uk) or see reference [1].

# Digital Personhood Research Landscape

## Top-level

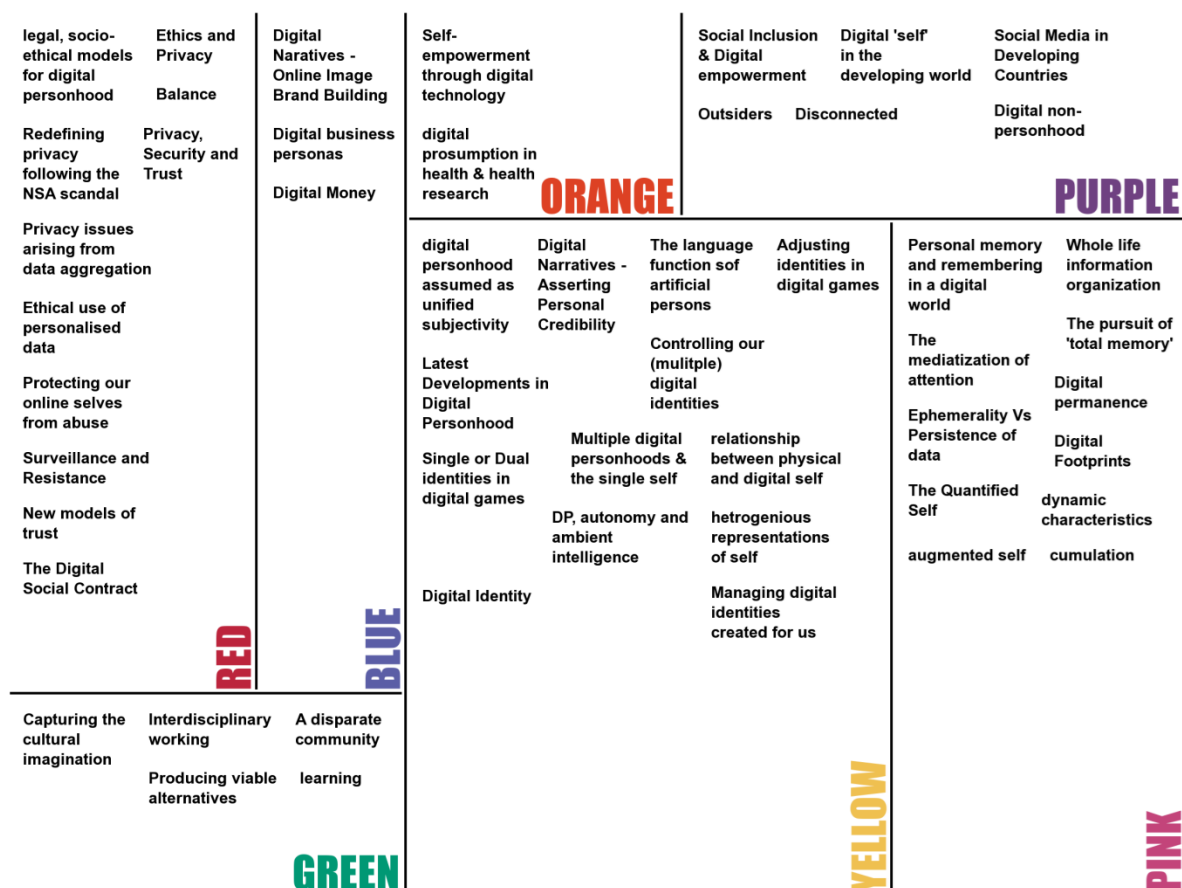


This top level diagram gives an overview of Digital Personhood research areas, but it was in fact developed from the detailed landscape (shown overleaf) generated entirely by crowdsourcing the community.

# Digital Personhood Research Landscape

## Detailed

This level was created by the community before the meeting using simple crowdsourcing techniques.



On the second day delegates chose one of the above groups to join and develop research questions. The output from the groups is shown on the following pages.

## The Digital Social Contract

legal, socio-  
ethical models  
for digital  
personhood

Redefining  
privacy  
following the  
NSA scandal

Privacy issues  
arising from  
data aggregation

Ethics and  
Privacy

Balance

Privacy,  
Security and  
Trust

The Digital  
Social Contract

Protecting our  
online selves  
from abuse

Surveillance and  
Resistance

New models of  
trust

Ethical use of  
personalised  
data

**RED**

### Group Members:

[Calvin Taylor](#), [Mark Levine](#), [Pam Briggs](#), [Audrey Guinchard](#), [Nadja Kanellopoulou](#), [Chris Bevan](#)

### Research Question #1: What are the unintended consequences (costs) of massive data sharing?

- Data management + legacy
- Privacy violations & big data snooping
- Use of data out of context (need to respect contextual integrity)
- Who controls the use of our data?
- How can we show people how their data is used?
- Where are the power differentials & how to rebalances?
- Do we own our own data? (The Klondike rush for gold)
- No 'rule of law'. Do we need a social contract?

### Research Question #2: What are the benefits of massive disclosure?

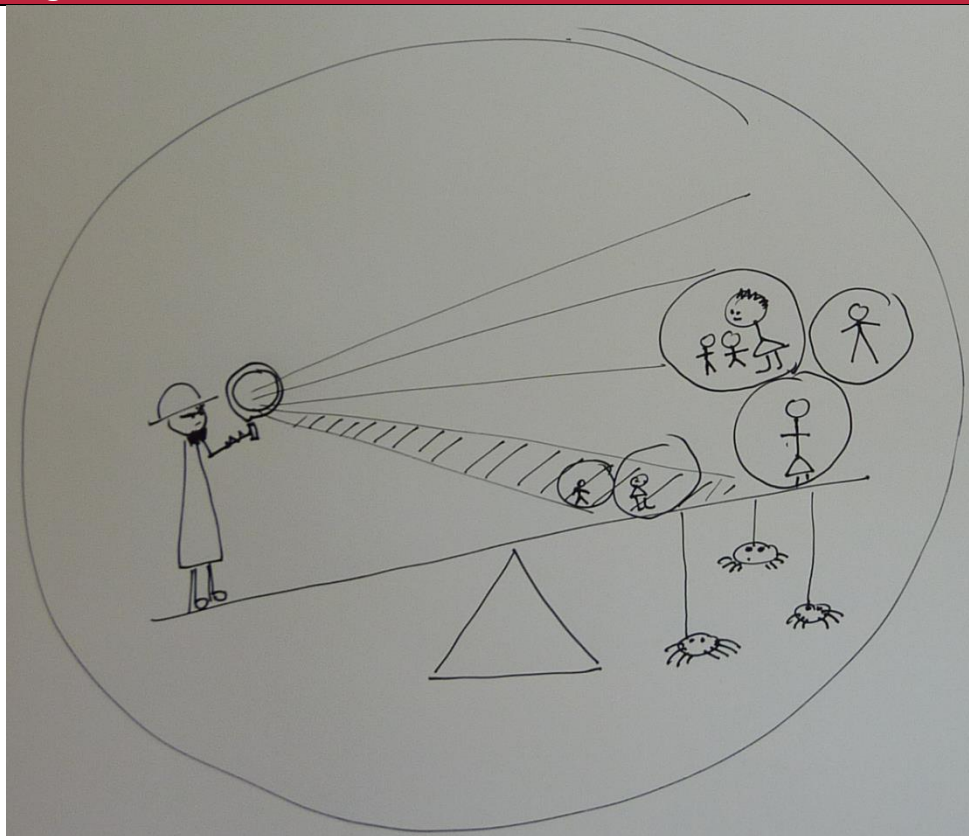
- What are the advantages + ingredients of a trusted community of mutual disclosure?
- Information for the public or common good
- What is the societal value of big data?
- What are the benefits to the individual/community of lifelogging/quantified self?

### Research Question #3: Do we need a better social contract?

- What are the overarching models of governance + structure?
- How can individuals be empowered to challenge?
- What forms of visualisation might help us understand uses of data?
- How might the right to be forgotten play in this space
- Who are the different stakeholders & what is the citizen value?



## Group Diagram:



## Group Photograph:



## Determining Digital Persona Value

**Digital  
Narratives -  
Online Image  
Brand Building**

**Digital business  
personas**

**Digital Money**

**BLUE**

Group Members:

[Panos Louvieris](#), [Len Tiu Wright](#)

### Research Question #1:

Is money the fundamental metric for assessing and comparing digital economy activity; placing value on the digital business persona?

What is the value of digital narratives in monetary terms?

### Research Question #2:

How can social media enhance the firm's digital business persona through digital narratives in order to build a sustainable business relationship? [Brand value!] (Which can be monetized).

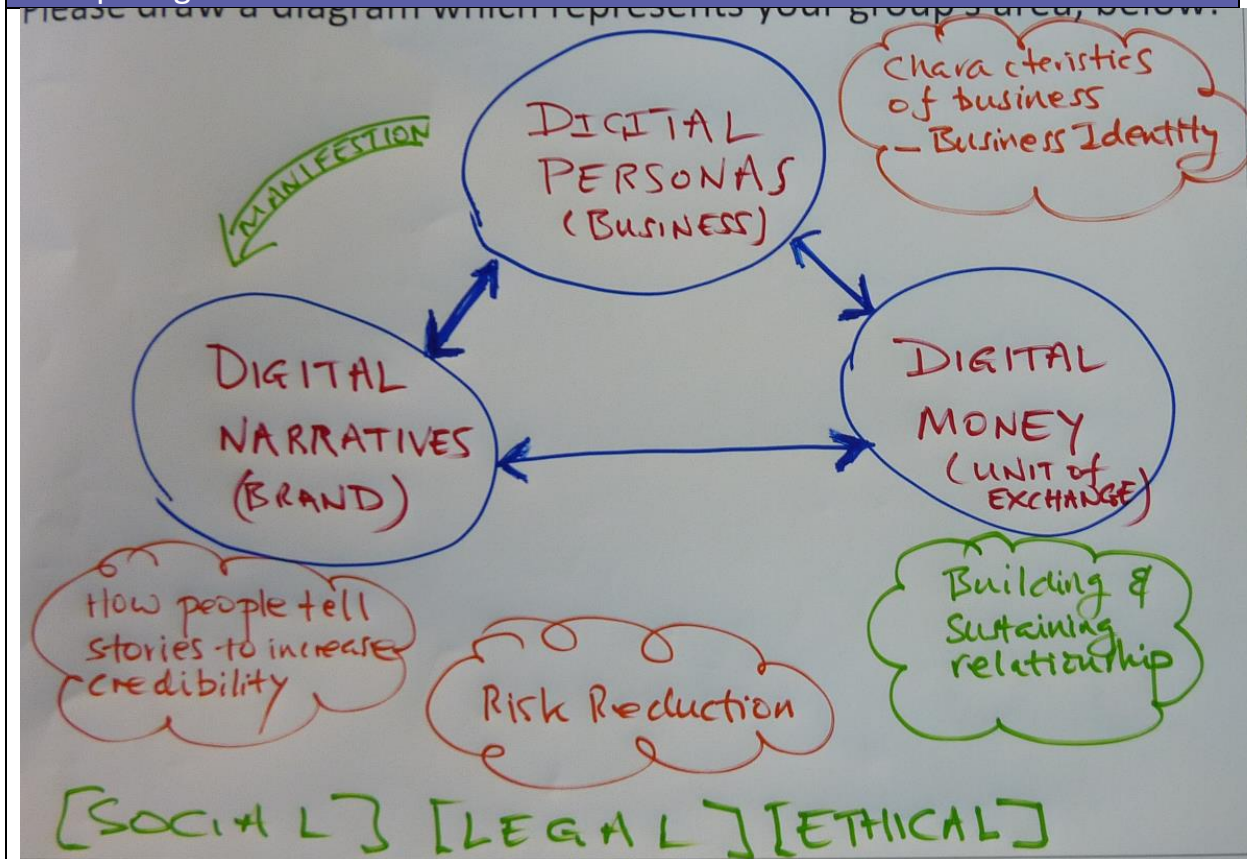
### Research Question #3:

How can social media be employed to assess brand value and confirm brand authority from a crowd perspective? Stones from the Crowd.

Does the 'customer' crowd reflect the firm's digital persona 'crowd-firm' identity matching?



## Group Diagram:



## Group Photograph:



## Research Community Challenges

**Capturing the  
cultural  
imagination**

**Interdisciplinary  
working**

**A disparate  
community**

**Producing viable  
alternatives**

**learning**

**GREEN**

### Group Members:

[Sophia Lycouris](#), [Sarah Martindale](#)

### Research Question #1: Effective interdisciplinary

- Asserting the importance of interdisciplinary and ensuring adequate provision is made for its development
- Methodological innovations tailored to the particular needs of individual projects so that appropriate paradigms are applied

### Research Question #2: Transformation as challenge + aim

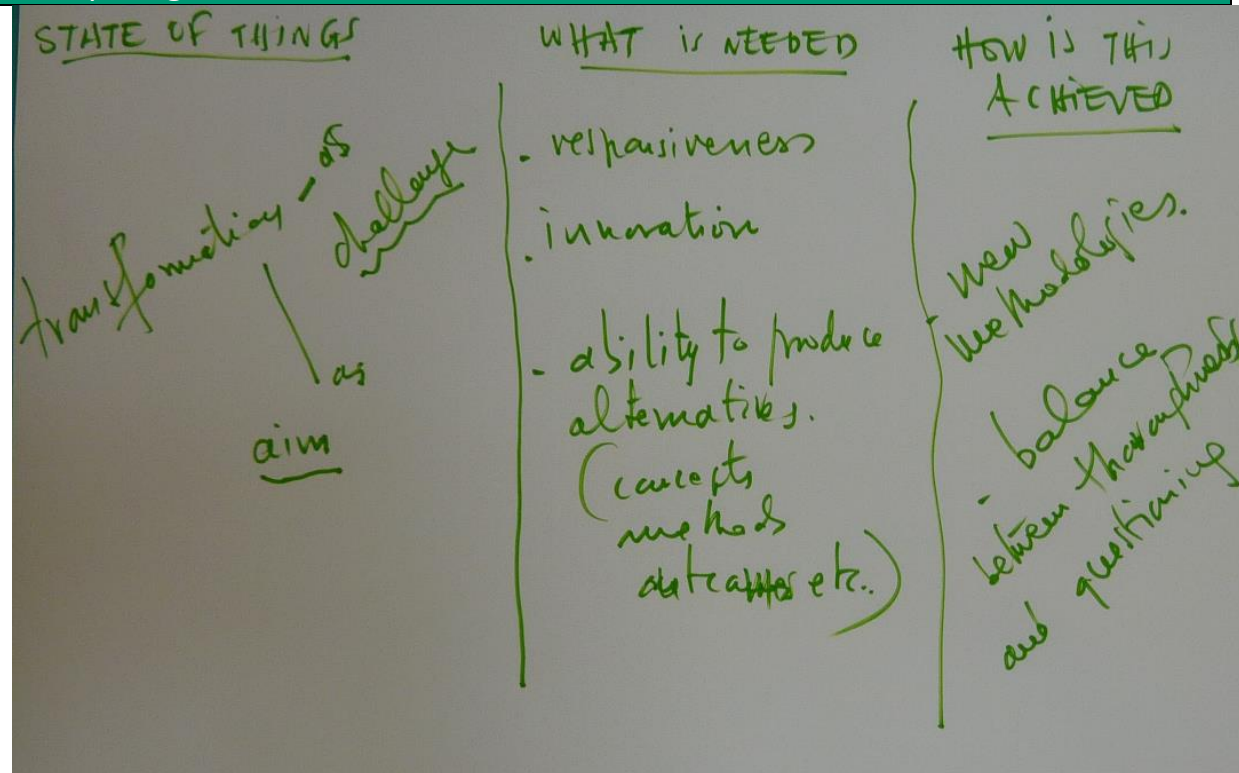
- Ability to produce good solutions depends on our ability to respond to the continuous transformation of ideas and technologies.
- Willingness and understanding that we need to learn new things all the time.
- Balance between questioning and producing.

### Research Question #3: Reclaiming the meaning of 'sharing'

- New concepts through critical thinking to improve communication within the research community.
- Demonstrating alternative uses of technology for personal growth through social exchange ('sharing').



## Group Diagram:



## Group Photograph:



**No Breakout Session for Orange**

**Self-  
empowerment  
through digital  
technology**

**digital  
prosumption in  
health & health  
research**

**ORANGE**

**Group Members:**

**Group Diagram:**

Please note that there no one elected to be in the Orange breakout group, so there was no output for this group from the meeting.

## Digital “Non” Personhood

**Social Inclusion  
& Digital  
empowerment**

**Digital 'self'  
in the  
developing world**

**Social Media in  
Developing  
Countries**

**Outsiders**

**Disconnected**

**Digital non-  
personhood**

**PURPLE**

### Group Members:

[Hazel Hall](#), [Laurence Brooks](#), [Anastasia Papazafeiropoulou](#)

### Research Question #1:

How can/do we better appreciate the nuances of cultures/communities/social groups with respect to use + adoption of digital media

### Research Question #2:

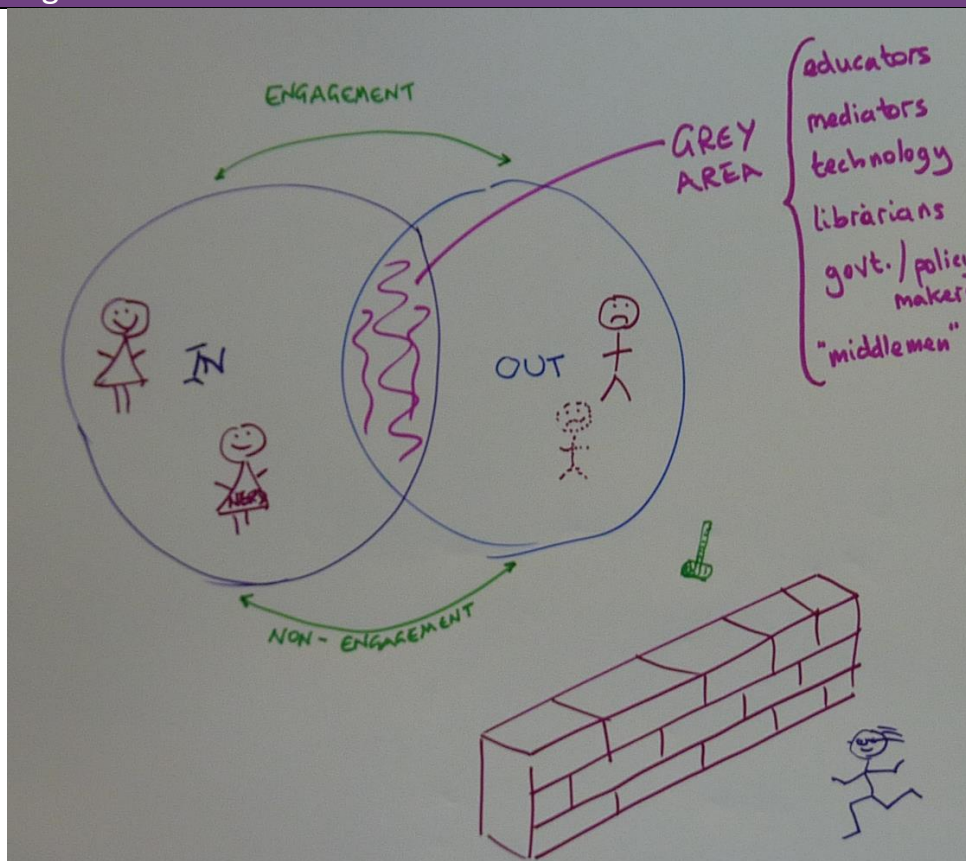
How do we/society/communities provide for digital “non persons” (by choice or not) when move is to further delivery of services online

### Research Question #3:

How do individuals use digital media to become the (digital) person they wish to “be”  
For example in some cultures the offline identity of certain sectors of society is disadvantaged (e.g. women in GCC). Digital environments provide a place in which to become a “fuller” person.



## Group Diagram:



## Group Photograph:





## Multiple Digital Personhoods & the Single Self

digital personhood assumed as unified subjectivity	Digital Narratives - Asserting Personal Credibility	The language function of artificial persons	Adjusting identities in digital games
Latest Developments in Digital Personhood		Controlling our (multiple) digital identities	Managing digital identities created for us
Single or Dual identities in digital games	Multiple digital personhoods & the single self	relationship between physical and digital self	MOTLEY
Digital Identity	DP, autonomy and ambient intelligence	heterogeneous representations of self	

### Group Members:

[Natalie Clewley](#), [Nicola Osborne](#), [Duska Rosenberg](#), [Amelia Jupit](#), [Smitashree Choudhury](#), [Shaun Lawson](#), [Elaine Farrow](#)

### Research Question #1: Relationship between physical & digital selves

What implications do attempts to connect the physical to the digital self, and to the aggregated digital self (e.g. biometrics, behavioural data, digital tracks and traces, encryption keys, learning analytics, use of real names) have for the expression and representations of self/selves?

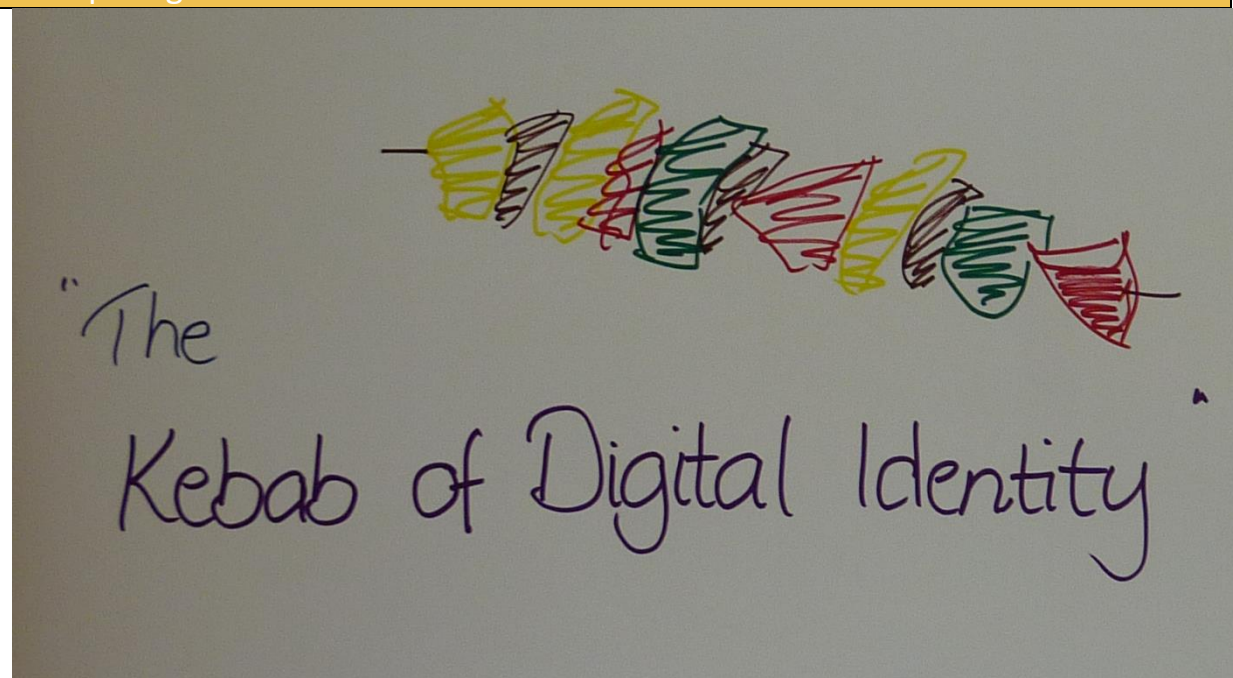
### Research Question #2: Representations of self

- a) Integrating and aligning our multiple representations
- b) Capturing the relevant contextual information
- c) Understanding the language of representation

### Research Question #3: Managing identities

Empowering individuals to manage their digital identities, for example around life transitions where there is a break with the past (reaching adulthood, professional milestones, end of life), to influence perceptions and projections of self. This includes work on legal frameworks and the right to opt out of aggregation.

Group Diagram:



Group Photograph:



## Beyond Self

**Personal memory  
and remembering  
in a digital  
world**

**The  
mediatization of  
attention**

**Ephemerality Vs  
Persistence of  
data**

**Whole life  
information  
organization**

**The pursuit of  
'total memory'  
dynamic  
characteristics**

**cumulation**

**Digital  
permanence**

**Digital  
Footprints**

**The Quantified  
Self**

**augmented self**

**PINK**

### Group Members:

[Tracy Harwood](#), [Yorick Wilks](#), [Andrew Hoskins](#), [Andy Hudson-Smith](#), [Gaynor Bagnall](#), [Paul Coulton](#), [Lydia Plowman](#), [Wendy Moncur](#), [Abigail Durrant](#)

### Research Question #1:

Understanding memory of digital self, from person to the mass (Embodiment, maternity, persistence)

### Research Question #2:

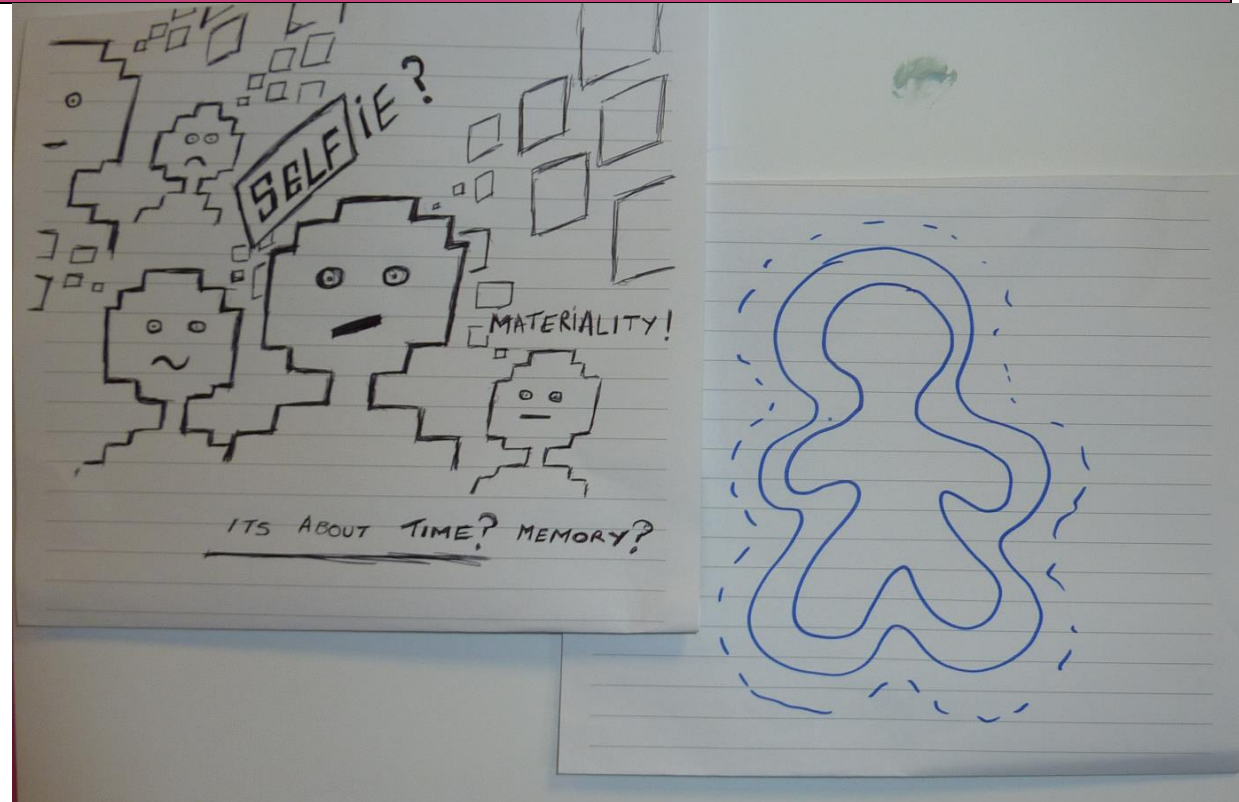
Curating the digital self to deliver agency (loss / gain of control)

### Research Question #3:

Assessing the intended / unintended impact of data of behaviour change (domains of life, policy making)



## Group Diagram:



## Group Photograph:



## Appendix A - Crowdsourced Terms

Below are all of the (full) research topics crowdsourced from the Digital Personhood community prior to the meeting. The short labels were provided by the Digital Personhood Investigators to aid manipulation in the grouping interface.

Group Colour	Group Members	Description
Red	Ethical use of personalised data	Whilst there is widespread commercial use of personal digital data there are increasingly complex ethical issues for using, and gaining consent for, use and reuse of digital personalised data in research.
	Ethics and Privacy	A challenge that is either a) a preoccupation in the research field or b) a topic that is going to rise over the coming years with issues around Google Glass, IoT objects etc.
	Privacy issues arising from data aggregation	Whilst there are techniques such as differential privacy that may help, there are many remaining challenges that need to be addressed.
	Redefining privacy following the NSA scandal	Privacy is an integral part of personhood. The NSA scandal reveals the extent of surveillance conducted by Governments (with the private sector), in violation of the social and legal contracts established with the Enlightenment. News terms of contracts?
	Privacy, Security and Trust	Given our digital trail and the capacity to triangulate 'big data' - what will be the future of our relationships to both commercial and govt agencies
	Surveillance and Resistance	How will individuals, groups and societies respond to ubiquitous surveillance in the light of the Snowden revelations.
	Protecting our online selves from abuse	Every day we hear new stories of online abuse and bullying. How can we protect our online selves from such abuse and what roles do media, legislation and private organisations have to play in this?
	New models of trust	New models are needed that reflect the changing technological and political landscape.
	legal, socio-ethical models for digital personhood	novel approaches in protecting digital personhood, individual empowerment and responsibility, and their implications for optimal modelling of private and public interests in the digital economy (across contexts)
	The Digital Social Contract	At present, digital personhood is besieged by demands for a free lunch from a range of business and political interests. We need a social contract which regards personal data as integral to the person and inalienable except for paid use under licence.
	Balance	We are creating large volumes of personal data. How can

		we create a balance in the value inherent in personal data - personal agency vs. government/ corporate interests in mining that data?
Blue	Digital Money	How can we ensure that money ONLY functions as a unit of account/exchange in the digital economy without it becoming a goal in itself?
	Digital business personas	The way businesses are re-introducing themselves through social media is a challenging act and much more complicated than a common Internet presence through a web site
	Digital Narratives - Online Image Brand Building	Brand storytelling to personally connect with the right audiences to bring to life the history and authenticity of the brand, be it about building the right image of a person, product or organisation.
Green	Interdisciplinary working	Collaborating - and communicating - across disciplines effectively to address challenges pertaining to Digital Personhood.
	learning	'Bildung' is a German term for education, referring to the formation of a learning identity over a lifetime. How could the implied personal growth map onto digital personhood? Does this offer a (desirable) possibility for tracing educational change?
	Producing viable alternatives	Working with policy makers, industry and lawyers to convert research into real world solutions, business models and products of value to all.
	A disparate community	To what extent are the different 'personhood' or 'identity' communities joined up. Outside of the sandpit, where do we speak to each other?
	Capturing the cultural imagination	Telling stories to the public about the value of their personal data that are as compelling as the stories used to sell us services and devices.
Orange	Self-empowerment through digital technology	Feeling empowered and being empowered to express one's sense of self, in terms of self-identity, self-efficacy and self-representation, through the use of digital technology; to have control over your personal data and manage your digital footprint;
	digital prosumption in health & health research	legal, socio-economic, ethical frameworks for governing digital personhood in health environments as a core well-being area (e.g. role of citizen science and patient support networks in research innovation, human communication, and digital economy)
Purple	Outsiders	Work which explores the personhood of groups outside the mainstream... marginalized groups. Can we build more promising digital futures for them.
	Disconnected	How can we use the network to effectively (maybe inspire) connect people who have been disconnected from



		mainstream society.
	Digital non-personhood	There is a danger that it will soon be assumed that everyone has ready access to facilities that allow them to engage online. Without provision of access for all in public spaces (eg libraries), we risk creating a community of digital "non-persons".
	Social Inclusion & Digital empowerment	How to ensure that all sectors of society are digitally enabled,empowered and have a digital voice/identity
	Social Media in Developing Countries	Our view of ourselves is being strongly affected by our online lives. In particular, in developing countries such as Africa or the Middle East, how these views are being affected and developed is increasingly significant. How are these to develop?
	Digital 'self' in the developing world	The digital personas commonly seen in the western world are quite different from what specific parts of the population such as women are viewing themselves though the Internet and social medias
Yellow	heterogenous representations of self	In a multi platform world there will be multiple versions of people across many networks
	Digital Identity	Management and Performance of range of digital identities
	Multiple digital personhoods & the single self	By definition an individual is one person. However, we present multiple digital identities or personhoods across different platforms. How can individuals manage perceptions of self and - perhaps more importantly - others' perceptions of the digital self?
	relationship between physical and digital self	Some times there is no need for the physical self to be part of a communication process. In other instances people participate in groups both physically and digitally. Or the digital self might be used for communication and the physical to deliver a task
	digital personhood assumed as unified subjectivity	Unified subjectivity has been heavily challenged by post-structuralist theory. The current enthusiasm for the concept of digital personhood might encourage the rebirth of naive assumptions about unified subjectivity and its role in the digital sphere
	Adjusting identities in digital games	Players adjust their virtual identities to play effectively in digital games. How they do this is important as it shows how players and game developers set their priorities in the game.
	Single or Dual identities in digital games	In a case where two persons co-play a game character, what does this said about their identities in the game? Their identities in the game could possibly be a fusion between the two players' or one player's identity will be more dominant than the other.
	Controlling our (multiple) digital	Who controls our digital identities? Us? Government? Big business? Can we prevent our multiple digital identities

	identities	from being merged/ aggregated? Consider recent developments, both benign (Facebook lookback) and malicious (high-profile hacking cases).
	Latest Developments in Digital Personhood	In the year since the sandpit, there have been a number of interesting new developments - including new film summaries of people's digital lives posted by facebook and google. What do these trends tell us about online identities?
	Managing digital identities created for us	We all have digital identities created for us - by our parents when we were children (increasingly) and by organisations. How can we take ownership of these and manage them appropriately?
	Digital Narratives - Asserting Personal Credibility	Role of dialogue in asserting personal credibility. Media formats and communication channels provide an opportunity to create from digital live feeds of other websites: build a personal digital space; and establish credibility in personal narratives.
	The language function of artificial persons	NLP (computer language understanding) needs to move forward another jump or two so as to give the feeling of being a human language understander and producer. This is partly a matter of understanding and mostly an inability to locate the knowledge needed.
	DP, autonomy and ambient intelligence	What degree of autonomy digital persons have in ambient intelligent environments to create and express thoughts and emotions?
Pink	The Quantified Self	Arguably the current buzz word but one that has notable potential to join it all up. Data is being shared between apps and services (such as MyFitness Pal, Runkeeper, Withings etc) - the challenge is how academics can use it.
	The pursuit of 'total memory'	The fetish of the 'quantified self movement' constitutes a paradoxically insecure basis for memory. Risk of conflating the dynamics and richness of data with the dynamics and richness of human remembering.
	Whole life information organization	The problem is the quantity of digital information available for a modern whole life and our inability (in the future at least) to survey, prune and organize it --most likely for our heirs and successors. we currently lack systems to do this for us.
	Personal memory and remembering in a digital world	Individuals becoming curators of their 'externalised' memories, including how these relate to personal and social identity and lived experience mediated through digital interactions and media; and the relationship between biological to digital processes
	augmented self	technologies that extend personhood into devices
	The mediatization of attention	The act of recording is now more important than seeing that which is being recorded. How does this alter the value of the deep and rich experience of the local, of the here and

		now, of co-presence?
	Digital permanence	Personal tracks and traces are already a major concern, changing expectations over the permanence and impact of digital material have real social impact - e.g. the varying responses to the impact of Twitter trolling.
	Ephemerality Vs Persistence of data	Starting to see desire for data to have finite lifespan, which is a fundamental change for how we have considered management of data up to now
	Digital Footprints	As we walk through the Internet we increasingly leave 'footprints'. How much do we know about what we leave, how much of this are we in control of and what image of us does this portray, rather like standing back from a mosaic.
	cumulation	How do we make sense of the cumulation of digital traces of our presence from babyhood (or before) onwards? And what are the necessary legal protections in the face of easy lifelong surveillance?
	dynamic characteristics	rapid evolution of technologies and behaviour changes related to their use

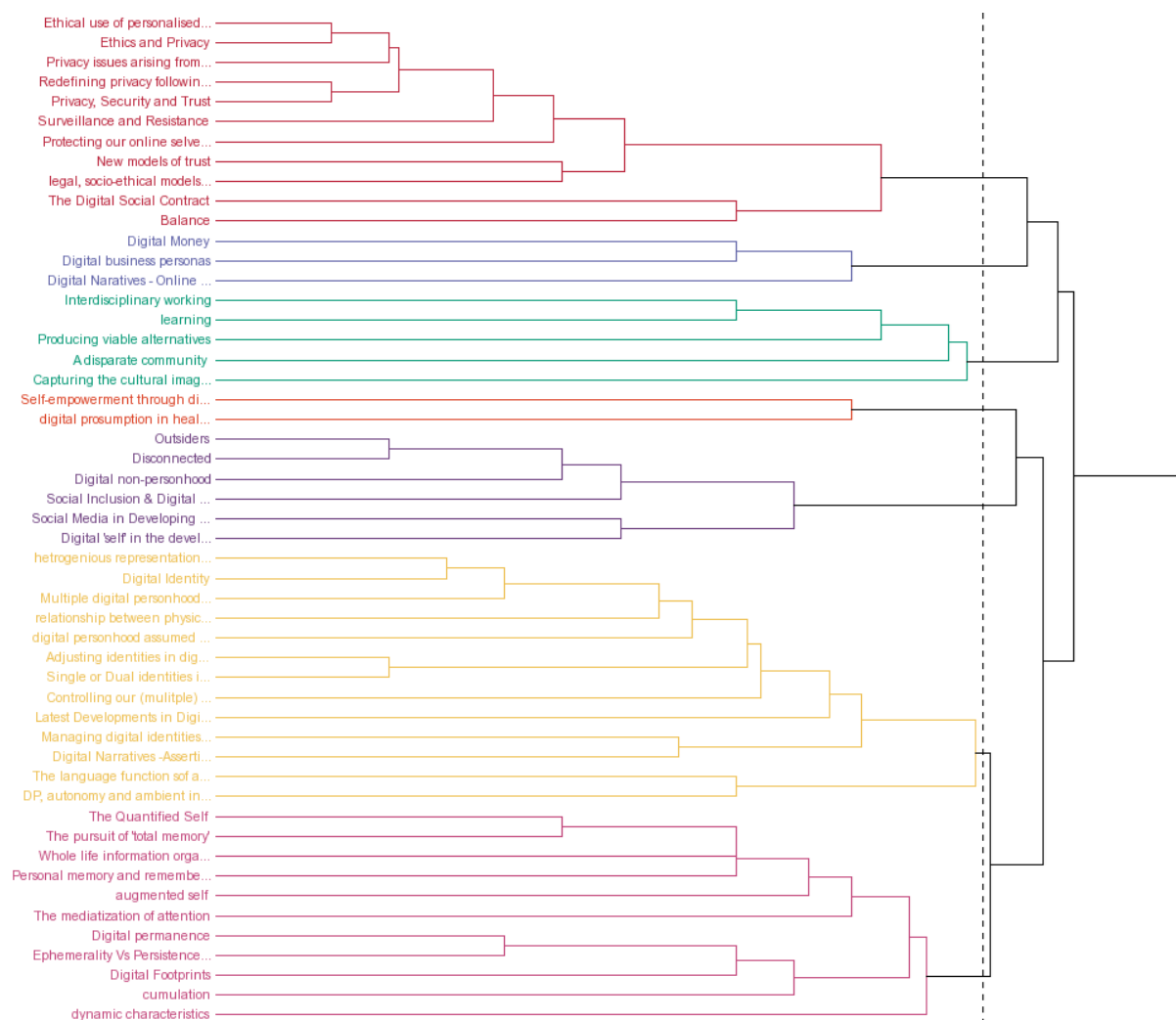
Each delegate was asked to sort the terms shown in Appendix A into groups using a web application. All of these groupings' data were then used to produce the similarity matrix shown below. Clustering was performed on this matrix in order to get 7 groups.



## Appendix C - Dendrogram

A dendrogram (a type of tree diagram useful for displaying hierarchical clustering data) of the similarity matrix data shown above is provided below.

It allows interested readers to examine how close (or distant) the average participant thought that groups of terms were from each other. The closer two topics on the left join, the more similar participants thought they were.





## Appendix D - Meeting Pictures



Ice Breaker Session 1



John Baird's Talk

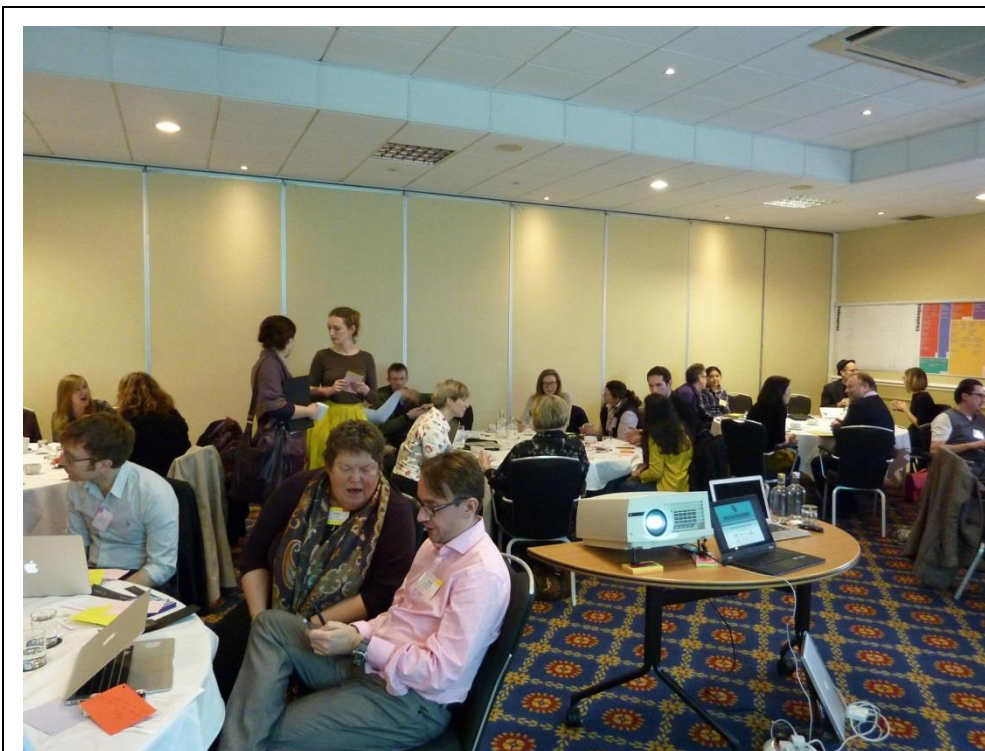




Chris Hankin's Talk



Chris Hankin's Talk 2



Ice Breaking Session 2



Rachel Tyrrell's Talk





Ice Breaking Session 3



Laura Hood's Talk

## Appendix E - Meeting Agenda

### Day 1 – March 6

- 12:00 – 13:00 *Registration and lunch*
- 13:00 – 13:10 Welcome note by **Mike Chantler**
- 13:10 – 13:30 Icebreaker Session I
- 13:30 – 13:55 Digital Economy by **John Baird**
- 13:55 – 14:30 Keynote by **Chris Hankin**
- 14:30 – 14:45 *Tea and Coffee Break*
- 14:45 – 15:00 Icebreaker Session II
- 15:00 – 15:50 Digital Personhood Projects
- Digital Prosumer
  - Creating and Exploring Digital empathy
  - Charing the Digital Lifespan
  - Reel Lives: Personal Documentaries
  - Being There: Humans and Robots
- 15:50 – 16:15 *Tea and Coffee Break*
- 16:15 – 16:45 Digital Economy and ESRC by **Rachel Tyrrell**
- 16:45 – 17:15 Impact by **Laura Hood**
- 17:15 – 17:30 Icebreaker Session III
- 17:30 Close of day

### Day 2 – March 7

- 09:00 – 09:15 Objectives of the Day by **Mike Chantler**
- 09:15 – 10:15 Digital Personhood Research Landscape
- 10:15 – 10:45 *Tea and Coffee Break*
- 10:45 – 10:55 Importance of Impact by **John Baird**
- 10:55 – 11:45 Digital Personhood Impact
- 11:45 – 12:00 Closing Remarks
- 12:00 – 13:00 *Lunch*
- 13:00 Close of day

## Appendix F - References

- [1] Methven, T. S., Padilla, S., Corne, D. W., & Chantler, M. J. (2014, February). Research Strategy Generation: Avoiding Academic 'Animal Farm'. In *Proceedings of the companion publication of the 17th ACM conference on Computer supported cooperative work & social computing* (pp. 25-28). ACM.