**PUBLIC TRUST IN DATA-DRIVEN SYSTEMS**

**Timeline of the day**

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| What | Duration? | Time? |
| Part 1: Introduction and consent | 15 mins. | 9.30 -9:45 |
| Part 2: what are your criteria for trusted interactions with data-driven systems? |
| Evaluate existing data practices | 60 mins. | 9:45-10:45 |
| First draft of criteria | 15 mins. | 10:45-11:00 |
| Coffee break | 15 mins. | 11:00-11:15 |
| Expert witnesses | 20 mins. | 11:15-11:35 |
| Question witnesses | 15 mins. | 11:35-11:50 |
| Second draft of criteria | 20 mins. | 11:50-12:10 |
| Rank final criteria | 10 mins. | 12:10-12:20 |
| Lunch break | 40 mins. | 12:20- 13:00 |
| Part 3: What are your criteria for a trusted way of managing data? |
|  Expert witnesses | 20 mins | 13:00-13:20 |
| Question witnesses | 15 mins. | 13:20-13:35 |
| Discuss 5 models for managing data | 60 mins. | 13:35-14:35 |
| Coffee break | 15 mins. | 14:35-14:50 |
| First draft of criteria | 20 mins. | 14:50-15:10 |
| Rank final criteria | 10 mins. | 15:10-15:20 |
| Comparing criteria | 15 mins. | 15:20-15:35 |
| Survey | 5 mins.  | 15:35-15:40 |
| END  | 5 mins. | 15:35-15:45 |

## Citizen Jury Workshop Script

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| **Part 1: Introduction (15 minutes)****\*\*\*Build in an extra 5 minutes here\*\*\*** |
| Give out bingo sheets | 1. **Introduction and Consent:**

Hello and welcome to our workshop. Thank you for coming! I’m Dr. Robin Steedman, a researcher here at the University of Sheffield, and I’ll be facilitating the discussion today.Assistant is my assistant and will be helping out today. [Assistant introduces herself]In the information pack in front of you there is:* An Information sheet – you’ve seen this already
* A consent form
* Helpful handouts with key terms
* Slides

Before we get into the activities of this workshop I need everyone to sign a consent form. These forms are in the information pack on your desk. You’ll have already seen this information sheet. Please let me know if you have any questions before you sign.[They read and sign the forms]**[Turn recorder on]**Thank you for filling out the consent forms. Now let’s begin!First off, let’s get to know each other a little better[Icebreaker bingo]Before we begin there are a few housekeeping items* We will also have two coffee breaks and a lunch break.
* Bathrooms are across the hall (disabled and female), men’s bathroom is one floor below
* Ask if participants have internet enabled devices so we can source devices if necessary

We’ve gathered you together today to form a citizen jury. The purpose of a citizen jury is to hear the views of ordinary people like you and me, not just experts. Your task as a jury is to come up with criteria for how to build trustworthy models for managing personal data and more trusted interactions with data-driven systems. We are interested in what you would trust, or find trustworthy.Don’t worry if you don’t know much about these things! Throughout the day you’ll be hearing presentations from experts who will talk about these issues and I’ll be presenting real world examples to aid our discussion. None of the questions we are asking today have a ‘right’ answer. So please feel free to say whatever you think! If you don’t understand something, then say so, and I’ll try to explain.Here’s how this workshop will work: our day is divided into two parts. In each you will be asked to answer a question. 1. What are your criteria for trusted interactions with data-driven systems?
2. What are your criteria for a trusted way of managing data?

I know that probably sounds very abstract! But we’ll break down these questions together throughout each session so there’s no need to worry.  |
| **Part 2: What are your criteria for trusted interactions with data-driven systems)?** |
| Feelings note | 1. **Evaluate existing data practices: (60 minutes)**

In this session we’ll be discussing examples of data-driven systems. And we’ll be working on answering the question ‘what are your criteria for trusted interactions with data-driven systems? To begin, let’s go over some key terms that might come up today. You’ll also see these on a handout in your information pack.DEFINITIONS* Data-driven system = systems that depend on data in order to operate. They often bring together one or more of the following, and inform decision-making.

 * Artificial Intelligence = machines performing tasks that are thought to require intelligence
* Machine Learning = computers learning how to perform specific tasks from examples, data & experience
* Data mining / data analytics = analysis of data/datasets to generate new information, often to inform future actions
* Algorithm = a set of instructions which tells a computer to do things
* Automated Decision Making (or ADM) = computer systems that inform or make a decision on actions to pursue about an individual or a group
* Predictive analytics = combines all of the above to make predictions about likelihood of future events occurring.

 Before we begin our discussion I want to get a sense of how all of you feel about data-driven systems. So, I’d like you to write how you feel on the post it note in front of you. You don’t have to explain why you feel this way and you can write as little or as much as you like. Once you’ve written this please post your note on the wall. It’s fine if you have no feelings at this stage – you can just write that on your note.I call these notes ‘feelings notes’ and we’ll use them to make a timeline about how you feel about data-driven systems throughout the day. Now, I’m going to give you four examples of systems that are driven by or depend on data. We’re going to discuss how trustworthy you feel they are and whether or not you would trust them. |
| Hands up | * 1. **Personalisation**

Personalisation depends on data. If you subscribe to services like Netflix, Amazon Prime, or BBC iPlayer you’ll have encountered personalisation. What we see on social media like Facebook and Instagram and in online shopping forums such as Amazon is personalised. On the slide you’ll see an example of personalisation.Please put your hand up if you’ve ever knowingly used one of these personalised servicesPersonalisation works through the use of algorithms. Some popular algorithms include: * ‘**content based recommenders’** – these choose content similar to what you’ve viewed in the past.
* **‘collaborative filtering’** – this is where you’re shown content that users like you have viewed in the past.
* You’ll also often be shown the latest content.

When you are presented with recommendations you are often seeing the results of all three algorithms.Now we’ll discuss personalisation * What are the benefits of personalisation? For individuals/for society?
* What are the risks of personalisation? For individuals/for society?
* To what extent do those benefits/risk lead you to trust or not trust personalisation?
* Do you trust personalisation?
* Do you find its use more or less trustworthy in certain contexts?
* What would make it trustworthy for you?

Prompts to stimulate discussion: * Personalised experience
* Discovering things I wouldn’t have otherwise found
* Algorithm isn’t transparent – possible manipulation in terms of what does/doesn’t get seen.
* Filter bubbles, echo chambers, bad for democracy
 |
| Hands up | * 1. **Voice Assistance**

Another example of systems that are driven by data, and that you may have encountered, is voice assistance. Some examples of voice assistants are Alexa and Siri. On the slide you’ll see some images of common examples of voice assistants.Hands up if you’ve ever knowingly used a voice assistant. Here’s what typically happens when you ask a question or give a command to your voice assistant. 1. A human talks to the machine
2. The machine captures the audio
3. Audio to text conversion takes place
4. Processing of the text’s data
5. Data to audio conversion takes place
6. The machine responds to the human by playing the audio file[[1]](#footnote-1)

Now we’ll discuss voice assistance* What are the benefits of voice assistants? For individuals/for society?
* What are the risks of voice assistants? For individuals/for society?
* To what extent do those benefits/risk lead you to trust or not trust voice assistants?
* Do you trust voice assistants?
* Do you find them more or less trustworthy in certain contexts?
* What would make them trustworthy for you?

Prompts to stimulate discussion: * Quick and easy access to information
* Hands-free – good for people with disabilities
* Co-ordinates Internet of Things devices
* Potential difficulty in recognising some regional accents or less known languages – so it privileges certain ways of speaking
* Security risks – hackable
* Concerns about surveillance – does it constantly ‘listen in’, even when supposedly off?
* What happens to the data?
* Mostly pre-programmed, do not use ML, so limited in what they can do.
 |
| Hands up | * 1. **Data scores**

Data scoring is another example of a data-driven system, as the name suggests. This is being adopted in many contexts in the UK and elsewhere. Examples include the use of data scores in the criminal justice system in the US and in the allocation of certain social services by local authorities in the UK. Hands up if you’ve ever knowingly encountered a data scoring system.Data scoring systems work by combining data from a variety of online and offline sources as a way of categorise people. Then predications are made about future behaviour based on these categories. This type of scoring has long been used in financial services where, for example, your credit score determines your worthiness for credit in the eyes of financial service providers. Often these scoring systems need to use ‘proxies’ (=data about one thing to stand in for another thing. E.g. when calculating which children are at risk of neglect and abuse Xantura (a commercial organisation employed my councils in London and elsewhere) considers data on “school attendance and exclusion, police records on antisocial behaviour, domestic violence, and housing association repairs and arrears”).Now we’ll discuss data scoring* What are the benefits of data scoring? For individuals/for society?
* What are the risks of data scoring? For individuals/for society?
* To what extent do those benefits/risks lead you to trust or not trust data scoring?
* Do you trust data scoring?
* Do you find its use more or less trustworthy in certain contexts?
* What would make it trustworthy for you?

Prompts:* Speed, ability to process more cases with fewer resources and potentially help more people
* Cost saving since the automated system replaces human workers – and public institutions like councils are cash strapped/facing budget cuts
* Black box nature of the technology – decisions are being made that influence public services but the technologies are commercial and proprietary
* Proxies: what proxies are used, are they good or bad proxies, what are the consequences of using them
* Human bias vs. machine bias
* Human error vs. machine error
* What happens to the data?
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| Hands upFeelings note | * 1. **Facial recognition**

The final example of a system that depends on data is automated facial recognition. This has various applications: * For example, you may have used it in photo tagging e.g. when you tag photos on Facebook.
* MasterCard Identity Check Mobile app scans your face to instead of having you enter your password.
* Heathrow airport, among many others, is also using facial recognition technology. At the eGates you scan your passport and the system runs a face-recognition check against the chip in your passport, then if you're eligible to enter the UK the gate opens automatically. This is an example of facial matching.
* “Automatic Facial Recognition (AFR) is the checking of facial images, generally obtained in an uncontrolled public environment, against a watch list of people whose images have been taken in controlled or uncontrolled environments.”

Hands up if you’ve ever knowingly used a facial recognition service.Automated facial recognition works by using a computer to map the features of a face and then compare that map to a database of known faces to find a match.Now we’ll discuss facial recognition* What are the benefits of facial recognition? For individuals/for society?
* What are the risks of facial recognition? For individuals/for society?
* To what extent do those benefits/risks lead you to trust or not trust facial recognition?
* Do you trust facial recognition?
* Do you find its use more or less trustworthy in certain contexts?
* What would make it trustworthy for you?

Prompts to stimulate discussion:* Efficiency, in case of eGates, don’t need staff at airports to confirm passports
* Fraud prevention, another layer of security eg in online shopping
* Difficulty recognising dark skinned and female faces
* Wrongly identifying people
* Matches with controlled photos (e.g. in a passport) are significantly higher quality than matches with uncontrolled photos (e.g. from surveillance cameras)
* What happens to the data?

Now that we’ve discussed several examples of data-driven systems, please fill out another ‘feeling note’ about data-driven systems and add it to the wall. |
| Assistant takes notes | 1. **First draft of criteria (15 minutes)**

Now let’s return to the question that started this session ‘what are your criteria for trusted interactions with data-driven systems?Let’s brainstorm criteria now. Assistant will take notes Prompts for participants:* It is important to me that …
* In order to be trustworthy, a data-driven system/application should…
 |
| 1. **Coffee break (15 minutes)**
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|  | 1. **Expert witnesses (20 minutes)**

Now we will hear presentation from Professor Helen Kennedy of the University of Sheffield who is here to speak about the benefits and risks of data-driven systems. After the presentation you will be able to ask her questions so please think of some as you listen.[Helen gives her 20-minute presentation] |
|  | 1. **Questioning experts (15 minutes)**

Now, do you have questions for our expert witness? [Jury asks questions, experts answer in 1 minute][Assistant to ask questions if none are initially forthcoming]Thanks very much Helen! |
| Assistant takes notes | 1. **Second draft of criteria (20 minutes)**

Now that we’ve heard from an expert and you’ve had a chance to question them, let’s turn again to writing criteria. Thinking back to what you’ve just learned, what would you like to add to the list of criteria you created earlier? Is there anything you want to remove? |
| Assistant uses mentimeterFeelings note | 1. **Rank criteria (10 minutes)**

Now for the final task of the morning session we will rank the criteria in order from most to least important. To do this we will use mentimeter. To do this please go to menti.com and enter the code shown on the screen. If you have any trouble using mentimeter Assistant and I are here to help.Hands up if you agree with the final rankingNow please fill out another ‘feeling note’ about data-driven systems and add it to the wall. You can write the same thing as before if you still feel the same way, or anything else if your feelings have changed. |
| 1. **Lunch break: (40 minutes)**
 |
| **Part 3: What are your criteria for a trusted way of managing data?** |
| Feelings note | Welcome back from lunch! In this session we’ll be working on answering the question: what are your criteria for a trusted way of managing data?Just like this morning, I’d like to begin this session with you posting a feeling note on our timeline – this time about how you feel about data management systems. If you have no feelings at this point or don’t know what this is, you can just write that on your note.  |
|  | 1. **Expert witnesses (20 minutes)**

Now we will hear a presentation from Dr Rhia Jones of BBC R&D about different data management models. After the presentation you will be able to ask her questions so please think of some as you listen.[Rhia gives her 20-minute presentation] |
|  | 1. **Questioning experts (15 minutes)**

Now, do you have questions for our expert witness? [Jury asks questions, experts answer in 1 minute][Assistant to ask questions if none are initially forthcoming]Thanks very much Rhia! |
| Assistant uses mentimeterFeelings note | 1. **Discuss models for managing personal data (60 minutes)**

Rhia’s presentation covered several models for managing data. Now we’re going to discuss the pros and cons of each, focusing particularly on what makes them trustworthy or not trustworthy.Terms of services* Who can think of some benefits of this model?
* How about some negatives?
* Are there contexts where this model is more trustworthy?
* Are there contexts where this model is less trustworthy?

Is this more or less trustworthy than other models?Personal Data Stores* Who can think of some benefits of this model?
* How about some negatives?
* Are there contexts where this model is more trustworthy?
* Are there contexts where this model is less trustworthy?
* Is this more or less trustworthy than other models?

Delegating Responsibility* Who can think of some benefits of this model?
* How about some negatives?
* Are there contexts where this model is more trustworthy?
* Are there contexts where this model is less trustworthy?
* Is this more or less trustworthy than other models?

Collectives* Who can think of some benefits of this model?
* How about some negatives?
* Are there contexts where this model is more trustworthy?
* Are there contexts where this model is less trustworthy?
* Is this more or less trustworthy than other models?

Opting out* Who can think of some benefits of this model?
* How about some negatives?
* Are there contexts where this model is more trustworthy?
* Are there contexts where this model is less trustworthy?
* Is this more or less trustworthy than other models?

Is it models that are trustworthy, or the **institutions implementing the models**?Which model do you prefer? Please rank the five models in order from best to worst with 1 being the best. Now that we’ve discussed models for managing personal data I want you to fill out another feelings note and add it to the timeline on the wall. |
| 1. **Coffee break (15 minutes)**
 |
| Assistant takes notes | 1. **First draft of criteria (20 minutes)**

Now let’s return to the question that started this session ‘what are your criteria for a trusted way of managing data?Let’s brainstorm criteria now. Assistant will take notes Prompts for participants:* It is important to me that …
* In order to be trustworthy, data management models should…
 |
| Assistant uses mentimeterFeelings note | 1. **Rank final criteria (10 minutes)**

**Now** we will rank the criteria in order from most to least important. To do this we will use mentimeter. To do this please go to menti.com and enter the code shown on the screen. If you have any trouble using mentimeter Assistant and I are here to help.Hands up if you agree with the final ranking.Now please fill out another ‘feeling note’ about data management and add it to the wall. You can write the same thing as before if you still feel the same way, or anything else if your feelings have changed |
| Assistant uses word templateFeelings note | 1. **Compare criteria (15 minutes)**

Now we are going to compare the lists of criteria we created in our morning and afternoon sessions * Do the two questions (trusted interactions with data driven systems and trusted ways of managing data) raise the same issues, or different issues?
* Is it possible to combine the criteria we created this morning and afternoon into one holistic set of criteria to answer the overarching questions “What are your **most important** criteria for the design of ethical, just and trusted data driven systems?”

Let’s create a top 5 overarching criteria. Assistant will write the criteria on the computer so we can reorder them easily.[But if they can’t agree on a top 5 that is fine, just endeavour to it]Now please fill out your final feelings note and add it to the timeline |
| Give out survey | **17. Survey (5 minutes)**We now have a short survey for you to fill out about you and your internet use.  |
| Give out vouchers, receipt, travel expenses, receipt;  | 1. **End (5 minutes)**

Thank you very much for participating today!I’m now going to hand out thank you vouchers and sort out travel expenses. |

1. \*What’s it’s used for and where we find it \*simplify the steps [↑](#footnote-ref-1)