Government Digital Service

Department for Science, Innovation & Technology

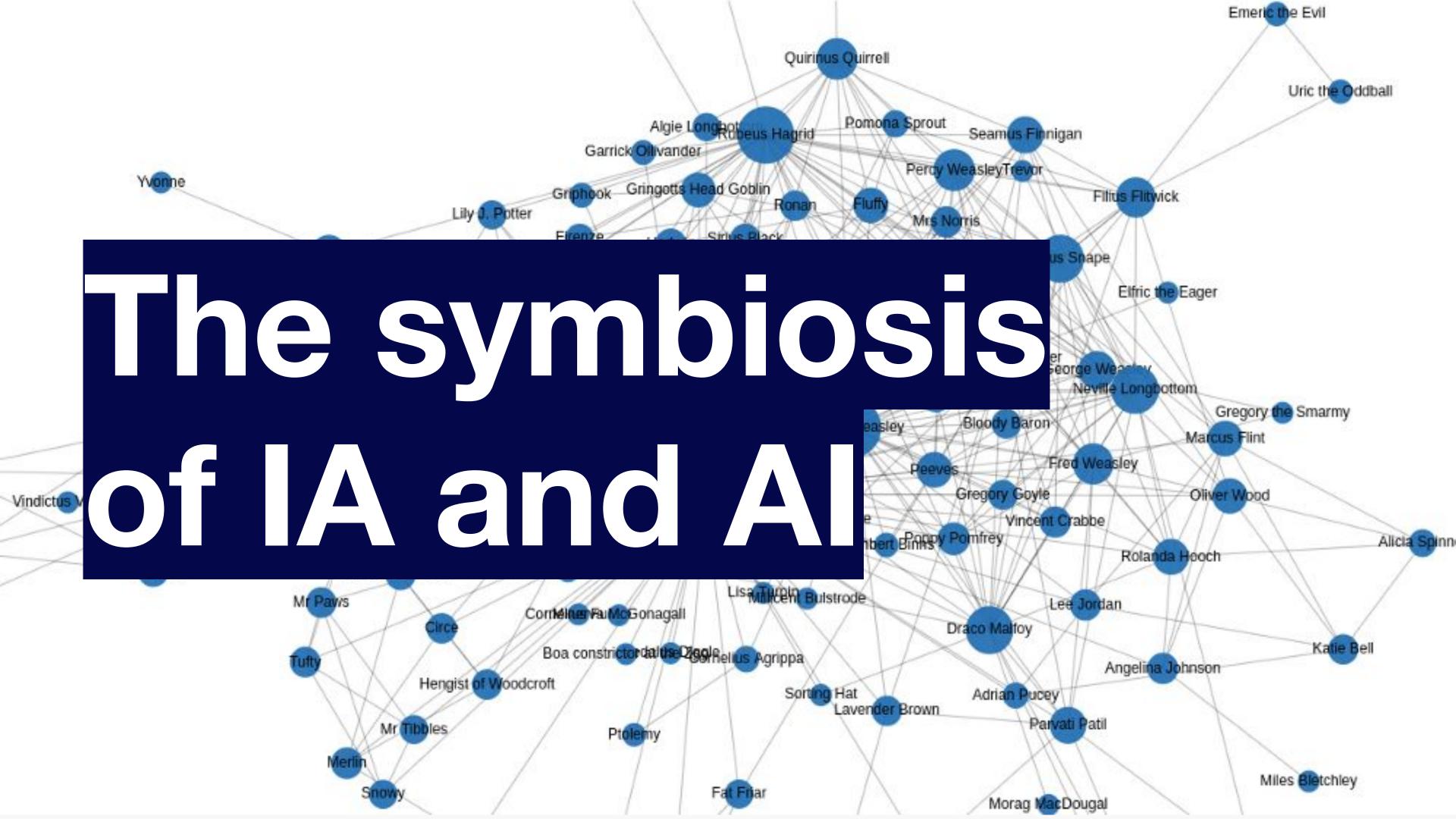**Sally Creasey**
Senior Information Architect
Government Digital Service

Rich Eveson
Senior Data Scientist
Government Digital Service

The symbiosis
of IA and AI

What's happening right now in AI, feels like an **industrial revolution-sized** change in the way we can and will work

GDS

IA and AI are 2 sides of the same coin

Together, improving outcomes for users and championing the need for good data and structure

Symbiosis:
IA optimising AI

GDS

1

IAs help give AI contextual awareness by deriving, curating and documenting information structure and relationships

Example: mapping the Lego domain objects

Company Lego company	**Brand** e.g. Lego, Duplo	**Theme** e.g. Batman
Retailer e.g. Smyth's Toys	**Set** e.g. Batmobile	**Instructions**
Employees	**Pieces** e.g. 2x2 red block	**Orders**
Support	**Customers**	**Reviews**

GDS
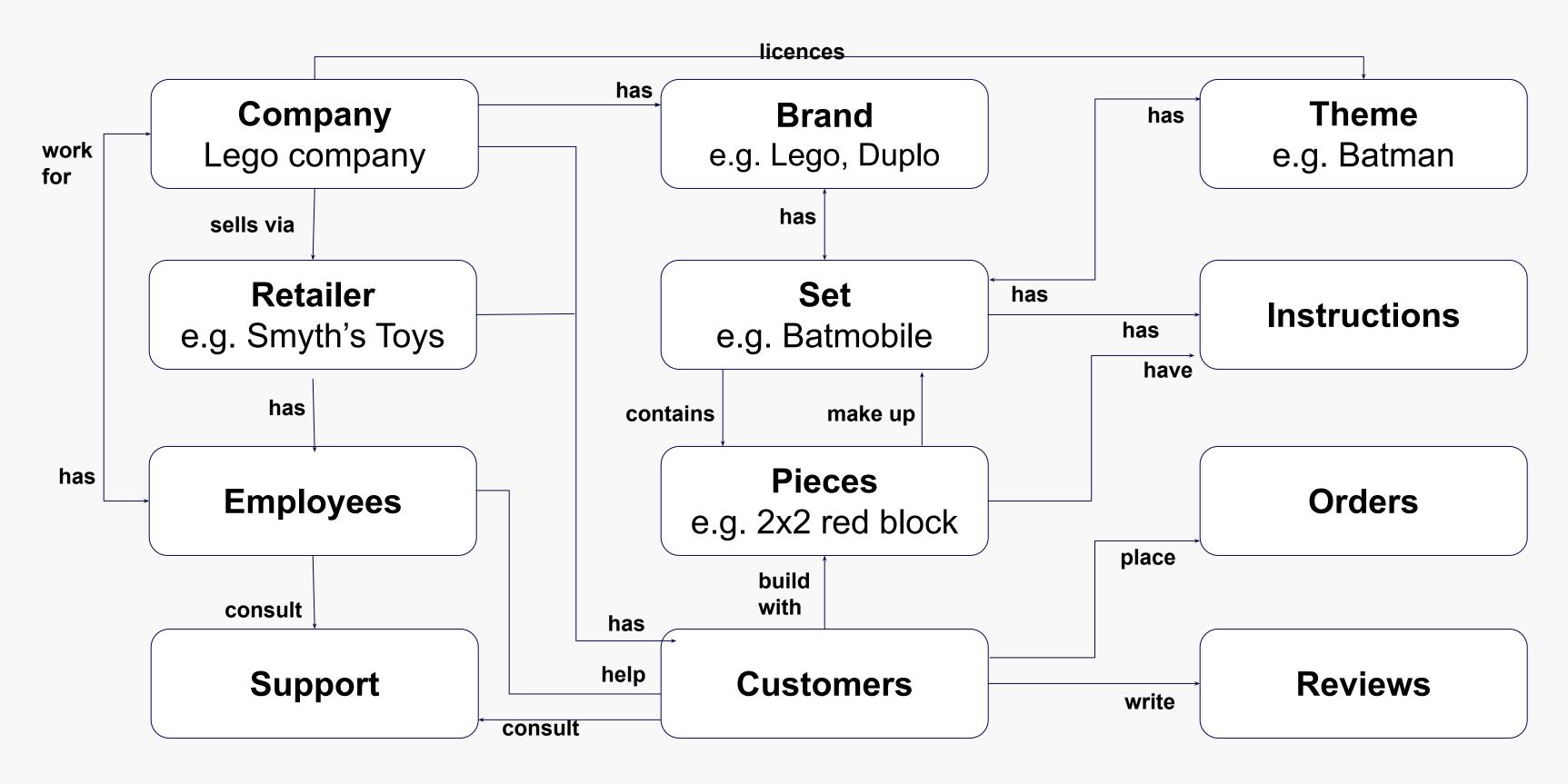
Example: mapping the Lego domain object relationships

Company
Lego company

Brand
e.g. Lego, Duplo

Theme
e.g. Batman

Retailer
e.g. Smyth's Toys

Set
e.g. Batmobile

Instructions

Employees

Pieces
e.g. 2x2 red block

Orders

Support

Customers

Reviews

licences
has
has
work for
sells via
has
has
has
has
have
has
contains
make up
build with
place
has
help
consult
consult
write

GDS

2

IAs design and implement rich semantic metadata, enabling content personalisation and recommendation

GDS

Imagine knowing the content is...

For **driver type**
Attributes: Learner, new, experienced, disqualified, 70+, medical condition

About **driving requirement**
Attributes: MOT, Vehicle Tax, Insurance, Driving licence, V5C, permits

About **licence type**
Attributes: Provisional, Full, HGV, Public service vehicle (PSV)

About **vehicle type**
Attributes: Car, motorbike, moped, van, motorhome, lorry, bus, coach

About **engine type**
Attributes: Diesel, electric, petrol, hybrid, LNG

GDS

Imagine knowing the content is...

For **driver type**
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And when something important changes, knowing what's changed and where

So we can notify users in a timely way

⚜ GDS

3

IAs work with data scientists to create labelled datasets for AI and RAG

Evaluating and iterating outputs with a user-centred mindset

Buy a rod fishing licence

Contents

— When you need a licence

— Types of licences and rod limits

— Buy a rod fishing licence for England and Wales

— Fishing in Scotland and Northern Ireland

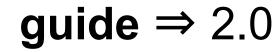## When you...

You must have a rod...
salmon, trout, fresh...

- England (except...
- Wales
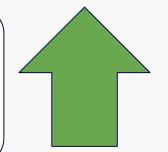- the Border Esk re...

This includes if you...
private fishing lakes...

```
{
    "analytics_identifier": null,
    "base_path": "/fishing-licences",
    "content_id": "da13f744-8a63-4149-aae6-4f10fb832b85",
    "description": "How and where to buy or upgrade a rod
    ▸ "details": {…}, // 3 items
    "document_type": "guide",
    "first_published_at": "2014-02-27T14:20:23+00:00",
    ▸ "links": {…}, // 8 items
    "locale": "en",
    "phase": "live",
    "public_updated_at": "2015-03-25T16:03:24+00:00",
```
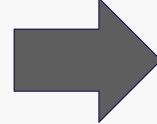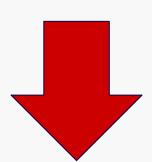
guide ⇒ 2.0

form ⇒ 1.0

correspondence ⇒ 2.0
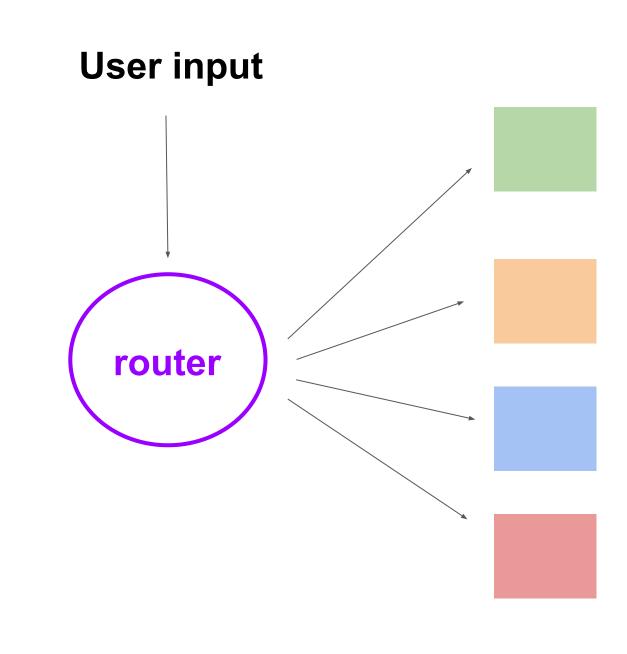
Read more about GOV.UK Chat

4

IAs, data scientists and content designers map conversational flows and taxonomies of intent for routing

GDS

- Hi, how are you? [**greeting**]

- Can I get my money back for this watch? [**refund**]

- How do I do x, y, z with my watch? [**technical**]

- Why are your watches so overpriced? [**opinion**]

User input

router

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Symbiosis:
AI optimising IA

GDS

1

Identifying and describing patterns in large datasets and content estates

GDS

★★★★★ **It's a perfect little cutie**

Reviewed in the United Kingdom on 21 January 2025

Colour: Matcha Green | Version: Without Kindle Unlimited | Style Name: Without Ads | **Verified Purchase**

Absolutely love it!

I brought this cutie so i can take it to work and out and about as my kindle signature doesn't fit comfortably in my little bag. I can safely say the basic is the 1st thing I pick up. My poor signature hasn't been picked up since this one arrived. No, it doesn't have the warm light and nope, it doesn't have the auto

Customers say ai

Customers find the Kindle lightweight and portable, making it easy to carry around. They appreciate its size, which is not too small, and that it doesn't affect the reading experience. Many find it simple to use and set up, with no messing around with sign-ins or passwords. The screen is easy to read in any light, with good contrast and white background, similar to paper.

AI-generated from the text of customer reviews

Select to learn more

✓ Lightweight | ✓ Size | ✓ Ease of use | ✓ Readability | ✓ Colour | ✓ Product quality |

✓ Brightness | Battery life

👑 GDS

2

Named entity recognition at scale

GDS
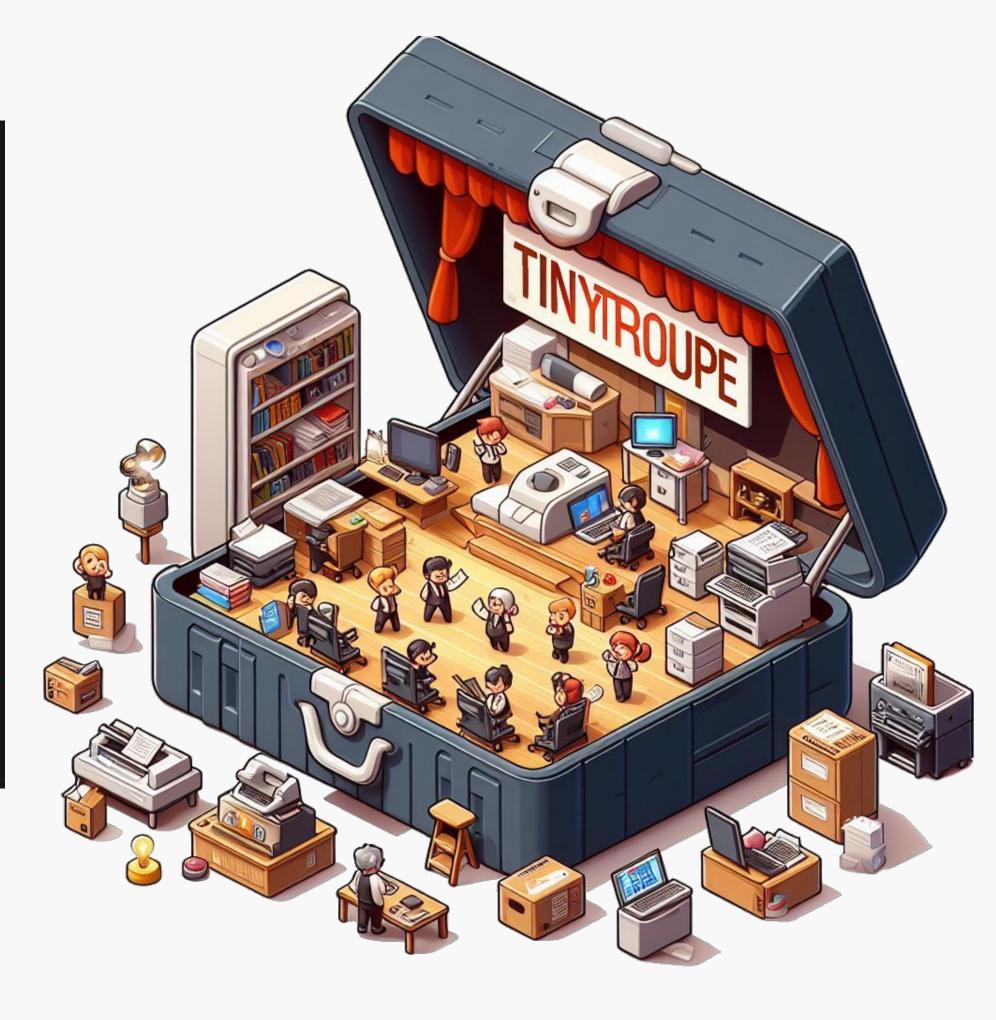
Ash Ketchum **PERSON** , a young trainer from Pallet Town **GPE** , traveled to the bustling city of Celadon **GPE** for the annual **DATE** Pokemon tournament held by the Indigo Plateau **LOC** . His loyal companion, Pikachu **PERSON** , was by his side as they navigated the crowded streets, passing by famous landmarks such as the Celadon Department Store **ORG** and the Game Corner **ORG** . As they made their way to the tournament, they encountered the villainous Team Rocket **ORG** , who were attempting to steal rare Pokemon from the nearby Safari Zone **LOC** . With the help of his friends Brock **PERSON** and Misty **PERSON** , Ash **PERSON** was able to thwart their plans and arrive at the tournament just in time to compete. The tournament was held in the Celadon City Gym **FAC** , home to the gym leader Erika **PERSON** and her team of grass-type Pokemon. Despite the tough competition, Ash **PERSON** and Pikachu **PERSON** managed to make it to the final round, where they faced off against a skilled trainer from the neighboring city of Saffron **GPE** . After an intense battle, Ash **PERSON** emerged victorious, earning the championship title and a prize of 10,000 Poke-dollars **MONEY** .

GDS

3

Generating synthetic data (and users!) for experimentation and research

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```
Jamal Edwards --> Maya Thompson-Scott: [CONVERSATION]
                    > I think using AI in government can bring several benefits, such as improving
                    > efficiency in processing data and making better decisions based on analytics.
                    > However, there are also drawbacks, like concerns about privacy and the
                    > potential for bias in AI algorithms. It's important to find a balance between
                    > leveraging technology and ensuring that it serves the public fairly.
                    + --> Jamal Thompson
                    + --> Nia Roberts
                    + --> ...others...
Maya Thompson-Scott acts: [THINK]
                    > Jamal made some good points about the benefits and drawbacks of using AI
                    > in government. I should contribute to this discussion by mentioning how
                    > AI can help improve public services but also highlight the importance of
                    > transparency and accountability in its use.
Maya Thompson-Scott acts: [TALK]
                    > I agree with you, Jamal. AI can definitely improve efficiency in
                    > government services, but we need to be cautious about privacy issues and
                    > potential biases. It's crucial that we ensure transparency in how AI is
                    > used and that it benefits everyone fairly. What do you all think about
                    > the role of public input in shaping AI policies?
Maya Thompson-Scott acts: [DONE]

Maya Thompson-Scott --> Jamal Edwards: [CONVERSATION]
                    > I agree with you, Jamal. AI can definitely improve efficiency in
                    > government services, but we need to be cautious about privacy issues and
                    > potential biases. It's crucial that we ensure transparency in how AI is
                    > used and that it benefits everyone fairly. What do you all think about
                    > the role of public input in shaping AI policies?
                    + --> Jamal Thompson
                    + --> Nia Roberts
                    + --> ...others...
Jamal Thompson acts: [THINK]
                    > I should share my thoughts on the role of public input in shaping AI policies.
                    > It's important to consider how the community can influence these decisions.
Jamal Thompson acts: [TALK]
                    > I think public input is essential in shaping AI policies. It allows the
                    > community to voice their concerns and needs, ensuring that the technology is
                    > used in a way that benefits everyone. Engaging with the public can help
```

4

Using AI to generate a range of ideas for human subject matter experts to build on

GDS

Navigation

Category label

Category label

ChatGPT-4o curation

ChatGPT 3.5 curation

Gemini 1.5 Pro curation

Accuracy check
By information architects and content designers

Final human curation
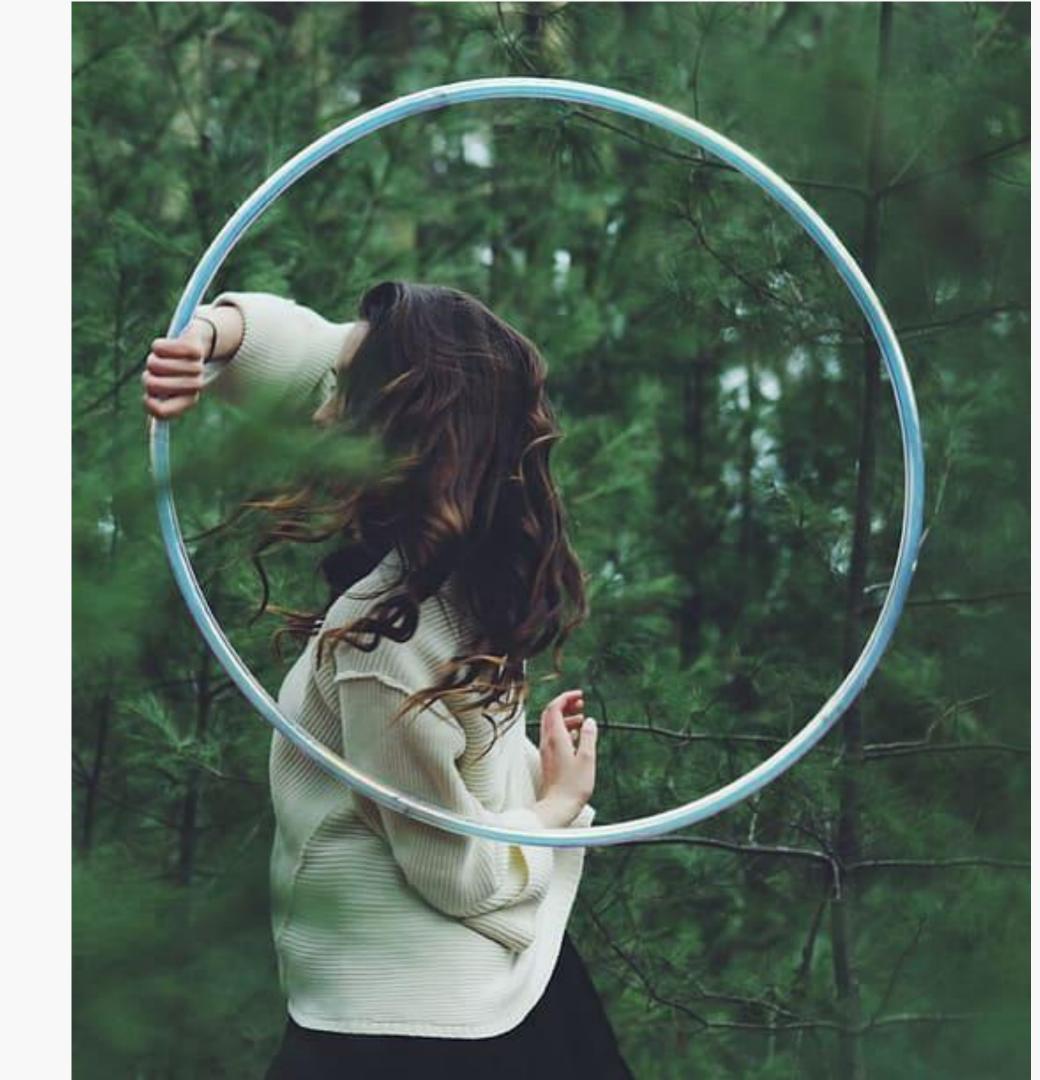Using the best from LLMs and subject matter knowledge

👑 GDS

The future...

Will we just become humans in the loop?

No

GDS

The evolution of IA will see us...

- Organising and connecting content and metadata in non-hierarchical ways to enable dynamic, user-driven experiences

- Connecting UCD and data thinking, with user and organisational needs

- Understanding AI capabilities and limitations, co-creating governance and guardrails to use AI safely and responsibly

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