## Working with content structure — an overview with GDS



## Cabinet Office

### **Rik Williams**

### Senior Content Strategist Government Digital Service (GDS) @Rik\_Williams

# I'm a new Content Strategist (back-end) at GOV.UK





"Perhaps because polish is so visible [...] many people erroneously believe it to be the most important part of writing. But *polish is merely the plaster on the walls of structure.*"

**Jack Hart** 







#### **Adapted from: Factor Firm**



#### **Adapted from: Factor Firm**



#### **Adapted from: Factor Firm**



#### **Source: Michael Andrews, Story Needle**

## Rendered design (web)



## Interaction design (app + web)





#### Lead Image

#### **Place name**

# Structural design (channel agnostic)

**Rating score** 

Place type

Call to Action



# **Session structure**

### Part A – talk

## Structured content – recap

Content structuring — primer



## Part B – mini workshops

### Pieces — deconstructing Atlas Obscura Reuse — remixing pieces of structure Going deeper — complexity hidden in C2As

# Part A – talk

### Part A — talk Structured content — recap Content structuring — primer



"Content that is divided into the **smallest reasonable pieces** and explicitly organised and classified in order to be understood and used by computers and humans."

**Mike Atherton** 



### "Structuring content within a well-defined content model **makes content scalable**, reusable, adaptable, and measurable."

#### **Maxwell Hoffman**



### "In a nutshell, structured content matters because you can get so much **more out of your content with a lot less work** — and get better analytics for tracking effectiveness."

**Rahel Bailie** 



#### "Well defined leads to well designed"

**Lindsay Sutton** 







**Source: Sophia Prater** 

### "People don't care about the containers, they care about the things they contain."

**Carrie Hane** 





#### Why structure content at all?



Presentation







**Localisation** 





#### Content structured for presentation



### Govspeak markdown applies semantic structure to content which then cascades into its presentation

# Body Preview markdown H<sup>2</sup> H<sup>3</sup> $\mathscr{O}$ 66 $\frac{1}{2}$ := Insert... $\checkmark$

#### ## This is an H2 heading

This is, instead, a plain piece of text. It will probably contain the first paragraph or two of this story. If there's more to say about the topic it's worth splitting it in two more sub-headings, and use this copy as an intro.

#### ### This is an H3 heading

Headings help readers (and screen readers) scan the content and understand what this is about. The hierarchy of headings also tells reader (visually) and screen reader (via the number) that this topic still refers to the previous one.

#### ### This is a second H3 heading

This tells readers that this is another sub-topic of the topic headed by the H2. If we had some bullet points they would look like this:

- first list item - second list item





# Content structured for **retrieval** and **machine learning**



🍥 doccano

✓ This is a document for sequence labeling...

This is a another document for sequence ...

 $\sim$ 

- Europe is a continent located entirely i...
- Shinzō Abe is a Japanese politician serv...
- ✓ 夏目漱石(なつめそうせき、1867年2月9日(慶応3年1月5日)-191...

Person p Organization o Other z Location I Date d
Shinzō Abe × is a Japanese × politician serving as the 63rd × and
current Prime Minister × of Japan  and Leader of the
Liberal Democratic Party × (LDP ×) since 2012 ×, previously
being the 57th × officeholder from 2006 × to 2007 ×. He is the
third-longest serving Prime Minister × in post-war Japan × .[1]
Abe × comes from a politically prominent family and was first elected
Prime Minister × by a special session of the National Diet × in September 2006 × . Then aged 52 × , he became Japan's ×
youngest post-war Prime Minister × and the first to have been born
after World War II ×. Abe × resigned on 12 September 2007 × for
health reasons. He was replaced by Yasuo Fukuda ×, the first in a





# Content structured for **search optimisation** (Schema.org microdata)



apply for a uk visa

https://www.gov.uk > browse > visas-immigration

Google

#### Visas and immigration - GOV.UK

Check if you need a **UK visa**, how to **apply**, manage your **application**, biometric residence permits (BRPs), share codes. Visit the **UK**.

...content extracted from a mainstream guide and presented in a 'People also ask' featured snippet

People also ask 👘		
How do I apply for a visa to visit the UK?	~	/
How much is UK visa fees? Standard Visitor visa - for UK, Isle of Man, Jer	sey and Guernsey	
Visa types	Visa application fee (USD)	
Short-term (up to 6 months, single or multiple entry)	121	
Longer-term (valid for up to 2 years)	456	
Longer-term (valid for up to 5 years)	813	
Longer-term (valid for up to 10 years)	1015	
5 more rows		





#### Content structured for syndication



#### Headline

Sta		

Byline

#### **Body text**



article: {

- headline: "The hounding of Greta Thunberg is proof that the right has run out of ideas",

byline: "Aditya Chakrabortty", body: "Over the past few day

"Over the past few days, something extraordinary has happened in our politics. A bunch of grown men have begun bullying a schoolgirl. Perhaps you already know who I mean: Greta Thunberg, she of the pigtails and school strikes, who came to Westminster last week and slammed adoring MPs for posturing rather than taking action on climate breakdown, then hoofed it over to St Pancras for the 36-hour train ride back to Stockholm. ...",

newspaperPageNumber: "13", legalStatus: "cleared",

... ... wordcount: "349"







Print

#### Source: Sakib Supple, The Guardian

"Reuse: The practice of using existing content components to develop new documents."

**Ann Rockley** 




#### Content structured for localisation



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Messages Translation Results - en-GB_ro-RD Concordance Search     Political and Security Committee (PSC)     Political and Security Committee (PSC)	Westgevorsserg/May 2	н	Kenter Strategic Review.	Incomandar preunginaa nisiunii PSAC a Uniunii Europene în Niger (EUCAP iahel Niger) cu doi ani, în onformitate cu revizuirea trategică.		
<ul> <li>The Political and Security Committee (PSC) monitors the international situation in the</li> <li>areas covered by the Common Foreign and Security Policy (CFSP) and the Common Security and Defence Policy (CSDP).</li> </ul>	٥	e e	2     Political and Security     10     Committee (PSC     Security       3     AND SECURITY COMMITTEE     10     Committee (RC     10       4     Committee (RC     10     Committee (RC     10	nitetului politic și de uritate (COPS MITETUL POLITIC Și nitetului de revizuire litete (JO		
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### Part A — talk Structured content — recap Content structuring — primer



"A content model breaks content [...] down into its component parts, describes them in detail, and maps out how they relate to one another."

Lauren Pope



#### "Content models\* enable us to store, process and publish content as granular units instead of whole documents."

**Cleve Gibbon** 

\*+ maps (and other documentation)



#### **Source: Michael Andrews, Story Needle**

#### Content Model

# The **available pieces** of content and metadata and their relationships to each other.





# The **required pieces** of content and metadata assembled to meet a goal.





#### Source: Brent Heslop, ContentStack



#### Source: Brent Heslop, ContentStack



	Print a copy	Print a copy	Print a copy	Rate product	Post my Review	Submit your story	Reply to Comment	Submit your Tip
	List of conditions / diseases	List of symptoms	List of treatments (therapies, drugs etc)	List of products	List of reviews	List of real stories	List of Comments	List of tips
	2	<u>-</u>	Ō	) T		-		Ø
	Condition	Symptom	Treatment	Product	Product Review	Real Story	Real Story Comment	Тір
NESTED OBJECTS	Name (Alzheimer's disease; vascular dementia)	Name (memory problems; agitation)	Title (Donepezil; Rivastigmine ; Galantamine ; Memantine)	Name (Radio Controlled Day Clock ; 63 Piece Jigsaw Puzzle - Burano Island)	Name (Sue	Title: 'Remembering Mum on Mother's Day: Vicki's Memory Walk story'	Name (Anne Avinyia)	Name (Tip for listening to a person with dementia)
Condition	has 1-many related conditions	has 1-many conditions where it presents	has 1-many conditions which it helps	has 1-many conditions which it helps		has 0-many conditions which are featured		has 0-many conditions
Symptom	has 1-many symptoms which affect the person	has 1-many related symptoms	has 1-many symptoms which it helps	has 1-many symptoms which it helps		has 0-many symptoms which are featured		has 0-many symptoms
Treatment	has 0-many treatments which can help	has 0-many treatments which can help	has 1-many related treatments (therapies)	has 0-many treatments which it is part of		has 0-many treatments which are featured		has 0-many treatments
Product	has 0-many products which can help	has 0-many products which can help	has 0-many products which can help	has 1-many products which are related	has 0-many Products with Reviews	has 0-many products which are featured		has 0-many products
Real Story	has 0-many real stories about it	has 0-many real stories about / featuring it	has 0-many real stories featuring it	has 0-many real stories featuring it		has 1-many related real stories	has 0-many Real Stories with Comments	has 0-many real stories
Tip	has 0-many tips which help manage it	has 0-many tips which can help manage it	has 0-many tips about it	has 0-many tips about how to use it well		has 0-many tips included in it		has 0 nested tips
	Lead Image	Lead Image	Lead Image	Lead Image	Review	Summary	Comment	Tip
	Pictogram ??	Pictogram ??	Pictogram ??	lmage Gallery	Star rating	Image	Email	Image of Tip
	Definition	Definition	Definition	Description	Verification question	Author	Date	Video of Tip

🗄 🍱 Trello 🛛 Workspaces 🗸 🛛 R	Recent $\checkmark$ Starred $\checkmark$ Templates $\checkmark$	Create		Q Search
Object Map - Memory Clini	c Booking Service 🙀 💿 Public	🔍 Board 🖽 Table 🗸		
Condition	· Appointment ···	Consultant	Location	Auxillary/support (non medical)
Object guide ≣	Object guide	Object guide ≣	Object guide ≣	Object guide ≣
Name / Medical name	□ ID number 章 ⓒ Required	Name ≡ ⊘ Required	Name ≣ ⊙ Required	 Name ≣ ⊘ Required
Definition	NHS number	Current NHS / Uni post ≡	location has 1-many conditions ≡	Description ≡ ⊙ Required
Required Content source: Api via NHS.net	Trust number ② Required	Specialisms	Phone	Opening times ≣
Symptoms ≡ ⊙ Required Content source: Api via NHS.net	Date/time	Sub specialism ≣	Address © Required	STATUS: open,closed ≣
Causes ≡ Sureness: s2	Appointment has 1 location © Required	Consultant treats 1-many eye conditions	Geo-location	Phone
Content source: Api via NHS.net	Description	Consultant work in 1-many	© Required	Email Ratings
Sureness: s2	appointments have 1-many consultants attending	locations =	Covid rules	=
Diagnosis	Appointment has 0-1 eye	Photo ② Required	© Required	services have 1-many locations ≣
■ Sureness: s1 Content source: Written in-house	conditions ≡	Research interests	=	services have 0-many appointments available for booking
Treatments for ≡ Sureness: s2	Covid rules	Ţ Trials	Capacity ≡	services have 0-many related
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#### The Triple Diamond



### Content-first (or bottom-up) design means...



#### Thinking of the **system**, *then* the detail.



#### Alignment with authentic mental models.



#### Making the **right thing** the first time.



# Inclusive/accessible via consistent and predictable wayfinding across content.



#### Streamlined projects with happier teams.



# Simplified, de-cluttered **content-first** designs.



#### Content-first (or bottom-up) design is...



# User Researcher-friendly — synthesising research insights into structure will expose high-risk assumptions/questions *early*.

#### The Triple Diamond



### **Content Designer-friendly** — gives early engagement and enables visibility to the types and scale of content that might need creating and governing.

### **Content Strategist-friendly** — breaking data into its fundamental components helps sensemaking by wrangling complexity into understanding.

### Interaction Designer-friendly — provides the pieces they have to work with and a methodology for identifying things that will need patterns in any design system.

**Stakeholder-friendly** — mapping and modelling content creates opportunities for subject matter experts to contribute from the outset and at their level of expertise.







# The fundamental **units of content** in the users mental model of the domain.



#### "A content model should honour and respect the users mental model."





#### How the Things relate to each other.





# The **affordances** that the content Things offer users on the front *and* the back-end.





# The specific pieces of **core content** and **metadata** that **build instances** of content Things.




#### Sage and onion Yorkshire puddings

★ ★ ★ ★ ℑ ratings

Rate this recipe



These sage and onion Yorkshire puddings are perfect with roast pork or chicken.



**By** The Hairy Bikers From The Hairy Bikers Go North



Shopping list



Ingredients

**Related Recipes** 



Mary Berry's Yorkshire puddings By Mary Berry

See more Best roast dinner sides recipes (39)



James Martin's Yorkshire pudding By James Martin

See more yorkshire pudding recipes (11)

#### This recipe is from...



Recipe	Name	Stars	Rate
Chef	Image	Reviews	Save
Show	Lede	Size	Print
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			Add



# Part B — mini workshops

# Part B — mini workshops Pieces — deconstructing Atlas Obscura Reuse — remixing pieces of structure Going deeper — complexity hidden in C2As



# Reverse engineer an Instance of a Place from Atlas Obscura, a digital magazine and travel company.



# Working individually, find as many pieces of content structure as you can.





Add Photos to



:



## **Core Content**

## Metadata

# **Calls-to-Action**





# bit.ly/dwp-mural



# bit.ly/dwp-ao



# 7 mins





Place	Name	Status	Edit
Contrib.	Lede	LatLong	Add Img
Trip	Images	Counter	See All
Story	Caption	Topics	Add List
Course	Body	Country	View Map

GDS

# Part B — mini workshops Pieces — deconstructing Atlas Obscura Reuse — remixing pieces of structure Going deeper — complexity hidden in C2As



# Reuse, remix and reassemble Attributes for contextual navigation in a digital interface.



# Select and prioritise a handful of Attributes for use in a 'card' interface component in Atlas Obscura.



A schematic of a card component in Google's Material design system.



#### Potential trips

Based on your recent searches and other activity (j)





	ts in digital content experiences. They can turn up in ther Things/Types. Cards provide summaries and ding.
You can sketch designs, or pencil-in the name	es of the Attributes used (or both!).
Attributes     Start by listing your top 5 (or so) prioritised     Attributes (core content and/or metadata) for a     Place from Task 1.	2. Mini Card Focus on the top 1-3 Attributes.
0 0 0	3. Grid Card Tip: more than 5 Attributes (and/or C2As) might be a sign th your design intention is too complex.
<ul> <li>Tip: does your card need a Call-To-Action? Should a User be able to take an action on/ from the Card itsel?</li> <li>Discussion [bonus]: how could you design the card so that it is perceived as the Thing. For example, in a visual design, can it be presented as being of a certain type (and not look the same as something else). So a Place looks like Place, but a card for another thing, like a Trip, looks like a Trip.</li> </ul>	
Why might this be important for users? How might you achieve this using attributes?	
4. Table Row Card [bonus task] Content might need to be respond to and be redrawn ac pixels and their orientation. Try to keep your design/attri	

# 7 mins



ATTRACTIONS TRIPS MAP LEADERBOARDS

## **Unusual Attractions in Leeds**



### KIRKSTALL, ENGLAND

Artists have long been drawn to these atmospheric 12th-century ruins.



#### LEEDS, ENGLAND Horned Helmet of Henry VIII

The bizarre headgear looks like it was made for a fool, not a king.



### LEEDS, ENGLAND

This Victorian graveyard in Leeds is a macabre collection of beautiful tombs and memorials.



LEEDS, ENGLAND Royal Armouries Museum One of three sites in England that house the National Collection of Arms and Armour.

## Incredible Adventures You Can Take This Year!

There is still time to book on these remaining 2022 trips.



#### WILDLIFE & NATURE Magical Galápagos: Wonders of Evolution

Ecuador Mar 5-12, 2023 From \$7,590 USD

+ 2 other dates



HISTORY Mexico City to Oaxaca: Tracing the Threads of Frida Kahlo's Dresses

Mexico Nov 11-19, 2022 From \$3.870 USD



WILDLIFE & NATURE Iceland in Winter: Natural Wonders & Ancient Legends

Iceland Nov 5-12, 2022 From \$3.685 USD

+13 other dates



HISTORY Romania: Castles, Ruins, and Medieval Villages

Romania Sep 30-Oct 10, 2022 From \$3,350 USD

+6 other dates

+1 other date

# Part B — mini workshops

## Pieces — deconstructing Atlas Obscura

## Reuse — remixing pieces of structure

# Going deeper — complexity hidden in C2As

## C2A in a prototype

## ...but what happens next? (2) (3) Often overlooked structure, mechanics etc.



# Atlas Obscura relies on Contributors (users worldwide) to create and add photos for Places they visit.



This is (mainly) so that thousands of Places in the system can have 1-many photos of them. But how does this happen?



#### **Community Contributors**



ADDED BY Dr Alan P Newman



EDITED BY SEANETTA

PUBLISHED

April 28, 2021

EDIT THIS LISTING

Make an Edit 🖍 Add Photos 🖻



A stairwell display. MTAYLOR848











# 7 mins















## "Well defined leads to well designed"

**Lindsay Sutton** 





# Cabinet Office

# Thanks!

#content @Rik\_Williams rik.williams@digital.cabinet-office.gov.uk

# Discussion