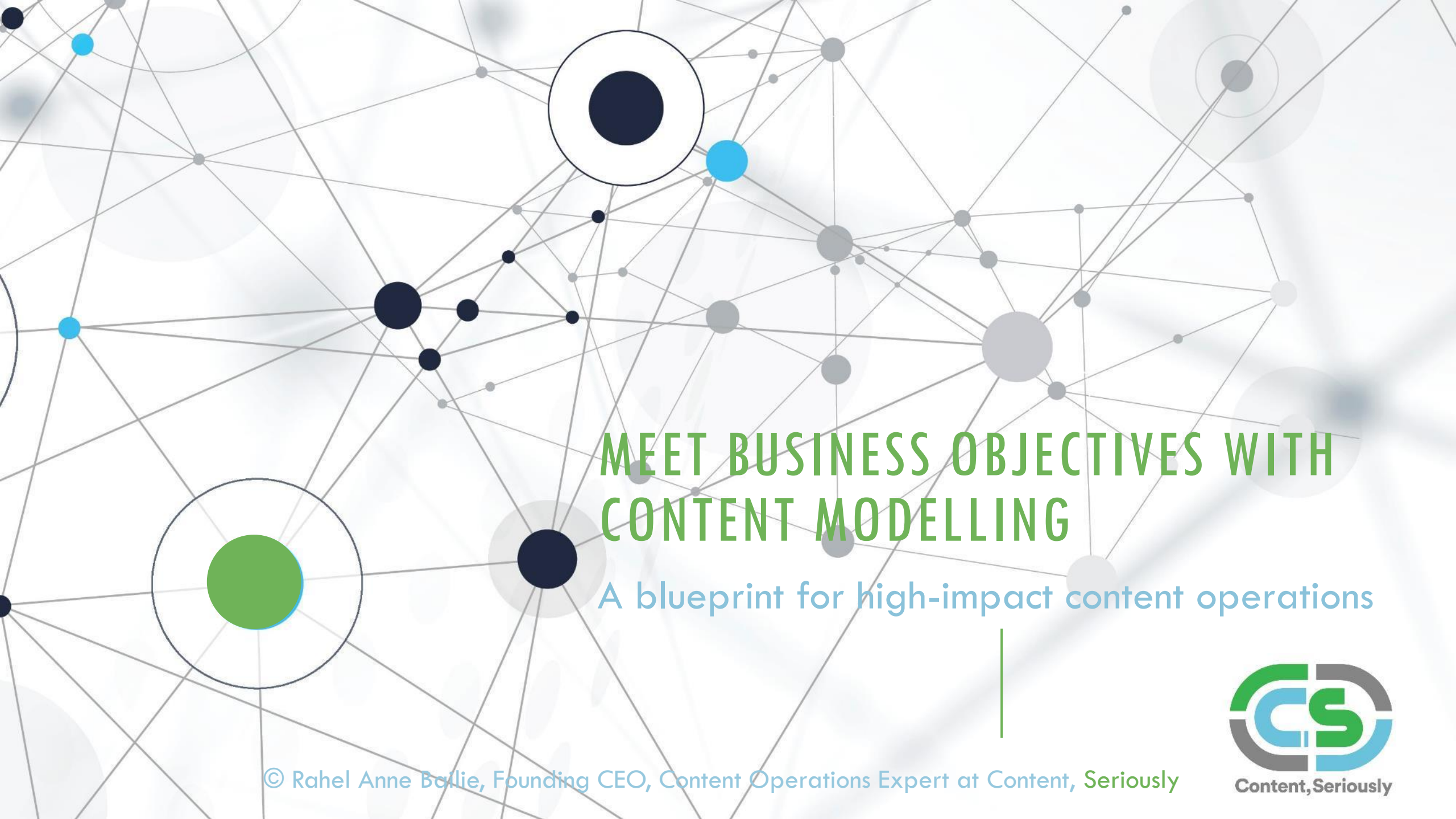


MEET BUSINESS OBJECTIVES WITH CONTENT MODELLING

A blueprint for high-impact content operations

Content, Seriously

WHAT YOU WILL LEARN IN THIS SESSION

- Reasons for a content model
- What goes into a content model
- Basic principles of intelligent content
- Intelligent content in action
  - Applying editorial and technical structures
- Adding meaning through semantics
  - Examples of potential content uses
- Enabling content operations
- Wrap-up

REASONS FOR A CONTENT MODEL

USE FULL POTENTIAL OF CONTENT

Supports omnichannel delivery

- Segment by audience
- Segment by stage in the user journey
- Segment by product

Supports multichannel publishing

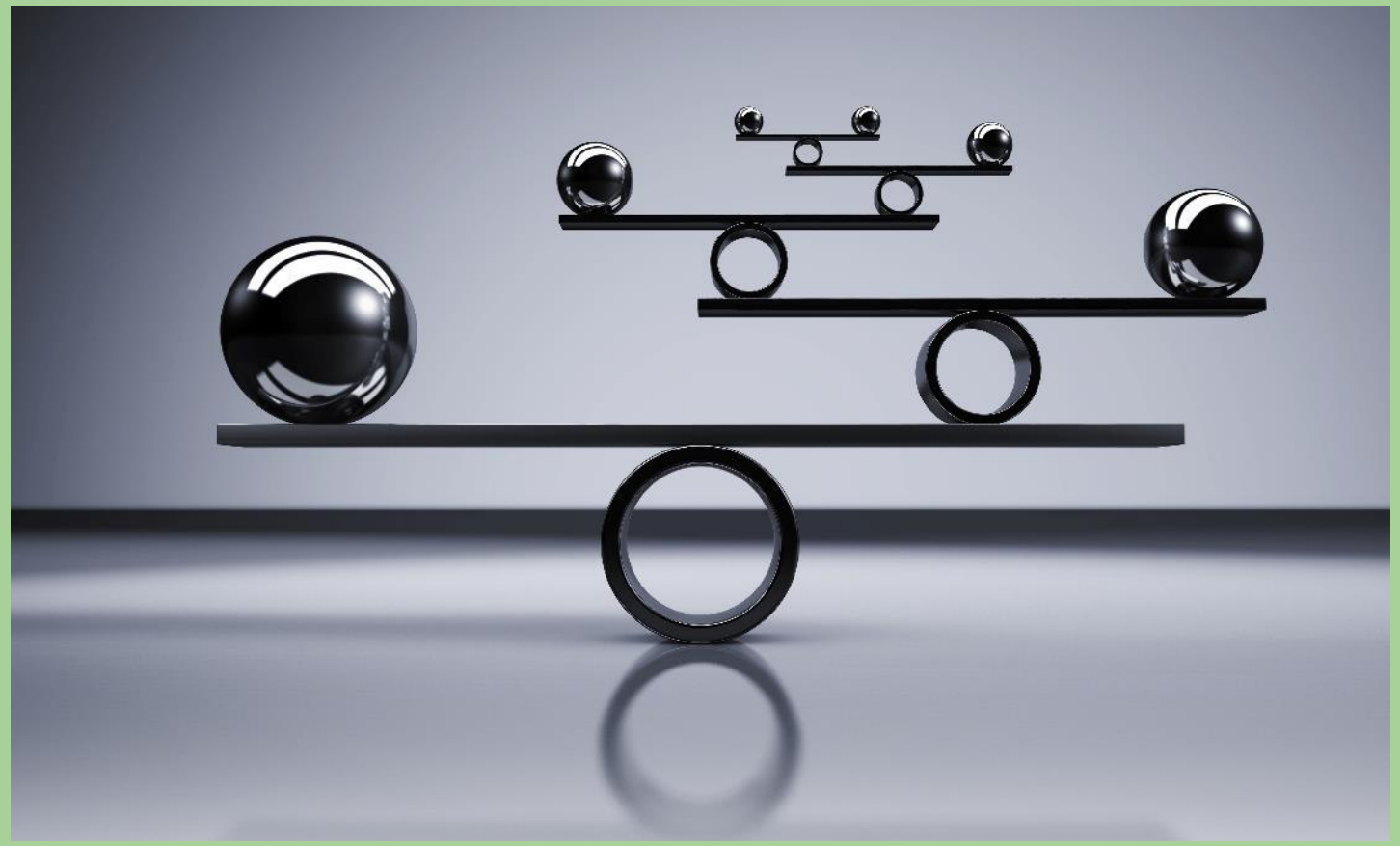
- Output by device
- Output by medium

GAIN OPERATIONAL EFFICIENCY

- Cross-channel delivery
  - Use the content in many contexts
- Single source
  - Create once and re-use multiple times
- Add metadata effortlessly
  - Use predefined categories of attributes
- Apply styling at delivery time
  - Automatic styling for any output

TASK: LIST YOUR NEED FOR A CONTENT MODEL

- ❑ Controlling the content
- ❑ Making the CMS work
- ❑ Auto-serving up of content
- ❑ Aggregating of content



WHAT GOES INTO A CONTENT MODEL

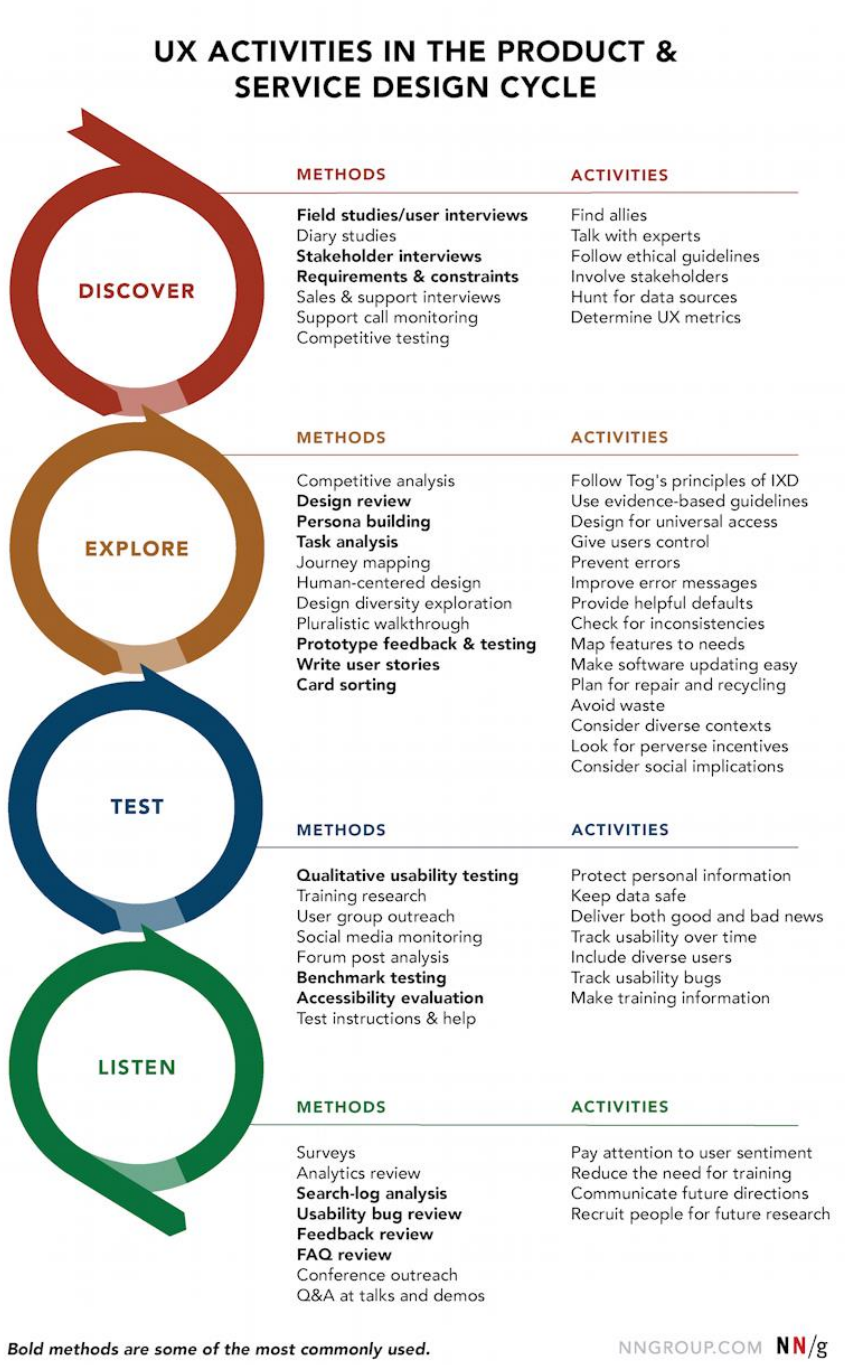
CONTENT MODEL IS A CULMINATION OF THESE SIX ACTIVITIES

1. User research
2. Personas
3. User journeys
4. Domain models
5. Taxonomies / ontologies
6. Content types

USER RESEARCH

Goal: To get enough information that you can create good personas and user journeys

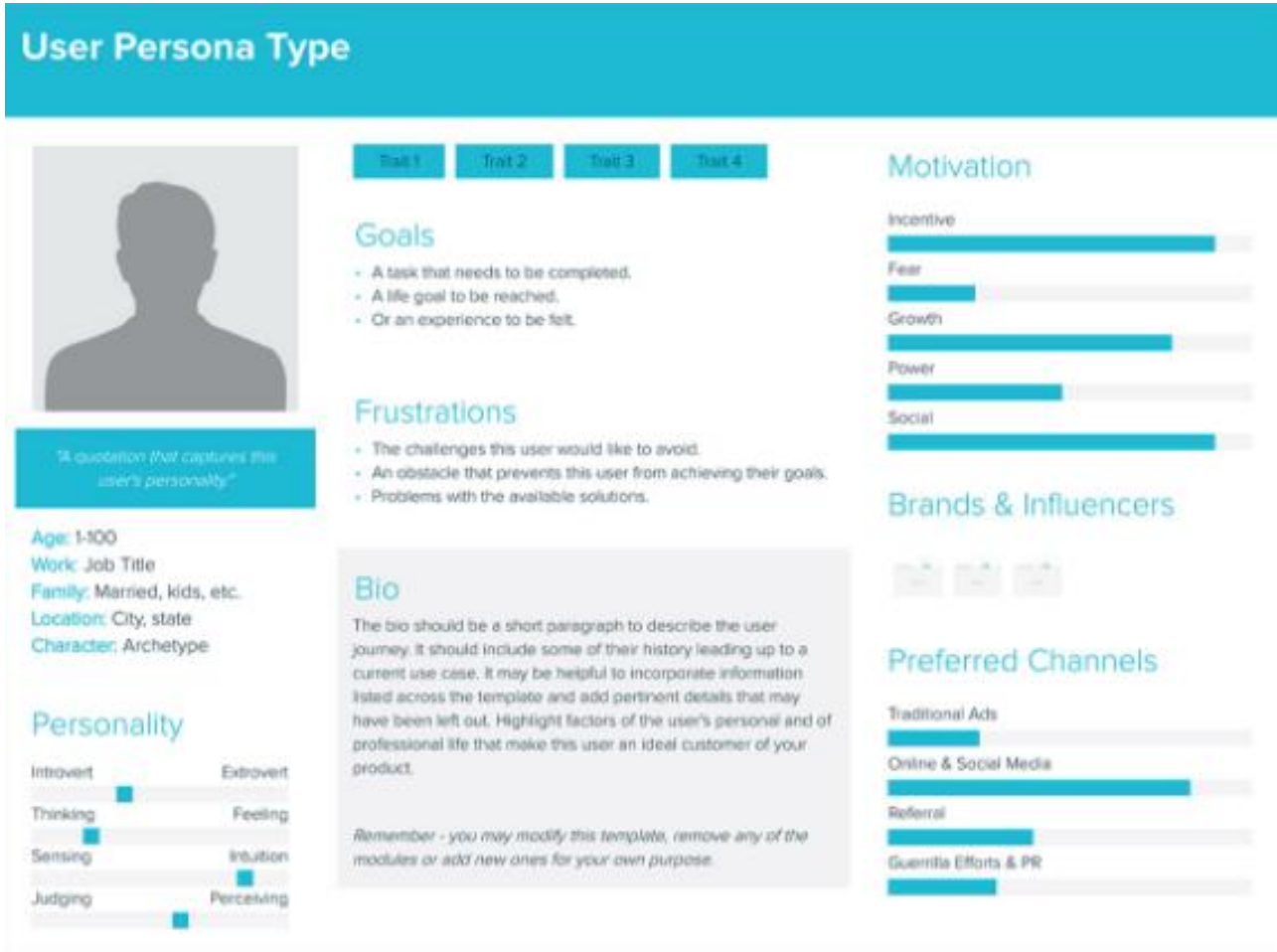
- You can use one of the many established research methods
- If you can't speak to users directly, find proxy users
- Do some guerrilla research



PERSONAS

Goal: Understand the people who will use your product or service

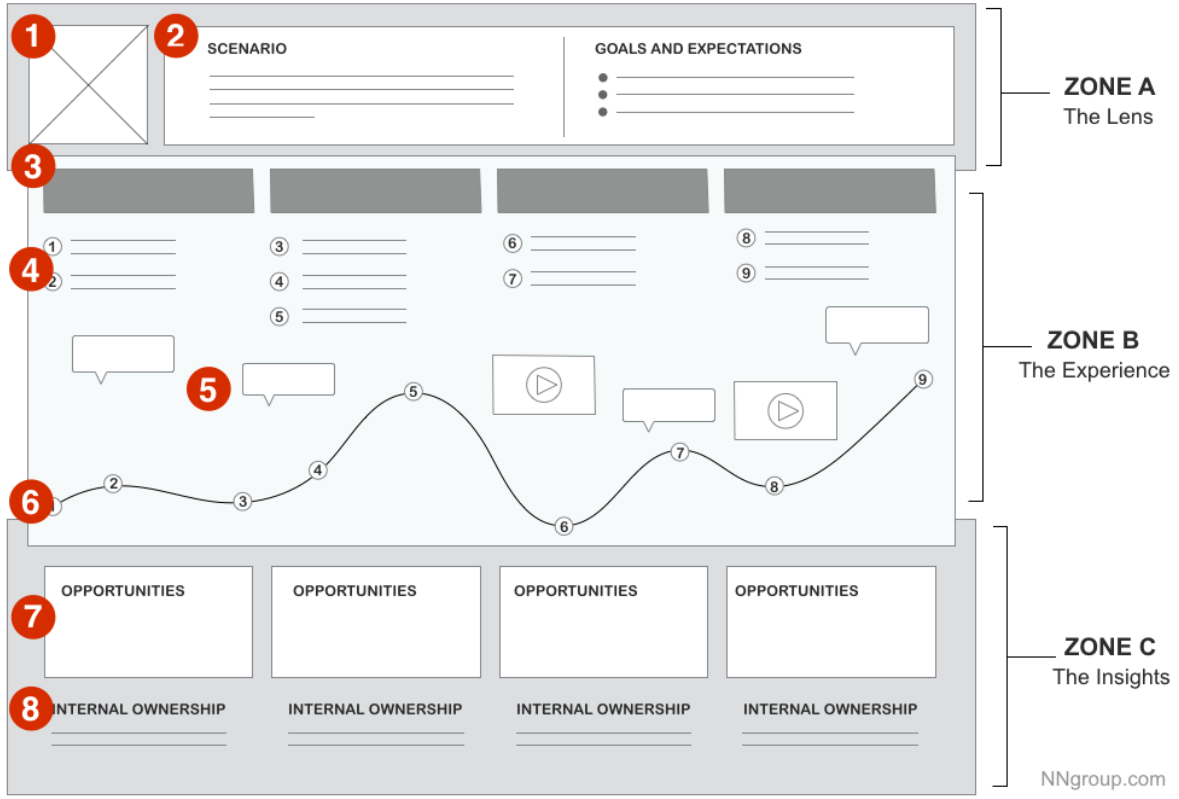
- You don't want market segment personas; you want to use behavioural personas
- Use personas well; they aren't specific people, but a representation or archetype of your users



USER JOURNEYS

Goal: To understand all the touchpoints with a user, from the beginning to end of a service

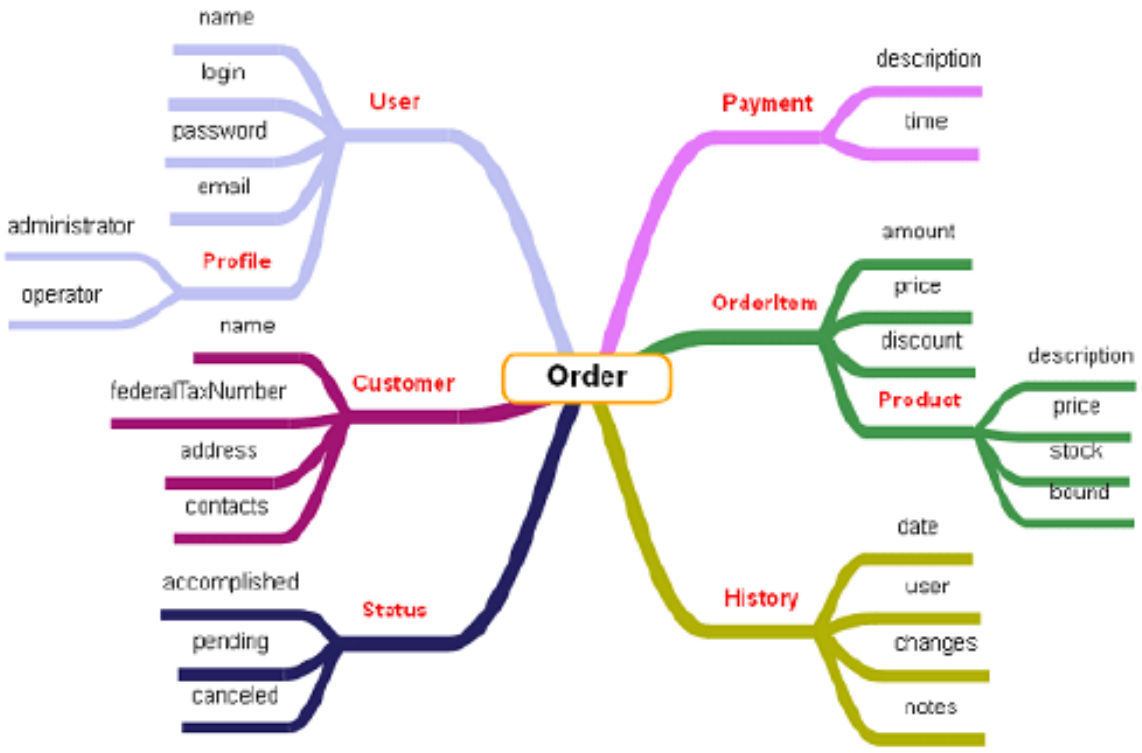
- A journey map is created from the perspective of the user
- The journey may begin before they interact with your service and goes across all channels
- The journey captures the experience and insights through the lens of the user or customer



DOMAIN MODELS

Goal: To diagram an abstract representation of a web of interconnected objects that allows you to define the elements of a domain

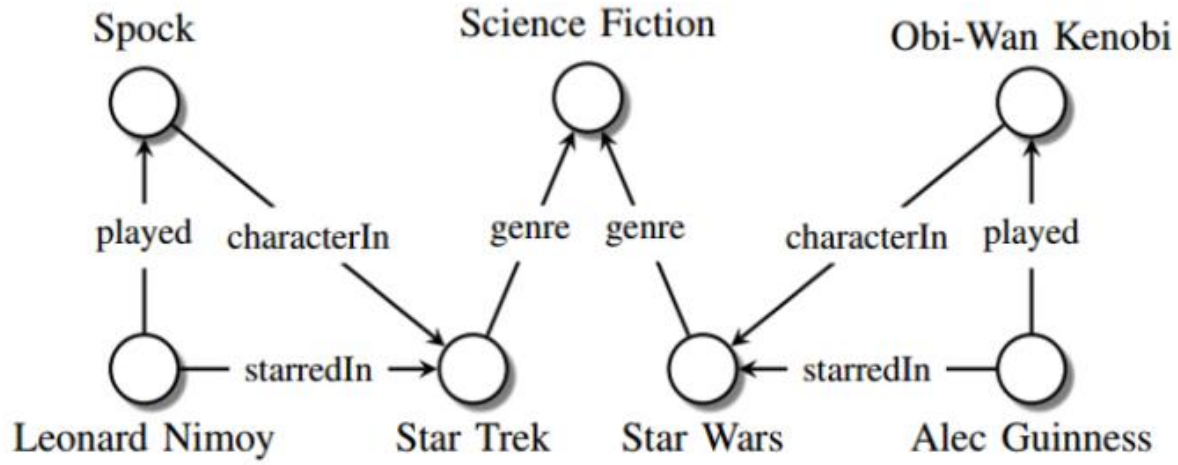
- The domain model is the precursor to the content model
- There is no single way for notation of a domain model – you can use a mind map, groups of sticky notes, or any other visual representation



TAXONOMIES AND ONTOLOGIES (KNOWLEDGE GRAPHS)

Goal: To categorise and create relationships in order to create a network of contextual content

- A taxonomy involves organising content into categories with controlled terminology
- An ontology, or knowledge graph, builds on a taxonomy by creating conceptual relationships that improve context



Source: Maximilian Nickel et al. A Review of Relational Machine Learning for Knowledge Graphs: From Multi-Relational Link Prediction to Automated Knowledge Graph Construction

CONTENT TYPES

Goal: To codify groups of elements that come together to create a particular content microformat (such as an event, a person, an organisation, etc.); content patterns that automate content use, delivery

- The most popular set of content types for presentation layers (such as a Web CMS) is schema.org
- Authoring-side content types are often custom-built, though there are schemas such as DITA, DocBook, and a host of other schemas

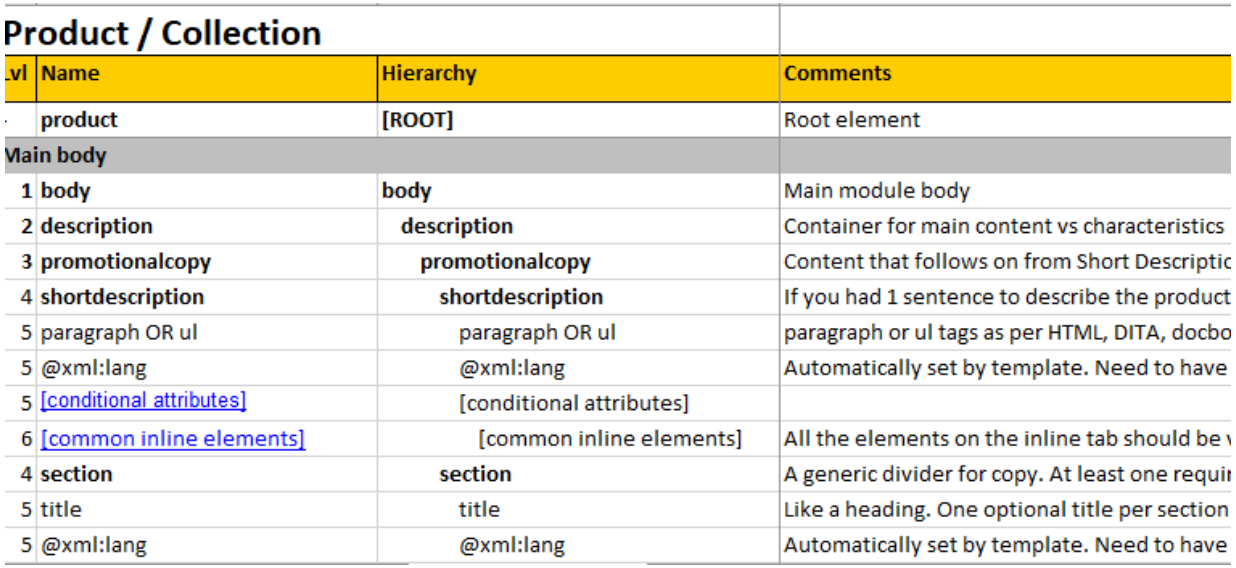
Article			
			Type: Media release - more metadata and taxonomy an
SEO Title	R		
SEO Summary	R		
SEO keywords	R		
Headline	R		Image, Article, or must the user click on the Continuation link? [Continuation link has been superceded with different form of navigation. Now: clicking any component (image, headline, text) takes the user to the content page - the entire area becomes a single live link. When the image is a video, the video plays in the overlay; cliking the headline or text becomes a single live link to the
Image	O		
Image Alt Text	R		
Article Summary	R		
Article Text	R		
Spill Page Text	O		For articles exceeding set page length - where / how is this spill text rendered? [Additional content pages of the same format, with a horizontal page navigator along the bottom of each page for 1..x, Back, Next]
Contact Info	O		News releases
Date Stamp			Date stamp wherever possible - how will this be used? Do we need to include Publication Date / Expiry

AND FINALLY, THE CONTENT MODEL

Goal: To create a representation of the collective content types and understand their relationships in order to automate delivery of content (for example, in a Web CMS).

Content modelling brings together the six previous activities to allow content to work together as a cohesive whole.

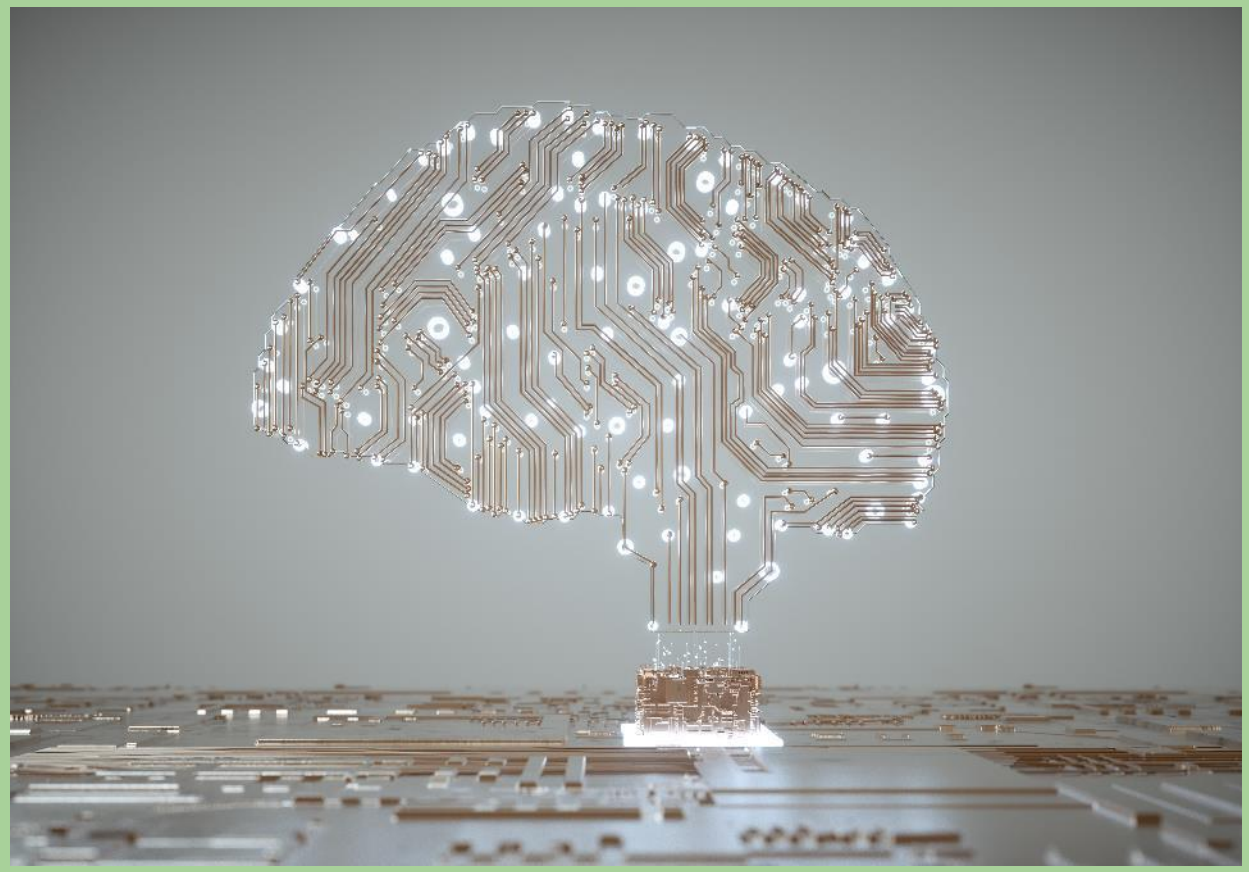
Content models should be system, channel, and interface agnostic.



Product / Collection			
Lvl	Name	Hierarchy	Comments
	product	[ROOT]	Root element
Main body			
1	body	body	Main module body
2	description	description	Container for main content vs characteristics
3	promotionalcopy	promotionalcopy	Content that follows on from Short Descriptic
4	shortdescription	shortdescription	If you had 1 sentence to describe the product
5	paragraph OR ul	paragraph OR ul	paragraph or ul tags as per HTML, DITA, docbo
5	@xml:lang	@xml:lang	Automatically set by template. Need to have
5	[conditional attributes]	[conditional attributes]	
6	[common inline elements]	[common inline elements]	All the elements on the inline tab should be v
4	section	section	A generic divider for copy. At least one requir
5	title	title	Like a heading. One optional title per section
5	@xml:lang	@xml:lang	Automatically set by template. Need to have

TASK: PREPARE FOR THE CONTENT MODEL

- Carry out user research.
- Develop personas for each primary audience, to define their needs.
- Map the user journeys to determine the touchpoints for content.
- Create a domain model for your product area.
- Put together a content taxonomy.
- Create any content types that you need.



INTELLIGENT CONTENT: KEY TO A FLEXIBLE MODEL

WHAT IS INTELLIGENT CONTENT?

Intelligent content is:

- Structurally rich
- Semantically categorised

and so is

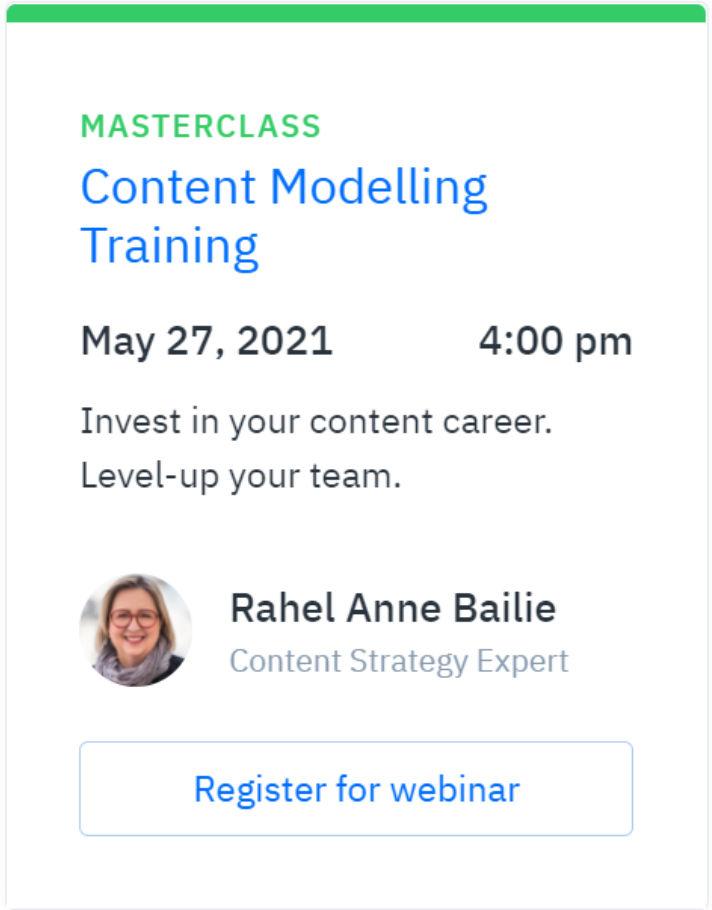
- Automatically discoverable
- Reusable
- Reconfigurable
- Adaptable

WHAT THAT MEANS

In practical terms, structurally rich means that content is structured in a way that computers can understand how to process it.

EXAMPLE OF AN EVENT SCHEMA (STRUCTURE)

Element	Value	Instantiation
Event category	Alphanumeric (Max char)	Masterclass
Event title	Alphanumeric (Max char)	Content Modelling Training
Event date	ISO 8601 date format	May 27, 2021
Start time	ISO 8601 date format	4:00 PM
Duration	Number HH:MM	02:00
Location	Place	[Online URL]
Teaser	Alphanumeric (Max char)	Invest in your content career. Level up your team.
Image	.jpg or .png	rab_headshot.jpg
Speaker	Person	
Title	Alphanumeric (Max char)	Content Strategy Expert
CTA label	Alphanumeric (Max char)	Register for webinar



STANDARDS: SCHEMA.ORG

Event

Thing > Event

An event happening at a certain time and location, such as a concert, lecture, or festival. Ticketing information may be added via the 'offers' property. Repeated events may be structured as separate Event objects.

Usage: Between 100,000 and 250,000 domains

[more...]

Property	Expected Type	Description
Properties from Event		
aggregateRating	AggregateRating	The overall rating, based on a collection of reviews or ratings, of the item.
attendee	Person or Organization	A person or organization attending the event. Supersedes attendees.
doorTime	DateTime	The time admission will commence.
duration	Duration	The duration of the item (movie, audio recording, event, etc.) in ISO 8601 date format.
endDate	Date	The end date and time of the item (in ISO 8601 date format).
eventStatus	EventStatusType	An eventStatus of an event represents its status; particularly useful when an event is cancelled or rescheduled.
inLanguage	Text or Language	The language of the content or performance or used in an action. Please use one of the language codes from the IETF BCP 47 standard. Supersedes language.
location	Place or PostalAddress	The location of the event, organization or action.
offers	Offer	An offer to provide this item—for example, an offer to sell a product, rent the DVD of a movie, or give away tickets to an event.

WHAT THAT MEANS

In practical terms, semantically categorised means that the content has metadata attached that gives information meaning, so that the content can be processed with more specificity.

NO SEMANTIC CATEGORISATION

Image

Image

A BIT OF SEMANTIC CATEGORISATION

Icon

Icon

MORE SEMANTIC CATEGORISATION

Male Icon

Female Icon

ADD EVEN MORE SEMANTICS

symbol, airport, toilet, gender, black

SEMANTICS + CATEGORISATION

- Attributes
  - Type of flag
- Tags
  - <tape>flag</tape>

Taxonomy structure

- Office Supplies
  - Labels and Flags
    - Flags
      - Tape Flags

WHAT THAT MEANS

In practical terms, automatically discoverable means that search engines can find your content because it understands not only the words but also the intent

AUTOMATIC DISCOVERY: “WINE BAR”

Rating ▾ Hours ▾ Visit history ▾

Traders Wine Bar

4.5 ★★★★½ (84) · Wine bar

Ivory House, Central Basin St Katharine Docks Tower, Bridge

✕ Dine-in

40 Maltby Street

4.6 ★★★★½ (303) · ££ · Wine bar

40 Maltby St

Stalls for fresh produce & artisan fare

AUTOMATIC DISCOVERY: “BUY WINE BAR”

Ads · Browse buy wine bar

Chester Dove Grey Wine…
£325.00
The Cotswold C..

By Shopzilla

Finley 15 Bottle Wine Cabinet…
£296.99
Wayfair.co.uk
★★★★★ (41)
By Productca…

Industrial Wine Cabinet Wine…
£745.99
Homary.com

By Google

Nkuku Obra Bar With Wine Gla…
£495.00
Nkuku

By Adapt

Home Bar - Drinks Cabinet…
£694.99
Homes Direct 3...

By Onefeed

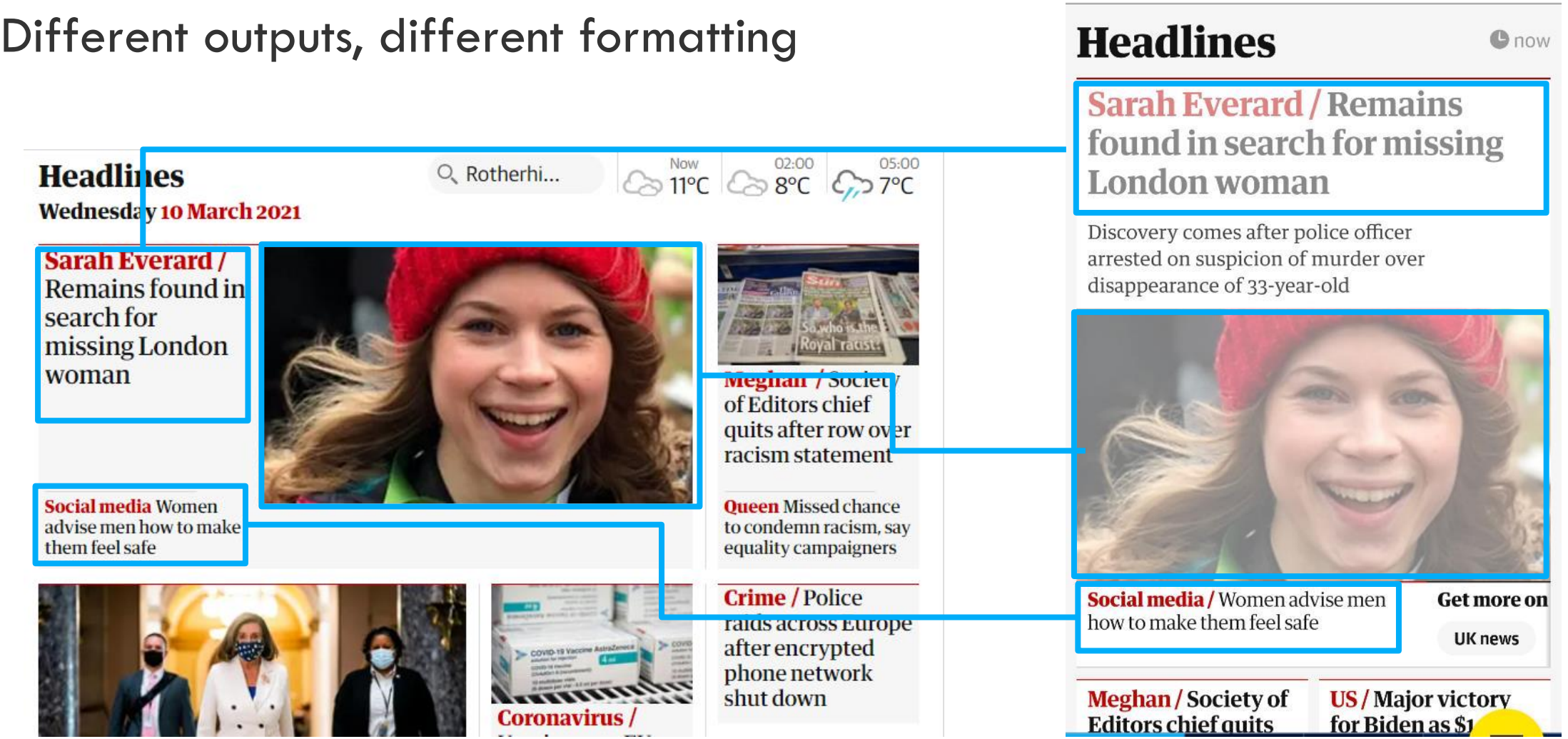
WHAT THAT MEANS

In practical terms, content that is reusable, reconfigurable, and adaptable means that the content is flexible enough to be used in different ways to meet more needs.

Adaptive content is designed to adapt to the needs of the customer, not just cosmetically, but also in substance and in capability. Adaptive content automatically responds to the screen size and orientation of any device, but goes further by displaying relevant content that takes full advantage of the specific capabilities of the device being used. – *Charles Cooper, The Rockley Group*

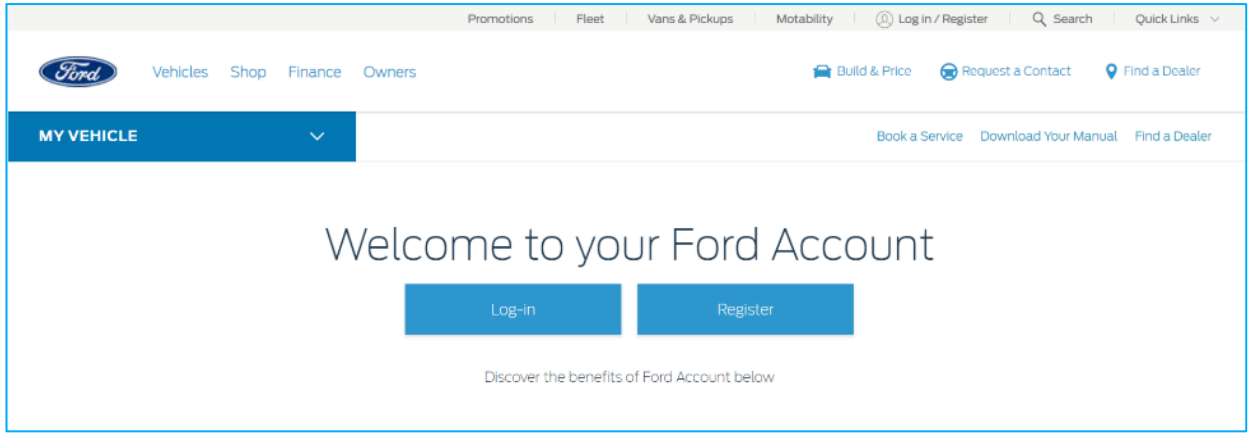
ADAPTIVE CONTENT: FORMAT DIFFERENCES

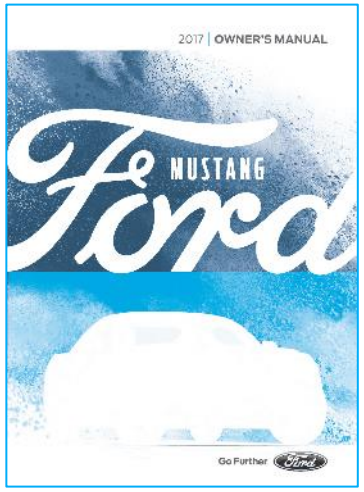
Different outputs, different formatting

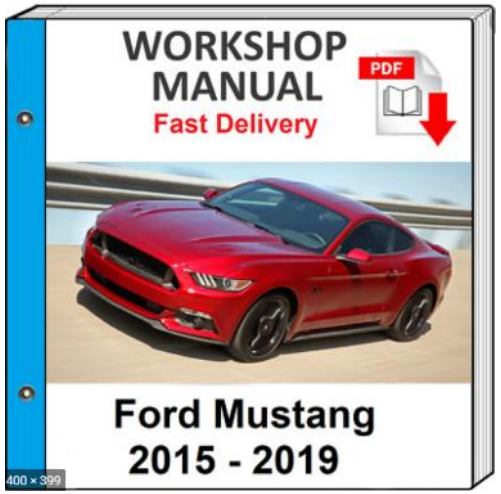


ADAPTIVE CONTENT: CONTEXTUAL DIFFERENCES

Information	User Portal	Owner's Manual	Media Console	AR App	Service Manual
How to use a particular feature	Full version	Short version	Phrase	Single sentence	Short version plus repair info







TASK: PREPARE FOR THE CONTENT MODEL

- ❑ Standardise the structure for each content type.
- ❑ Standardise the structure of the content itself.
- ❑ Standardise the copy.
- ❑ Map out the copy differences and where each is used.
- ❑ Apply metadata for content destined for specific outputs.

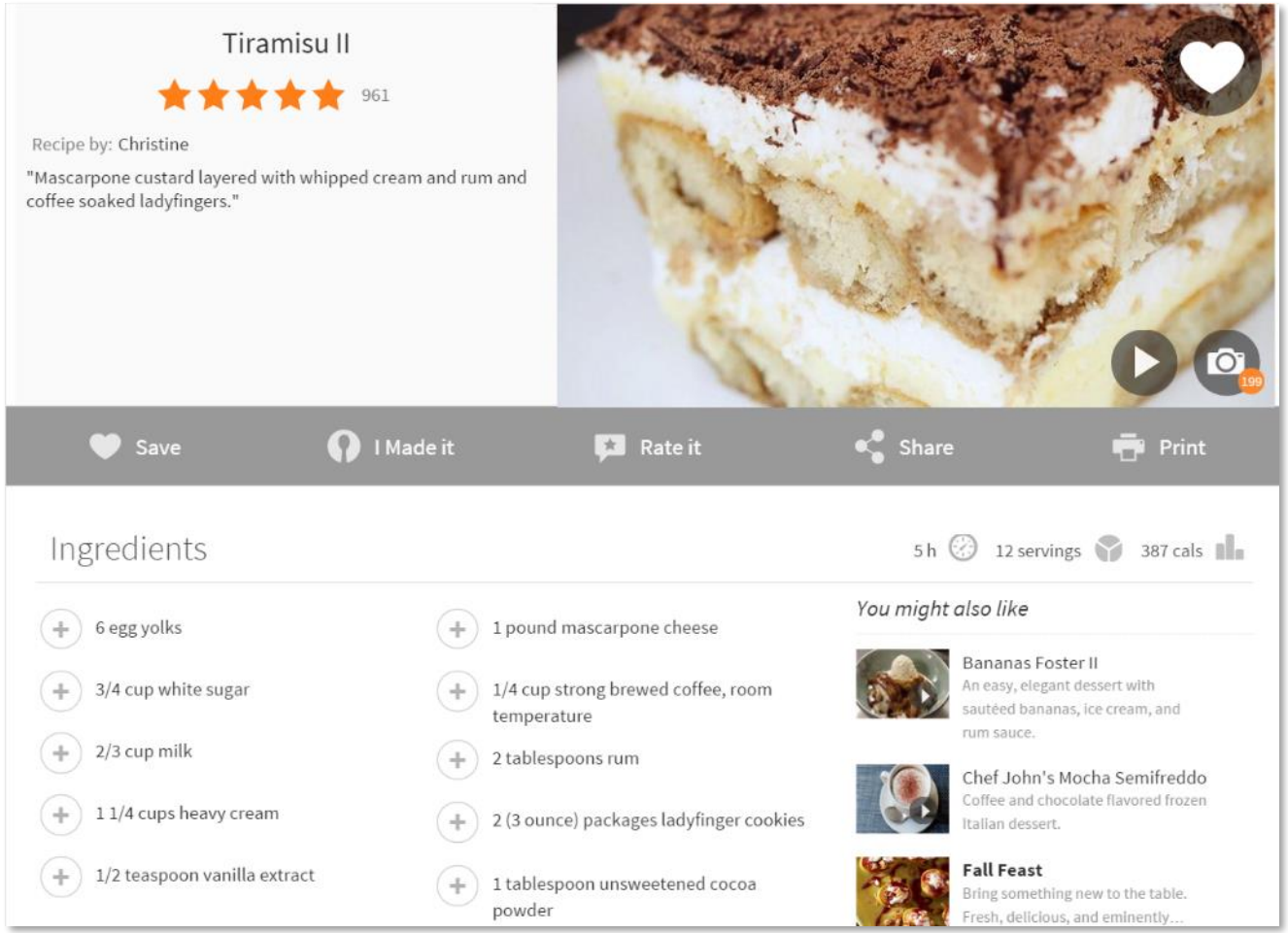
INTELLIGENT CONTENT IN ACTION

THE INGREDIENTS OF A PIECE OF CONTENT

Let's look at the architecture of a recipe

- The editorial structure of a recipe
- The technical structure of a recipe
- The semantics that are added
- What benefits the semantics bring

SAMPLE RECIPE – PART 1



SAMPLE RECIPE – PART 2

Directions

Print Watch

Prep	Cook	Ready In
35 m	10 m	5 h

1. In a medium saucepan, whisk together egg yolks and sugar until well blended. Whisk in milk and cook over medium heat, stirring constantly, until mixture boils. Boil gently for 1 minute, remove from heat and allow to cool slightly. Cover tightly and chill in refrigerator 1 hour.
2. In a medium bowl, beat cream with vanilla until stiff peaks form. Whisk mascarpone into yolk mixture until smooth.
3. In a small bowl, combine coffee and rum. Split ladyfingers in half lengthwise and drizzle with coffee mixture.
4. Arrange half of soaked ladyfingers in bottom of a 7x11 inch dish. Spread half of mascarpone mixture over ladyfingers, then half of whipped cream over that. Repeat layers and sprinkle with cocoa. Cover and refrigerate 4 to 6 hours, until set.

Footnotes

Tip

Aluminum foil can be used to keep food moist, cook it evenly, and make clean-up easier.

EDITORIAL STRUCTURE OF A RECIPE

What do we understand when we read a recipe?

- What it is and looks like
- What we need to use
- What we need to buy
- How much it makes
- How to make it
- How to serve it

ELEMENTS OF A RECIPE

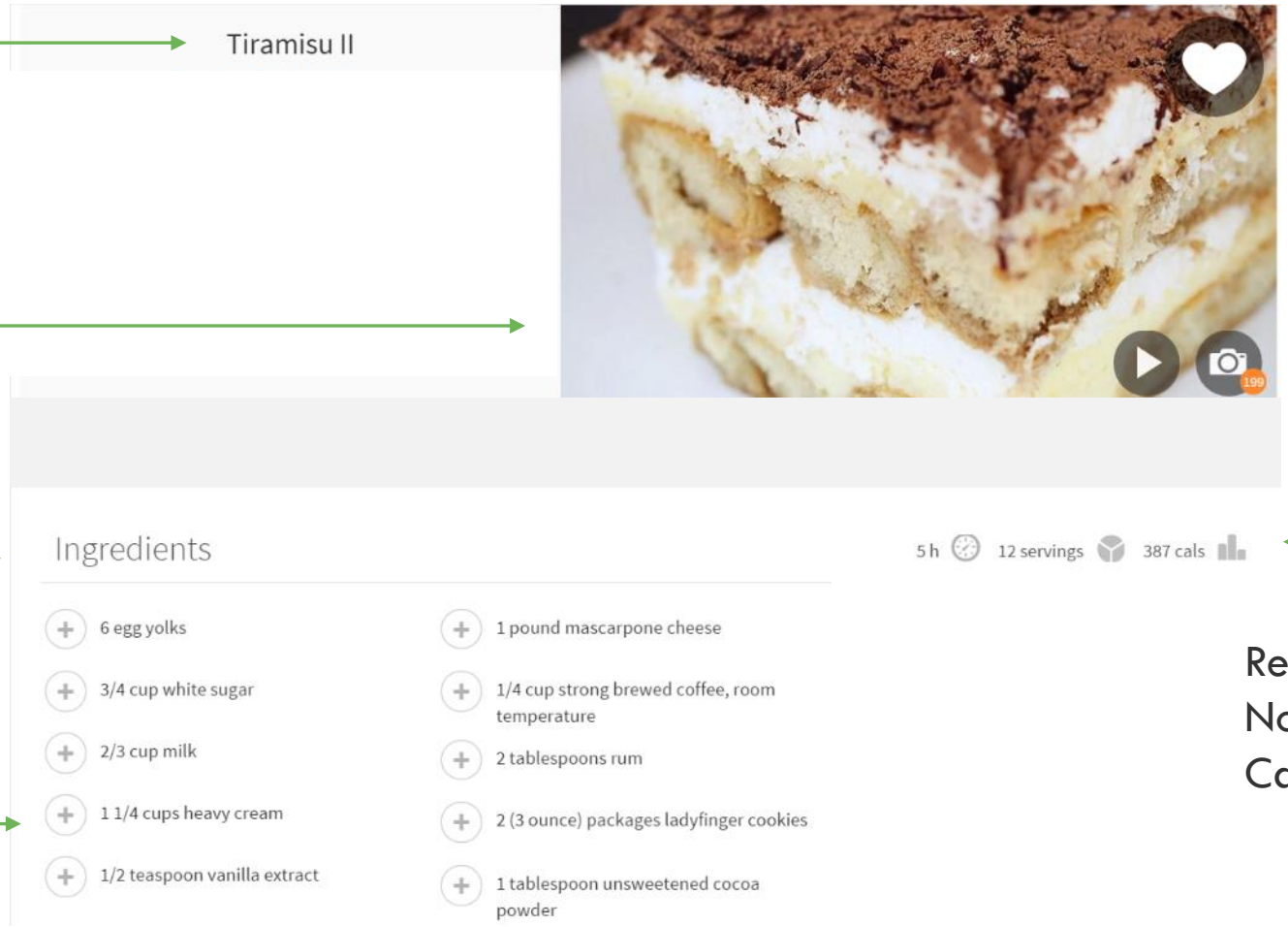
Title

Image

Ingredients Section

Ingredients

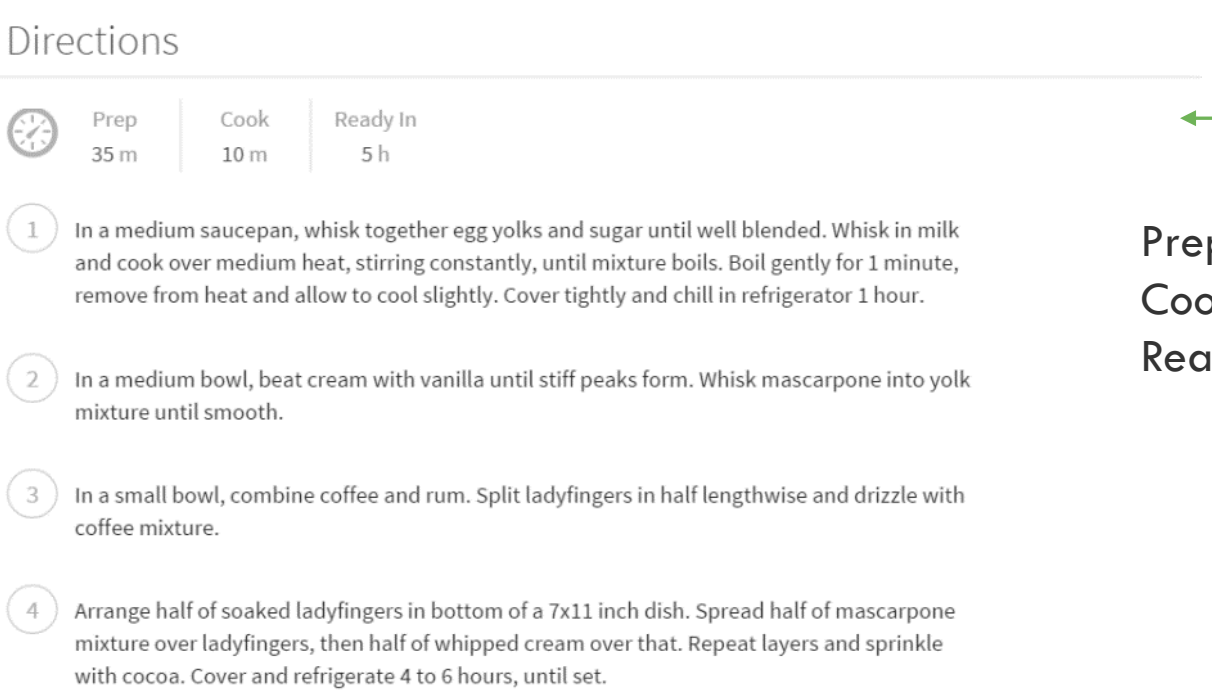
Ready time
No of servings
Calories



ELEMENTS OF A RECIPE

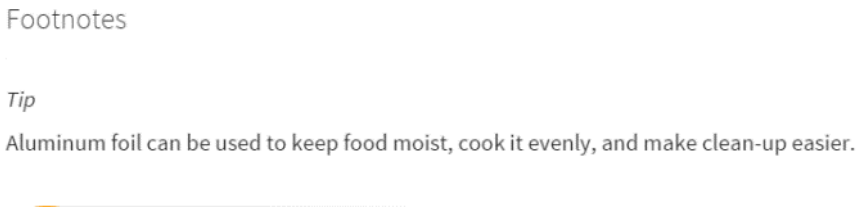
Instructions Section

Instructions



Prep time
Cooking time
Ready time

Footnotes Section



Footnote Type

Footnote

TECHNICAL STRUCTURE OF A RECIPE

- Recipe name
- Image of finished product
- Prep time
- Number of servings
- Calories
- Ingredients Section
- Ingredients
- Prep time
- Cooking time
- Ready time
- Instructions Section
- Instructions
- Footnotes Section
- Label
- Footnote

TECHNICAL STRUCTURE - POOR

```
<html>
  <h1>
  <p>CONTENT<p>
  <ul>
    <li>CONTENT</li>
    <li>CONTENT</li>
  </ul>
  <ol>
    <li>CONTENT</li>
    <li>CONTENT</li>
  </ol>
</html>
```

TECHNICAL STRUCTURE - RICH

```
<recipe>
  <recipe_name>CONTENT</recipe_name>
  <description>CONTENT</description>
  <ingredients>
    <ingredient>CONTENT</ingredient>
    <ingredient>CONTENT</ingredient>
  </ingredient>
  <instructions>
    <instruction>CONTENT</instruction>
    <instruction>CONTENT</instruction>
  </instructions>
</recipe>
```

TECHNICAL STRUCTURE (BASICS)

RECIPE

INTRODUCTION

Recipe name
Image of finished product
Prep time
Number of servings
Calories

INGREDIENTS

Ingredients Title
- Ingredient
- Ingredient

INSTRUCTIONS

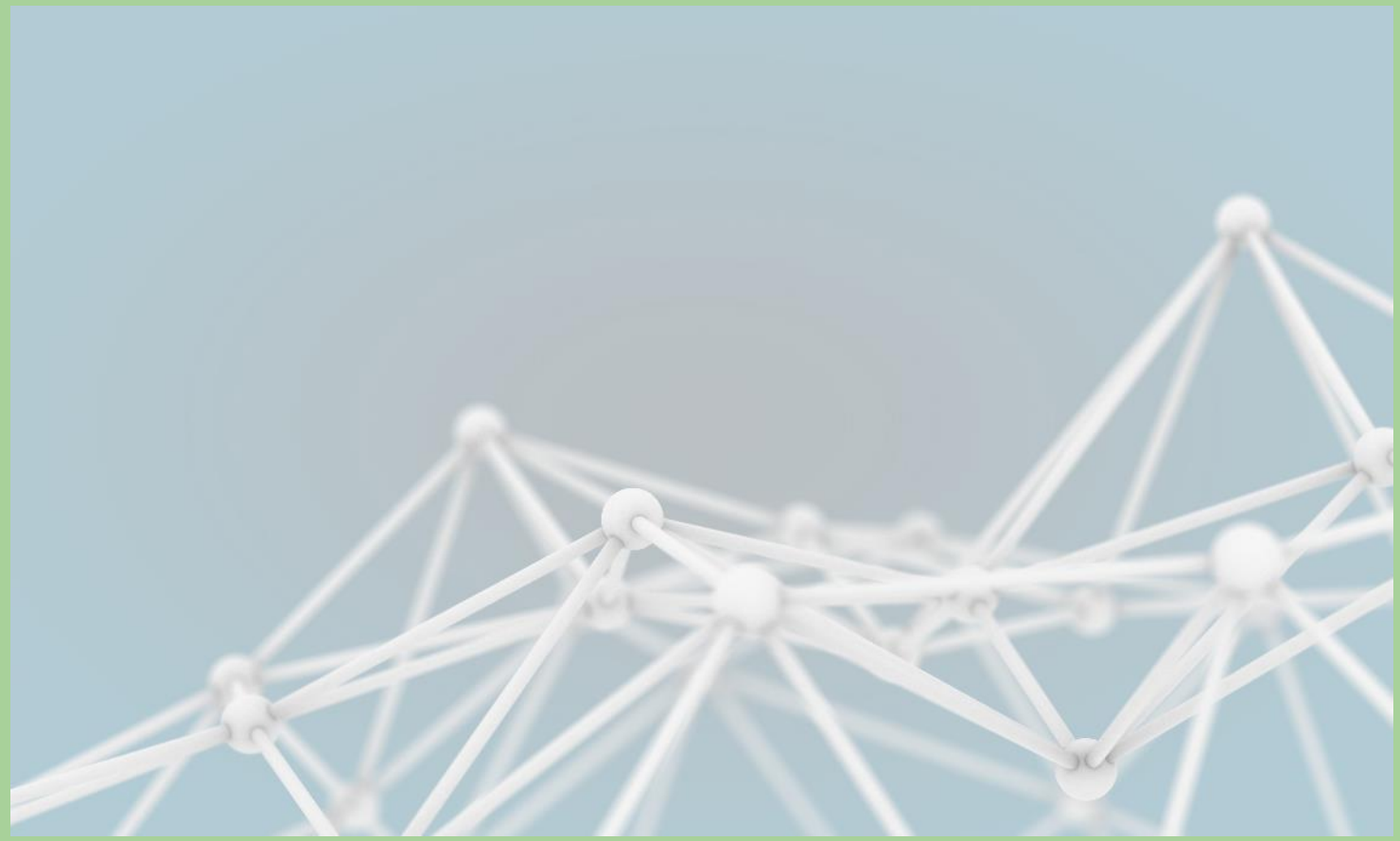
Instructions Title
1. Instruction
2. Instruction

FOOTNOTES

Footnotes Title
- Footnote Type
  - Footnote

TASK: ASSIGN ELEMENTS TO YOUR CONTENT TYPE

- ❑ Draw the structure for your content types.
- ❑ Label each element and what it does.
- ❑ Add any limitations for a data field (datatypes, constraints, etc).
- ❑ Reduce number of content types by increasing flexibility within the type (for example – toggle for optional fields)



THE ROLE OF SEMANTICS IN CONTENT MODELLING

ADDING SEMANTICS TO THE RECIPE

Label the units

- Allows automatic conversion between Imperial and Metric measures (for example, 1 cup = 250 ml)

Tag the ingredients

- Allows the re-use of recipe across multiple markets (for example, omit nuts for use on an allergy site)

Specify cooking method

- Users can filter recipes by cooking method (for example, stove-top method)

Specify prep time

- Users can filter by length of preparation time (for example, meals under 30 mins)

Specify serving size

- Choose recipes by quantity served (for example, recipe for batch of 48 cookies)

Specify the tools

- Look for recipes that use tools owned (for example, cake bakes in a bundt pan)

ADDING SEMANTICS TO THE RECIPE

Add synonyms

- Find ingredients by related terms (for example, fries/ chips, savoiardi/ladyfingers, po'boys/hoagies)

Categorise by specialty

- Filter recipes by specific user needs (for example, diabetic, gluten-free, vegetarian, vegan, nut-free)

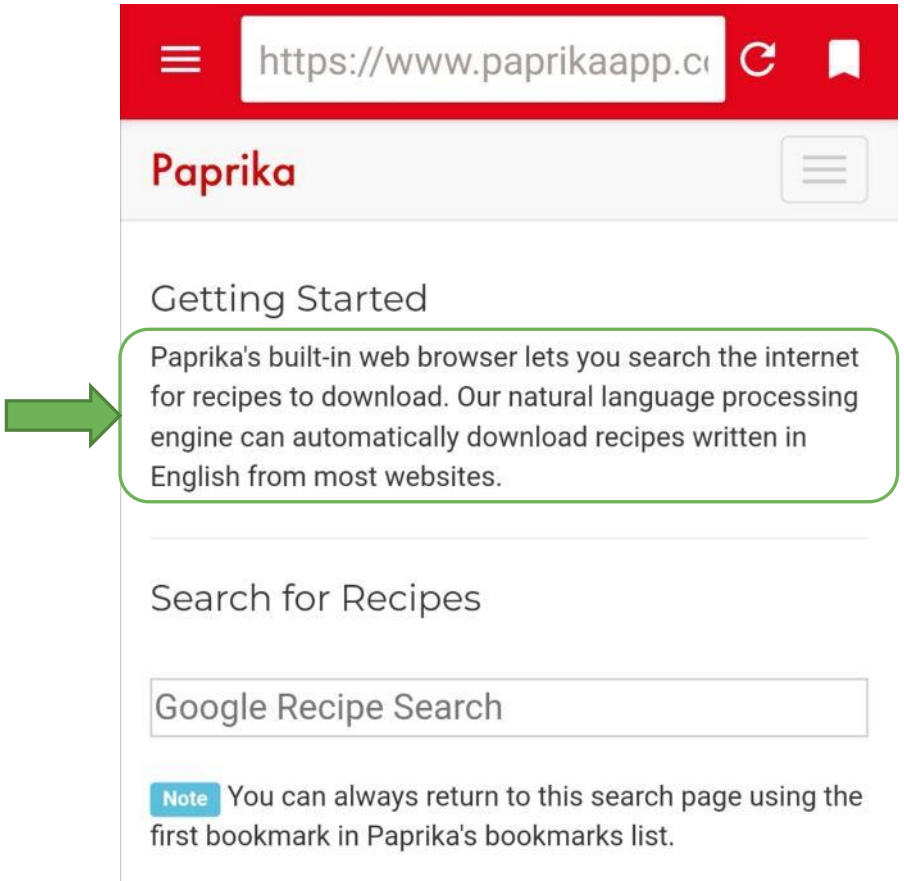
Categorise by dish type

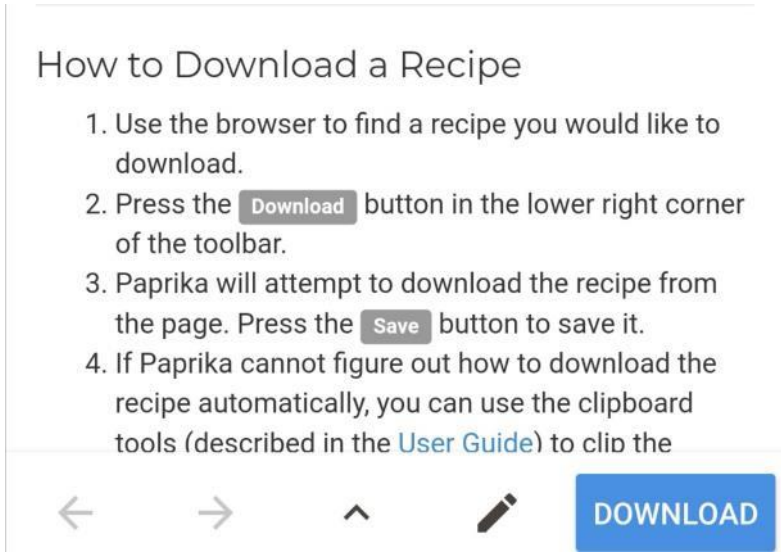
- Filter recipes by place within a meal (for example, soups, side dishes, desserts)

Categorise by occasion

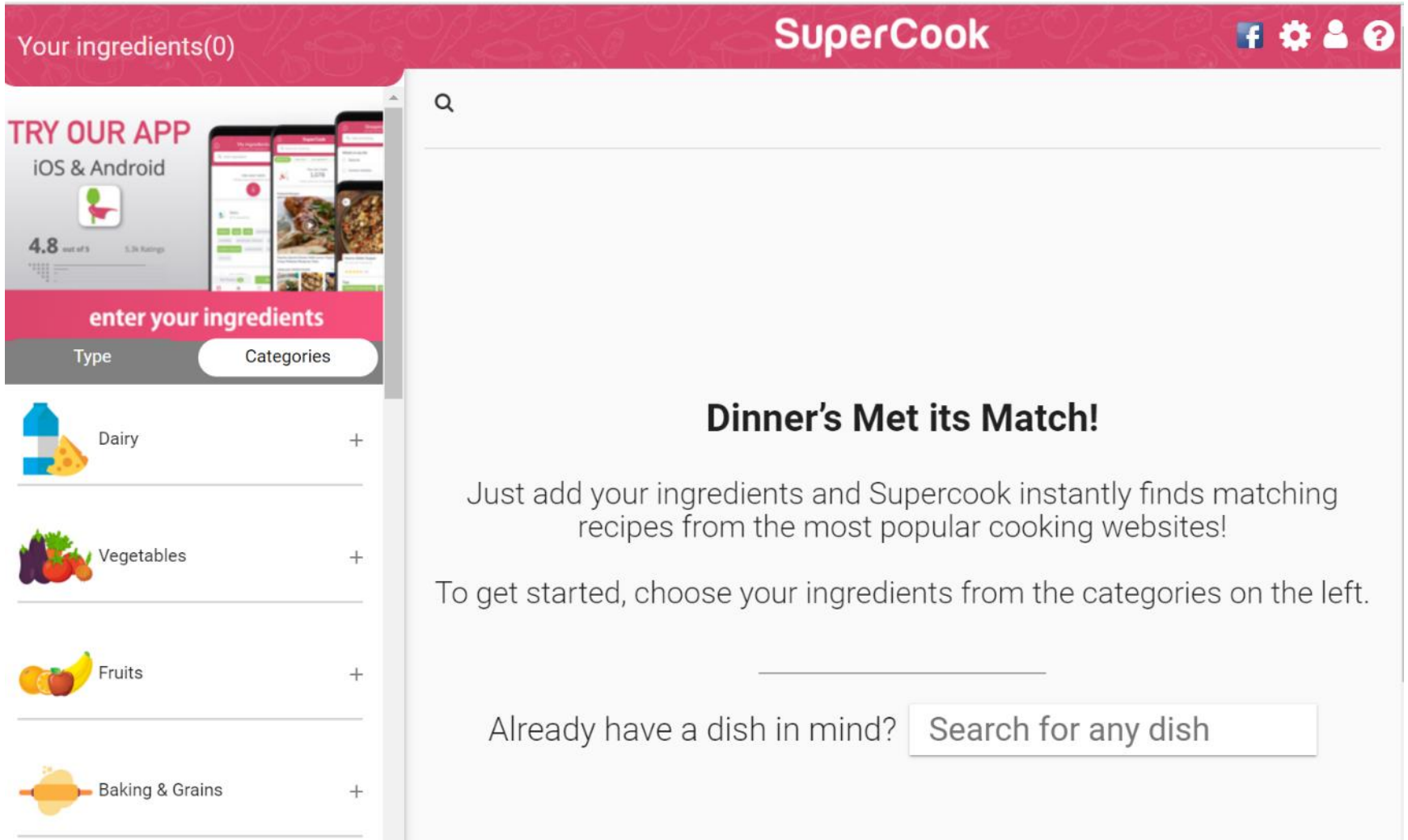
- Filter recipes by time of year (for example, Christmas, Passover, picnic, barbecue)

LEVERAGING POTENTIAL: PAPRIKA 3

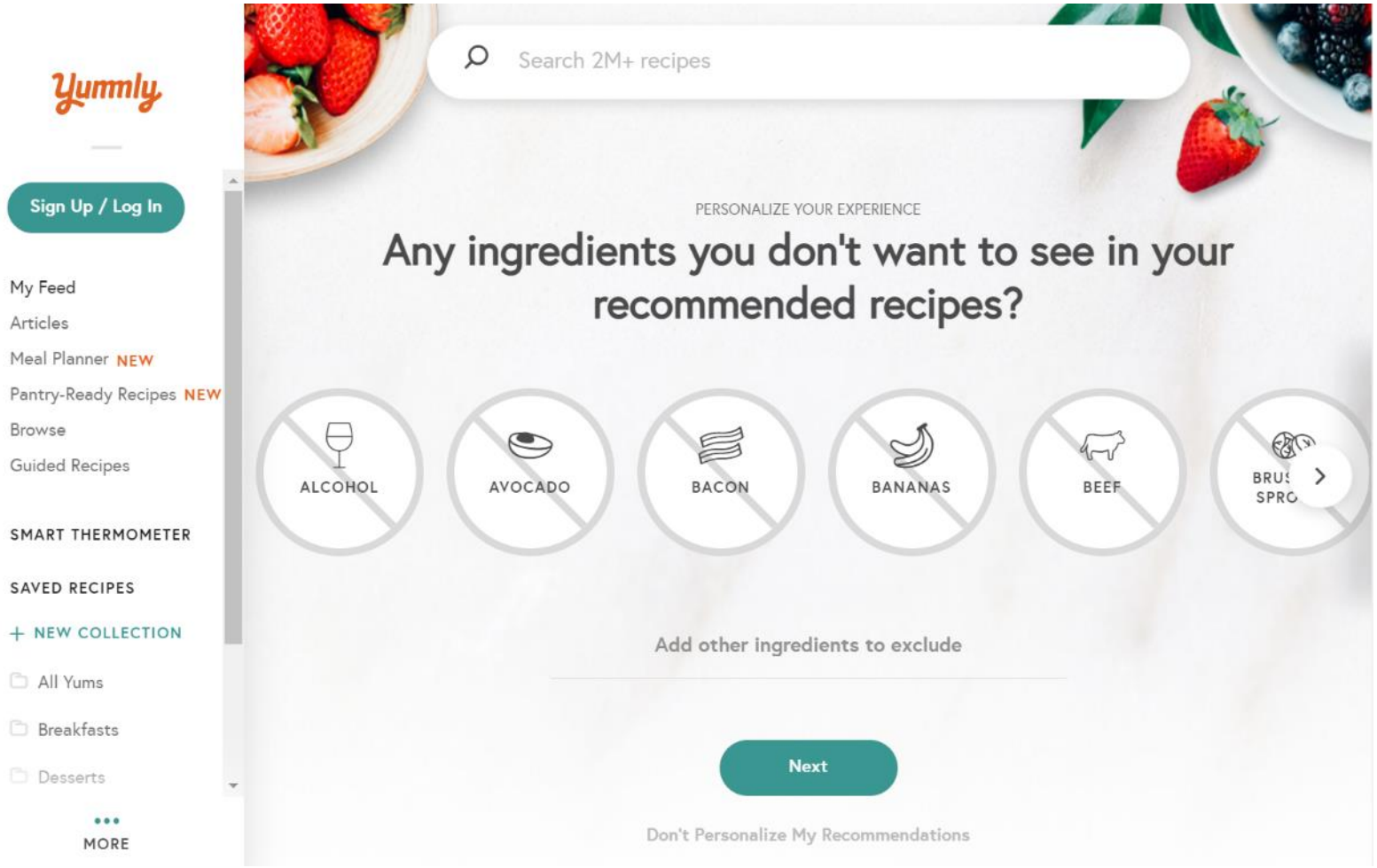




LEVERAGING SEMANTICS: SUPERCOOK



LEVERAGING SEMANTICS: YUMMLY



MODELLING ENABLES CONTENT OPERATIONS

Multichannel delivery

- Use the content in many contexts

Single source

- Create once and re-use multiple times

Add metadata effortlessly

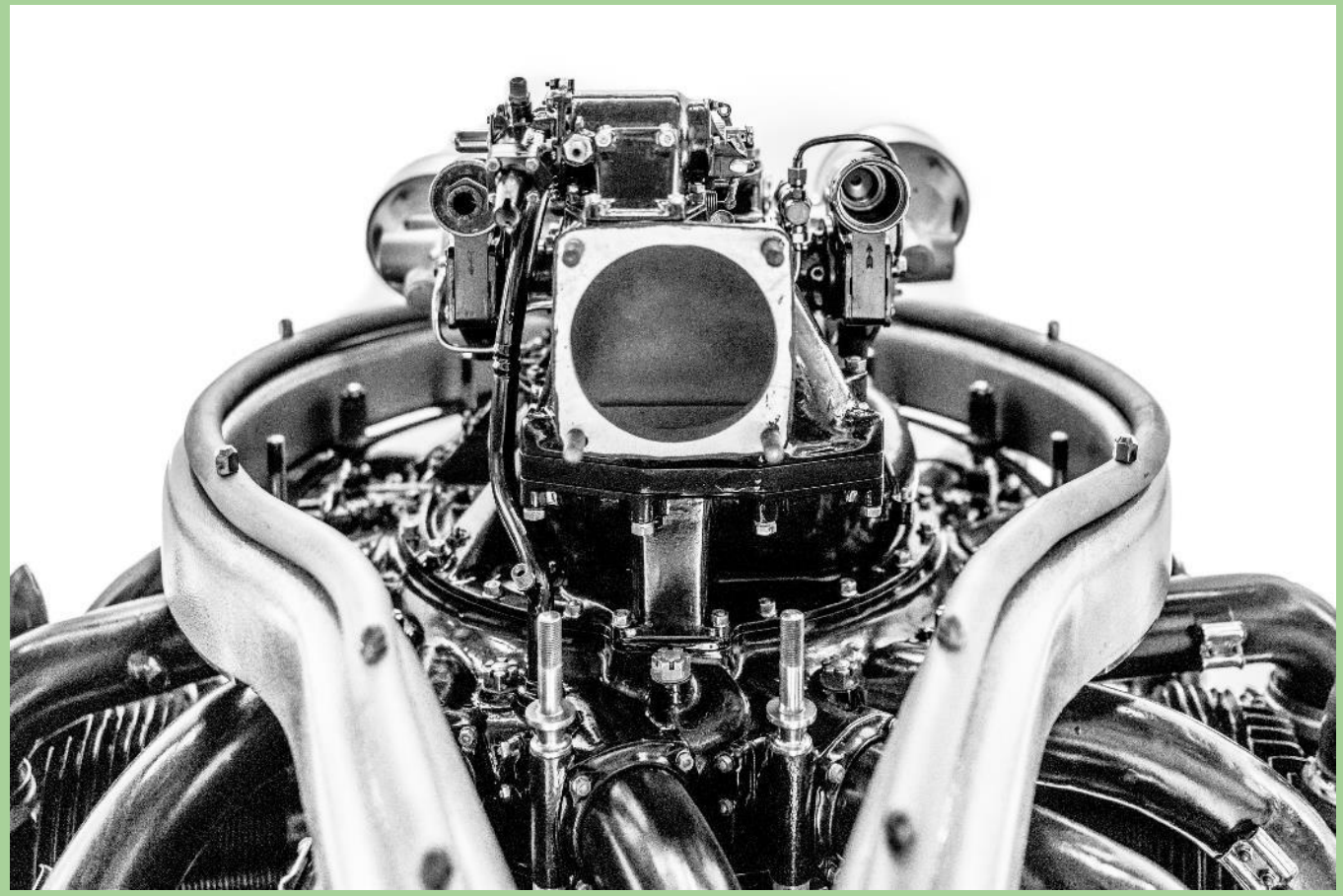
- Use predefined categories of attributes

Format and style-free

- Ignore all formatting and styling

TASK: CONSIDER NEW WAYS TO LEVERAGE CONTENT

- ❑ Go through user research for things that users want.
- ❑ Consider new ways of engaging end users.
- ❑ Look at new ways to personalise using adaptive content.



ENABLING CONTENT OPERATIONS

LET'S START WITH A TASTY METAPHOR: A BAKERY

In the front of a bakery, there is a showcase.

That's where you present the doughnuts.

It's organised and displayed in the best way for customers.

Similar to the information architecture in a Web CMS.

WHERE WE DO THE MAKING

In the back of there bakery, there is the working environment.

This is where you make the doughnuts.

Organised to suit the production process.

Similar to creating content in an authoring environment.

WHERE WE DO THE SHOWING

Using a home baking kit in a bakery would be a slow and clunky process.

Similar to using a word processor and spreadsheets.

Using an “all-in-one” baking-and-showcase machine is OK for fast food but not volume.

Similar to doing everything in a Web CMS.

WHAT IS AN OPERATIONAL MODEL

Operating model is both an abstract or visual representation (model) of how an organisation delivers value to its customers or beneficiaries as well as *how an organisation actually runs itself*.

Wikipedia

Determining *behaviour, workflow and process design*, IT decisions, and investment decisions, aligned to the business objectives.

Strategy& (PWC)

The configuration of the organisation *to deliver its strategy*.

Deloitte

WORKING DEFINITION OF CONTENT OPERATIONS

ContentOps is a set of principles used
to **optimise production** of content
to allow content to be
leveraged as business assets
to **meet intended goals**.

BENEFITS OF CONTENT OPERATIONS

Tactical benefits

Save time and money, maintain quality:

- Maintain a single source of truth.
- Reduce inefficiency of rote tasks.
- Automate whatever you can.
- Use standard processes.
- Monitor results, use insights to make further improvements.

Strategic benefits

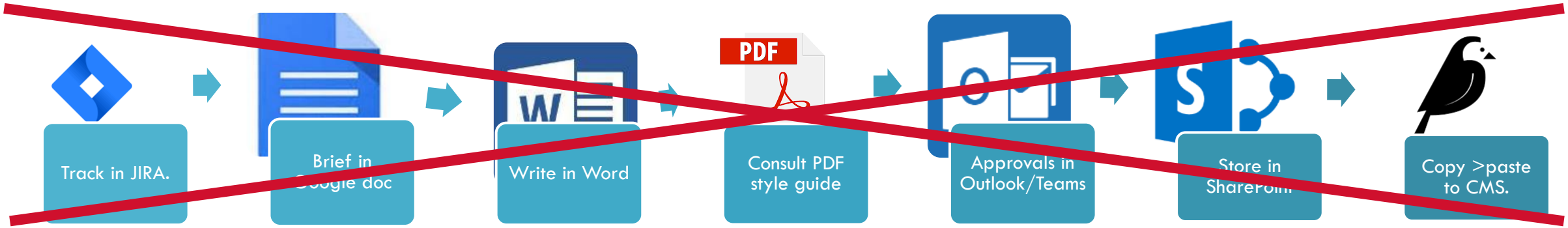
Respond to business and user needs:

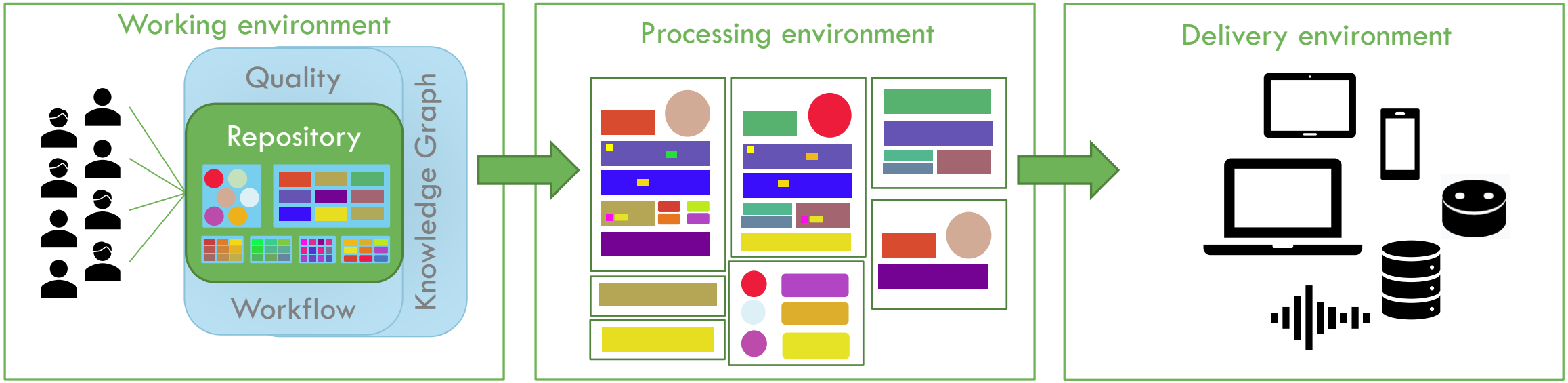
- Ability to scale and respond to demand.
- Improve collaboration across value streams.
- Automate continuous delivery pipelines.
- Improve innovation.
- Reduce risk.
- Ensure resource availability.

MODELLING CONTENT FOR OPERATIONAL BENEFIT

- Standardise the structure.
- Standardise the content.
- Transclude (single source) common content.
- Automate the population of data.
- Use fit-for-purpose software (meant for production), to automate all non-value tasks:
  - Copy-and-paste into the CMS.
  - Tracking with spreadsheets.
  - Copying data into pages.

USE A FIT-FOR-PURPOSE SYSTEM FOR THE MODEL





TASK: EXAMINE YOUR ECOSYSTEM EFFICIENCY

- ❑ Map out the content production process, end-to-end.
- ❑ Identify manual interventions in the current state.
- ❑ Map out a future state where manual processes are automated.
- ❑ Calculate the differences in number of steps and amount of time.
- ❑ Assign time and costs, and calculate the potential savings.

POLL: WHERE ARE YOU ON THE MATURITY MODEL?

- Reactive – ad-hoc content handling, little forethought
- Tactical – multiple, siloed processes
- Integrated – coordinated at the delivery end, no operations
- Managed – operational model focused on efficiencies
- Strategic – information enablement where operations support business strategy

WRAP-UP

TAKEAWAYS/SUMMARY

Business side

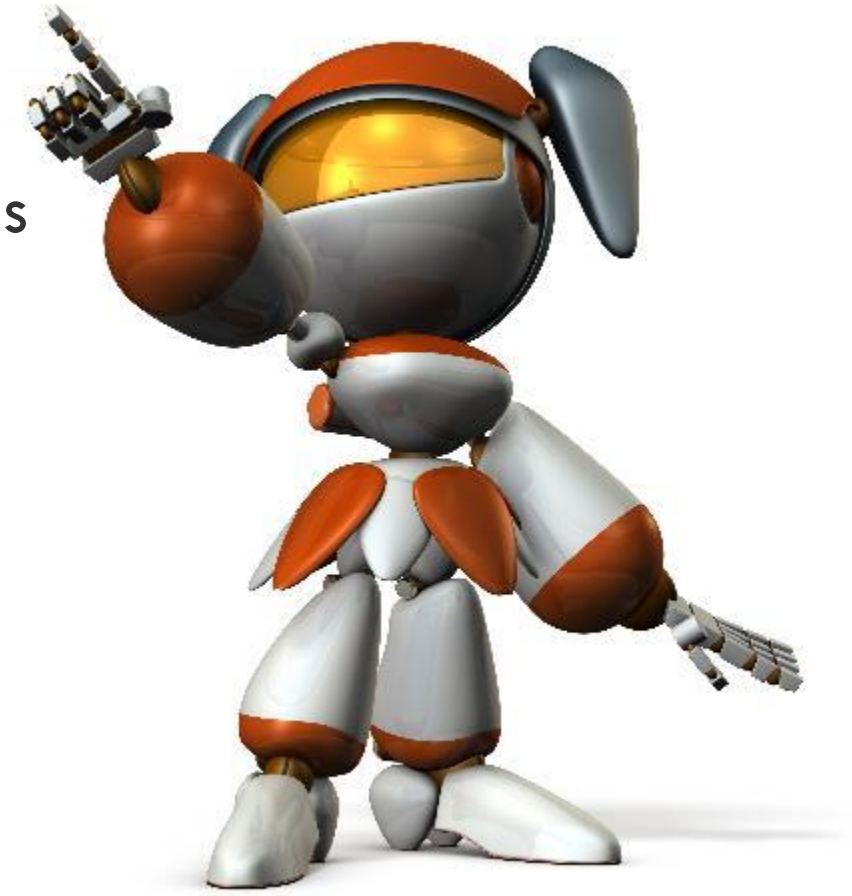
- Increases the potential of content exponentially.
- Supports delivery initiatives – personalisation and multichannel.
- Enhances brand, user experience.
- Increases capacity to focus on more value-add activities.

Operational side

- Enforces consistency and adherence to the style guide.
- Removes waste and rote tasks from content production processes.
- Facilitates single-sourcing.
- Reduces downstream production costs, such as translation/localisation costs.

FINAL THOUGHTS

- Automate anything possible – don't use staff as slow computers.
- Invest in production-grade tools – do a cost-benefit analysis.
- Think single-sourcing – CODA (Create Once, Deliver Anywhere).
- Remember that models will grow and change with business models and operational goals.



RESOURCES – CONTENT MODELLING

Content Modelling – A Master Skill

Structured Content and Content Models

Elements of a Content Model

Understanding the Content Model

Creating a Content Model

RESOURCES – INTELLIGENT CONTENT

Intelligent Content: A Primer

Adopting Intelligent Content: Practical Advice

A metaphor for intelligent content

The intelligent content approach

Intelligent content presentations on SlideShare

Content, Seriously

QUESTIONS?

Rahel Anne Bailie; Content, Seriously
Designing robust content ecosystems
London, UK

ContentSeriously.co.uk