



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Information architecture

Fabio Vitali

Information

The American Library Association defines the culture of information culture as:

*The set of skills that allow us
to recognize the need for information,
to identify appropriate information,
to find it,
to evaluate it, and
to exploit it
in relation to a given situation, from a perspective of solving a
problem.*



Information architecture

the structural design of digital environments for the exchange of information.

the logical organizational and semantic structure of the information, the content and functions of a system.

the combination of organization, labeling and navigation system.

the art and science to shape information to support usability and discovery.

a way to connect users and content bringing the principles of design and architecture into digital environments.



Purpose of Information Architecture

The information architecture has among its objectives that:

- ◆ content is handled reasonably, properly organized, cataloged, and filtered;
- ◆ that it is possible to retrieve the information effectively: the user must be left to think about his own tasks and goals, not the structure of the site or of the content.



Information architecture and design

Both information architecture and information design deal with the presentation of information

Information design = how information needs to be designed

Information architecture = how information items are related to each other



Information design

Information design is defined as the art and science of information preparation so that they can be used by humans efficiently and effectively (Horn 1999).

Its primary goals are:

- ◆ The development of documents that are understandable, searchable quickly and accurately, and easily translatable in actions.
- ◆ To design interactions with tools that are as easy and enjoyable as possible.
- ◆ Make people orient themselves
 - in three-dimensional spaces, especially in urban spaces,
 - in virtual spaces,
 - in hybrid spaces (tangible and natural interfaces).



Information design

The first step in transforming data is to work with their organization. The way we organize things reflects and influences the way we perceive them .

At the heart of everything is the awareness that *the data itself is basically useless or neutral.*

It is in its preparation for communication that data acquires meaning and value, which becomes information.

Information is not the conclusion of the continuum called *understanding*

Information must be transformed into *knowledge*, which, in turn, is evaluated and interpreted together with the rest of the knowledge and becomes wisdom.



From the datum to information

Datum:

- ◆ numbers, symbols, measures, words.
- ◆ It does not imply nor contain meaning.
- ◆ It is a quantifiable fact that results from direct observation
- ◆ It may exist in any form, more or less usable
- ◆ Examples: "UUXD", date 22 september 2023, height 2.48 m, weight 23 kg etc.

Information:

- ◆ lies between data and knowledge.
- ◆ It represents a datum that can be associated to some meaning.
- ◆ It exists within a context.
- ◆ It provides a purpose to the datum.
- ◆ Messages between people are understandable if they are placed within the context it has happened.
- ◆ Examples: "UUXD" is the name of a course, 22 september 2023 is the beginning of the term, 2.48 m is the height of bridge XY, 23 kg is the weight of the parcel with code XYZ, etc.



... to knowledge...

Knowledge

- ◆ What is inside the heads of people.
- ◆ It is awareness and understanding of facts or information obtained through experience or learning.
- ◆ Knowledge is the self-consciousness of the possession of information interconnected, and exploitable
- ◆ This information becomes knowledge when it has a higher value considered as a whole than it would have taken separately.
- ◆ e.g.: "passing the UUXD exam requires studying the material", "I will need to start attending course from 22 September 2023", "vehicles must be lower than 2.48 meters to clear under the bridge XY", "23 kg is above the weight limit for normally priced parcels", etc.



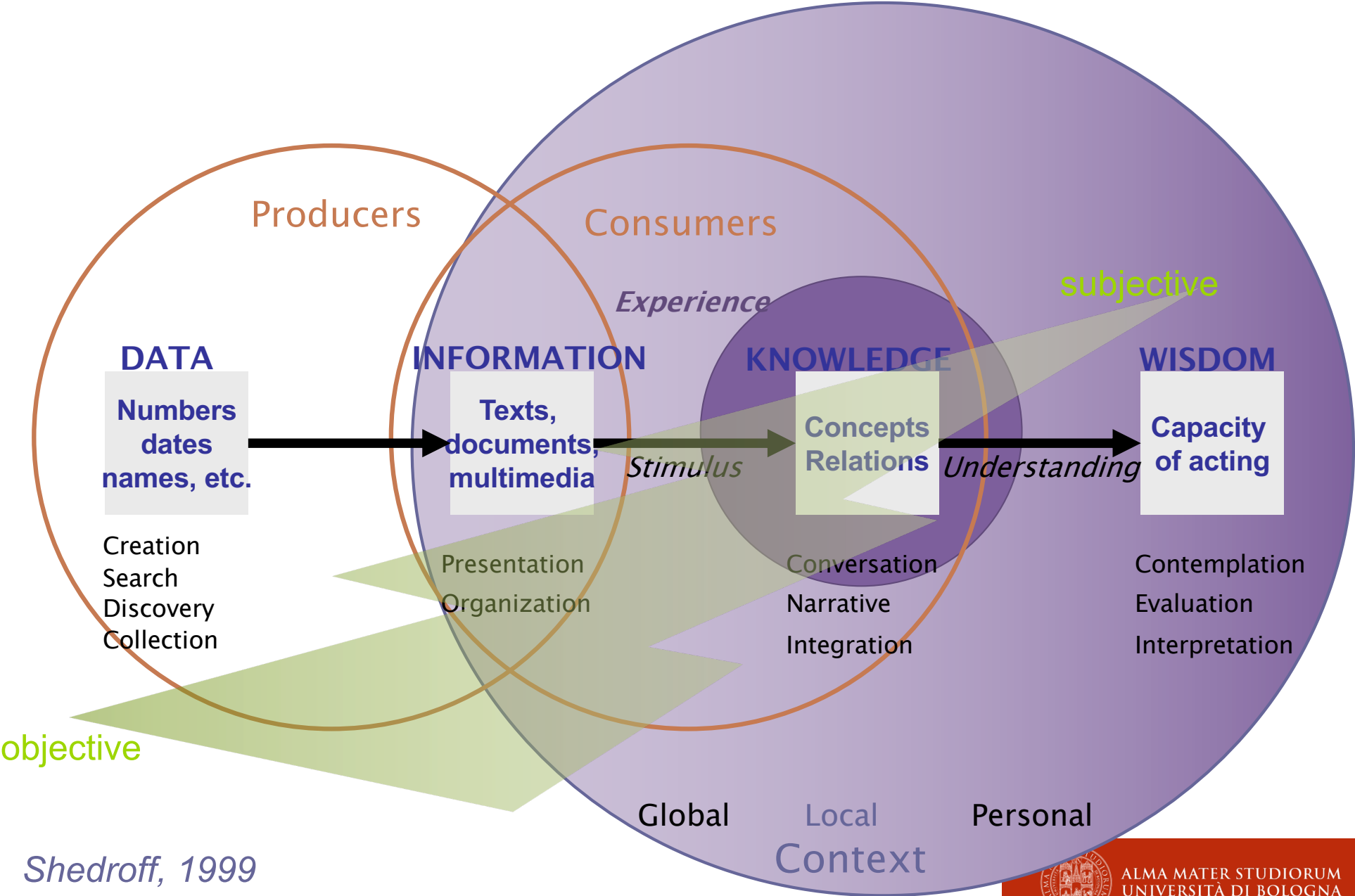
... to wisdom

Wisdom

- ◆ The set of skills necessary to recognize the need for information and to locate, evaluate, apply and create information in a given cultural and social context.
- ◆ The term "mastery of information" is sometimes preferred to "wisdom", which seems to be more restrictive.
- ◆ e.g.: "passing the UUXD exam is necessary to graduate", "I need to find a room in Bologna a few days before 22 September 2023", "since my vehicle is higher than 2.48 meters I need to find a route that does not pass under bridge XY", "I need to understand if it is cheaper to split the 23kg parcel in two smaller ones that are below the weight limit, or to pay the price increase for heavy parcels.", etc.



Managing Information

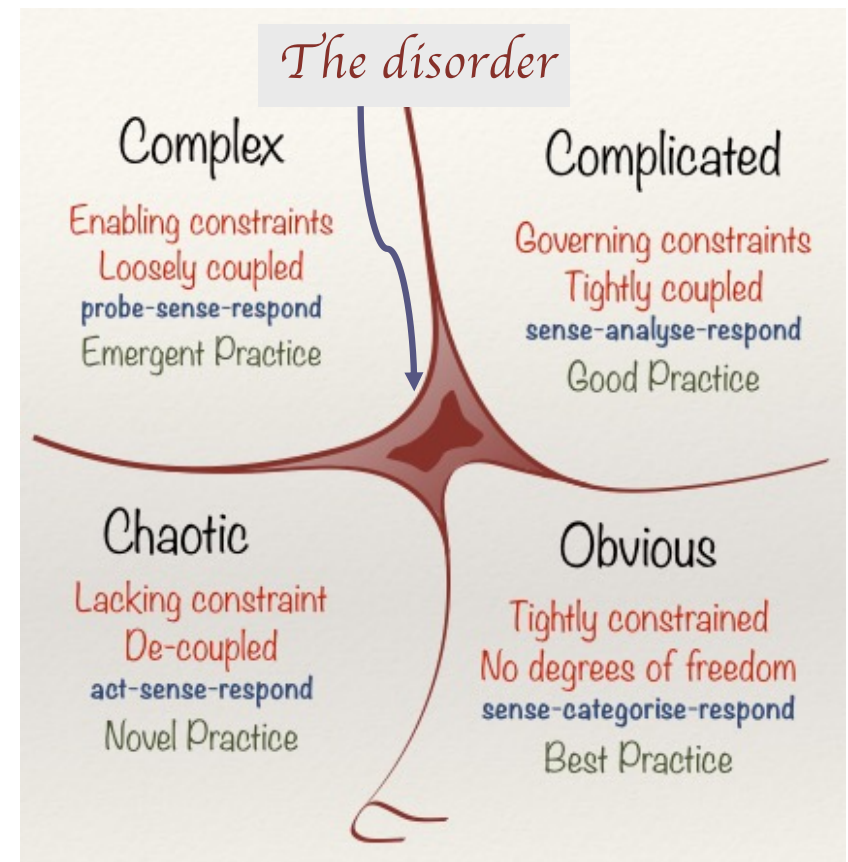


Shedroff, 1999

The Cynefin model

Any understanding for a problem needs to be placed into one of the five domains of the Cynefin model:

- The Obvious: The cause/effect relationship is well understood, the right approach is to *sense, categorize and respond*.
- The Complicated: where the cause/effect relationship is not obvious, but there are techniques (mostly based on previous analysis and application) that enable a *sense, analyse and respond* approach.
- The Complex: where the cause/effect relationship can only be discovered retrospectively, and the correct approach is to *probe, sense, and respond*.
- The Chaotic: where the relationship between cause and effect does not exist, and the right approach is to act, sense, and respond.
- The Disorder, where it is not clear if there is cause/effect relationship



Snowden, IBM, 1999-2014



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The seven rules of knowledge

1. Knowledge can only be provided spontaneously, never forced
2. We only know the things we know when we need it
3. In the face of a real need nobody retains knowledge
4. Knowledge is always fragmented
5. Tolerance to errors supports learning better than successes
6. The way we know things is not the way we tell others that we know them
7. We know more than we say aloud, and we say aloud more than we write

(Dave Snowden)



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Organization of information

Nathan Shedroff suggests that there are only 7 ways to organize information:

- ◆ Alphabets : The index of a book, a phone book, an encyclopedia
- ◆ Maps: toilets and emergency exits, plants, diagrams, maps of metro lines, etc.
- ◆ Linear: history, train times, cookie recipes, project development.
- ◆ Continuum: grades at school, scales (hardness of stones, devastation of earthquakes, value of the restaurant), etc.
- ◆ Numerical: ISBN, Dewey cataloging, IP numbers: use numbers to mean classes and subclasses in a partially arbitrary way
- ◆ Categories: classification and nomenclature is common activity of humans, and directly controls the perception of information
- ◆ Random (no organization): useful in circumstances where the organization is the information: for example, in a solitary where the cards are to be ordered.



Graphic excellence (Edward Tufte)

Graphic excellence is to communicate complex ideas in a clear, accurate and efficient way.

Graphical views of statistical data should therefore:

- ◆ induce observers to focus on substance rather than on methodology, graphic design, technology used, etc.;
- ◆ show the data;
- ◆ avoid distorting what the data need to communicate;
- ◆ present many numbers in a small space;
- ◆ make coherent sets of very large numbers;
- ◆ encourage the eye to compare different pieces of data;
- ◆ show data with different degrees of depth;
- ◆ be at the service of one clear purpose: description, exploration, or decoration;
- ◆ be integrated with the verbal and statistical description of a data set.



Information architecture

Keywords to information architecture:

- ◆ Structuring
- ◆ Organizing
- ◆ Classifying
- ◆ Make findable
- ◆ Make manageable



Structuring, organizing, classifying

Structuring: to determine the level of granularity of the data present in the content and decide how they are related to each other.

- ◆ A magazine: words into sentences into sections into articles into issues into years
- ◆ A temporal dataset: punctual data into hour sums, counts, or averages, daily sums, counts, or averages, weekly sums, counts or averages, etc.

Classifying : to define the categories and the series of links that connect them.

Organize: to group these information components into distinct and specific categories.



Findability and manageability

Findability: Letting the user access the content and find the information he/she is interested in. Either through browsing or by using a search facilities.

Manageability: Balancing user needs with business goals. Efficient content management, policies and procedures are essential.



Different Information Architectures: Bookstore and Library

Bookstore

- ◆ It can arrange your books in a causal way, suggesting an exploratory experience.
- ◆ But in case you're looking for something specific, search might be difficult.



Library

- ◆ Complex systems and professional individuals work together to select, evaluate, classify, describe, structure, and organize the content
- ◆ Users have plenty of ways to find what they are looking for. Much harder on the suggestion or serendipity.



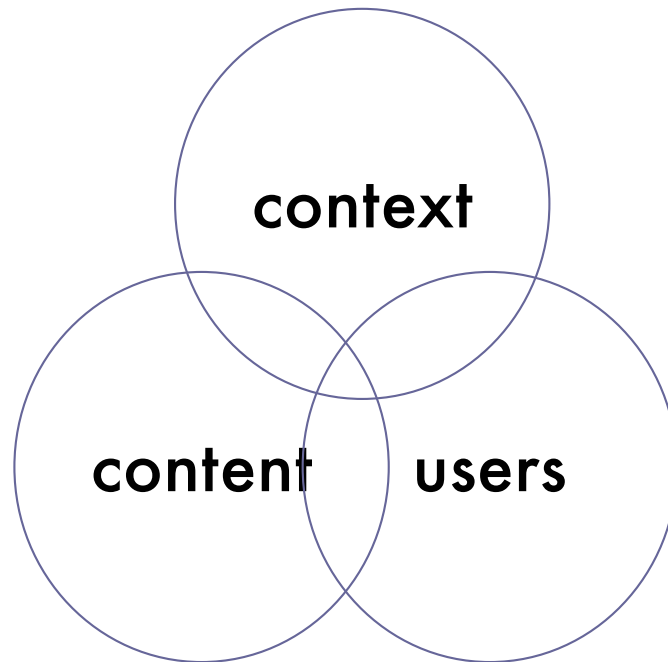
Serendipity

- Term coined by historian Walpole in 1754 to refer to the protagonists of a Persian tale, three princes of Serendip (the ancient name of Sri Lanka) who "always find, by chance or wisdom, things they were not looking for".
- It refers to all the useful, pleasurable or positive results we are drawn to by chance and without any plans while we are committed to doing or looking for something else.
- Encouraging serendipity means building systems that provide more than the result specifically sought by the user, creating a context for the results, or in the path to reaching them, to facilitate the discovery of unexpected and curious and useful things.



Information Ecology

The design of the information architecture must take into account the close relationship between context, content and users, highlighted by Davenport and Prusak with the metaphor of Information Ecology.



Should technology be the fourth element? Perhaps yes, but often the technological aspect gets too much attention (Rosenfeld, Morville 2006)



Information Ecology: the Context

- Organizational and social contexts: NGO sites, e-government, social networks, etc.
- Specific business context: selling books is different from travels, show tickets, toys, etc.
- Mission, Goals, Processes, Procedures, Culture.

As a result, the vocabulary and structure of a site are conditioned by these factors , they are in fact an important part of the dialogue between the site's business and its users .

As we have seen previously, the analysis requires:

- ◆ Identification of users
- ◆ Identifying their tasks and objectives
- ◆ Identification of technical constraints
- ◆ Identifying cultural constraints

The information architecture motto is that every situation is unique .



Information Ecology: the Content

Factors that affects the content:

- Control: centralized or distributed in departments? Are we also using content from external providers?
- Format : text, image, audio, video etc.
- Structure: is our content complete or ever growing? What level of granularity? A few notes of 100 words or a 1000 page manual?
- Metadata: What is the purpose of metadata that describe the content of the site? Is the content described manually or automatically? Can users create their own models? (ie create and use tags that they consider appropriate to describe and organize content, concepts)
- Volume: How many documents are we talking about?
- Dynamicity: How and to what extent is the site expected to change in the future?



Information Ecology: the Users

- Differences in customer preferences and behaviors in the physical world are reflected in different information needs, and in search behaviors of different information .
- So all you know about users is helpful in determining their needs / goals.

Four types of information needs :

- ◆ Those who look for something in particular (how many inhabitants has Bologna?)
- ◆ Those who explore the system for answers (see the International Relations website of the University of Bologna to decide where to go in Erasmus)
- ◆ Those who seek to know everything about a topic (researching for a thesis)
- ◆ Those who search and then reuse (bookmarking, eg. Del.icio.us)



Approaches to information architecture

- Top-down design
- Bottom-up design



Top-down design

- In the top-down model, a general structure of the system is formulated without going into detail of any of its parts.
- Every part of the system is progressively refined by adding more details from the earlier design stages.
- This refinement continues until the complete specification is sufficiently detailed to validate the model.
- The top down starts from the goals and from it indicates to the appropriate strategy to reach the goal.



[Community](#)[Service](#)[Excellence](#)[Faith](#)[Justice](#)

[Forensics Team Builds on Success](#)

The forensics season is barely a month old and already the team is in need of a larger trophy case. Within two weeks time, head coach Kristopher Kracht's team placed first in three different tournaments.



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[Prospective Student](#)[Current Student](#)[Faculty Member](#)[Parent](#)[Alumnus/Alumna](#)[Visitor](#)[Staff Member](#)[Prospective Employee](#)

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[Intern Helps Non-profit Obtain \\$110,000 Grant](#)

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[St. Lucia Crowned at Gustavus Adolphus College](#)

Sophomore Katelyn Johnson was crowned 2007 St. Lucia during Gustavus Adolphus College's 67th annual Festival of St. Lucia on Thursday, Dec. 6. Every year five sophomore women are chosen to serve on the college's St. Lucia Court based on academic achievement, spiritual leadership, service to the College, and other qualities.

[Gustavus Student Raises Awareness of Fibromyalgia](#)

Gustavus Adolphus College sophomore Jen Syverson has been living with Fibromyalgia since early childhood. Now, almost 15 years after her original diagnosis, Syverson is aiming to educate people about the condition and raise funds for research purposes.

Athletics News

Fine Arts News

Rate this page: ★★★★★

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Search engine

Navigation system

Community

Service

Excellence

Faith

Justice

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Athletics News

Fine Arts News

Site organization

Rate this page: ★★★★★

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Top-Down approach

For every communication goal you design for the best strategy to reach it

1. Where am I?
2. If I know what I'm looking for, do I know where to find it?
3. How do I explore this site?
4. What makes this organization unique and identifiable?
5. What is this site and what can I find on it?
6. What is happening now?
7. Are they interested in my opinion?
8. How do I talk to a human being?
9. Is there a physical address?

The image shows a screenshot of the Gustavus Adolphus College website with various elements annotated with numbers 1 through 9. The website header includes the college name and a search bar. The navigation menu lists categories like Academics, Admission, Alumni, Arts, Athletics, Calendar, News, and MORE. The main content area features a featured article about the Forensics Team and a section for Featured News & Events. The footer contains contact information and a navigation bar for different user groups.

1: Gustavus Adolphus College logo
2: Search bar
3: Academics, Admission, Alumni, Arts, Athletics, Calendar, News, MORE
4: Forensics Team Builds on Success article
5: I am a... section (Prospective Student, Current Student, Faculty Member, Parent, Alumnus/Alumna, Visitor, Staff Member, Prospective Employee)
6: Featured News & Events section (Intern Helps Non-profit Obtain \$110,000 Grant, St. Lucia Crowned at Gustavus Adolphus College, Gustavus Student Raises Awareness of Fibromyalgia)
7: Rate this page: ★★★★★
8: Contact Us, Employment, Privacy Policy
9: 800 West College Avenue, Saint Peter, MN 56082 US, 507-933-8000

Bottom-up design

- In contrast to the top-down model there is bottom-up design in which the individual parts of the system are characterized in detail.
- These parts are then joined together to form larger components, which are then interconnected to a complete system.



Bottom-Up approach: from detail to general .

The recipe has a clear architecture of information divided into "blocks", of which the function is understood despite the absence of subtitles, are arranged in a logical / sequential manner.

In this case, the information architecture is included within the content.

Non sicuro | www.academiabarilla.it/ricette/primi-piatti/spaghetti-alla-carbonara.aspx

Next | Notizie | TechWorld | UniBo | Strumenti | Lavoro | Entertainment u | Giochi | 2016 | Altro. Z Wn | pippo | CPK | Custodio Family P... | Famiglia | Altri Preferiti

REGISTRATI PER USARE TUTTE LE FUNZIONI

Accedi con il tuo account Facebook

AB Accedi con il tuo account AB

Cerca

RICERCA AVANZATA

FOOD TOURS

SPAGHETTI ALLA CARBONARA

18' | Difficoltà | Portata: Primi piatti

Le uova, il guanciale e il pepe, conferiscono un gusto intenso e avvolgente agli spaghetti alla carbonara. Ecco a voi una delle ricette italiane più famose al mondo.

Vota ★★☆☆☆ | Aggiungi al tuo menu | Regione ▶ LAZIO

Nome and serving sizes

Bottom-Up approach: from detail to general .

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Non sicuro | www.academiabarilla.it/ricette/primi-piatti/spaghetti-alla-carbonara.aspx

CERCA RICETTE
MENU SPECIALI
VIDEO RICETTE
Antipasti e Verdure
Primi Piatti
Tortelli di magro della vigilia
Risotto con le fragole
Risotto al gorgonzola con salsa di pere
Pasta al sugo bianco di melanzane
Bavette con pesce spada e zucchine
Spaghetti alla carbonara
Spaghetti con cavolo romano
Pasta fresca - Prima parte
Penne con zucca, pancetta e aceto balsamico
Garganelli con le fave
Pasta fresca - Seconda parte
Risotto ai funghi porcini e Pecorino al tartufo
Spaghetti con radicchio trevigiano e tartare di mazzancolle
Spaghetti al ragù vegetariano
Zuppa di Zucca e Verza
Spaghetti Barilla al nero di seppia
Gnocchi di zucca
Secondi Piatti
Pani, focacce, pizza
Dolci e Frutta
RICETTE STEP BY STEP

mondo.

Vota ★★☆☆☆ [Aggiungi al tuo menu](#) Regione ▶ LAZIO

INGREDIENTI:
Per 4 persone

- 13 oz di spaghetti
- 150 g di guanciale di maiale
- 4 tuorli d'uovo
- 100 g di Pecorino
- sale e pepe q.b.

PREPARAZIONE:

Cuocete gli spaghetti in acqua bollente e salata.

Nel frattempo, tagliate il guanciale a listarelle e fatelo soffriggere in una padella senza aggiungere olio. In contemporanea sbattere i tuorli delle uova con il pecorino in una terrina: aggiungete due cucchiari di acqua di cottura degli spaghetti e una macinata di pepe nero.

Scolate gli spaghetti al dente.

ingredients

preparation

Information architecture components

Organization

- ◆ By Subject
- ◆ Chronological

Labeling

- ◆ Mode for information representation

Navigation

- ◆ Page-wide navigation
- ◆ Navigation within the content

Search

- ◆ How to search for information
- ◆ query vs. navigation



A vocabulary of visual structures

Morville and Rosenfeld propose a design system based on:

- ◆ Browsing aids
- ◆ Search aids
- ◆ Contents and Tasks
- ◆ Invisible components



Browsing aids (1)

- This type of component presents the user with a set of tools that help him navigate the site.
- These components allow the user to find the information they want through navigation (menu and links), rather than through queries.
- They have the purpose of encouraging content exploration, site orientation, understanding of the purpose and organization of the site, serendipity.



Browsing aids (2)

In these types of components we include:

- ◆ Content organization systems: The main way in which a site is organized and content are grouped (for example, by history, by subject, by task, by public).
- ◆ The hierarchies and groupings of elements on the page,
- ◆ The global site navigation system
- ◆ The local navigation system (where I am and what I can do with a portion of the site)
- ◆ The contextual navigation system (inside the text and usually used to connect very specific content)
- ◆ Orientation systems (color palettes, where are we, breadcrumbs, etc.)
- ◆ The site map (including content table)
- ◆ The index of the site (in alphabetical order)
- ◆ The site guide (free text)
- ◆ Tags clouds
- ◆ Wizards (step by step sequences for specific tasks)



Browsing aids (3)

■ Example: Amazon.com

The screenshot displays the Amazon.com website interface. At the top, the Amazon logo is on the left, followed by a delivery location dropdown set to 'Italy' and a search bar. Below the search bar is a navigation menu with links for 'All', 'Today's Deals', 'Customer Service', 'Registry', 'Gift Cards', and 'Sell'. The main content area is divided into three vertical sections. The left section, titled 'Hello, sign in', contains four categories: 'Digital Content & Devices' (with links to Amazon Music, Kindle E-readers & Books, and Amazon Appstore), 'Shop By Department' (with links to Electronics, Computers, Smart Home, and Arts & Crafts), 'Programs & Features' (with links to Gift Cards, Shop By Interest, Amazon Live, and International Shopping), and 'Help & Settings' (with links to Your Account, English, United States, Customer Service, and Sign in). The middle section, also titled 'Hello, sign in', features a 'MAIN MENU' and a list of electronics sub-categories: Accessories & Supplies, Camera & Photo, Car & Vehicle Electronics (highlighted), Cell Phones & Accessories, Computers & Accessories, GPS & Navigation, Headphones, Home Audio, Office Electronics, Portable Audio & Video, Security & Surveillance, Service Plans, Television & Video, Video Game Consoles & Accessories, Video Projectors, Wearable Technology, and eBook Readers & Accessories. The right section contains several filter options: 'More-sustainable Products' (with a checkbox for Climate Pledge Friendly), 'Department' (with a dropdown for Electronics and a list of sub-departments including Vehicle Electronics), 'Customer Reviews' (with three star rating options), 'Featured Brands' (with checkboxes for Garmin, Pyle, Skar Audio, PIONEER, BOSS Audio Systems, Uniden, and JBL), 'Price' (with a range selector and a 'Go' button), 'Deals & Discounts' (with links to All Discounts and Today's Deals), 'Business Type' (with a checkbox for Small Business), 'Packaging Option' (with a checkbox for Frustration-Free Packaging), 'New & Upcoming' (with a link to New Arrivals), and 'Certifications' (with a checkbox for Energy Star).

2. Search Aids (1/3)

Components that allow the user to query and have a set of results .

A dynamic and automatic counterpart of browsing aids.

- ◆ Search Interface : Provides ways to enter a query and view results. Normally it offers the option to configure your own search (advanced search)
- ◆ Query language : Boolean operators (AND, OR, NOT) or mode to specify which field of interest to search (eg AUTHOR = "Norman")
- ◆ Query builders : ways to increase search performance (exact spelling, use of synonyms to suggest alternative searches, stemming, etc.)
- ◆ Presentation of results: list, grid, carousel, etc. Clickable, comparable, etc. Navigability between result and detail.



2. Search Aids (2/3)

Example: Amazon.com



Advanced Search

Books Search

Keywords

Author

Title

ISBN(s)

Publisher

Subject

Condition

Format

Reader Age

Language

Pub. Date

Month

Year

Sort Results by:

Search

Search Tips

How can I get fewer results?

If you use more than one keyword, our search engine will restrict the results to products that match all the keywords you enter.

How can I get more results?

Too many keywords can constrain your search. Use fewer keywords to find more results, e.g. conduct a search for "O'Reilly" to find all titles by O'Reilly and Associates.

How do I search by ISBN?

If you choose to search by ISBN, search only by that field and make sure you type the number correctly, without any dashes.

How do I sort my results?

When searching our bookstore, you can sort your search results in the way that is most useful to you by selecting the sort option. Once your search has produced a list of relevant items, select a way to sort by clicking the "Sort results by" box at the top of the list.

Real-world Examples

Trying to find books written by Malcolm X but not an autobiography? Try this search:

Put **'Malcolm X'** in the 'Author' field and **'-autobiography'** in the 'Keywords' field. [See the results](#)

Looking for the exact books from your 20th Century American Literature syllabus? Enter all the ISBNs in the 'ISBN' field, with a '|' (pipe) between each one.

E.g. **9780140285000 | 9780743273565 | 9780061120060**. [See the results](#)



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2. Search aids (2/2)

Issues in queries

- How to handle a syntactically incorrect query?
 - ◆ Either in the case of a specific form or a single search field
- How do I handle a query that does NOT return results?
 - ◆ An error message
 - ◆ Suggesting alternative queries
 - ◆ The best approximation
 - An example in geolocation searches
- How to handle a query that returns ONE result?
 - ◆ Show the result in a list otherwise empty
 - ◆ Send the user directly to the record view of the individual result
- How to handle a query that returns TOO MANY results?
 - ◆ Pagination of results / infinite scroll
 - ◆ Error message with further filtering
 - ◆ Arbitrary cut-off
- Difference between search and filter



3. Content and Tasks

They are the ultimate users' destination (and they are not browsing and searching for the user).

We use elements such as:

- ◆ Heading: labels for the following content.
- ◆ The links included in the text, the labels represent the content to which they refer.
- ◆ Tags included in the text (e.g. an ingredient in a recipe from which you can start to search for other recipes with the same ingredient).
- ◆ Text chunk: logical content units: they can vary by granularity and be nested.
- ◆ Lists: chunk or link groups that point to chunk. They take on particular importance because they are grouped together.
- ◆ Aids on the position within a sequence (e.g., this is step 3 of 8)
- ◆ Identifiers: Suggest where the user is in the system. For example, breadcrumbs, section colors, logos.



3. Content and Tasks

Example: Amazon.com

The screenshot shows the Amazon.com product page for a Canon Office Products MAXIFY MB2120 Wireless Color Photo Printer with Scanner, Copier and Fax. The page includes a search bar at the top with the text 'laser printer', a navigation menu, and a breadcrumb trail: 'Office Products > Office Electronics > Printers & Accessories > Printers > Laser Printers'. The product title is 'Canon Office Products MAXIFY MB2120 Wireless Color Photo Printer with Scanner, Copier and Fax'. The product image is a large black printer with a control panel. To the right of the image is a list of features: 'Style: Printer Only', 'Printer + Ink Bundle' (1 option from \$228.64), 'Printer Only' (17 options from \$152.48), 'Brand: Canon', 'Connectivity: USB', 'Technology: Inkjet', 'Printing Technology: Inkjet', 'Special Feature: Magnetic_proof', 'Color: Black', 'Recommended Uses For Product: Office, Home', 'Model Name: MAXIFY', 'Printer Output: Color', 'Maximum Print Speed (Color): 1 ppm', and 'Max Printspeed Monochrome: 1 ppm'. There is also a 'See less' link.

Headings

Bread crumbs

Links to additional content

Feature lists

4. Invisible components

Invisible components are information structures that are not user-friendly but may be useful to other visible components.

Eg:

- ◆ Thesaurus : These are controlled vocabularies (often referred to a particular domain) used to provide links to broader concepts, related concepts, synonyms. They offer a semantic context to the terms they are looking for.
- ◆ Sophisticated search algorithms
- ◆ Best Bet sorting : Sort by relevance of search results:
 - For similarity and contiguity
 - By popularity
 - For business needs



Information architecture: the design process

Requirements

- ◆ Examining existing content
- ◆ Meeting with stakeholder to discuss high-level goals and business context and existing architecture

Design

- ◆ Blueprints, page structure wireframes and metadata schema associated with the pages.
- ◆ Core of the design phase for the information architecture.

Implementation

- ◆ The projects are implemented and tested (prototype testers and designers themselves in an iterative manner).

Management

- ◆ Continuous assessment of architecture: new documents are added and tagged and the validity of the previous metadata is verified. It also requires feedback from users, useful for redesigning operations.



Requirements - Basic Questions

Management

- ◆ What are the long- and short-term goals ?
- ◆ What are the strategies and business plans?
- ◆ What are the deadlines and budgets?

User analysis

- ◆ Who do we expect as users ?
- ◆ Why should users come here?
- ◆ Why should they come back again?
- ◆ What worked in the past? What did not?

Content Management

- ◆ Is the content static or dynamic?
- ◆ How will the content be created and by whom?
- ◆ Is there a content management system ?
- ◆ What are the legal aspects of content (eg, copyright)?

Metadata

- ◆ Are there structural metadata (hierarchy, document position)
 - descriptive (what is it about) or
 - administrative (who produced the data)?
- ◆ How are they managed?



Requirements - Information Structures

System Information Ecology:

- ◆ content, context and users and their relationship .

Information architecture elements:

- ◆ Browsing aids, search aids, content, and invisible tasks and components,



2. Design: design

Managing the architecture of information

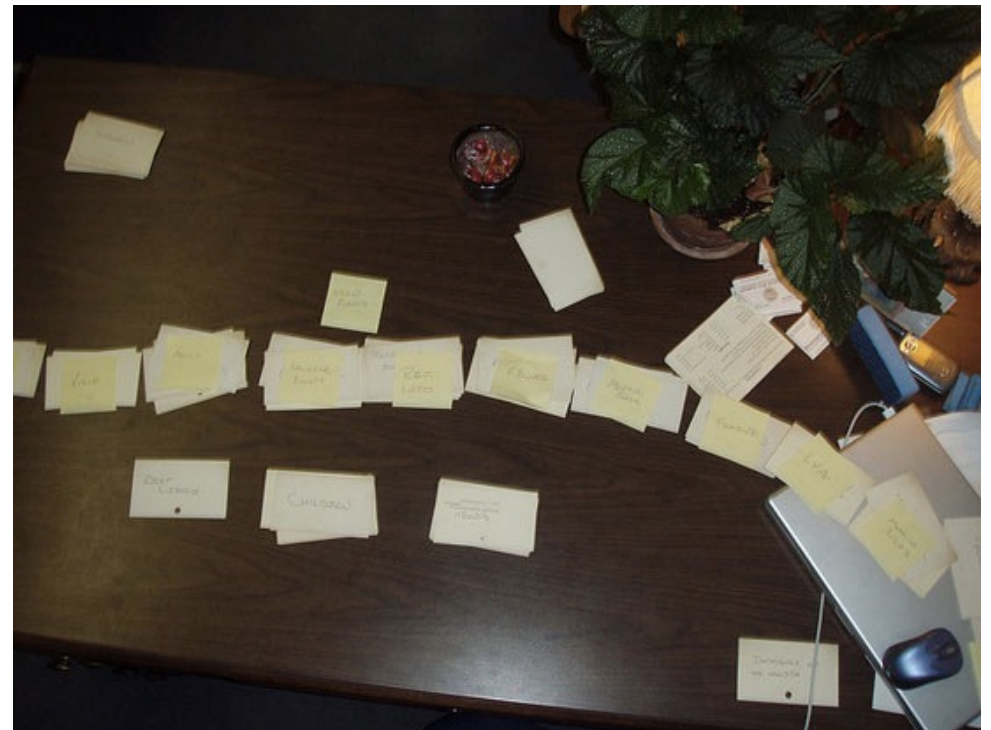
- ◆ Top down or bottom up approach?
- ◆ Organization and labeling system (top down)
- ◆ Determine the appropriate metadata fields
- ◆ Design of the navigation system.
- ◆ How can the top down and bottom up strategies be integrated?



Design - Card Sorting (1)

A content categorization technique.

- Write down on pieces of paper or Post-It notes some of the specific tasks of the website.
- On other pieces of papers or Post-it write categories (obviously a category for each post-it)
- Users and / or the client are invited to group and associate the tasks with the thematic categories of the website.



Design - Card Sorting (2)

Open card sorting

- ◆ the user can choose between the proposed categories or even invent new ones (to discover new categories)
- ◆ Just add empty post-it and a pen

Closed card sorting

- ◆ the user can only choose between the proposed categories (it is used to confirm a labeling system).

Reverse card sorting

- ◆ Rather than arranging all categories into a single deck, they are pre-organized into fictitious categories, either in the result of previous card sorting, or in the current site categories, etc. and you ask the user to reorganize them.

There are applications, e.g., WebSort <http://www.websort.net/>, which allow remote card sorting.



Some types of structures (1)

The flat structure

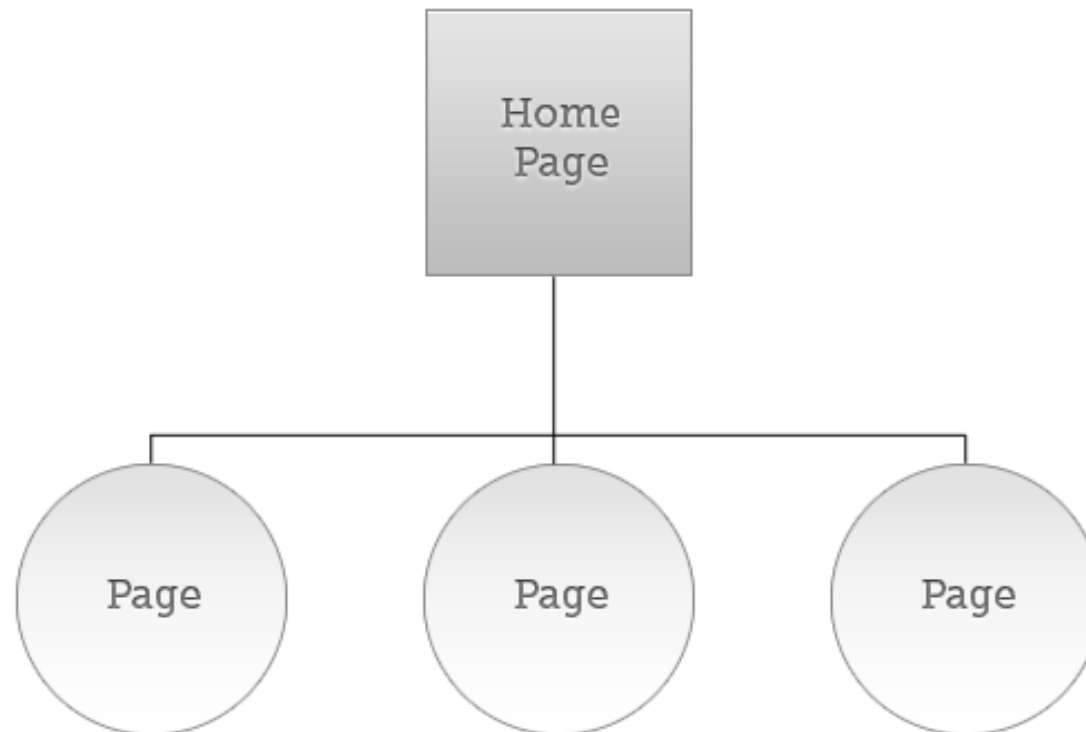
- Useful for very small sites, such as brochures or simple events



Some types of structures (2)

The table of content

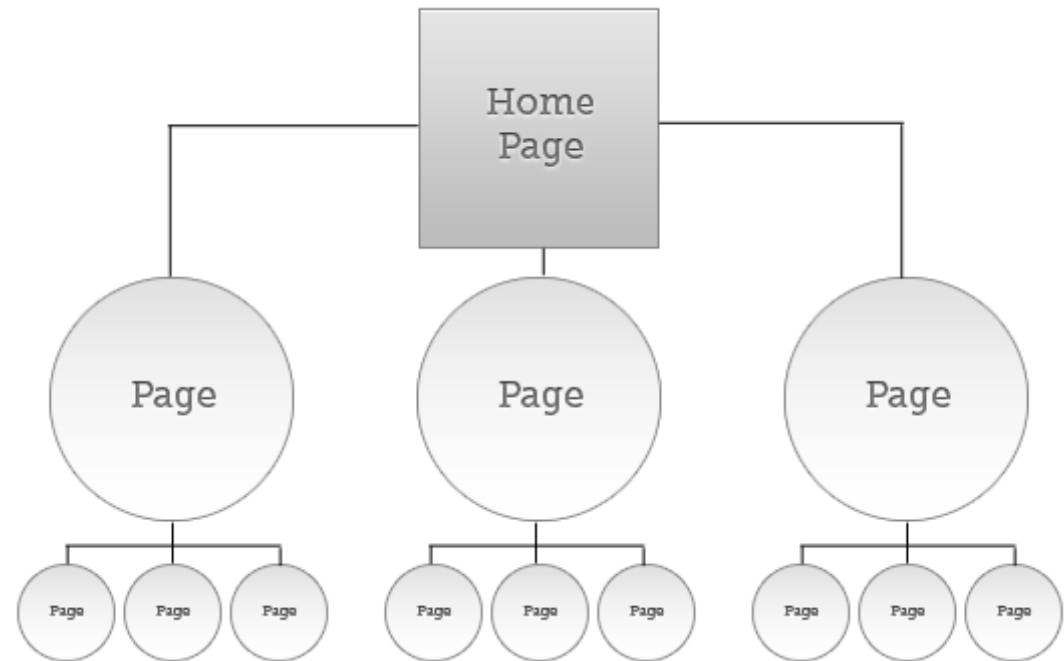
- Probably the most common type of structure: there is a unique access point and a single path from the main page to each content.



Some types of structures (3)

The strictly hierarchical organization

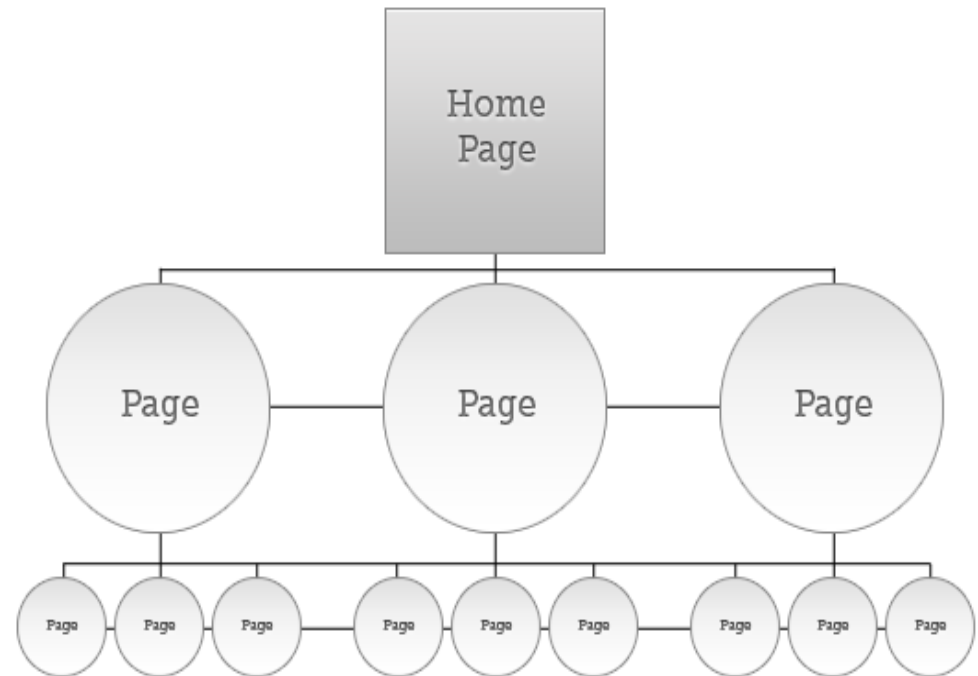
- In addition to the home page and leaf pages, there is a rigidly hierarchical structure of navigation and partitioning of content.



Some types of structures (4)

The co-hierarchical organization

- The intermediate structures are connected and there are more paths to get to the leaf pages.
- Even in this case, however, there is a clear distinction between:
 - ◆ home page,
 - ◆ intermediate pages (navigation) and
 - ◆ leaf pages (content).



Conclusions

In this lesson we discussed about:

- the importance of a good information architecture;
- how content is organized and managed for a good understanding;
- ... and above all we stress that the way we organize content reflects and influences the way our users perceive it.



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Sites

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