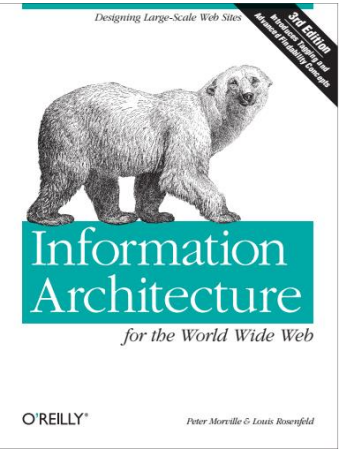
Information architecture

7 lesson

Human computer interaction

Dr Kristina Lapin



Information architecture

- What is, why is important
- Definition

Information spaces in airports

- Screens show departure times and registration desk numbers
- Information signs
  - Gates numbers
  - Direction labels
  - Information symblos
- Information centers
- Voice messages

Characteristics of information spaces

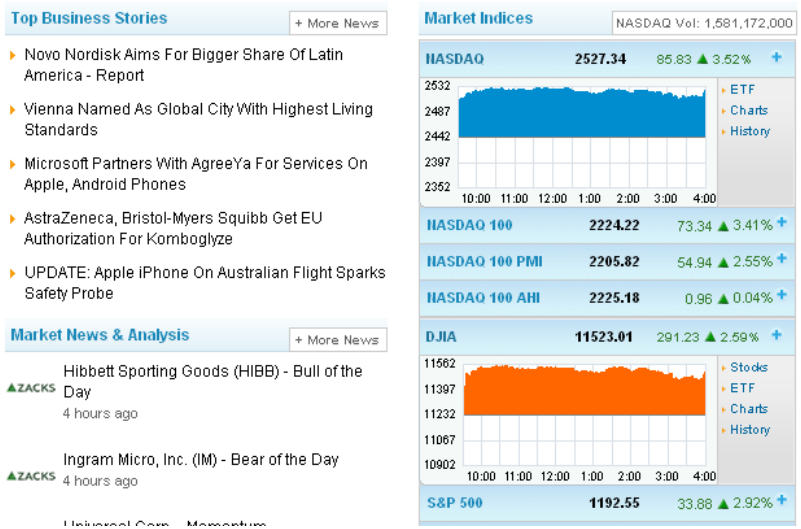
- Frequency of changes
  - Train schedule or stake prices

Maršrutai

Papildoma kainų informacija

Vilnius - Kaunas Maršruto žemėlapis

Traukinio numeris	Išvykimo laikas	Atvykimo laikas	Atstumas, Km	Kelionės trukmė	Pastabos	Kaina, Lt
EJ817	10:25	11:34	104	01:09	Traukinyje visos vietos 2 klasės.	18.00
EJ819	11:25	12:36	104	01:11	Traukinyje visos vietos 2 klasės.	18.00
D393	11:40	13:01	104	01:21	Traukinyje yra 2 ir 3 klasės vietos.	16.30
EJ821	13:50	15:01	104	01:11	Traukinyje visos vietos 2 klasės.	18.00
E875	14:43	16:25	104	01:42	Traukinyje visos vietos 3 klasės.	16.30
EJ823	16:30	17:30	104	01:00	Traukinyje visos vietos 2 klasės.	18.00
E877	16:35	18:16	104	01:41	Traukinyje visos vietos 3 klasės.	16.30



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- Vienna Named As Global City With Highest Living Standards
- Microsoft Partners With AgreeYa For Services On Apple, Android Phones
- AstraZeneca, Bristol-Myers Squibb Get EU Authorization For Komboglyze
- UPDATE: Apple iPhone On Australian Flight Sparks Safety Probe

Market News & Analysis + More News

ZACKS Hibbett Sporting Goods (HIBB) - Bull of the Day
4 hours ago

ZACKS Ingram Micro, Inc. (IM) - Bear of the Day
4 hours ago

Market Indices NASDAQ Vol: 1,581,172,000

NASDAQ	2527.34	85.83 ▲ 3.52%
NASDAQ 100	2224.22	73.34 ▲ 3.41%
NASDAQ 100 PMI	2205.82	54.94 ▲ 2.55%
NASDAQ 100 AHI	2225.18	0.96 ▲ 0.04%
DJIA	11523.01	291.23 ▲ 2.59%
S&P 500	1192.55	33.88 ▲ 2.92%

NASDAQ: 2532 2487 2442 2397 2352; 10:00 11:00 12:00 1:00 2:00 3:00 4:00; ETF Charts History

DJIA: 11562 11397 11232 11067 10902; 10:00 11:00 12:00 1:00 2:00 3:00 4:00; Stocks ETF Charts History

http://www.litrail.lt/

http://www.nasdaq.com/

Information architecture

1. The structural design of shared information environments.
2. The combination of
   - organization,
   - labeling,
   - search, and
   - navigation systems

   within web sites and intranets.

Information architecture

- Information
  - Data is facts and figures
  - Knowledge are in the head
  - Information is between
- Architecture
  - Structuring, organizing, labeling
  - Finding and managing

Information architecture

- Structuring
  - Determining the appropriate levels of granularity for the information “atoms”,
  - Deciding how to relate them to one another.
- Organising
  - grouping components into meaningful and distinctive categories
- Labelling
  - What to call those categories and the series of navigation links that lead to them.

What Isn’t Information Architecture?

- Graphic design is NOT information architecture.
  - Layout
- Software development is NOT information architecture.
- Usability engineering is NOT information architecture.

IA structure

- Organization system
  - A way to present information, e.g. content categories
- Navigation system
  - Help user move through the content
- Search system
  - Allow user search the content
- Labelling system
  - Describe categories, options, and links in language that (hopefully) is meaningful to users;

IA components

Navigation system

Ieškantiems darbo | Darbdaviams | Mokymų centras | Apie CV-Online

> Darbo pasiūlymai > Karjera > Testai > Papildomas darbas > Forumai > FACEBOOK > BLOG'as

> Dalintis/saugoti

Labeling system

Žydrūnas Alšauskas (Kaunas)
Agnė Ragauskaitė (Kaunas)
Inesa Zelenkevičienė (Vilnius)
Su laimėtojais susisieksime asmeniškai.
Dėkojame visiems dalyvavusiems.

Darbo pasiūlymų paieška:

Prisijunkite
Vartotojo vardas:
Slaptažodis:
OK
- prisiminti mane

Kitos galimybės:
> REGISTRACIJA
> Užmiršote slaptažodį?

STATISTIKA:

Darbo pasiūlymai	Klientai	Registruoti vartotojai	CV skaičius
737	381	292117	122377

Search system

pagal raktinį žodį
OK

> pagal datą
> pagal galiojimo datą
> pagal pareigų sritį
> pagal vietovę
> pagal įmonę

Organisation system

Vietovė

ADMINISTRAVIMAS / SEKRETORIAVIMAS (41)
APSAUGA / GELBĖJIMO PASLAUGOS (6)
BANKAI / DRAUDIMAS (42)
ELEKTRONIKA / TELEKOMUNIKACIJOS (27)
ENERGETIKA (19)
FINANSAI / APSKAITA (65)
PREKYBA (85)
RINKODARA / REKLAMA (56)
SAVANORIŠKAS DARBAS (11)
STATYBA / NEKILNOJAMAS TURTAS (27)
SVEIKATOS APSAUGA / SOCIALINĖ RŪPYBA (25)
TEISĖ (10)

Task for you

- https://gustavus.edu/

Top-down IA

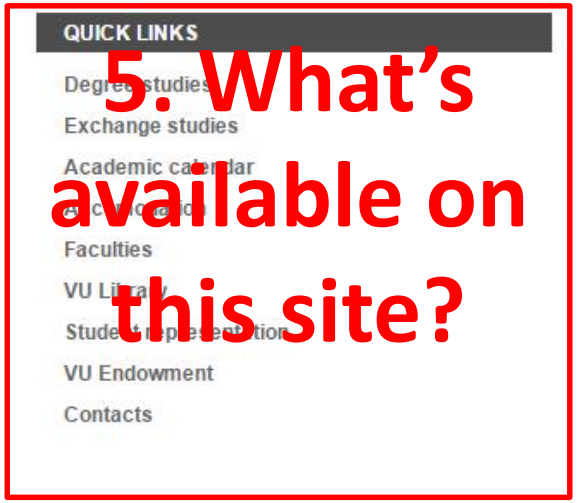
1. Where am I?
2. I know what I'm looking for; how do I search for it?
3. How do I get around this site?
4. What's important and unique about this organization?
5. What's available on this site?
6. What's happening there?
7. Do they want my opinion about their site?
8. How can I contact a human?
9. What's their address?

1. Where am I?

2. How to search?

3. How do I get around this site?

8. Contact a human

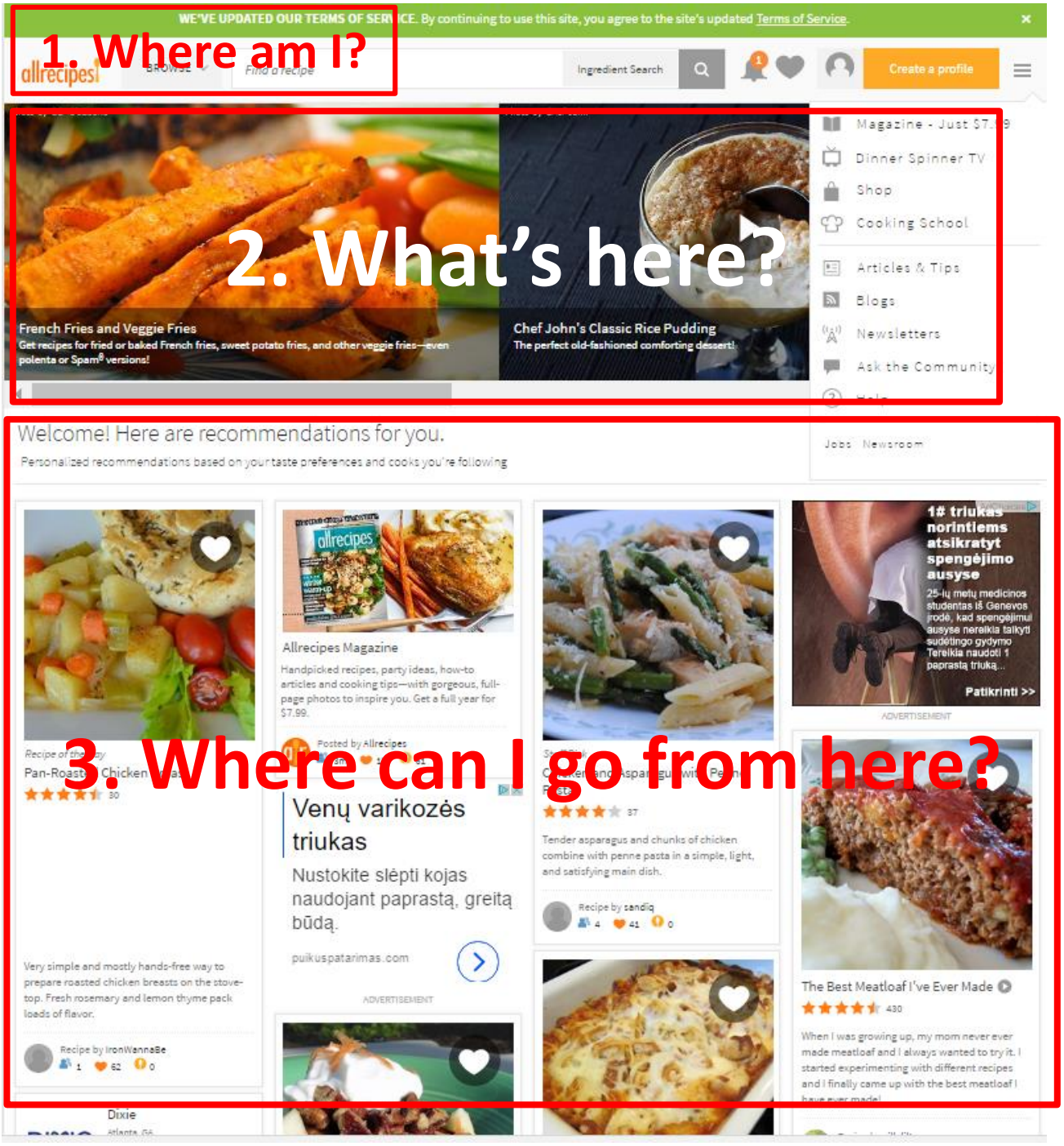


9. What's their address?

7. My opinion

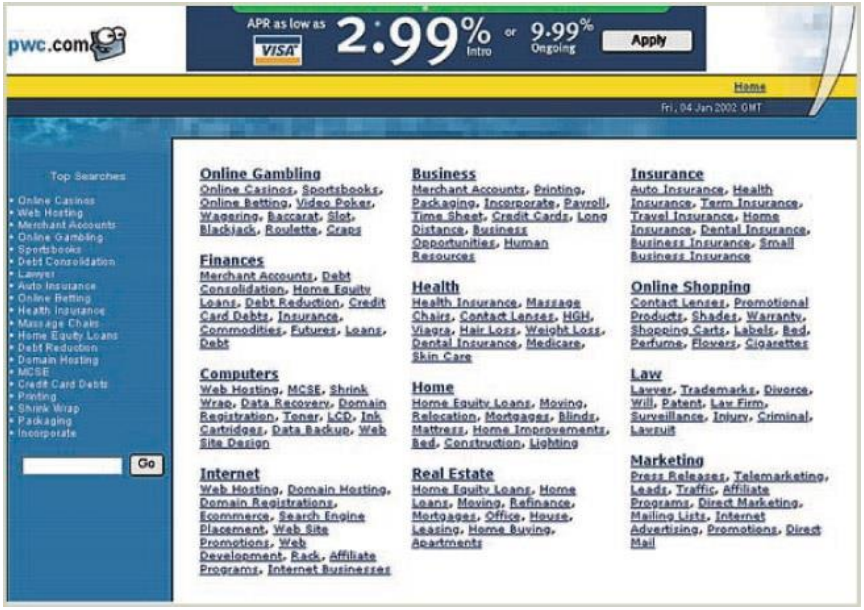
Bottom-up IA

- Where am I?
- What's here?
- Where can I go from here?


1. Where am I?
2. What's here?
3. Where can I go from here?
allrecipes
Ingredient Search
Create a profile
Magazine - Just $7.99
Dinner Spinner TV
Shop
Cooking School
Articles & Tips
Blogs
Newsletters
Ask the Community
French Fries and Veggie Fries
Get recipes for fried or baked French fries, sweet potato fries, and other veggie fries—even polenta or Spam® versions!
Chef John's Classic Rice Pudding
The perfect old-fashioned comforting dessert!
Welcome! Here are recommendations for you.
Personalized recommendations based on your taste preferences and cooks you're following
Jobs
Newsroom
Allrecipes Magazine
Handpicked recipes, party ideas, how-to articles and cooking tips—with gorgeous, full-page photos to inspire you. Get a full year for $7.99.
Posted by Allrecipes
Pan-Roasted Chicken
Very simple and mostly hands-free way to prepare roasted chicken breasts on the stove-top. Fresh rosemary and lemon thyme pack loads of flavor.
Recipe by IronWannaBe
Tender asparagus and chunks of chicken combine with penne pasta in a simple, light, and satisfying main dish.
Recipe by sandiq
1# triukas norintiems atsikratyt spengėjimo ausyse
25-ių metų medicinos studentas iš Genevos įrodė, kad spengėjimui ausyse nereikia taikyti sudėtingo gydymo. Tereikia naudoti 1 paprastą triuką...
Patikrinti >>
ADVERTISEMENT
Venų varikozės triukas
Nustokite slėpti kojas naudojant paprastą, greitą būdą.
puikuspatarimas.com
ADVERTISEMENT
The Best Meatloaf I've Ever Made
When I was growing up, my mom never ever made meatloaf and I always wanted to try it. I started experimenting with different recipes and I finally came up with the best meatloaf I have ever made!
Dixie

Where am I?

Home page identity crisis



(Johnson 2003)

Well designed identity

Navigation should

- Be easy to learn
- Be consistent throughout the website
  - try https://www.baekdal.com/plus)
- Provide feedback
  - such as the use of breadcrumbs to indicate how to navigate back to where the user started.
- Use the minimum number of clicks to arrive at the next destination.
- Use clear and intuitive labels,
  - based on the user's perspective and terminology.

http://www.usabilityfirst.com/about-usability/information-architecture/

Navigation should

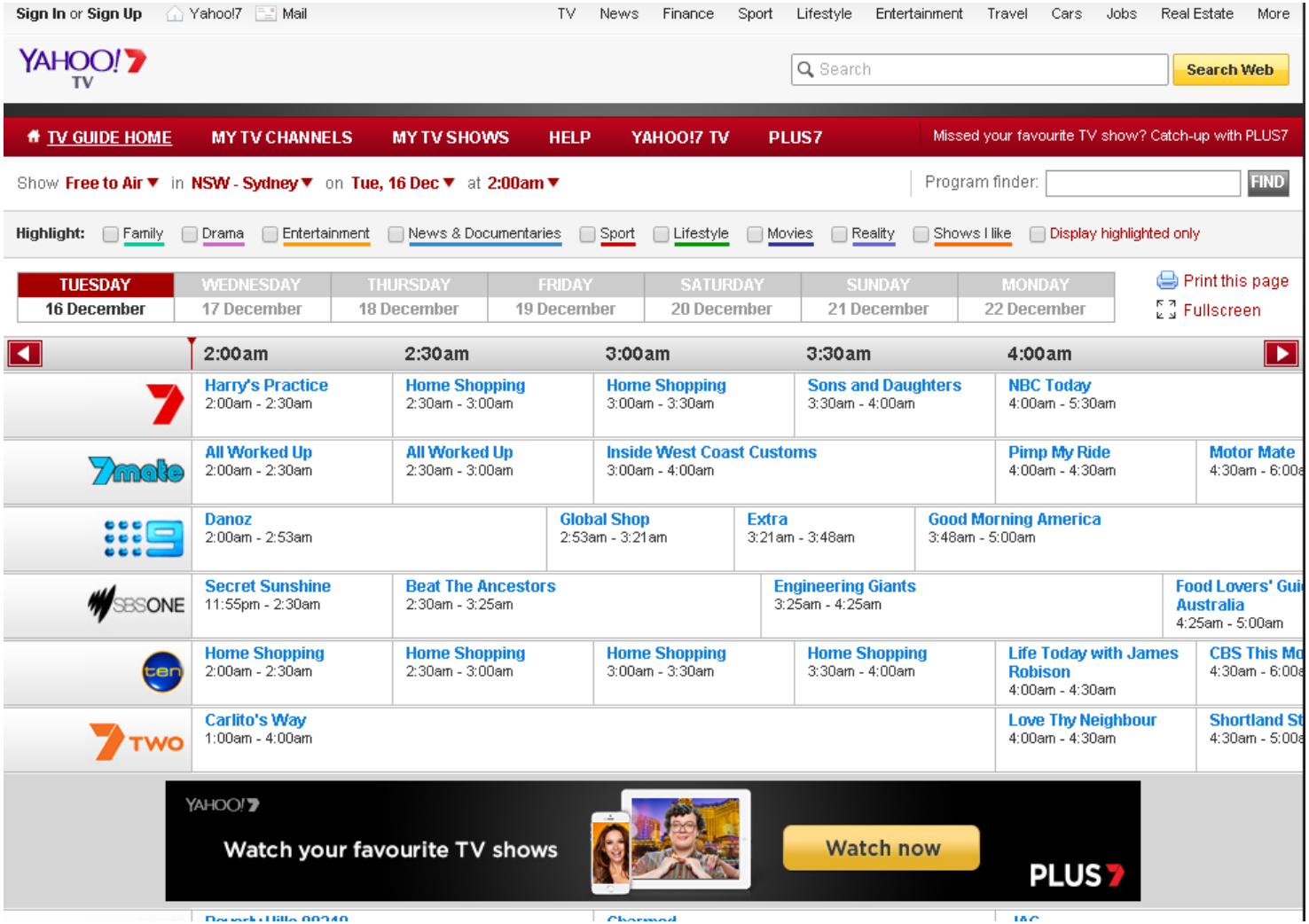
- Support user tasks.
- Have each link be distinct from other links.
- Group navigation into logical units.
- Avoid making the user scroll to get to important navigation or submit buttons.
- Not disable the browser's back button.

http://www.usabilityfirst.com/about-usability/information-architecture/

Classification schemes

- **Alphabethical**: in phone books, book stores and directories of all kinds.
  - Problem: formal names sometime differs from informal
- **Chronological**: for historical archives, diaries and calendars, and event or TV guides
- **Geographical** suits travel subjects, social and political issues and regional organizations
  - such as wine sites, local foods

Chronological classification

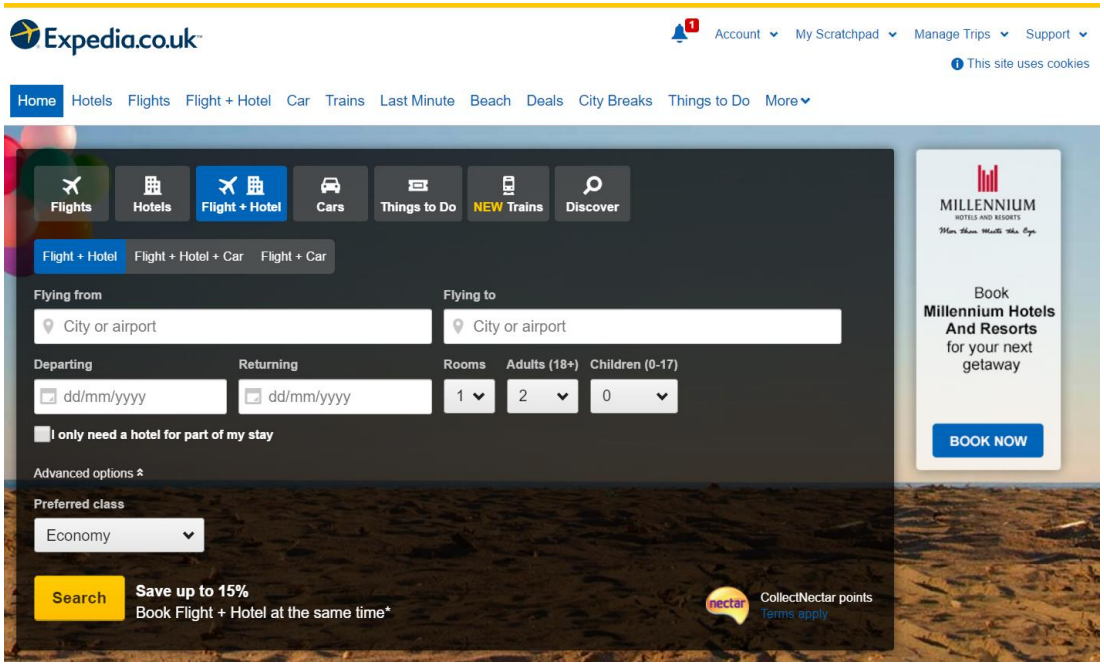


Geographical classification

Classification schemes

- **Faceted** classification
  - Major concepts of the site, their facets (attributes) and their values
  - By **topics**
    - Yellow pages, travel agencies, recipe sites, …
  - By **tasks**
    - In text editors: edit, insert, format, ...;
  - By **audience**
    - bank sites: private and business clients;
    - Universities – prospective students,students, staff
- **Metaphors**: desktop, folder, file.
- **Hybrid**: combination of various schemes.

Faceted classification: travel agency



Major concepts: flights, hotels, cars, etc.

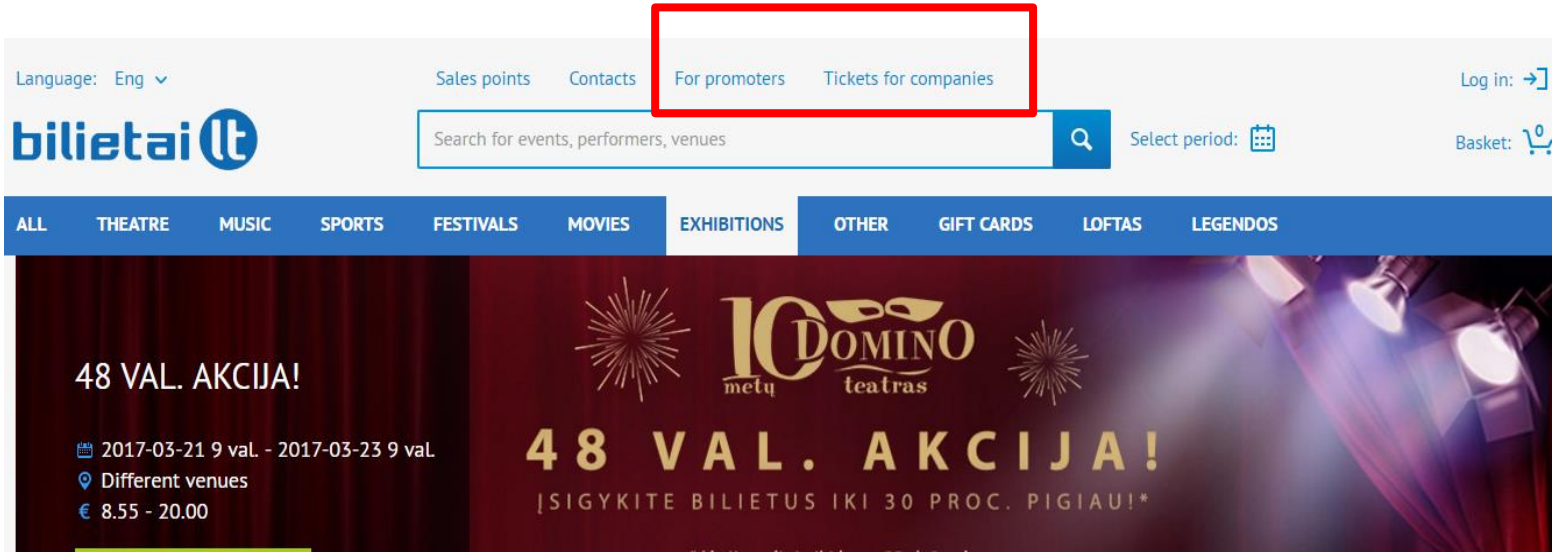
Common facet for all concepts:

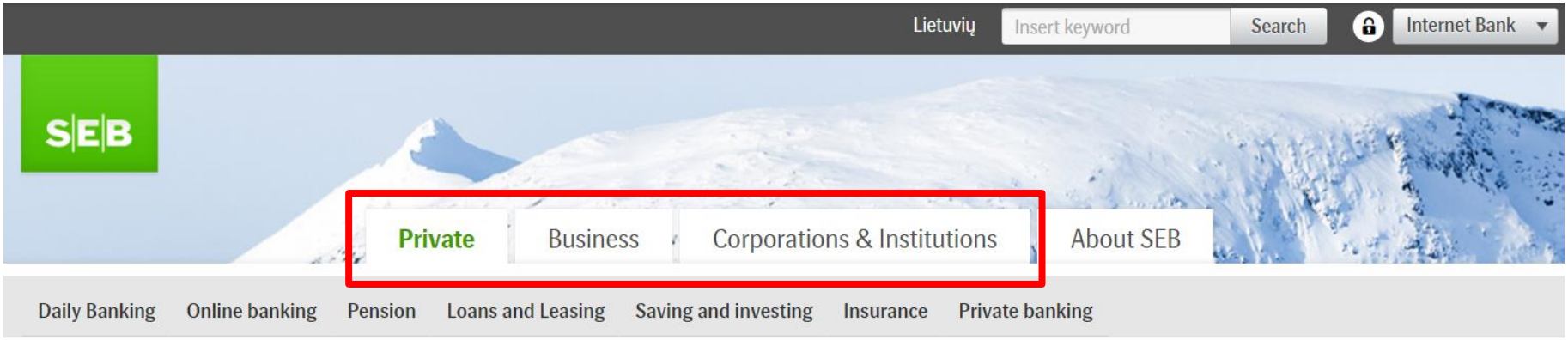
- price

- Unique facets:
  - flights go from one city to another,
  - hotels are located in a single city
    - but may be part of a chain, etc.

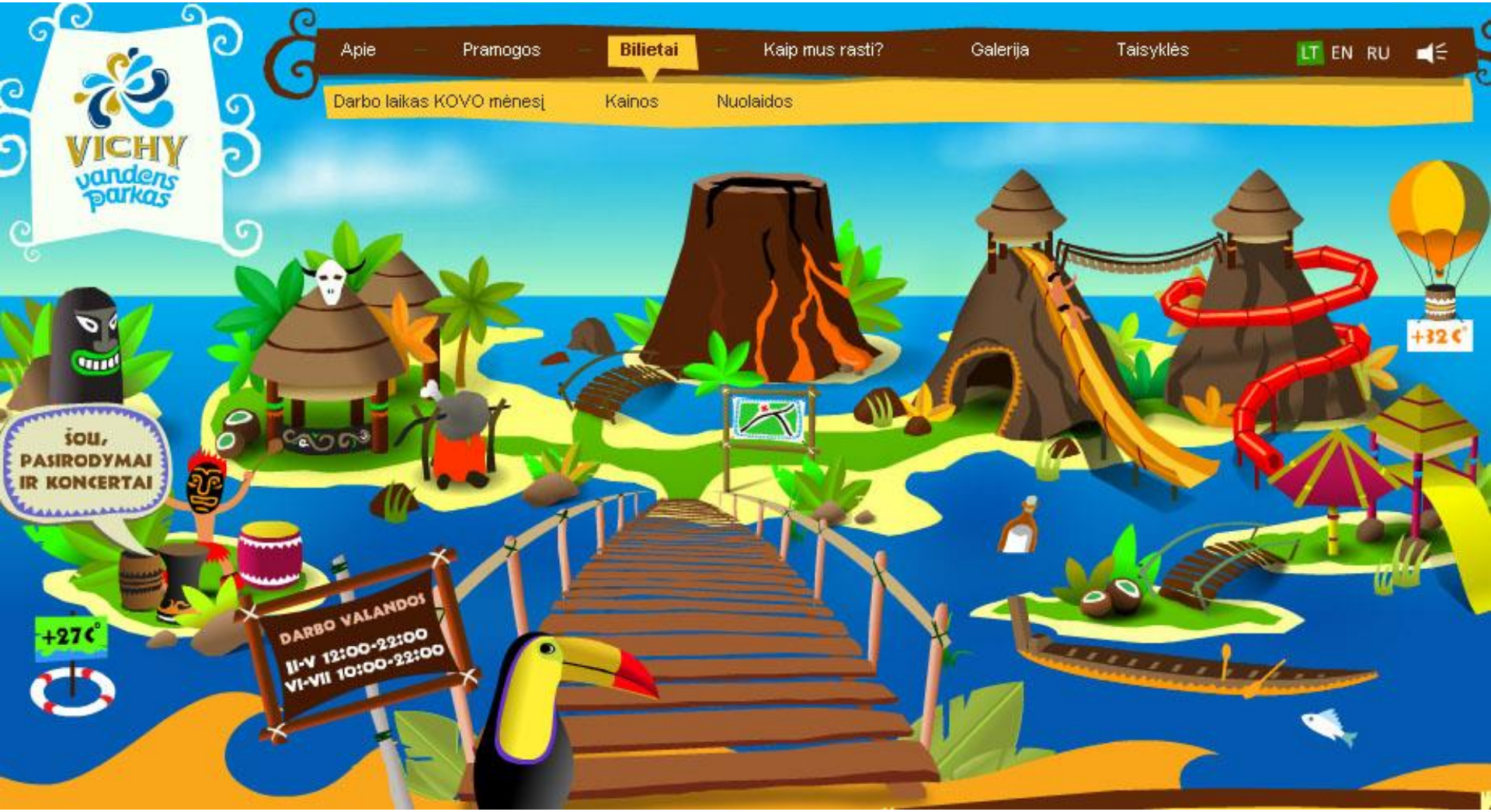
Task classification

Classification by audience





Metaphors: Aqua Park Vichy



Social classification

- User *tagging* in social networks
  - a **tag** is a keyword or term assigned to a piece of information
- Tag clouds

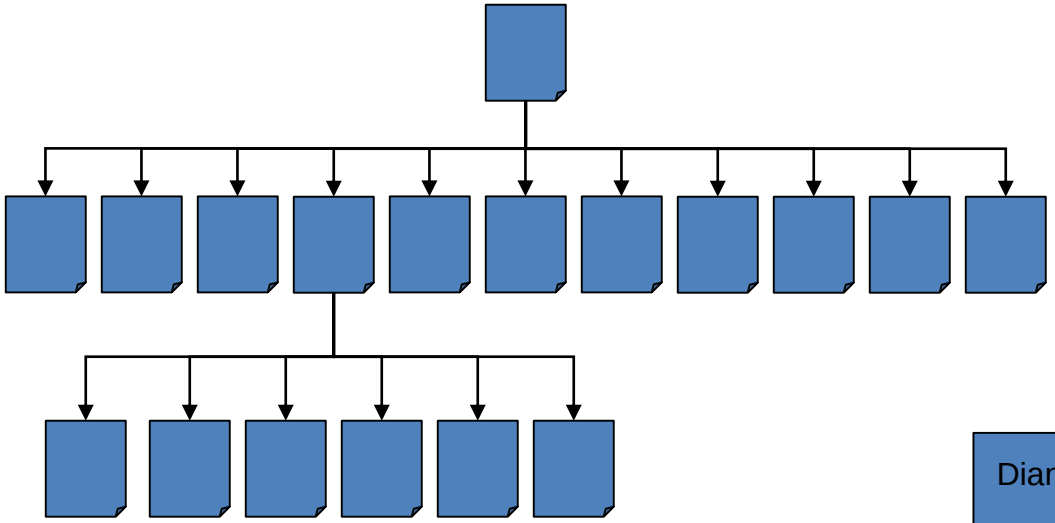
Importance of classification

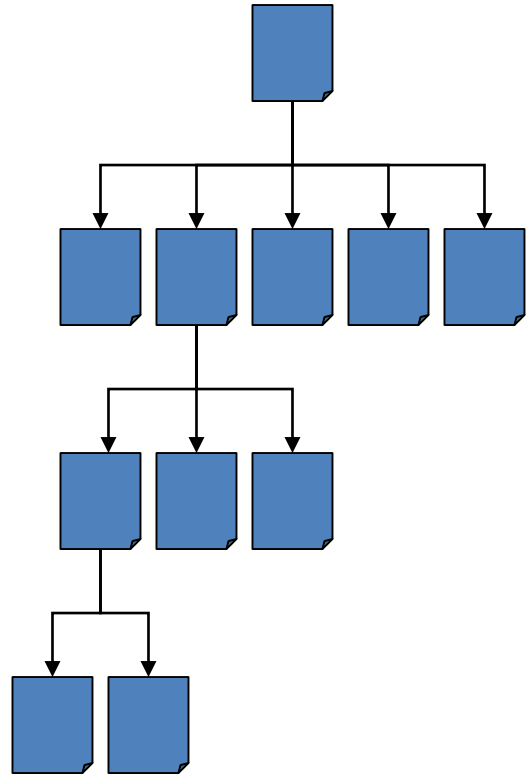
- Jared Spool's User Interface Engineering research:
  - Departments in left navigation panel www.macys.com
  - Menu at the top www.gap.com, http://www.victoriassecret.com
  - Combination department and gallery Old Navy (www.oldnavy.com)
  - Combination of product description and departments
    - Lands' End (http://www.landsend.com)
  - Combined text lists of all the products in the department with a toggle to see the pictures for a gallery
    - Eddie Bauer (http://www.eddiebauer.com)
- Results:
  - 78% of users used navigation, 28% search
  - Land's End design performed the best, Old Navy's – the second
  - Left navigation design – the worst performance

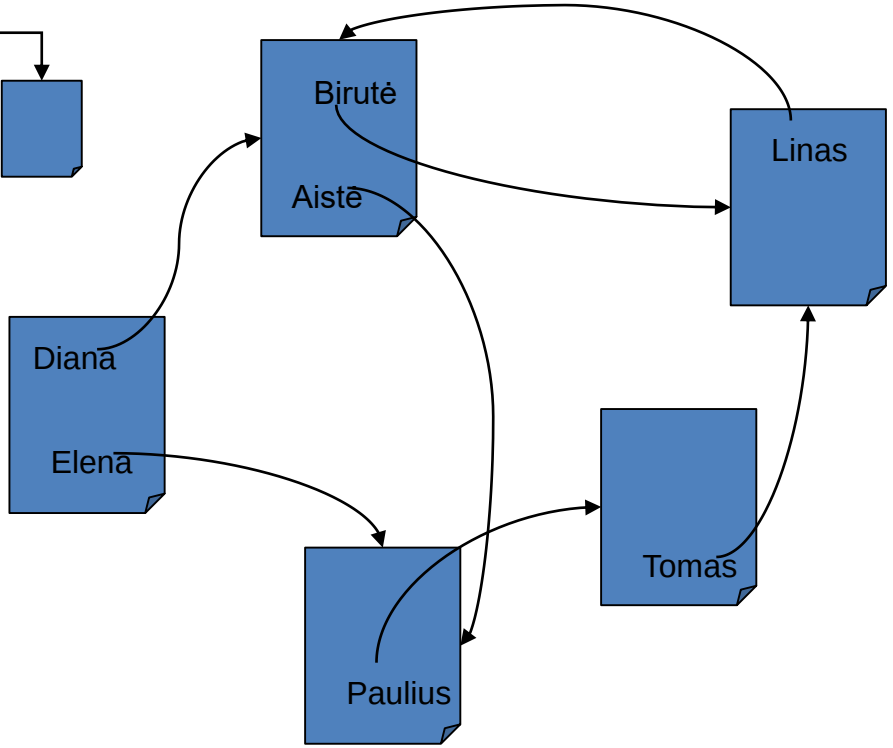
https://articles.uie.com/strategies_categories/

Organisation structures

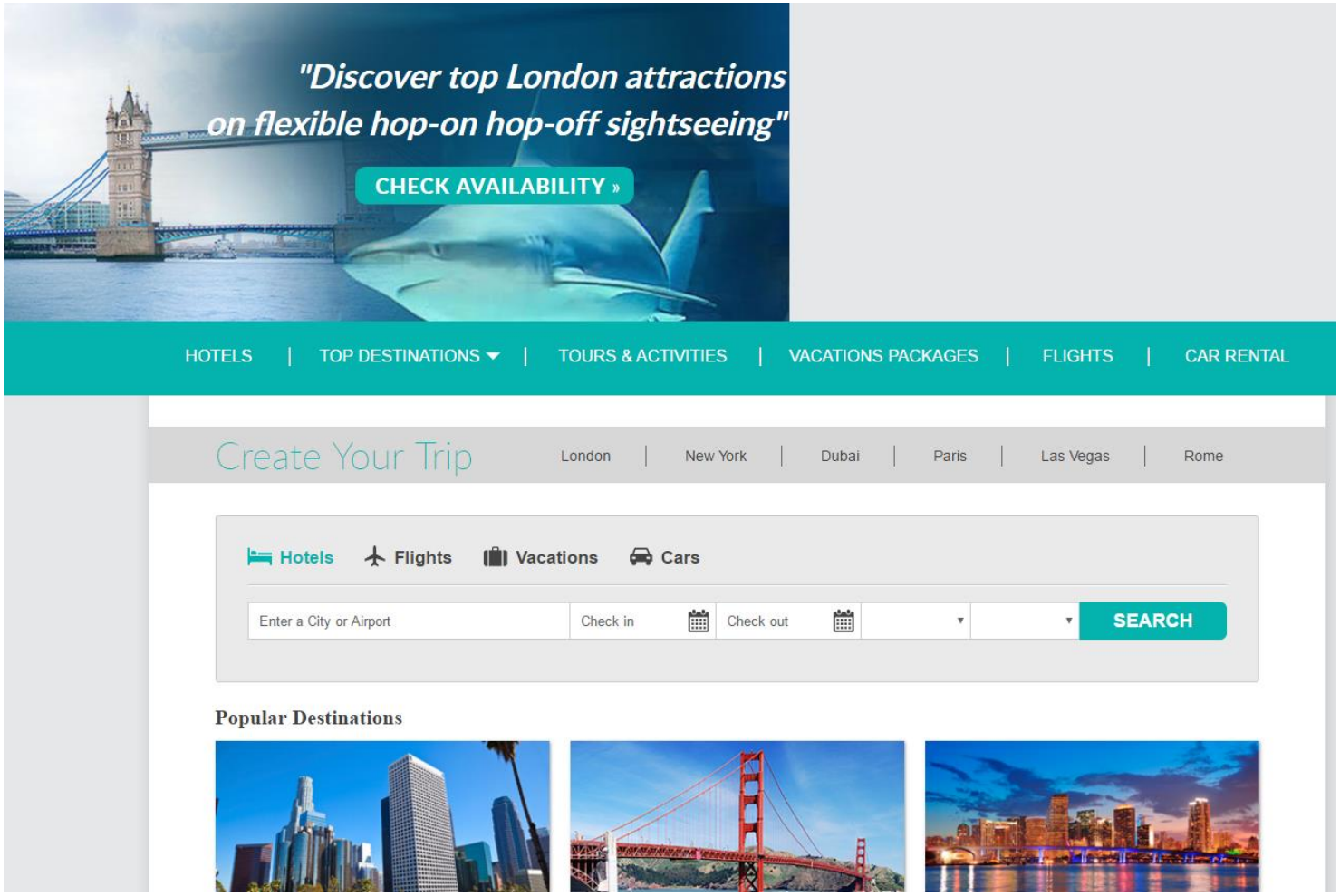
- **Hierarchical** tree structure
  - shallow and broad structure with many branches
  - Deep structure with few branches
- Breath vs depth?
- Problem
  - No matter what classification scheme is chosen, some item will not fit nicely into it
  - Then the designer puts it under two or more headings
  - Hierarchy becomes a network
    - More difficult to understand






Birutė
Aistė
Linas
Diana
Elena
Tomas
Paulius

Classification by topic: travel



Dalykinė schema: kelionės

Effective IA

1. Understand the business/contextual requirements and the proposed content for the system.
   Read all existing documentation, interview stakeholders and conduct a content inventory.
2. Conduct cards sorting exercises with a number of representative users.
3. Evaluate the output of the card sorting exercises. Look for trends in grouping and labelling.
4. Develop a draft information architecture (i.e. information groupings and hierarchy).
5. Evaluate the draft information architecture using the card-based classification evaluation technique.
6. Don't expect to get the information architecture right first time. Capturing the right terminology and hierarchy may take several iterations.
7. Document the information architecture in a site map. This is not the final site map, the site map will only be finalised after page layouts have been defined.
8. Define a number of common user tasks, such as finding out about how to request holiday leave. On paper sketch page layouts to define how the user will step through the site. This technique is known as storyboarding.
9. Walk other members of the project team through the storyboards and leave them in shared workspaces for comments.
10. If possible within the constraints of the project, it is good to conduct task-based usability tests on paper prototypes as it provides valuable feedback without going to the expense of creating higher quality designs.
11. Create detailed page layouts to support key user tasks. Page layouts should be annotated with guidance for visual designers and developers.

http://www.belladesoto.us/

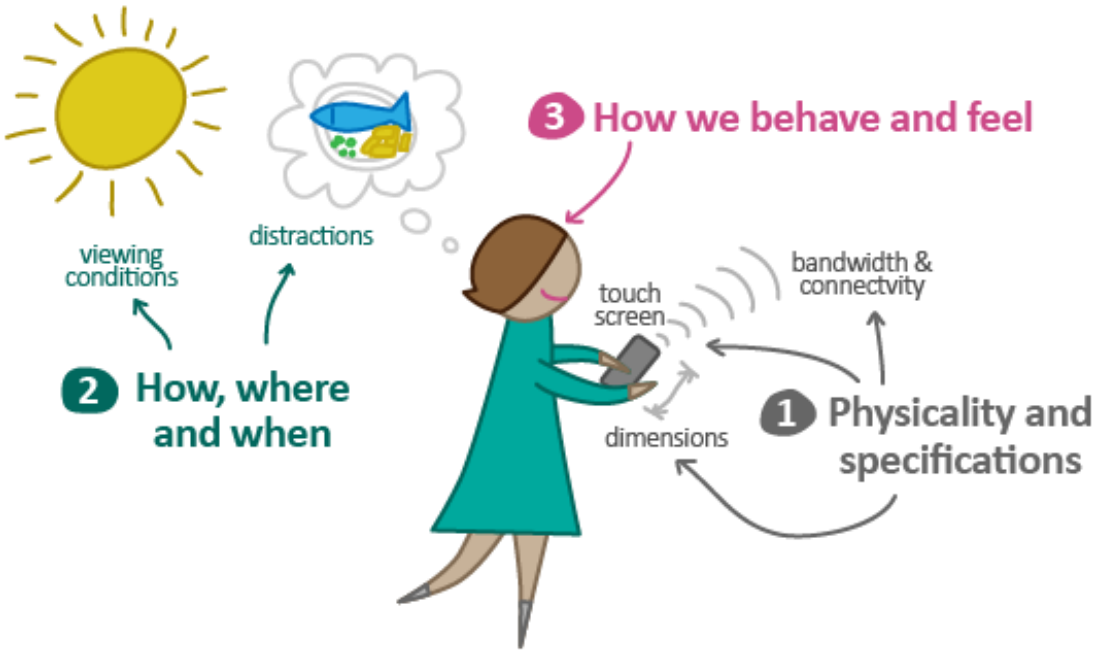
http://www.webpagesthatsuck.com/2009-worst-contenders-jan-march.html

Over-the-Top Websites

http://www.webpagesthatsuck.com/over-the-top-web-sites.html

INFORMATION ARCHITECTURE FOR MOBILES

How is mobile different?



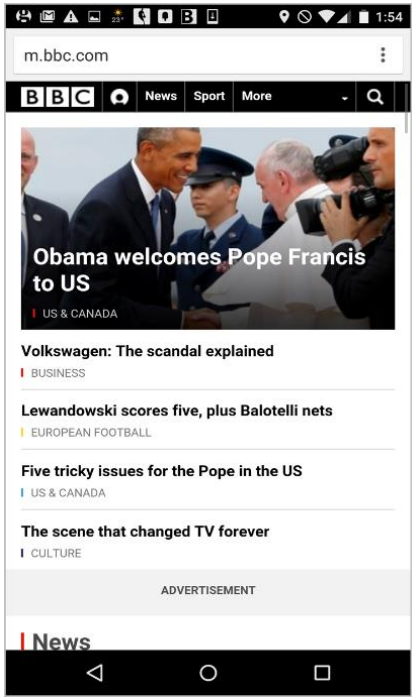
- Small size, lighter, more portable
  - More convenient to use
- Many users feel real emotional connection to their devices

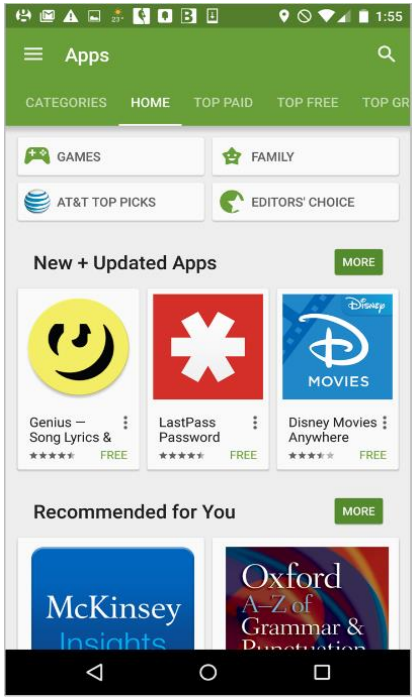
(McVicar 2012)

Popular navigation patterns

- Main navigation bars and tabbed bars
- Hierarchical Tree Navigation
- Nested Doll Navigation
- Hub and Spoke Navigation
- Bento Box Navigation
- Filtered View Navigation

The Navigation Bar and Tab Bars





The navigation bar is efficient, but

- it works well only for few navigation options;
- it takes up valuable real estate above the fold.

The tab bar can appear

- at the top (Android mostly) or
- at the bottom of the page (iOS mostly).

It is usually present on most pages within an app

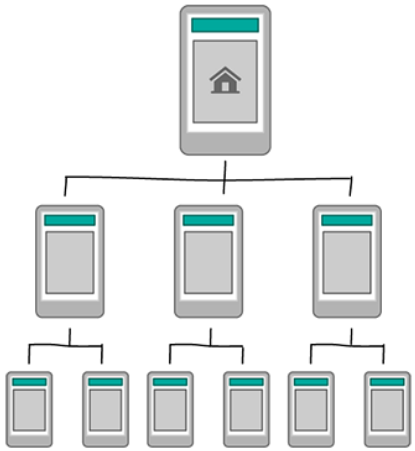
https://www.nngroup.com/articles/mobile-navigation-patterns/

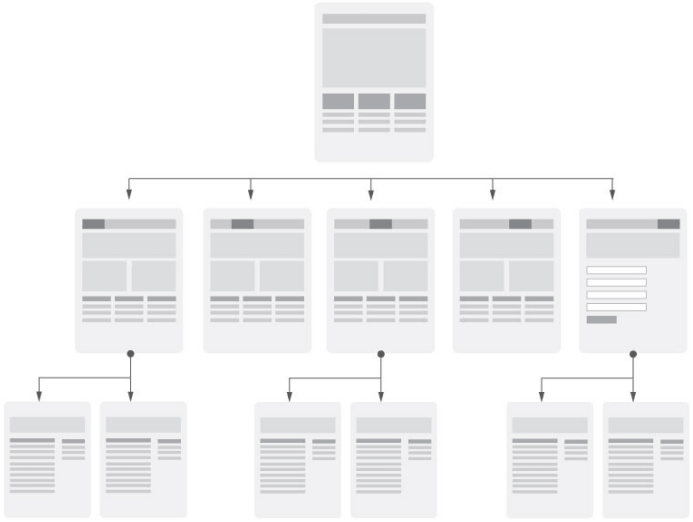
Tab bars and navigation bars

- Well suited for sites with few (4-5) navigation options
- For more - Carousel may be a solution
  - but if the categories are different
  - then users won't scroll
  - because the weak information scent from the visible categories may prevent them from guessing what items are hidden

https://www.nngroup.com/articles/mobile-navigation-patterns/

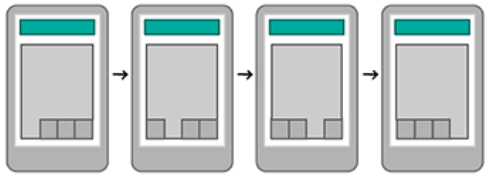
Hierarchical Tree Navigation





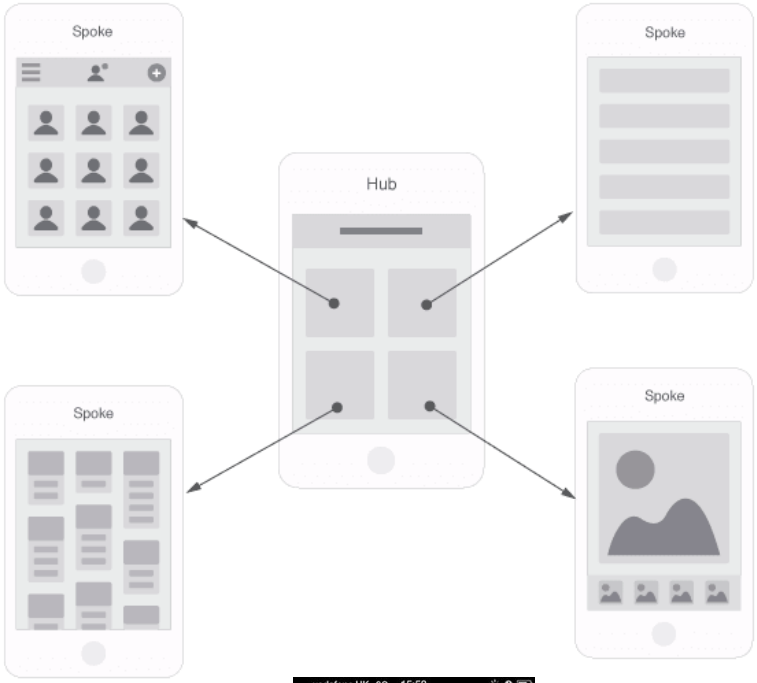
- Provides a top-level category for navigation followed by further layers of content in sub-categories below that level
- **Good for o**rganising complicated site structures that need to follow a desktop site's structure.
- The drawbacks
  - this model can become difficult to accommodate on the mobile screen;
  - the more content you have, the more difficult it is to squash all that data into the screen.

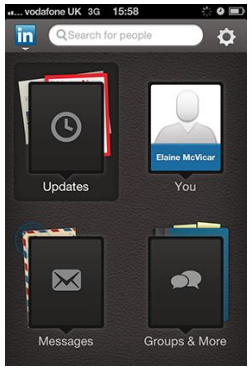
Nested Doll Navigation



- Linear menu pattern
- Users incrementally tap or swipe
  - to reveal additional menu options
  - as they traverse up and down through the site map.
- Funnelling users from broad overview pages to detail pages helps them hone in
  - on what they're looking for
    - and focus on content within an individual section.
  - well suited to small screens
    - but comes at the expense of easy lateral movement across sections.

Hub and spoke navigation





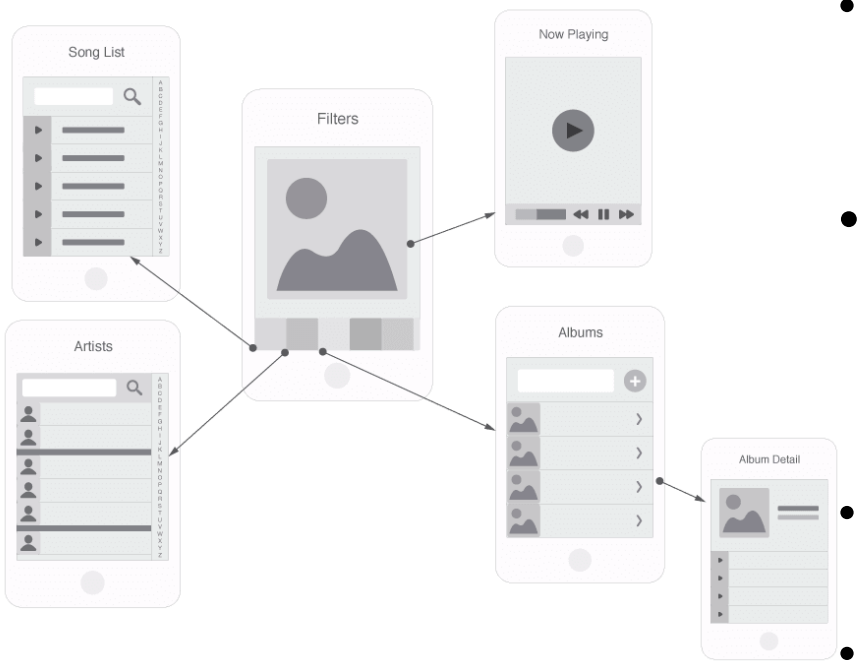
- Central screen acts as the launchpad for exploration
  - Links point outward to other sections
  - To move from one section to another,
    - you must first jump back to the hub.
- Eliminates the need for global navigation on each page
  - a popular choice for
    - multi-functional tools
    - task-based applications
  - that benefit from focus and minimal distraction.

https://www.smashingmagazine.com/2014/10/wayfinding-for-the-mobile-web/

Bento Box/Dashboard Navigation

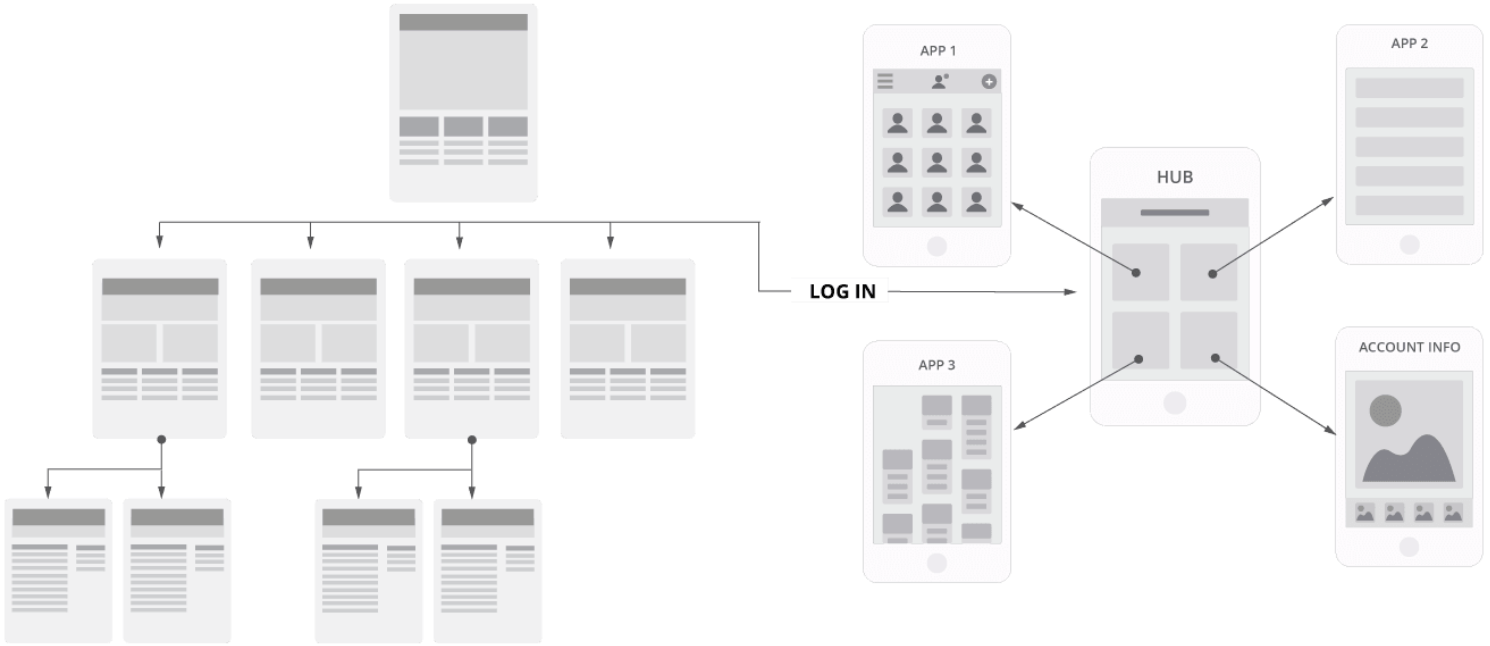
- Brings more detailed content directly to the index screen by using components to display portions of related tools or content.
- More suited to tablet than mobile
  - due to its complexity
- Good for
  - Multi-functional tools and content-based tablet apps that have a similar theme.
- Most interactions occur in a single multi-purpose screen
  - that unfolds to reveal layers of additional information.
- A popular choice for websites
  - on which users interact with data aggregated from a variety sources.

Filtered View Navigation



- Allows to navigate within a set of data by selecting filter options to create an alternative view.
- **Good for**
  - Apps or sites with large quantities of content,
    - such as articles, images, videos.
- Filtered view systems deal with a single data set.
- Information may be explored from multiple perspectives,
  - with a variety of views and sorting options
  - controlled by the user.

Combining schemes

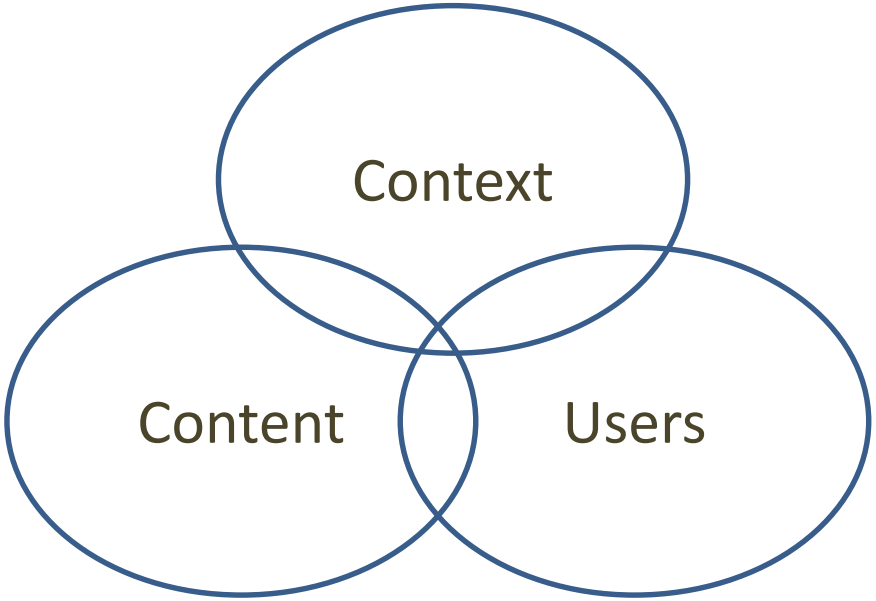


- Example:
  - One scheme for public part
  - Another for registered members

Why IA matters

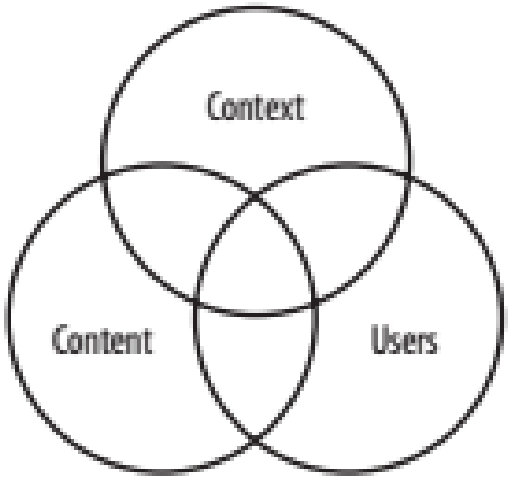
- The cost of finding information
- The cost of not finding information
- The value of education
- The cost of construction
- The cost of maintenance
- The cost of training
- The value of brand

Effective IA design

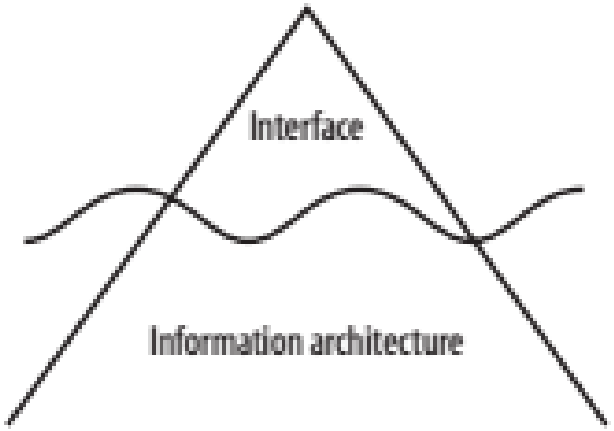


- Context
  - Business goals, funding, politics, culture, technology, resources, constraints
- Content
  - Document/data types, content objects, volume, existing structure
- Users
  - audience, tasks, information seeking behavior, experience

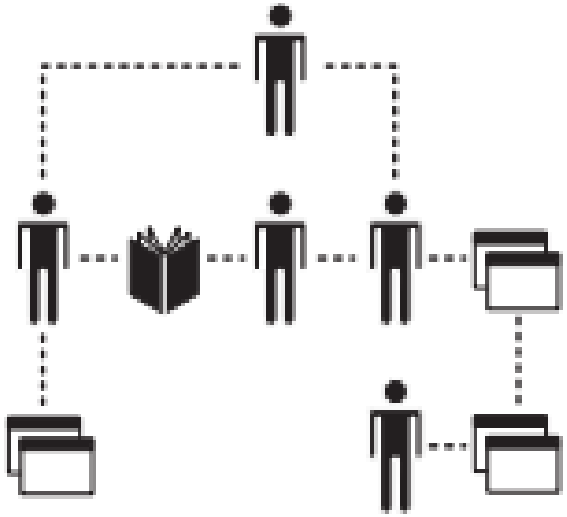
Concepts



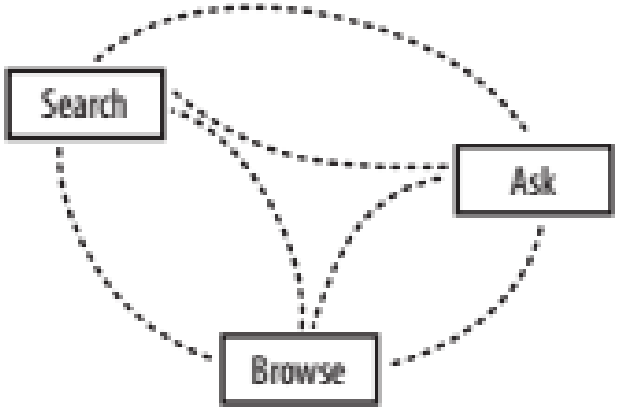
Complex systems



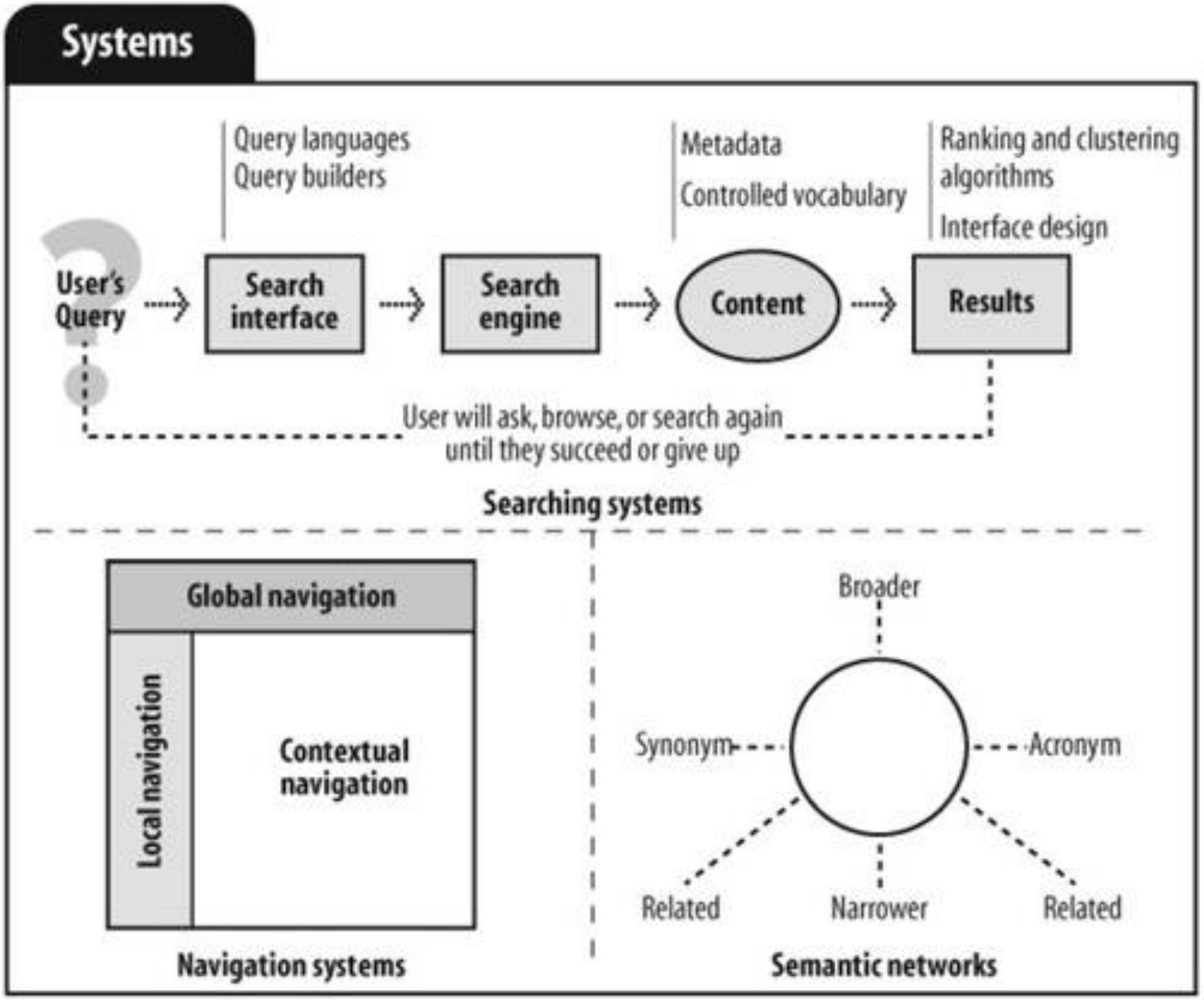
Invisible work



Knowledge networks

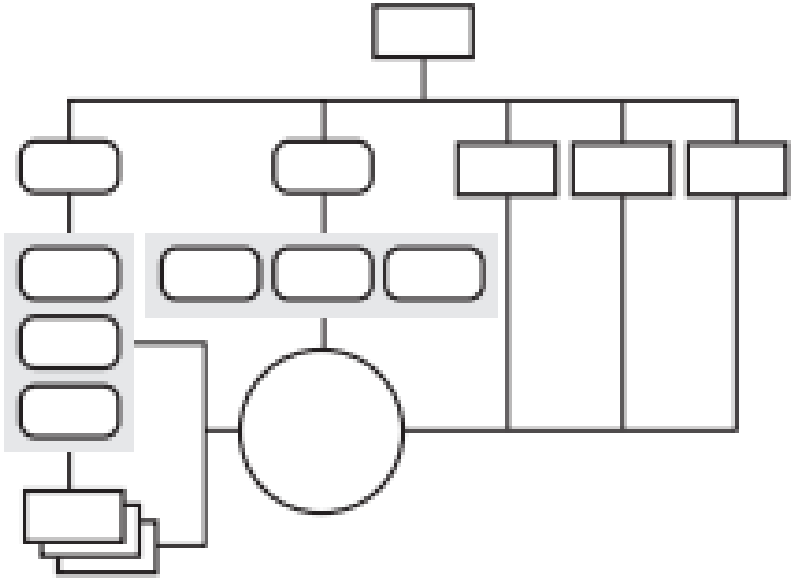


Information seeking behavior


Systems
Query languages
Query builders
Metadata
Controlled vocabulary
Ranking and clustering algorithms
Interface design
User's Query
Search interface
Search engine
Content
Results
User will ask, browse, or search again until they succeed or give up
Searching systems
Global navigation
Local navigation
Contextual navigation
Navigation systems
Broader
Synonym
Acronym
Related
Narrower
Related
Semantic networks

Deliverables

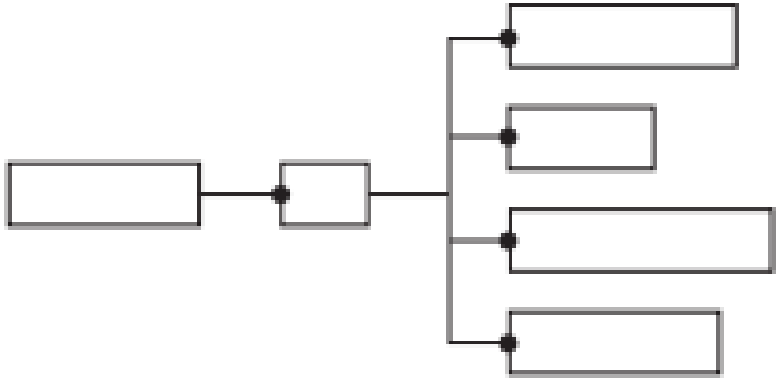
Wireframes



Blueprints

Accepted term	Variant terms
Email	Electronic mail E-mail
Fax	Facsimile
Photocopier	Copier Photostat Xerox

Controlled vocabularies



Metadata schema

Summary

- Information architecture is concerned with
  - understanding the structure and
  - organization of the content of the site.
- Navigation concerns
  - how people move around the site and
  - how they get to know
    - what is on the site and where it is.

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Exam questions

- Definition and purpose of information architecture.
- What components includes information architecture?
- Creating information architecture using top-down approach
- Creating information architecture using Bottom up approach