Imagine, please, the user above this page and read it from the bottom line to this line, in a reversed ordering of lines. The user shares affective and cognitive responses, e.g. bisociation, hermeneutic gap filling…

VIS **<<< visualization… activization >>>** **HCI**

e.g. no clue, visible meaning or entymeme e.g. observe only or (inter)act

Uncertainty: unsure meaning, e.g. symptom, strife, misunderstood meaning, incomplete data or method not clear… like filtering

Depth of Immersion: e.g. curiosity, empathy, identification… like calibration

No story, no game Story Interactive Story Story and game Game Interactive Storytelling

Story environment: ostension, exposition, argumentation, description, narration or a move in the game (**game loop** 1..8)

1. **Observe, 2. Set goals, 3. Prepare, 4. Commit and execute**
5. **Compare against goals (and, eventually, stop)**
6. **Evaluate for self (and, eventually, stop)**
7. **Evaluate for others (and, eventually, stop)**
8. **Go to 1**

Visualisation metaphors **(Rhetorics)** **HCI metaphors**

e.g. cartographic map with weather forecast e.g. desktop metaphor, phone, walk, fly, repeat

Patterns recognized, e.g. visual rhyme, Propp function in a fairy tale, music motif

Semiotic layer: iconic, indexed, symbolic, signal, or symptom representation

Object space (user can pick an object and manipulate/interact with it)
Graphics (multimedia) objects with geometric support (shape) and characteristic function (color, sound)

Output/input space

Graphics output primitives (e.g. triangle) Input data record (e.g. location, string)

Hardware and software layer (bits/pixels/inputs only, run time)

Implementation for given hardware and software platform

Representation for computer (encoding, e.g. ASCII code, signed integer)

Mathematic model (or another conceptual model)

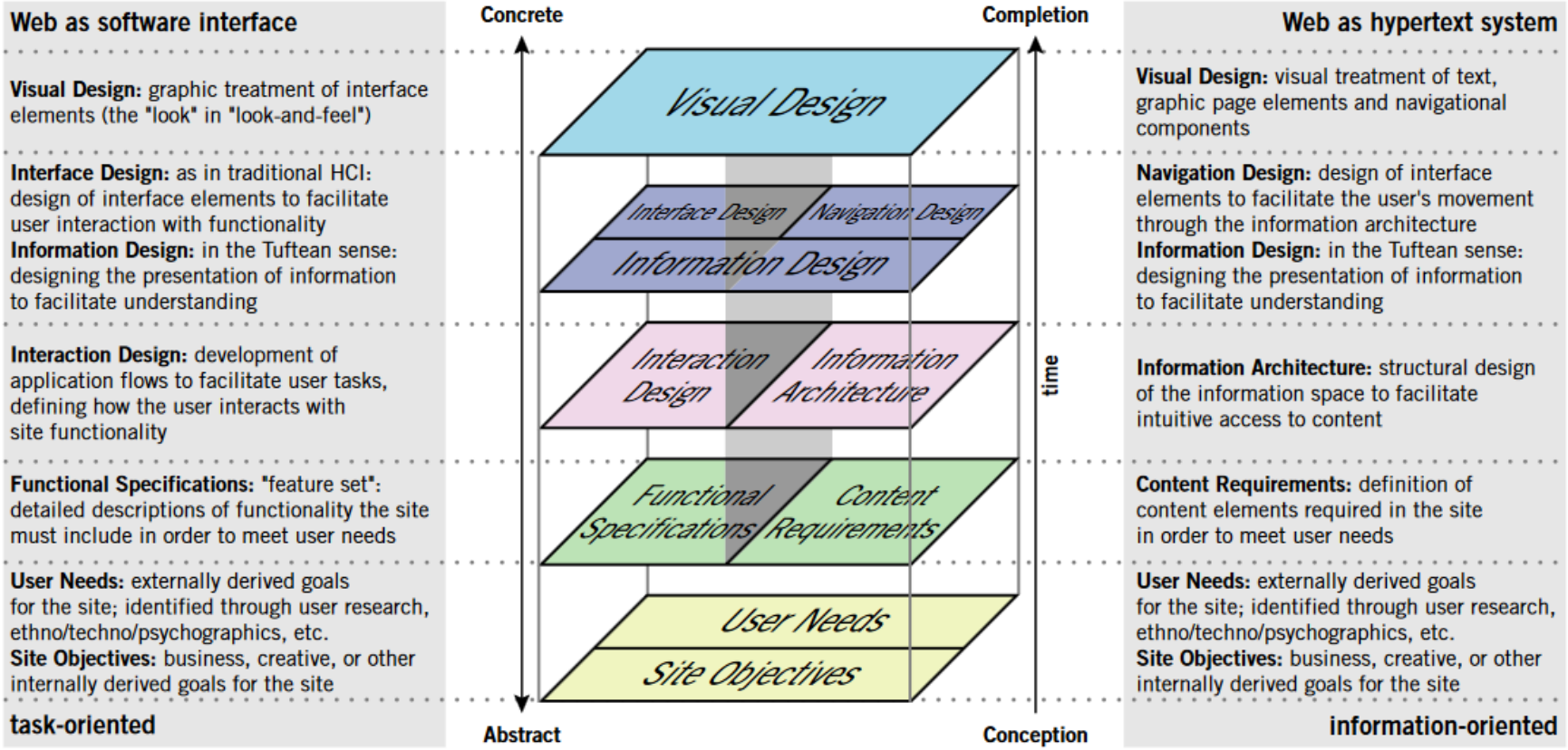
Real world problem (e.g. hunger by Berne, stimulus hunger, time structure hunger, contact hunger, e.g. needs by Maslow)

http://www.sccg.sk/ferko/VirtualnySvet2012-finalPCRevue.pdf

The Elements of User Experience

Jesse James Garrett
jjg@jjg.net
30 March 2000

A basic duality: The Web was originally conceived as a hypertextual information space; but the development of increasingly sophisticated front- and back-end technologies has fostered its use as a remote software interface. This dual nature has led to much confusion, as user experience practitioners have attempted to adapt their terminology to cases beyond the scope of its original application. The goal of this document is to define some of these terms within their appropriate contexts, and to clarify the underlying relationships among these various elements.



This picture is incomplete: The model outlined here does not account for secondary considerations (such as those arising during technical or content development) that may influence decisions during user experience development. Also, this model does not describe a development process, nor does it define roles within a user experience development team. Rather, it seeks to define the key considerations that go into the development of user experience on the Web today.

http://www.jjg.net/ia/

http://www.sccg.sk/ferko/Vdak.htm

Syntaktické kategórie *Syntactic categories*		
Priestor *Space*	**Individuálny** *Individual*	**Jeden objekt v jedinom momente** *Only a single moment*
	Schematický *Schematic*	**Priestorové indikátory reprezentujúce vzťahy v 2D alebo 3D priestore** *Spatial indicators represent relationships*
Čas *Time*	**Časový** *Temporal*	**Iba jeden objekt, ale podstatný je čas** *Only a single object but time is essential*
	Lineárny *Linear*	**Sekvencia objektov reprezentuje relácie v čase** *Sequence of objects represents relationship in time*

Tabuľka II. *Syntaktické kategórie*
[Qvor01, tab.3.1] – prevzaté a upravené od Purchase, H. C. (1999) A semiotic definition of multimedia communication. Semiotica 123: p.248.

Vizuálne a symbolické reprezentácie podľa syntaxe *Visual and symbolic representations according to syntax*				
		Reprezentácia *Representation*		
		Konkrétne-ikonická *Concrete-iconic*	**Abstraktne-ikonická** *Abstract-iconic*	**Symbolická** *Symbolic*
Syntax *Syntax*	**Individuálna** *Individual*	**Fotografia (autor knihy)** *Photograph (Author of book)*	**Dopravná značka ("Pozor, deti!")** *Road sign ("Koalas in the area")*	**Slovo ("Východ")** *Word ("Exit")*
	Časová *Temporal*	**Spojitý obraz (Vodopád)** *Continuous film (Waterfall)*	**Meniace sa pozadia** *Changing backdrop (indicating distance fallen in a cartoon)*	**Pohybujúci sa symbol** *Moving symbol (rotating cursor indicating computing)*
	Lineárna *Linear*	**Akýkoľvek film** *Any movie*	**Komiks** *Cartoon strip*	**Akákoľvek kniha** *Any book*
	Schematická *Schematic*	**Systematický graf s obrázkami zamestnancov** *Taxonomic chart (diagram of staff members using photographs)*	**Graf zobrazujúci prírastok populácie** *Iconic chart (bar chart illustrating population growth)*	**Okno s adresármi a súbormi** *Objects and syntax bear no close relationships to the concepts (icons representing files, windows with directories)*
	Sieťová *Network*	**Interaktívne video** *Interactive video (fiction-based story where the receiver chooses the story line)*	**Interaktívna animácia** *Interactive animation (an animated version of video-based fiction story)*	**Hypertext** *Hypertext (online thesaurus with links)*

Tabuľka III. *Syntax a reprezentácia*
[Qvor01, tab.3.2-3.3] – prevzaté a upravené od Purchase, H. C. (1999) A semiotic definition of multimedia communication. Semiotica 123.

nej syntaxi vyzerá nasledovne:

Lineárna syntax *Linear syntax (sequence, considered in time)*			
	Reprezentácie médií *Media (representations)*		
	Konkrétne-ikonická *Concrete-iconic*	**Abstraktne-ikonická** *Abstract-iconic*	**Symbolická** *Symbolic*
Ustanovujúca *Enactive*	**Akýkoľvek film** *Any movie*	**Komiks** *Cartoon strip*	**Akákoľvek kniha** *Any book*
Sprostredkovaná *Mediated*	**Interaktívne video** *Interactive video*	**Interaktívna animácia** *Interactive animation*	**Hypertext** *Hypertext*
Vykonateľná *Performative*	**Umenie: Obraz rodiny** **Bežný život: Reštaurácia** *Art: „Family portrait" Daily life: Being at a restaurant*	**Počítačová hra na základe komiksu** *Computer game based on (animated cartoon-strip)*	**Prednes, prednáška** *Recitation, lecture*

a IV. *Interakcie a médiá*
[Qvor01, tab.3.5]

Delia Tzortzaki v [Qvor02, s. 258] pre VM preberá deklarativnu definíciu. M. Forte: **virtuálne múzeá sú multimediálnou zbierkou telematicky dostupných digitálnych dát a kognitívnymi priestormi s nekonečnou kapacitou na rozširovanie, kombináciu, kompozíciu a rekompozíciu**.
Algoritmus tvorby virtuálneho múzea sa dá proceduralne rozdeliť do 7 krokov, ***http://www.sccg.sk/ferko/VirtualnySvet2012-finalPCRevue.pdf***:

- Politika pamäti, identifikácia miery zaujímavosti a rozhodnutie o tvorbe virtuálneho múzea ako virtualizácie svetovo unikátneho súboru dát
- Zber primárnych dát
- Spracovanie dát, selekcia a vytvorenie sekundárnych dát na prezentáciu
- Návrh a implementácia hardverového a softverového riešenia pre projektovanú virtuálnu realitu v priestoroch múzea a na internet
- Organizácia digitálneho obsahu na prezentáciu, t.j. tvorba scenárov na základe predpokladov, dát a východísk v krokoch 3. a 4.
- Integrácia, verifikácia a testovanie virtuálneho múzea
- Inštalácia, promócia, publikovanie, distribúcia a medializácia, vyhodnotenie riešenia

Napr. v prvom kroku sa v rámci politiky pamäti rozhoduje o existencii budúceho virtuálneho múzea v kontexte globálnych priorít kultúrneho a digitálneho dedičstva metódami rozhodovania na lokálnej, regionálnej či štátnej úrovni [Huys05]. Pretože niektoré časti tohto algoritmu sa musia vykonávať ručne, nejde o algoritmus v pravom slova zmysle, vhodnejšie bude ho nazvať postup (workflow).

[Came07] CAMERON, F., KENDERDINE, S. eds. 2007. Theorizing Digital Cultural Heritage. Cambridge :MIT Press, 2007..
[Kupk00] KUPKA, I. 2000. Praktické aplikácie neurolingvistického programovania. Bratislava : UK, 2000.
[Qvor01] QVORTRUP, L. ed. 2001. Virtual Interaction: Interaction in Virtual Inhabited 3D Worlds. Springer-Verlag, 2001.
[Qvor02] QVORTRUP, L. ed. 2002. Virtual Space : Spatiality in Virtual Inhabited 3D Worlds. Springer-Verlag, 2002.

The Interestingness of Images

Michael Gygli[1,2] Helmut Grabner[1,2] Hayko Riemenschneider[1]
Fabian Nater[2] Luc Van Gool[1,2,3]

[1]Computer Vision Laboratory ETH Zurich
[2]upicto GmbH Zurich
[3]ESAT - PSI / IBBT K.U. Leuven
{gygli, grabner, hayko, vangool}@vision.ee.ethz.ch {gygli, grabner, nater}@upicto.com

Abstract

We investigate human interest in photos. Based on our own and others' psychological experiments, we identify various cues for "interestingness", namely aesthetics, unusualness and general preferences. For the ranking of retrieved images, interestingness is more appropriate than cues proposed earlier. Interestingness is, for example, correlated with what people believe they will remember. This is opposed to actual memorability, which is uncorrelated to both of them. We introduce a set of features computationally capturing the three main aspects of visual interestingness that we propose and build an interestingness predictor from them. Its performance is shown on three datasets with varying context, reflecting diverse levels of prior knowledge of the viewers.

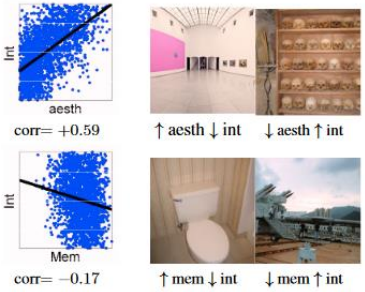
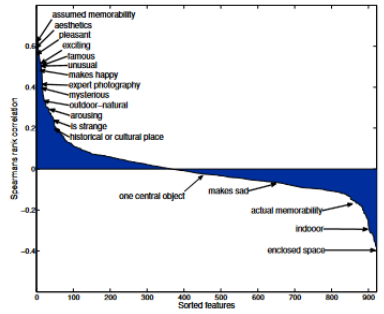


Figure 1: Interestingness compared to aesthetics and memorability.

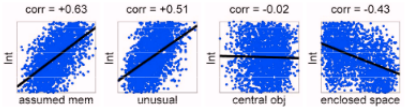
2. What causes human interest?

In his seminal work Berlyne [2] introduced four variables affecting interest: *novelty*, *uncertainty*, *conflict* and *complexity*. He showed that new, complex and unexpected events are a strong trigger of interest. Recent psychological research extends Berlyne's theory, *e.g.* Silvia [20] who analyzes the effects of complexity and understandability on interest. The more computational approach in [19] concurs with these ideas. Biederman and Vessel [3] explain interest with perceptual pleasure, resulting from comprehensible information and newly activated synapses. They furthermore found that natural scenes with wide landscapes are preferred over man-made scenes. Other cognitive work by Chen *et al.* [9] identifies novelty, challenge, instant enjoyment, and demand for attention as sources of interestingness. While Smith and Ellsworth [21] found that high pleasantness is a major aspect of interestingness, recent studies [24] indicate otherwise for images with polygons and paintings.

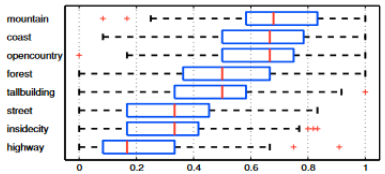
Given the lack of clear-cut and quantifiable psychological findings, we investigate the correlation of interestingness with an extensive list of image attributes, including emotional, aesthetic and content related aspects. We use the dataset of Isola *et al.* [14], extended in [13] to explore memorability. In Fig. 2a we relate the provided image attributes to the interestingness ground truth we collected (*c.f.* Sec. 4.3). This figure shows the Spearman rank correlation of all attributes and highlights several with high correlations (either positive or negative). Fig. 2b shows the correlations of four example attributes in more detail. In keeping with the work in psychology we find three main groups with high influence: *novelty/unusualness* (attributes: unusual, is strange, mysterious), *aesthetics* (attributes: is aesthetic, pleasant, expert photography) and *general preferences* for certain scene types (attributes: outdoor-natural vs. indoor and enclosed spaces).



(a) Interestingness correlated with an extensive set of image attributes, based on the data of [13]. We compare the attributes to our interestingness score, collected as described in Sec. 4.3.



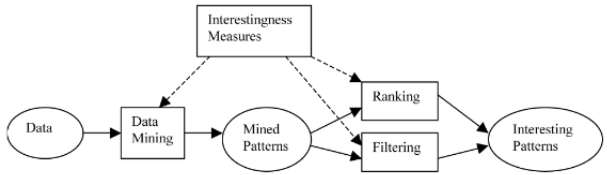
(b) Correlations of noteworthy attributes from above and interestingness.



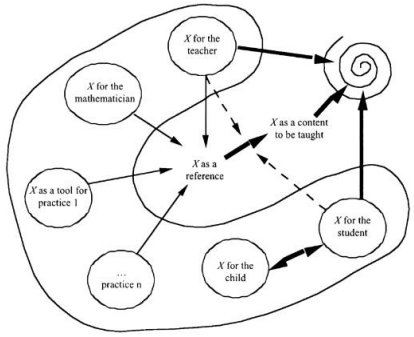
(c) Correlation of scene categories and interest on the dataset of [18], interestingness scores obtained as described in Sec. 4.2.

Figure 2: What aspects relate to interestingness?

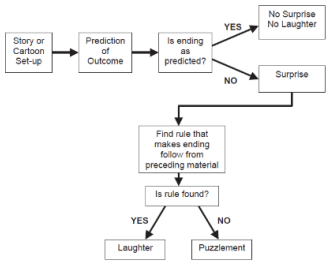
zaobchádza ako so širokou koncepciou, ktorá zdôrazňuje stručnosť, pokrytie, spoľahlivosť, zvláštnosť, rozmanitosť, novosť, prekvapenie, užitočnosť a uskutočniteľnosť“ (Geng et al., 2006). Ak v prevzatom obrázku 2.2 o dolovaní dát nahradíme dáta slovami, zvukmi či obrázkami a vzorky nápadmi, možno postrehnúť úlohy miery zaujímavosti vo všetkých fázach autorskej práce, zber nápadov, ich ohodnotenie a filtráciu a napokon zaujímavý výstup.



Obr. 2.2: Predstavme si namiesto dát slová a namiesto vzoriek nápady a „merajme“ ich zaujímavosť v kontexte výkladu danej témy (Geng et al., 2006)



Obr. 2.3: Obrázok prevzatý z ***Meaning in Mathematics Education*** (Kilpatrick et al., 2005). Na kontext vyučovaného popri učiteľovi a žiakovi vplývajú aj detské a expertné porozumenie a praktické využitia daného obsahu, napr. pomocou Pytagorovej vety (a trojuholníka so stranami násobkov dĺžok 3, 4, 5) vedia šikovní murári zostrojiť pravý uhol („X as a tool for practice 1“)



Obr. 2.5: Očakávanie s bisociáciou kombinuje upravená Sulsova schéma z knihy Rod A. Martin, ***Psychology of Humor***. Treba si však predstaviť dve modifikácie, na vstupe nemusí byť iba situácia v príbehu, ale v multimediálnom virtuálnom múzeu s reálnymi i rozširujúcimi komunikátmi a na výstupe v políčku Laughter môže nastať horeuvedených šesť možností AH, AHA, HAHA a ich chybné vyhodnotenie. Výstup v políčku Puzzlement môže obsahovať dve možnosti: HM a jeho chybné vyhodnotenie. V políčku No Surprise No Laughter ide napr. o typickú asociáciu (Suls tu nepoužíva Koestlerov pojem bisociácia)

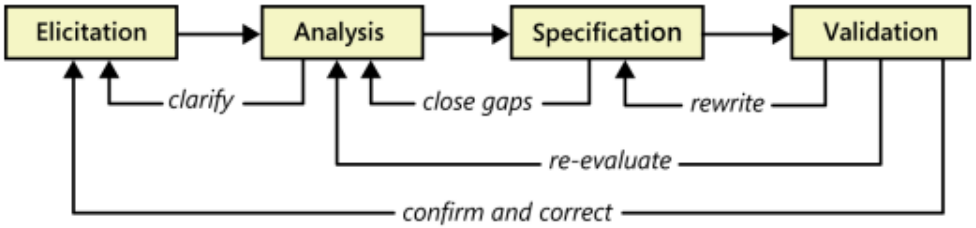


FIGURE 3-1 Requirements development is an iterative process.

WIEGERS, K. Requirements

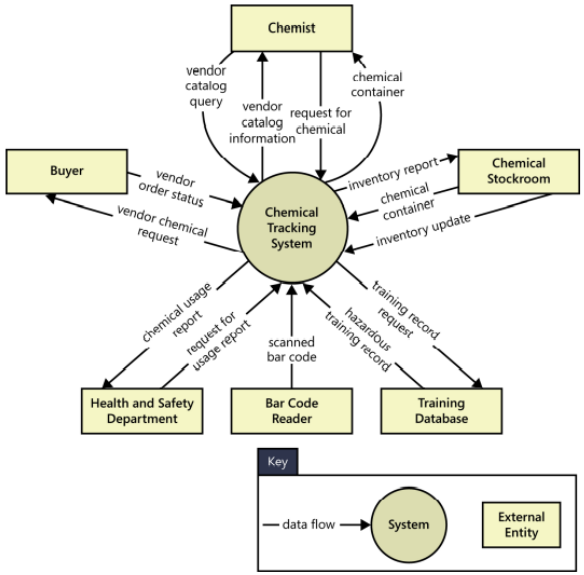


FIGURE 5-6 Partial context diagram for the Chemical Tracking System.

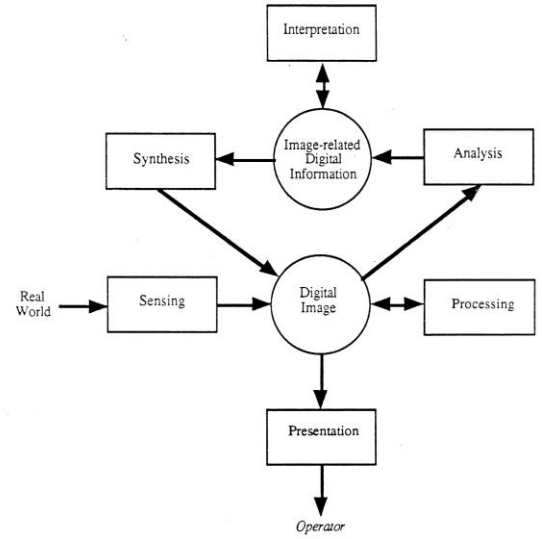


Figure B.1 – Computer imaging model

CGRM

Stage	Description
Value	The raw data.
Analytical Abstraction	Data about data, or information, a.k.a. meta-data.
Visualization Abstraction	Information that is visualizable on the screen using a visualization technique.
View	The end-product of the visualization mapping, where the user sees and interprets the picture presented to her.

Table 1: Data Stages in the Data State Model

Processing Step	Description
Data Transformation	Generates some form of analytical abstraction from the value (usually by extraction).
Visualization Transformation	Takes an analytical abstraction and further reduces it into some form of visualization abstraction, which is visualizable content.
Visual Mapping Transformation	Takes information that is in a visualizable format and presents a graphical view.

Table 2: Transformation Operators

Within each Data Stage, there are also operators that do not change the underlying data structures. These are the Within Stage Operators, of which there are four types, corresponding to the four Data Stages: Within Value, Within Analytical Abstraction, Within Visualization Abstraction, and Within View.

Figure 2 shows an example of the Data State Model applied to the problem of visualizing the connections between a set of Web pages. This example shows that: (1) some operators create new kinds of data sets, whereas some operators create filtered subsets, which is the difference between Transformation and Within Stage operators, and (2) that the same Visualization Abstractions can be mapped using a variety of Visual Mapping Transformation operators. For example, Disk Trees or Cone Trees can both be applied to a hierarchy of interconnected nodes.

4. TAXONOMY

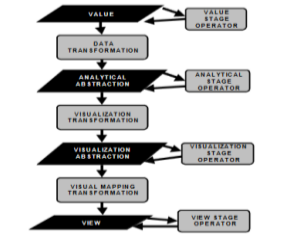


Figure 1: Information Visualization Data State Reference Model

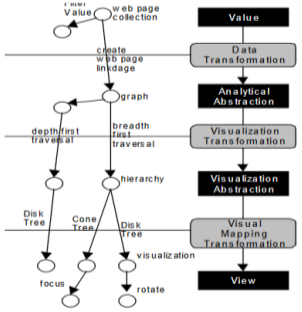
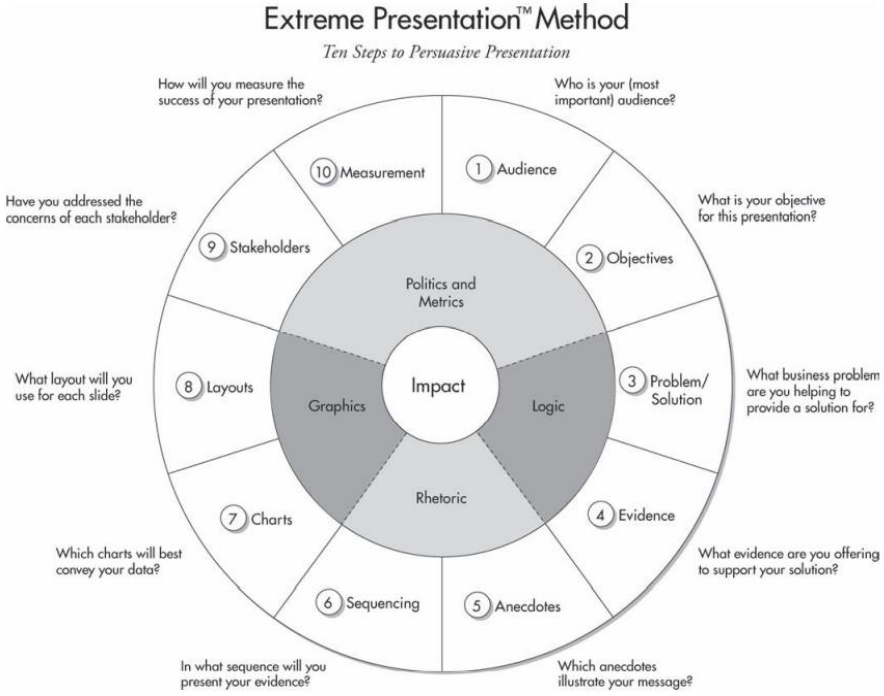


Figure 2: Data State Model applied to Web sites

CHI, E.H.2000. Data State Refernece Model.

FIGURE I.3. The Extreme Presentation Method



ABELA, A. Advanced Presentations by Design: Creating Communication that Drives Action

Ten Steps for Developing an Extreme Presentation

There are two steps in each of the five elements, for a total of ten steps. These steps are:

1. Audience: Identify the communication preferences of the different personality types in your audience.

2. Objectives: Set specific objectives for what you want your audience to think and do differently after your presentation.

3. Problem/Solution: Identify a problem your audience has that your presentation will contribute to solving.

4. Evidence: List all the information that you think you may need to include in your presentation.

5. Anecdotes: Identify brief anecdotes that highlight your most important points.

6. Sequencing: Sequence your information so that it tells a compelling story.

7. Graphics: Identify the most effective graphical elements to use in your presentation.

8. Layout: Create slides that communicate your information concisely and effectively.

9. Stakeholders: Identify any potential roadblocks to achieving your objectives, and make a plan to deal with each.

10. Measurement: Decide how you will measure the success of your presentation.

ADVANCED PRESENTATIONS BY DESIGN Creating Communication That Drives Action Andrew V. Abela, Ph.D

BIATEC, koluje 22.3.23 // Notes ku 5. prednaske, v12-150322 // mid 1 svoje/nesvoje BigPic&JJG na stole, 2 run JJG, 3 normy RUai. // **1-2 VDAK6-2023**

HOOK: Dva typy MM objektov podla PREMO => chyba prostredie, preto SEDRIS a VM
Tri zdroje obrazkov, model, data, napad
Visual Data Science Moller, memory, memex, mem, memetika...
https://www.slovakiana.sk/slovnik-pojmov
https://www.zakonyprolidi.cz/print/cs/2000-121/zneni-20210227.htm?sil=1
https://www.dusevnevlastnictvo.gov.sk/web/guest/novy-autorsky-zakon

Zau namety, NLP metaprogramy ah/aha/haha/hm

Danka Kosanova a Daniel Tupy, nevinne obete z UK, ale aj popraveny rektor Tuka
Michal Kunic https://www.yumpu.com/xx/document/view/21163947/michal-kunic-autor-narodnych-obran-slovenska-narodna-kniznica,
bratislavsky duch MUDr. Breiera https://www.pantarhei.sk/5602-tajomna-tvar-alebo-duch-z-ondrejskeho-cintorina-pavel-breier,
bratislavske konflikty, kampan od r. 1830, Schindler ako Beethovenov cenzor alebo čo?
vybuchnute sochy,
skryta galeria,
Serik, Jurovaty, vsetko nehmotne, vsetky hmotne, vsetky prirodne,
posttruth, corona absurdities, corona lies, false flag operations, visual proofs, math beauty, math humor, inf humor, datascience?humor, breaking points math, old painters tricks, visual illusions, third wave>wikiSK, vedomostna spolocnost ako paradoxSK,
Peter Karvas http://www.udfv.sav.sk/dokumenty/Matasik-Peter.Karvas.pdf,
Jozef Hnitka https://www.kniznica-cadca.sk/files/Jozef-Hnitka_2013.pdf ,
Kempelen,
Glagolica font design,
Sobieski, treba zakazat jeho suhvezdie?
Patenty,
Katachrezy, ironia osudu, entymeme, flow...
Euclid, Polya, Comenius, Altshuller, serendipity (asap cesta od problemu k rieseniu, otazky k odpovedi, hladu k nasyteniu, potreby k splneniu, startu ku koncu komunikacie, este bezpocitacova) vs. 16-krokova metodika [Pirelli&Card2005] pre retoriku, ppt i sensemaking, SE <-> PI for short (scale in time)

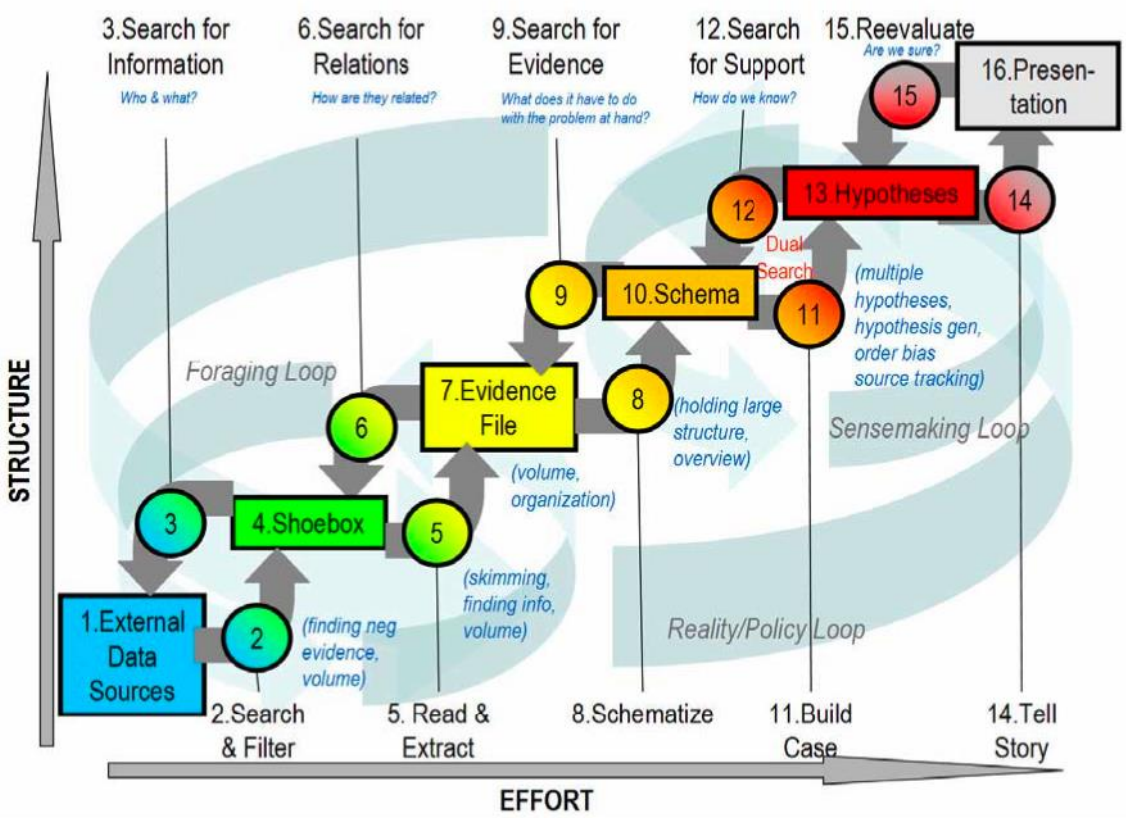


Figure 1.1: *The sensemaking process described by Pirolli & Card [PC05]. The Exploration process within visualization is analogous to the foraging loop, e.g. collecting evidence in a shoebox, while analysis is the consideration of this evidence. Ultimately any hypothesis or evidence found must be presented in one way or another.*

Note: PC sensemaking can be done **without IT, PC**😊

Oldest CH assets: 1 VrBa (born digitally), 2 SunHieroglyph, 3 petroglyphs..Gilgamesh, 4 cave animation, 5 PeterFerschinInfoArch

Vdak, 5. prednaska : apply PirolliCard to joke model: Paulos, Suls... or explain Baby Shark local interestingnesses, midterm: master JJG for things or web