Designing User Interfaces to Communicate Information Effectively

Lynda Hardman
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CWI, Interactive Information Access
UvA, Institute for Informatics

1982 BSc(Hons) in Maths & Physics from Glasgow University
1983 Programmer at International Computers Ltd

Dalkeith Palace
PERQ workstation, ICL

Office Workstations Ltd., Abbeymount Techbase

1984 Research associate at Edinburgh University, programmer at Expert Software International
1985 Programmer then group leader at Office Workstations Ltd.
1988 Research assistant at Heriot-Watt University
1989 Researcher at Office Workstations Ltd.
1990 Moved to the Netherlands
1992 Researcher at CWI (Centrum voor Wiskunde en Informatica)
1996 Martin born 24th April
1999 Group leader at CWI, Anna born 25th October
2001 Prof TU/e, Multimedia and Internet Technology

Amsterdam Hypermedia Model

Welcome to Amsterdam

CWI

This hypermedia application allows you to explore the city of Amsterdam.

Leisure activities
Walking routes
Maps

You can return to this screen by using the contents button on every other screen.

Veel van de huizen en ...

Many of the houses and canals in ...

Contents
Gables

The canal houses are famous for ...

Contents
Musicians

De grachtenpanden zijn ...
Researcher to group leader

- SMIL W3C recommendation (15 June 1998)
- Innovation award 1998
- Oratrix started up
- Anna arrived 25\textsuperscript{th} October 1999
- Professorship at TU/e

Different media types

- Image
- Text
- Audio
- Video
We had images

Cave Chauvet-Pont-D’Arc
© Jean Clottes
And then we developed text

Dead Sea scrolls

Newspapers

Recording sound

Thomas Edison
Phonograph, 1877
http://www.firstsounds.org/sounds/scott.php
Visual (moving images)

Chiaroscuro

Our ensemble (French) and chiaroscuro (Italian) both mean ‘light-dark’; both terms are used to describe strong contrast of light and dark shading in paintings, drawings, and prints. Although the French term has been used for many years, the term only came into existence in the late Renaissance period. Originally, the word came from Italy. The painter Caravaggio (1571-1610) made chiaroscuro Hitchcockian. He was a master at painting illuminated scenes in dark settings.

Three ingredients

Content
Clair-obscur (Frans) en chiaroscuro (Italiaans) betekenen 'licht-donker'. Beide termen worden gebruikt om sterke licht-donkercontrasten in schilderijen, tekeningen en prenten aan te duiden. Hoewel het effect al eerder werd toegepast, is de term pas sinds het einde van de 16de eeuw in zwang. De oorsprong van het woord ligt in Italië. De schilder Caravaggio (1571-1610) maakte het chiaroscuro-effect tot zijn handelsmerk. Hij was een meester in het schilderen van donkere tafereelen met één felle lichtbundel.

Three ingredients

Presentation structure

Content
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Aesthetics of example

Design dependencies

Presentation structure

Aesthetics

abcdefghij
abcdefghijk

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghij
abcdefghijk

Content

Design dependencies

Presentation structure

Aesthetics

abcdefghij
abcdefghijk

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghij
abcdefghijk

Content
Presentation structure depends on content

Rembrandt

1631

1628

1638

Chiaroscuro

Caravaggists

1623

1628

Example Presentation Structure

Chiaroscuro

Caravaggists

Rembrandt

1623

1628

1628

1631

1638
Chiaroscuro

Our<br>eshop (French) and chiaroscuro (Italian) both mean “light-dark,” both terms are used to describe strong contrast of light and dark shading in paintings, drawings, and prints. Although the words had already been used for many years, the term only came into fashion in the late 16th century. Originally, they were coined by painters in the late Renaissance. The term “Chiaroscuro” is often linked to Rembrandt van Rijn. He was a master at painting illuminated scenes in dark settings.

Google: Rembrandt van Rijn
Generating video documentaries from annotated media repositories

Stefano Bocconi, Frank Nack (CWI, Amsterdam)
Video Documentaries on the Web

• Traditional video authoring: there is only one final version, what is shown is the choice of the author/editor
• Proposed video authoring:
  – Annotate the video material semantics
  – Show automatically what the user asks to see, using presentation forms a film editor would use

Video material

• Focus on video interviews about controversial issues
• Interview with America video footage with interviews and background material about the opinion of American people after 9-11
  www.interviewwithamerica.com
Example: What do you think of the war in Afghanistan?

“I am never a fan of military action, in the big picture I don’t think it is ever a good thing, but I think there are circumstances in which I certainly can’t think of a more effective way to counter this sort of thing…”

What do you think of the war in Afghanistan?

- War has never solved anything
- Two billions dollar bombs on tents
- I am not a fan of military actions
- I cannot think of a more effective solution
The annotations

• Rhetorical
  – Rhetorical Statement
    (mostly verbal, but visual also possible)
  – Argumentation model: Toulmin model

• Descriptive
  – Question asked
  – Interviewee (social)
  – Filmic next slide

Filmic annotations

Continuity, e.g.
  – lighting conditions
  – background sound
  – gaze direction of speaker
    left, centre, right
  – framing continuity
    close-up, medium shot, long shot
  – camera movement
    none, pan left/right, shaking,
    tilt up/down, zoom in/out
Semantic Graph

Toulmin model

57 Claims, 16 Data, 4 Concessions, 3 Warrants, 1 Condition
Analysis of the Example

Two billions dollar bombs on tents

I cannot think of a more effective solution

I am not a fan of military actions

War has never solved anything

Vox Populi interface
Conclusions

• Automatic generation of video interviews augmented with supporting and/or contradicting material
• The user can determine the subject and the bias of the presentation
• The documentarist can add material and let the system generate new documentaries

Pointers & Acknowledgments

• Demo available at: 
  http://www.cwi.nl/~media/demo/VoxPopuli/

• VoxPopuli research was funded by the Dutch ToKeN I2RP and CHIME projects
To push or not to push? That is the question

• It’s not just what you know, it’s who you know
  – that’s how you get pulled into things
• Be aware when you are being pulled and when you are pushing
• Sometimes the pulling comes too soon
  – They think you are ready for the next step, so you probably are
• When you get pulled, you don’t learn how to push
• When you push, you mustn’t appear “pushy”
Tips 1

• Be aware of how people communicate
  – Some styles may annoy you. Work out why. Even if they annoy you, you might still be able to learn something from them.
  – Be aware of how you communicate
• Ask questions (I’m good at this)
  – always good, you learn stuff
  – makes the other person feel they are interesting
• Tell stuff too
  – This is where I often fail. Tell them something that will help them and allow them to remember you.

Tips 2

• With every interaction think explicitly about what is in it for you
  – The only person looking out for your interests is you. Everyone else is looking after their interests. This is a neutral observation. Be aware of it. Don’t become paranoid
• Be memorable.
  – Say interesting things. (If you open your mouth, make sure something useful comes out.) Be nice to people – they have long memories
• Learn from the guys
  – what they say, how they say it, when they say it, to whom they say it. Don’t compete, use your own angle
• Don’t whine
  – Having explained what you want, and having failed to get it, analyse the situation, seek advice
  – Try something else, or admit the effort is not worth it
Work on your main strengths

• Number 1: yourself
  – be yourself at all times.
  – Just help yourself to be aware of where you are, where you want to go and how to get there.

• (Other) women
  – talk to other women in male-dominated fields, it keeps me sane 😊

• (Other) men
  – they are either learning with you, or have experience to pass on.
Acknowledgements

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