

Crafting the Requirements Record with the Informed Use of Media

... the position of ...

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Rich Pictures?



Photo by Stephen Morris

MeRE'06 (Sept 12th, 2006)

Some Terminology

- Medium (s); Media (pl):
 - Abstract media
 - Physical media
- Multiple media
- Multimedia

Structured Interview



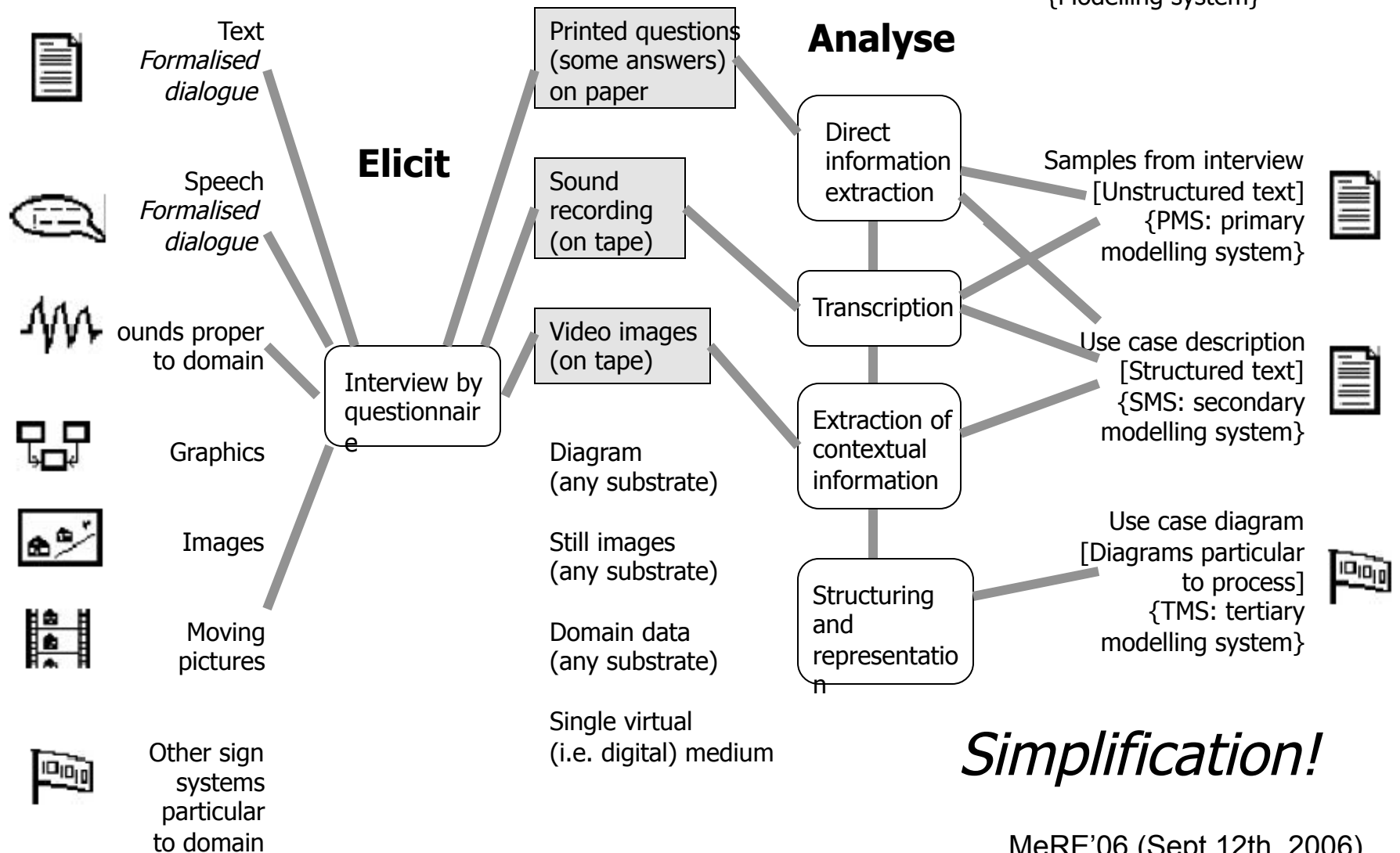
George A Colburn interviews President Richard M Nixon (Starbright Images photo)

Fig 1 from paper: Transformations of communicative media in requirements engineering

Abstract media (sign systems)
used in requirements elicitation

Physical media (carriers)
used in elicitation products

Requirements documentation [Abstract media after analysis]
{Modelling system}

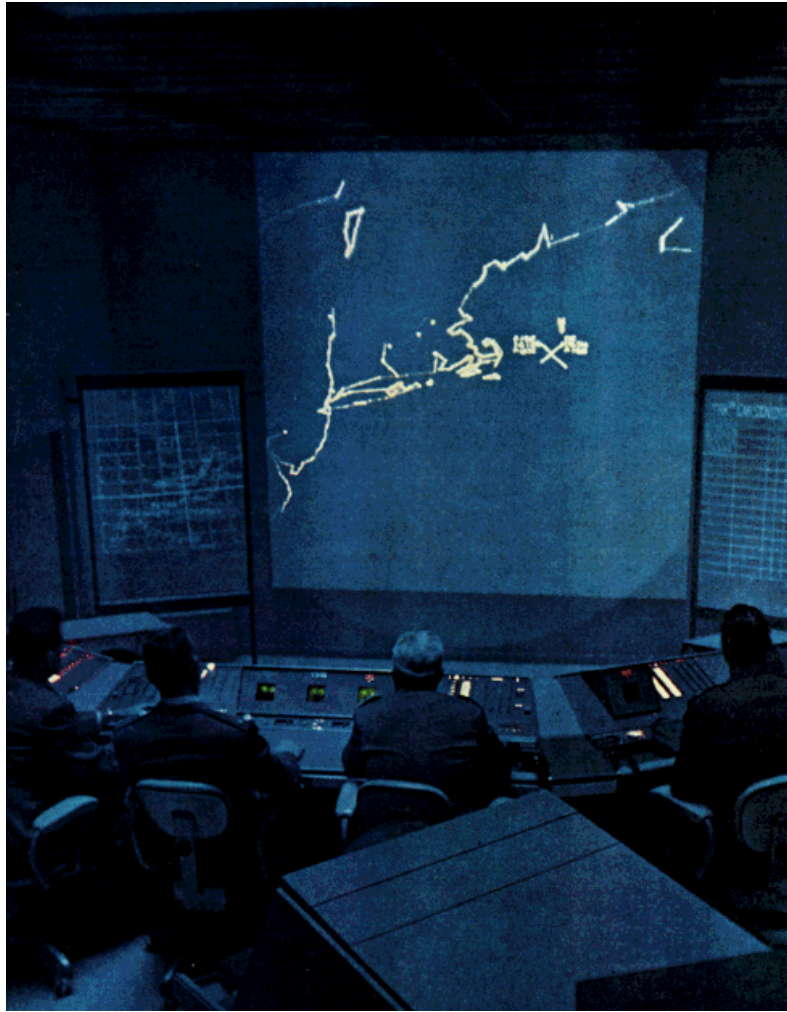


Media Transformations

Partial list

- 12 Constructive & supportive types:
 - *origination* (initial creation of medium element)
 - *substitute creation* (creation of element in one medium to stand in place of element already realised in another medium)
 - *translation* (element in one medium replaces element in another medium)
 - *revision* (element in one medium supplants an element in the same medium via any type of alteration)
 - *merger* (combination of elements of same medium to form a new element of the same type)

Work Process



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0 Original documents

- 0.1 *origination* (in some pre-production process) of documents describing work process [*text, graphic, image*]
- 0.2 *origination* (in some pre-production process) of transparencies used in staff training [*graphic, image, text*]

1 Live walkthrough/demo

- 1.1 *origination* of recorded commentary [*speech*]

2 Transcription

- 2.1 *translation* from recorded commentary in 1 to text transcription [*text*]
- 2.2 *substitute created* for original commentary

3 Screen dumps from repeated demo run

- 3.1 *origination* of set of screen dumps [*image*] from a run of the demo
- 3.2 *substitute use* of text transcription from 2 as a guide for the transformation in 3.1
- 3.3 *revision* of text transcript [*text, graphic*] from 2 with embedded notes indicating position of principal screen changes

4 Screen images for multimedia demo

- 4.1 *revision* of screen dumps [*image*] from 3
- 4.2 *revision* of images etc. in transparencies [*image, graphic*] from 1
- 4.3 *merger* of individual dumps from 4 to form initial set of demo images [*image, graphic*]
- 4.4 *substitute creation* of demo image list [*text*]

5 Text keyed to images

- 5.1 *revision* of text from transcription in 2 to form script [*text, graphic*] providing marked blocks of text
 - 5.2 *use of substitute* image list created in 4
 - 5.3 *amalgamation* of text from 5.1 with image symbols from 4.4 to show relationship between images and text [*text, graphic*]
 - 5.4 *creation of proxy* for final commentary [*text*]
- ...production process continues (not all shown)...

Use of Media in RE

- Requirements record is a **designed** artifact:
 - Users and anticipated use
 - Communicative intent
- If it is to be a multimedia artifact, we need to understand the design process
- Process for informed decision making:
 - Media choices
 - Combining and integrating media
 - Transformations between media
 - Focus on 'content' rather than 'carrier'

To Take-Away...

- Requirements specifications belong to a particular genre of multiple media (or multimedia if documents are all held from start to finish in digital form) and this genre itself demands more careful definition
- Propose framework to examine in terms of abstract/physical media use and the transformations employed in production
- Need properly definable continuity for traceability – make process explicit

Key Reference

- Morris, S.J. *Media transformations for the representation and communication of multimedia production activities.*

In Sutcliffe, A. et al. (Eds), *Designing Effective and Usable Multimedia Systems. Proceedings of the IFIP Working Group 13.2 Conference on Designing Effective and Usable Multimedia Systems, Stuttgart, Germany, September 1998.* Norwell Mass.: Kluwer Academic Publishers, 1998, pages 72 to 85