

# How to integrate individual Interests into a public Presentation? - Designing a user study

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## Contents

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- Introduction
- Snapshot of a presentation
  - Procedure of presentation
- Parallel presentation
  - Goals
  - Focus of attention
  - Types
- Design
  - Scenario
  - Parallel presentations used
  - Experimental variables
  - Questionnaire
- Possible adaptation

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## Introduction – Device Platforms used

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### Fixed information systems

- No additional Device
  - loudspeaker
  - Wall sized display
- Usable by several users in common
- Common presentation for all users

### Mobile information systems

- Privat device
  - PDA screen
  - Earphones
- Individual use
- Selection of individual information

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## Introduction – Basic Presentation Idea

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### Presentation constraints

- People with varying interests are using altogether a public information desk
- General information on a public device
- Individual interests should be taken into account
- Additional presentations for private devices is provided.

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## Introduction – Basic Presentation Idea

### Scenario

- ‘You are here’ map -
  - Different interests: destinations, purposes
  - Group interests : medium
  - Personal guide
- Info desk in a big store
  - Different interests: objects, intentions
  - Group interests : low
  - Personal note pad
- Museum guide
  - Different views
  - Group interests : high
  - ⇒ Application of highest interest

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## A Presentation snapshot

public



private

**The Röchling Family**

**Life around the Ironworks**



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## Snapshot of a Presentation – Procedure

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- Mixed Presentation
  - Introduction
    - Public
    - Basic information about the topic
  - Main Information
    - Public / Private in parallel
    - General view presentation
      - Public
    - Selection of special view presentations
      - Private
      - User requested interactively the presentation of her choice

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## Parallel Presentation - Goals

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- Is a parallel presentations a valuable way to increase learning, at least by presenting information of user's interest?
- Is a user able to learn out of both information streams?
- How does the presentation type influence learning?
- Which are types of presentations that a user would like to use?

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## Parallel Presentation – Audio Part

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- Gender of speakers
    - Male voices are easier to understand in noisy environments than female voices
  - Natural versus synthetic voices:
    - Subjects prefer natural voices.
    - Understanding of natural speech is easier than understanding of synthetic speech.
    - Understanding of mixed speech is even poorer than synthetic speech's.
- ⇒ Synthetic Speech

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## Parallel Presentation – Focus of Attention

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### How to guide user's focus of attention

- Fixed locality bindings for presentation parts
  - Eye: locality = devices
    - private - PDA screen
    - public - wall mounted display
  - Ear: locality = voice gender
    - private - male voice
    - public - female voice
- User selects a private presentation actively ⇒ she shifts her focus in awaiting the requested information

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## Parallel Presentation - Types

type	public		time schedule	privat	
	visual	audio		visual	audio
a	pictures	text	parallel	pictures	text
				-	text
				pictures	sounds
b	pictures	sounds	parallel	pictures	text
				-	text
c	pictures and icons	text	partially parallel	pictures	text
				-	text

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## Design - General

- Participants
  - 18 students (age 20 – 30)
- Procedure
  - Instruction
    - subject visits the museum as member of a group of friends with different interests (students of different faculties).
  - Learning
    - 6 presentations
    - varying sequence
  - Questionnaire
    - Objective success
    - Subjective success

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## Design - Scenario

- Scenario
  - Völklinger Ironworks
- Views
  - Technical
  - Working
  - Historical
- Presentations
  - parts of a sightseeing tour
    - Blast furnace
    - Sintering plant
    - Blowing engines
    - Coking plant
    - Recuperators
    - History

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## Design – Parallel Presentations

- select the best suitable presentation type for the material
- creating enclosed presentations

Presentations	Type		Information types
sintering plant	a	private text & picture	concurrent
history	a	private text & pictures	concurrent
blast furnace	a	private text	concurrent
coking plant	b	private text & picture	additive
Blowing engines	c	private text	additive
recuperators	c	private text & picture	additive

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## Parallel Presentation – Experimental Variables

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- Independent variables
  - Types of parallel presentations
    - Levels Parallelity in visual and/or audio perception channels
    - Concurrent versus additive information
  
- Dependend variables
  - Objective
    - Learned material out of both presentation parts
  - Subjective
    - Personal efforts and profits

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## Design - Questionnaire

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- Subjective success
  - What does a user thinks about her efforts and profits during learning?*
  - Subject estimates her ability to follow both parts of a parallel Presentation
  - Rating of presentation types

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## Design - Questionnaire

- Objective success

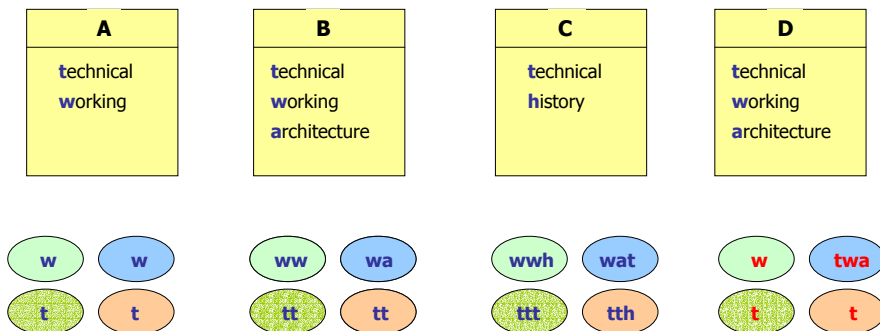
*How much information has a user learned?*

- Previous knowledge ignored
- Questions on public and private information parts
  - *Woher kam das verwendete Erz?*
  - public
  - *Wie wurde das Erz antransportiert?*
  - public & private
  - *Wer kaufte Völklingen?*
  - Private

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## Possible adaptation



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## Summary

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- Presentation platforms
- Goals
  - Creating presentations to take into account group and individual interests
  - Measuring learning in parallel presentations
  - Acceptance by users
- Parallel presentation
  - Types
  - How to support user's understanding and learning
- Design of the user study
  - Scenario
  - Types of parallel presentations used for learning
  - Questionnaire
- Use for adaptations