Applications for interactive public displays

Medieninformatik Hauptseminar
Sommersemester 2009
„Interactive Surfaces“
Outline

- Introduction
- Application analysis
- Usability features
- Conclusion
Introduction

Regular public displays

Distribution of centrally produced media content to a large audience

Interactive public displays

Media content can be manipulated, people become active consumers
Application analysis

- CityWall
- PolarDefense
- Dynamo
- PlasmaPoster
CityWall: explore images

Peter Peltonen et al. at Helsinki University of Technology and University of Helsinki

Application for large multi-touch displays installed in city centers

- Resize, rotate and move pictures
- Zoomable timeline
CityWall: explore images

- **Restricted interaction possibilities:**
  - Hands are only interaction tool
  - No possibilities to upload or download content

- **Study results:**
  - No instructions needed
  - Conflicts occurred

- **Identified usability features:**
  - Easy to understand
  - Conflict management
PolarDefense: interactive game

Matthias Finke et al. at University of British Columbia

Users interact with the game via SMS messages
PolarDefense: interactive game

• Restricted interaction possibilities:
  – Mobile phone is only interaction tool
  – No real possibilities to upload or download content

• Study results:
  – Animation drew attention to game
  – Instructions were easily understood
  – Mobile phone was an approved interaction tool

• Identified usability features:
  – Show interaction possibilities
  – Easy to understand
  – Avoid social embarrassment
Dynamo: collaborative work

Shahram Izadi et al. at University of Nottingham and University of Sussex

- Multiple users interact simultaneously on the same surface
- Share, display and exchange media
Dynamo: collaborative work

- Interaction points
- Personal palette
- Public palette
- Carve regions
- Media parcels
- Sealed parcel
- Telepointer
- Private palettes
Dynamo: collaborative work

- **Plenty interaction possibilities:**
  - Interaction tools: keyboard, mouse, laptop, USB-Stick, camera,…
  - Possibilities to modify, upload and download content

- **Study results:**
  - Instructions for carve and drag were needed
  - Conflicts occurred

- **Identified usability features:**
  - Easy understanding of the application
  - Conflict management
  - Privacy control
PlasmaPoster: interactive community board

Elizabeth F. Churchill et al. at FX Palo Alto Laboratory

Interactive posterboards that facilitate informal content sharing between a group of people

- Content region
- Author information
- Overview thumbnails
PlasmaPoster: interactive community board

- Interaction possibilities:
  - Interaction tools: PDA’s, web or hands
  - Possibilities to modify, upload and annotate content

- Study results:
  - Long term use

- Identified usability features:
  - Increases sense of community
Usability features

• **Attract attention:**
  – In modern cities peoples senses are overloaded with information
  – Passers-by need to notice the application

• **Show interaction possibilities:**
  – Users need to know how to interact with the system

• **Easy to understand:**
  – Applications are used for short period of time
  – Way of use can fit with existing practices
Usability features

• **Avoid social embarrassment:**
  – People fear failure and public exposure
  – Possible interaction tool: Mobile phone

• **Privacy control:**
  – Need to discern private from public information

• **Conflict management:**
  – Avoid conflicts

• **Increase sense of community**
  – People lose interest in an application with time
  – Build up a constant group of user
Conclusion

• **Summary:**
  – Multitude of different applications
  – Several usability features could be identified

• **Further research:**
  – Identification of additional features
  – Similar work on other types of applications
  – Development of further interaction techniques
Vielen Dank für ihre Aufmerksamkeit!

😊
Sources

- http://www.stroeer.de/fileadmin/user_upload/Bilder/pressebilder/station_infoscreen.jpg