A Study of Interaction Design in the Catalunya Railroad Museum
Vilanova i la Geltrú

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Introduction

Objectives

Research Methods

Results & requirements

Outcomes

Recommendations

Conclusions
Objective

To improve visitor experience, through the application of user centred design and interactive technologies.

Main question:
- How can the user experience and interaction of the museum visitors be improved?

Sub question:
- What is the current experience of the visitors and the strengths and weaknesses of the museum?
Process

Research

Conclusion and Recommendations

Needs and Requirements

Prototype

Introduction  Objectives  Research Methods  Results & requirements  Outcomes  Recommendations  Conclusions
Research Methods

- EPS/IDPS
- Train Enthusiast's
- Local/International Visitors

Questionnaire

- Positive and Negative Aspects
- Recommendations
- Possible Solutions

Expert Review

- Mind-map
- Brain-writing
- 10,000 Euro Question

Creative Session

- Other Museums and Expositions
- Interaction Technology's

Benchmarking
Results expert review

- Numbers are hard to find
- Order of map not clear
- Need both hands
- Accessible areas are not clear
Creative session
Research findings of the creative session

- Touchscreen interfaces
- Restaurant
- Virtual reality
- Clear wayfinding
- Augmented reality
- Results creative session
- Souvenir shop
- Real riding miniature train
- Staff wearing costumes

Introduction
Objectives
Research Methods
Results & requirements
Outcomes
Recommendations
Conclusions
Research findings Questionnaire

More information

- Children Area: 16%
- Information: 22%
- Space: 17%
- Entrance: 11%
- Missing things: 17%
- State of locomotives: 17%

Improve navigation and way finding

- "More guiding signs"
- "Signposting is confusing"
- "The museum entrance is not very clear"
- "The chronological order of the trains is good"

More interaction

- Staff and Guides: 54%
- Locomotives: 26%
- Setting: 9%
- Audiovisual: 8%
- Education: 3%

Smart Technology

- Yes: 33%
- No: 67%
Deskresearch

Benchmarking
- Other museums

Technologies used
- Smartphone App
- Leap Motion
- Kinect
Technology interaction, Further information,

Wayfinding, Signage, Navigation
Smartphone Application development

Requirements

- Option to change language directly from the start
- Size of buttons in line with standard guidelines
- No unnecessary buttons
- Outlined text and readable fonts
- General information (map, opening schedule, tickets, prices)
Smartphone Application

- Virtual Tour
- Photo tool
- Multilingual
- Search by numbers
- Information
- Tours
Video Application
What is Wayfinding?

Spatial Problem Solving
Conveys Location or direction
Effective communication through signage and diagrams

Why
Clarity for everyone
To develop effective communication
To increase accurate navigation

The wayfinding Design Process:
Planning Research, Analysis, strategy
Design Development
Implementation
Wayfinding Solutions

Effective and Efficient Signage
Rich Customer Experience

Introduction
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Conclusions
Numbers
Infographics
Recommendations and next steps

• The smartphone application has to be further tested with visitors and staff.

• The virtual visit has to be optimized for the smartphone

• Prototype for iOS and Android systems

• Further research on the wayfinding signs

• Cost analysis for Wayfinding and the Smartphone application.
New concept proposal for further development

- Environmental Educational and Fun Interaction
- Use of Piezoelectric materials to generate energy
- Smartphone Application.
Conclusion
Improved Visitor Experience

Smartphone Application:
• Will replace the audio-guide
• Provide visitors with more information in their own language
• Freedom to visit specific areas according to level of interest.
• Interactivity

Way-finding:
• Effortless and intuitive navigation
• Clear signage
• Easy Access

Way-finding and smartphone application work together to improve visitors experience.
Thank you for your attention!