Designing Interactive Environment for Examination of 3D Maps for a Mountain Map Study

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Introduction

Design process

Interactive Environment

Study

Results

• Georg Gartner (Opening ceremony): „Cartography is about efficient communication of spatial information...“

• Region: Mariborsko Pohorje

• 4 different types: Photo-realistic, abstract 3D map; Draped 3D map

• Interactive environment

• Online user survey
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Photo-realistic 3D map
- Very realistic appearance
- Suitable for less experienced users
- Natural perception – similarity to the real world
- Computer graphics
- High geometrical and graphical details
Abstract 3D map

- Employs cartographic generalization and abstraction
- Clear and expressive
- Efficient cartographic communication?
Draped 3D map
- Raster overlay
- Topographic 2D map
- Orthophoto image
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4 types of 3D maps -> interactive environment

Requirements:
- Simple for the user
- Easy to embed into a website.

Interactive environment
- Flash
- 120 rendered images for each 3D model
- Free rotation
- Zoom in/out
- Fixed viewpoint
Online user survey – still active

Upper frame: 3D maps

Lower frame: questionnaire

Consists of 3 parts:

• demography and user experience
• aesthetics and readability; preferences for different purposes
• effectiveness, efficiency and satisfaction (two out of four types)

Maps are randomly selected to avoid the learning effect
Temporary results

• 84 participants

• non-experienced map users
• experienced 2D map users
• experienced map users in 3D map usage

Gender:

Do you have a degree in Geoscience?

I am a student of Geodesy, Geoinformatics, Geography, Architecture or a similar field
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<td>Readability (zamenjaj barve)</td>
<td>Overall aesthetic effect</td>
<td>Preferences for turist purposes</td>
<td>Preferences for navigation and route planning</td>
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Study on Mountain 3D Map Abstraction
Conclusion

• The study was extended also to City 3D maps

Online user survey:

• www.1ka.si/a/29973

• Mozilla Firefox & Internet Explorer (version 9 or newer)

• Flash plugin