

Google Earth based visualisation of Dutch Land Use scenarios : beyond usability

3D visualisation of Sustainable Outlook to support policy makers

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How to construct a 3D presentation out of 2D raster data ?



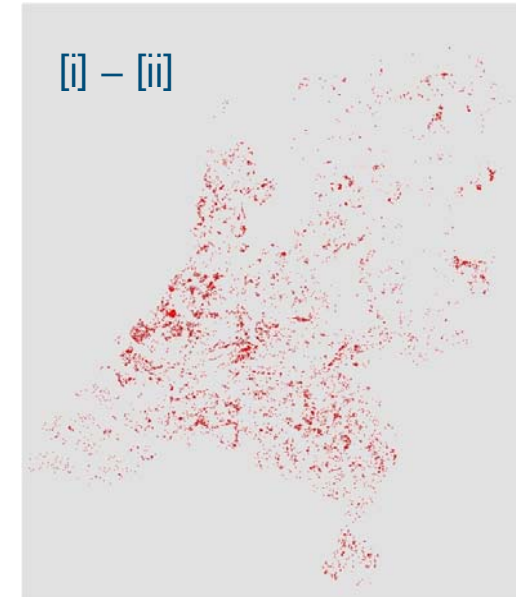
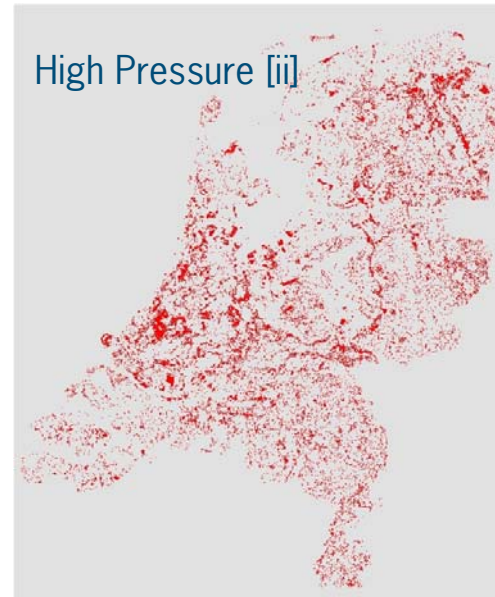
Will it benefit policy makers ?

Visualisation	Average Score	Number of Answers	Variance
i Colour	4.78 (0.91)	657	1.92
ii Texture	4.78 (0.83)	679	2.06
iii 3D Icon	5.09 (0.81)	687	1.46



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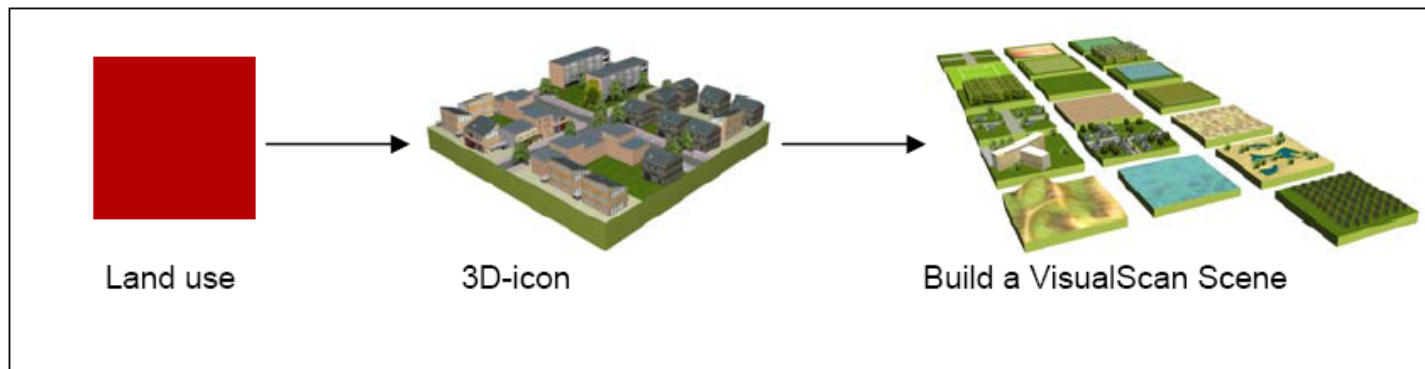
Dutch Land use Scenarios for 2030



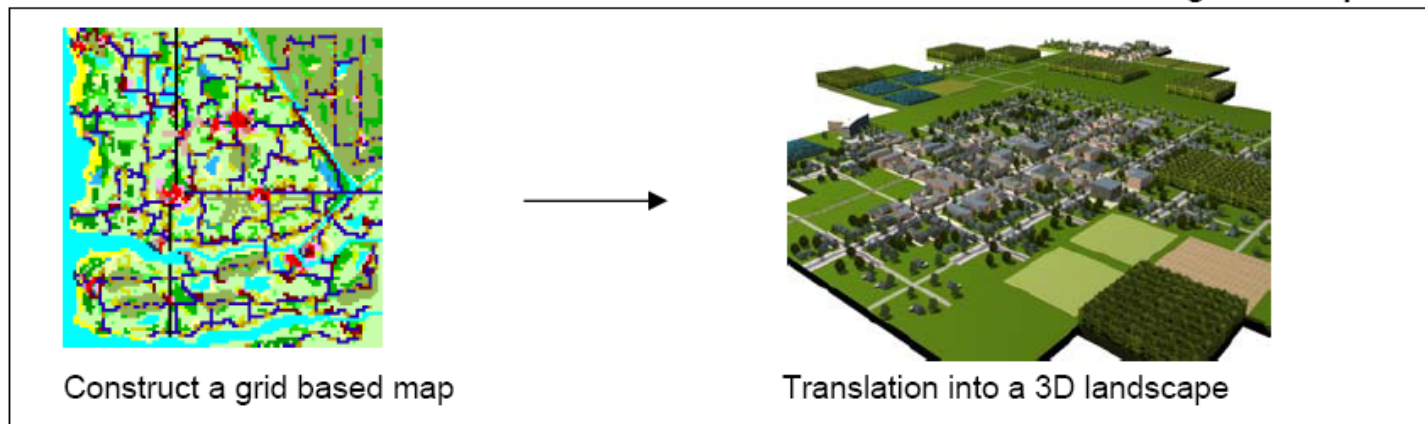
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Visualscan (2005)

Translation



Creating Landscapes



Visualisation options

GeSo (2008)

Current landscape

Current land use

Current land use - 3D objects

Future land use - colours

Future land use - textures



Future land use - icons



Will it benefit policymakers

Hypotheses (Mahjdoubi, 2001)

	IF	THEN
I	more information	less mistakes during the assessment of land use distribution
II	more information	less time to assess land use distribution
III	more realistic	improves experiences and persuasiveness
IV	more realistic	improves appreciation
V	textures	works faster and more correct than colours and icons



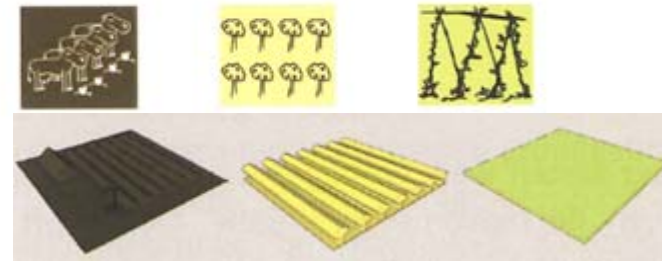
Will it benefit policymakers

Experimental setting

Condition 1: colours

Condition 2: textures

Condition 3: icons



Test group 45 persons – average age 32.5 (sd: 11.4)

4 activities

- **Personal questions (8): age, experiences, domain of study/work**
- **Tasks (4*4): to explore and to compare**
- **Usability test (44): efficiency, understanding**
- **Experience test (7*8): environmental quality assessment | not to be answered**

Will it benefit policymakers

Hypotheses **rejected** - **accepted**

	IF	THEN
I	more information	less mistakes during the assessment of land use distribution no significant differences colours score slightly better
II	more information	less time to assess land use distribution no significant differences textures score slightly better
III	more realistic	improves experiences and persuasiveness differences, but not significant 3D icons score better
IV	more realistic	improves appreciation significant differences 3D icons score better
V	textures	works faster and more correct than colours and icons no significant differences textures score slightly better



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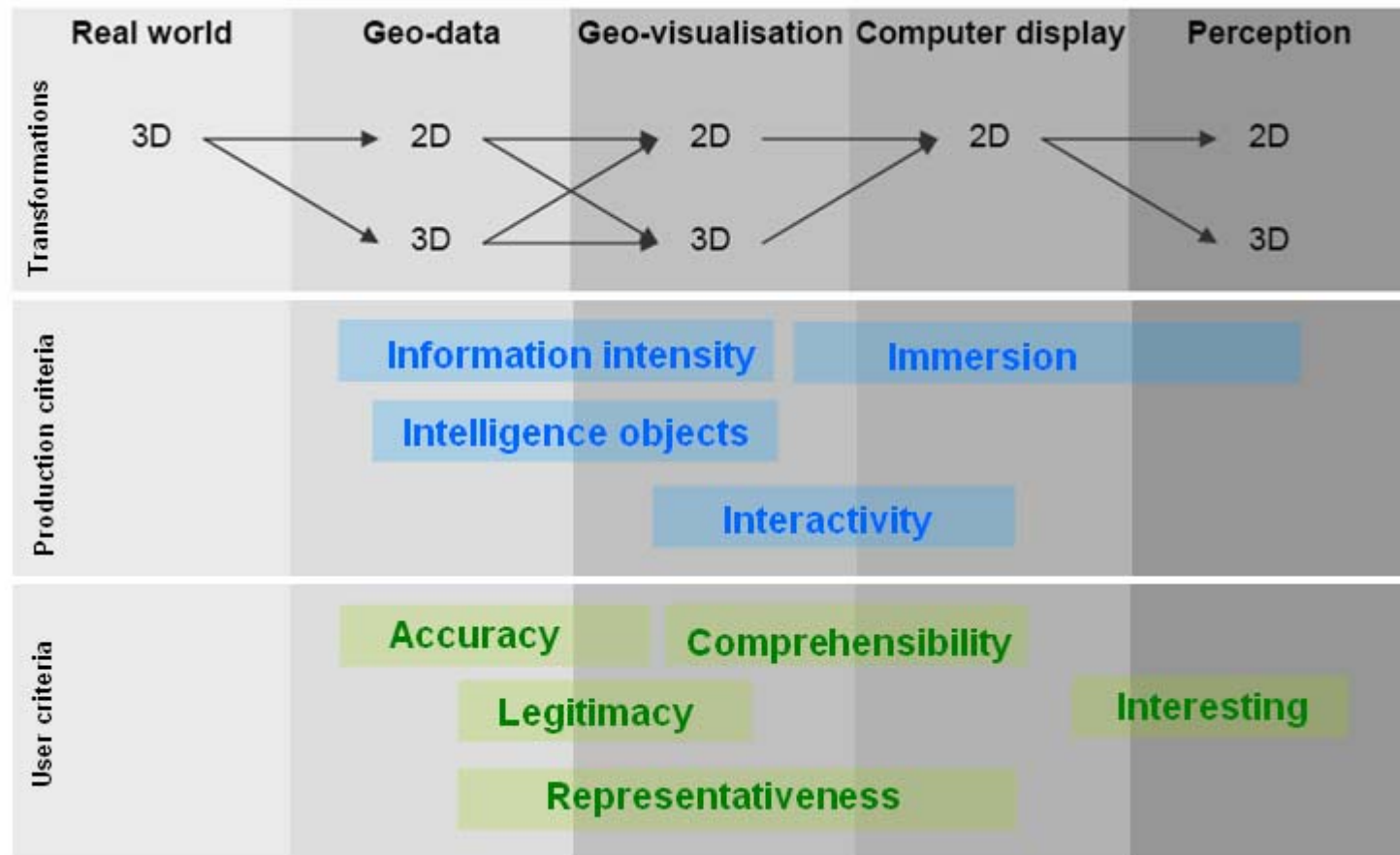
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When to use what 3D visualisation?

References : Brink et al, 2007, Sheppard et al, 2008; Koekoek et al, 2009 - in prep



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GeSo (2008)

