THE WAY IS THE GOAL – MODELLING OF HISTORICAL ROADS

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MODELLING HISTORICAL ROADS

- Where could the historical road have been?
METHOD: LEAST COST PATHS

- Algorithms to find most cost-efficient path from start point to end point across a surface
CASE STUDY I: BYZANTINE ROAD

Location of Štip, Strumica and Pećanica
THE ROAD IN THE STRUMICA VALLEY

• Late Byzantine Era (12th – 14th Century)
  • Written sources (documents)
    • 1152: basilikos dromos (Greek): „emperor‘s road“
    • 1336: veliki put (Old Slavonic): „big road“
    • 1371: basilike hodos (Greek): „emperor‘s road“
    • 1375/1376: veliki carski put (Old Slavonic): „the big road of the emperor“

• Connection between Roman roads
  • Via egnatia
  • Via militaris (Via diagonalis)
DATA SITUATION

- Historical geodata hardly available
- River regulation
- Confidential data
INCLUDED COST FACTORS

- Physical Landscape

- Rivers
  - Used data: Vector Map level 0, adjusted to DHM
  - Modelled as barriers

- Relief
  - Used data: SRTM (90m resolution) ASTERDEM (30m resolution)
  - Height above sea level
  - Effective slope
Modell of the "basilikos dromos" between Štip and Petrič

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CASE STUDY II

• Historical travel routes in the Western Himalayas

• Rinchen Zangpo (956 – 1055 CE)
  • Tibetan monk, translator
  • Travelled from Tibet to Kashmir and back
  • Brought with him artisans
  • Started the “later propagation of Buddhism in Tibet”

• No exact travel route is known
WESTERN HIMALAYAS
Preliminary calculations of Rinchen Zangop's travel route.
MAIN ISSUES

- Integration of social landscape
  - Trade routes, trade centers, sacred sites (temples, monasteries,..)

- Data situation
  - Historical geodata

- Evaluation

- Visualization
CONCLUSION AND OUTLOOK

- Promising method
  - Only approximation

- Framework for other cases

- Advocates the use of GIS and cartography in historical research
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THANK YOU FOR YOUR ATTENTION!

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