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A virtual tour of the Walls of Nicosia: An assessment of children's experience and learning performance

Despina Michael — **University of Nicosia**

Panagiotis Zaharias — **University of Cyprus**

Yiorgos Chrysanthou — **University of Cyprus**

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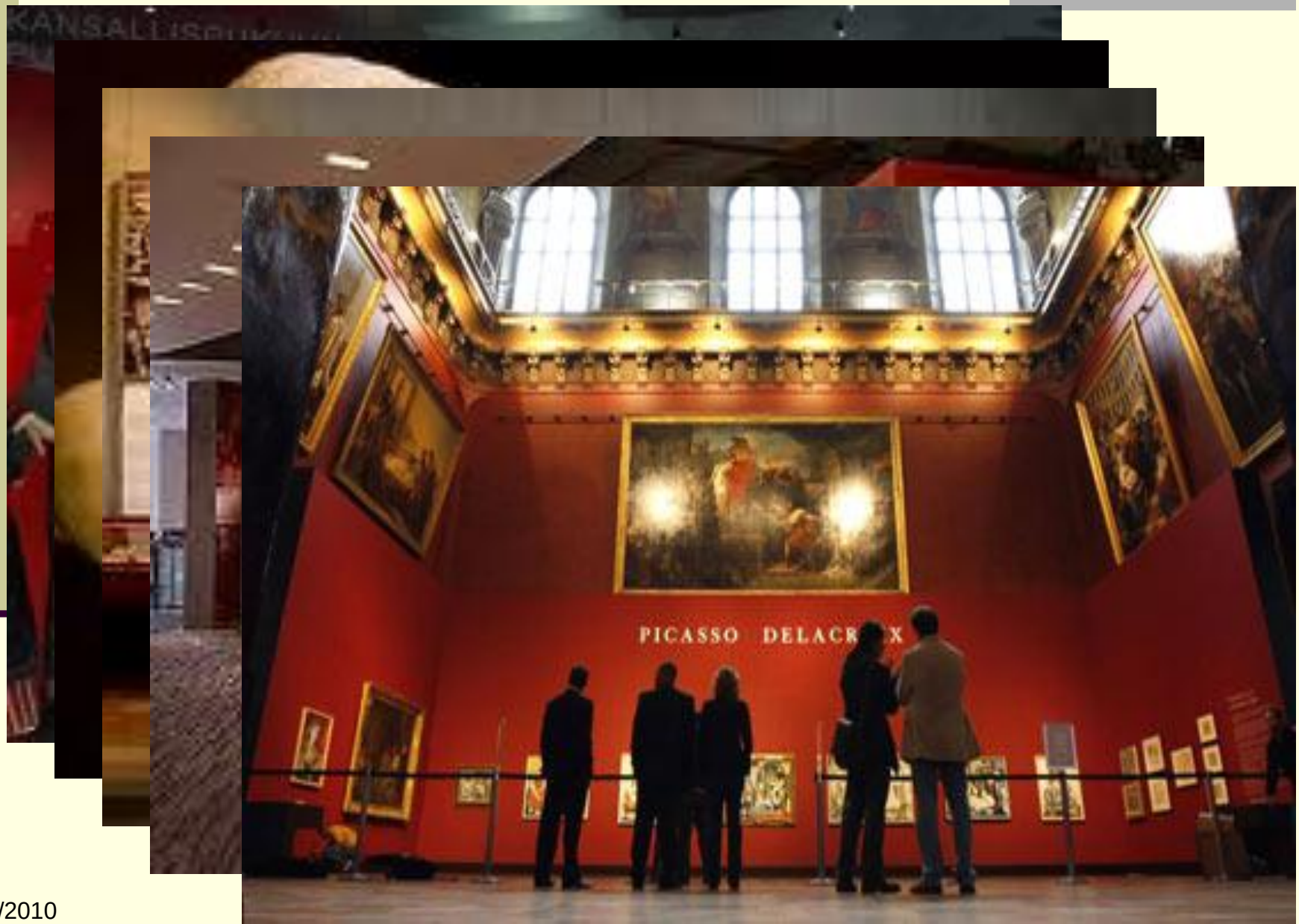
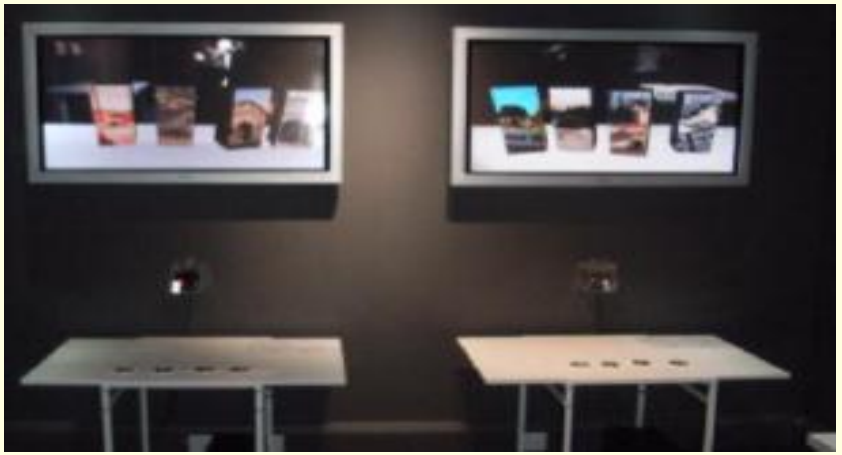
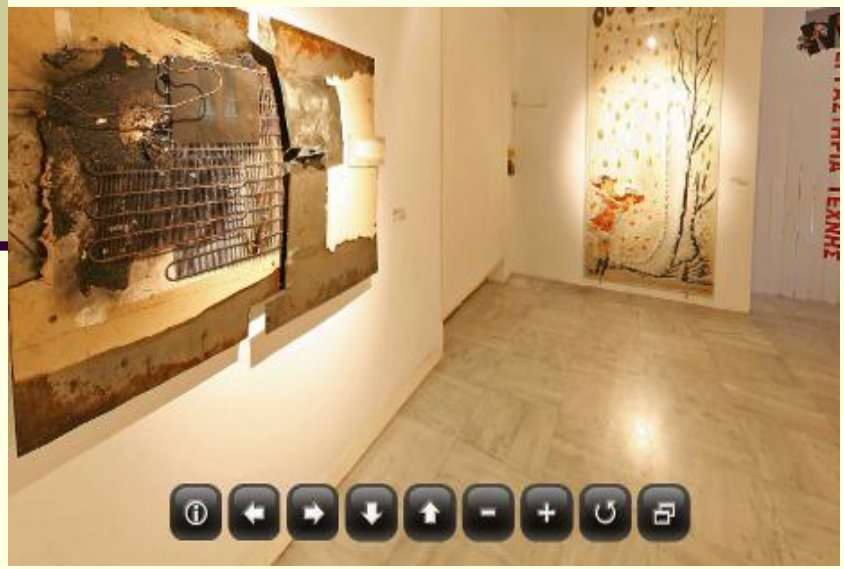
Museums traditionally….



Modern-day museums…





…and so what?

- Question:
  Do the technologically advanced methods have a benefit over traditional methods in museums?

- Use a case study to examine:
  - learning performance
  - user experience

  - compared with traditional method

- Case study:
  - “The Walls of Nicosia”
  - multi-touch table
  - Leventis Municipal Museum, Nicosia, Cyprus

System: The Walls of Nicosia

System: The Walls of Nicosia

- 3D models
  - fortifications of the city
  - most important landmarks
- 5 historical periods

System: The Walls of Nicosia

- Interactive application
  - interaction through multi-touch table surface
  - using intuitive gestures
    - zoom in/out
    - pan
    - tilt
  - choose historical period
  - control buttons
    - e.g. sound

Evaluation method

- Students:
  - ages: 10-11 years
  - organized visits by the MoEC
- 2 groups of students:
  - “virtual” group
    - use multi-touch table: The Walls of Nicosia
  - “traditional” group
    - study printed maps exhibited in the museum
- The same information can be found on multi-touch table application and on printed maps
  - about “The Walls of Nicosia”
  - for the same 5 historical periods

Evaluation method

virtual group **traditional group**

Evaluation method

- 2 questionnaires:
  - knowledge questionnaire
    - multiple-choice questions about the walls of Nicosia
  - smileyometer (1…5)

  - both given to both groups

- Knowledge questionnaire:
  - learning performance evaluation
  - given before (pre-test) and after (post-test) the session

- Smileyometer:
  - user experience evaluation
  - given after the session

Results - learning performance

- knowledge questionnaire scores
  - out of 10

Pre-test mean		**2.5**		**3.5**
Post-test mean		**8.25**		**6.33**

Results - user experience

- smileyometer scores
  - out of 5

Mean		**5**		**4.22**
St. deviation		**0.0**		**0.833**

Conclusions & Future work

- Systems (e.g. 3D worlds, touch-tables):
  - can provide a great user experience
  - convey information and knowledge effectively
- Museums should exploit technology to attract more visitors

- Future studies:
  - longer-term retention of knowledge
  - increased sample size
  - investigation of association between motivation to learn and user experience

Thank you!

END