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INSTITUTE OF COMPUTER SCIENCE

HUMAN COMPUTER INTERACTION LABORATORY

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Mobile location-aware museum guide

The Human Computer Interaction Laboratory of FORTH-ICS developed an integrated platform for deploying mobile location-aware information systems, such as hand-held museum guides. The platform comprises a set of management and authoring tools and supports the creation of large-scale systems with very crowded use sessions, at the scale of hundreds of simultaneous visitors.

The mobile guiding system can be used in both indoor (e.g., museums) and outdoor environments (e.g., archaeological sites) as well as in environments that comprise both indoor and outdoor spaces. In order to achieve the maximum possible accuracy in a flexible and efficient way it combines multiple location-sensing technologies, including WLAN, GPS, and infrared beacons. The delivered information can be provided in any number of alternative languages. Custom visit scenarios are supported. Beyond multimedia information, users can also access a map where their current position is depicted along with information about surrounding exhibits and points of interest.

Several authoring and management tools are provided supporting:

- Management of the electronic guides' renting process
- Monitoring of the visitors in the exhibition space
- Management and synchronization of the multi media content
- Statistical analysis

The system is currently being installed at the fifteen major museums and archeological sites of Greece including Acropolis, Olympia, Knossos, Delphi and Mycenae, encompassing a total of five thousand mobile devices (PDAs).

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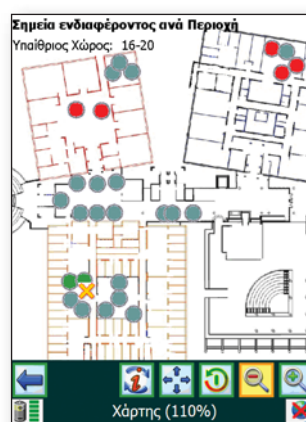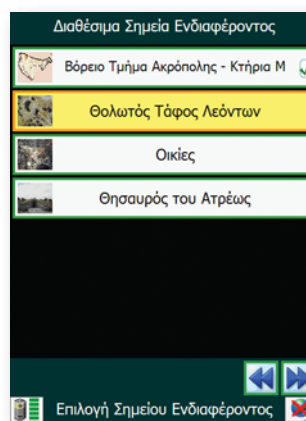
Indicative screenshots

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LABORATORY (HCI)

The Human Computer Interaction Laboratory of FORTH-ICS (http://www.ics.forth.gr/hci/), established in 1989, is an internationally recognised centre of excellence, with accumulated experience in user interface software technologies, design methodologies, and software tools. The Laboratory carries out leading research activities focused on developing user interfaces for interactive applications and services that are accessible, usable, and ultimately acceptable for all users in the Information Society, while, at the same time, providing an appropriate framework and tools for reducing development time and cost. The research activities of the Laboratory, rooted in the principles of Universal Access and Design for All, address the development of interactive applications and services for various platforms, such as personal computers, handheld computers, mobile phones, smart appliances, and other computational devices distributed in the environment. Research results include infrastructures, methods, prototypes, architectures, tools, and programming languages, as well as methodologies for maintenance, reuse, modification and extension of the developed systems. Systematic testing, evaluation, validation and integration of the above results are achieved in practice through the development of advanced applications and services, such as mobile information systems, ambient intelligence environments, accessible web portals, entertainment applications (e.g., games), and educational software (e.g., eBooks).

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