

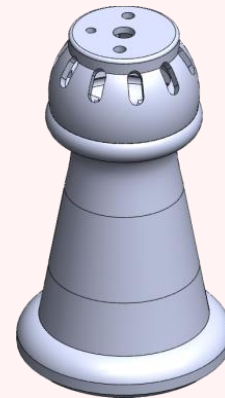


## Infoscope

### Overview

Infoscope is a **novel mobile device** that can support **knowledge discovery** and **exploratory playing** in physical environments. Infoscope utilizes RFID technology to provide audio guiding and localized question / answer games, while it employs wireless communication technologies to exchange information about its user's interests with computer platforms and to present through them related supplementary multimedia information. The device comes with two accompanying software components: one for editing / updating its contents, and one running on personal computers for providing supplementary multimedia information.

Infoscope integrates **RFID reading capabilities** and can play related audio information which can be adapted to its user's profile (e.g., language, age, interests). The device is embedded in an **ergonomically-designed** shell and is extremely easy to use, as it mimics the use of a typical doctor's stethoscope. When a user is interested into a specific item, all she has to do is to put the device over a related RFID tag in order to listen to a corresponding audio description. Additionally, by "listening to" appropriate tags, the user can adapt the audio descriptions to her personal profile traits. Beyond localized information presentation, Infoscope supports exploratory gaming in physical environments through question / answer games, where a tag is used to trigger a question that has to be answered by "listening to" the tag of the corresponding place / item.



*Infoscope industrial design  
(OBI industrial design patent 6003410)*



*Docking Infoscope to its station for  
retrieving multimedia information*

### Target Domains

Infoscope can be used in various application domains where location-based knowledge discovery is needed. Up to now it has been experimentally used, evaluated and tested with representative users in two application domains: (a) museum guides and (b) knowledge discovery toys for toddlers and young children.



*Infoscope device and PC docking station*

## Additional Information

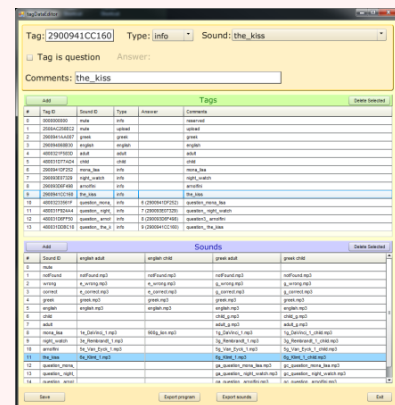
Infoscope can keep track of the RFID tags detected in each session, the order and number of times that each one was read, as well as of the answers given to the “question” tags. All this information is wirelessly transferred to a **docking station**, which is also used for charging the device. The docking station communicates with an interactive application, which is installed at its host computer and can present user-profile-adapted multimedia material related to the tags read by the device, as well as the game’s score and detailed information about each user’s answer. Setting up a space supporting knowledge exploration through Infoscope is extremely easy, fast and does not require any type of physical intervention. New tags can be easily added to the system using a visual interface which supports the management and editing of the actions and profile-adaptable information triggered by it.

Infoscope constitutes a novel approach in the domain of **mobile location-based retrieval and presentation** systems, which overcomes shortcomings of previous approaches, also offering some new capabilities. Its main **advantages** include:

- Very simple and playful use by people of all ages, not requiring any experience or familiarity with computer technologies.
- Ability to retrieve information adapted to the user’s profile.
- Easy and fast installation in any space, without any physical interventions.
- Does not distract the user’s attention away from the objects of interest.
- “Remembers” which items were accessed by the user, and in cooperation with a personal computer can provide additional information.
- Small, lightweight, highly durable device.
- Innovative, ergonomic and functional design.
- Very low power consumption levels.
- Easy editing, update and extension of its content.
- Ability to change the shape of its shell, so that it fits the aesthetics and ambience of the target domain.
- Low production cost.



Setting the user’s profile by “listening to” appropriately marked RFID tags



Content editing software



Infoscope web page

[www.ics.forth.gr/ami/project/infoscope/](http://www.ics.forth.gr/ami/project/infoscope/)

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