



Application Briefs

Wearable Computers and Mobile Guides for Tourists

A new way of being a tourist

Thanks to localization technologies (GPS for outdoor location and active RFID or Zigbee for indoor locations), it is now possible to develop advanced multimedia tourist guides for PDA and mobile computers.

Wearable computers are the ideal solution for running multimedia guides, because, they leave the users' hands free and also prevent the computer to fall down or even be lost.

To provide a thorough software environment for developing wearable mobile guides, Eurotech has successfully tested **MobileGuide**, a software platform developed by **Mobile3D**, an Italian company located in Udine.

The Mobile Guide software platform

The software platform for ZYPAD wearables is organized in two main components:

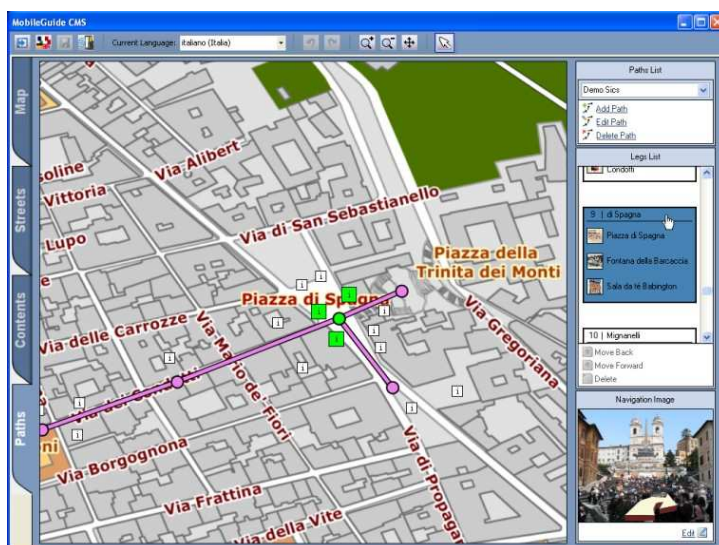
- A Content Management System
- A specific client for ZYPAD wearable computer.

Content Management System

To create a multimedia guide the first step is to use the Content Management System (CMS), a software that allows an easy and quick creation of contents on standard desktop PCs.

Simple and efficient visual interaction style

The CMS allows one to rapidly select the points of interest on a map and then associate multimedia contents to them. In this way, the system becomes easy and fast to use and learn, also for users without specific computer skills.



Thematic tour creation

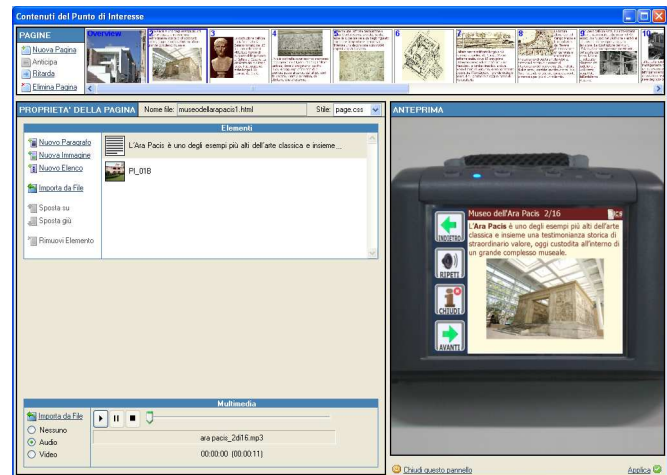
The selected points of interest are used to create thematic tours in outdoor environments (such as cities and natural parks) as well as indoor environments (such as museums). Each created tour is enriched with audio and visual navigation instructions that allow the tourist to follow it without effort.

Real time preview

A real time preview of how the contents will appear on the tourist's final device helps in the editing process.

Incremental development

The CMS allows one to create the tours and the contents incrementally, starting from small areas (for example, a limited area of a city) and extending them to much larger areas later, following specific touristic promotion strategies. At the end of the development stage, the tours and the MobileGuide Client are copied to a miniSD memory card. Inserting the miniSD card into the wearable allows one to immediately use the multimedia guide.



Mobile Guide client

The software client running on the ZYPAD wearable computer reads the miniSD card containing the client software and the tours created through the CMS, detects the geographical position of the user through the GPS technology built-in the ZYPAD and provides navigation information as well as multimedia presentations about the visited places, using audio, pictures, videos and 3D reconstructions.



Intuitive

The functionalities of MobileGuide do not require previous training to the tourist. MobileGuide provides easy to follow navigation instructions by using pictures and arrows.

Rich Multimedia Contents



As soon as the tourist reaches a point of interest, the guide presents rich multimedia information, textual descriptions, images, audio and video clips.

Moreover MobileGuide is able to exploit 3D graphics to allow the tourist to open a "temporal window" on how the visited place looked like in the past or how it could look in the future, for instance due to planned renovations.

Easy search of points of interest

The guide provides search functionalities by category and distance, allowing the tourist to locate different kinds of points of interest (from cultural to amusement ones) and to know how to reach them.

About Mobile 3D


Mobile3D is a spin-off company of the Human-Computer Interaction Lab (**HCILab**) of the University of Udine, Italy. Mobile3D srl implements innovative software tools and provides services that combine the most recent technologies in the areas of mobile devices and interactive 3D graphics.




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