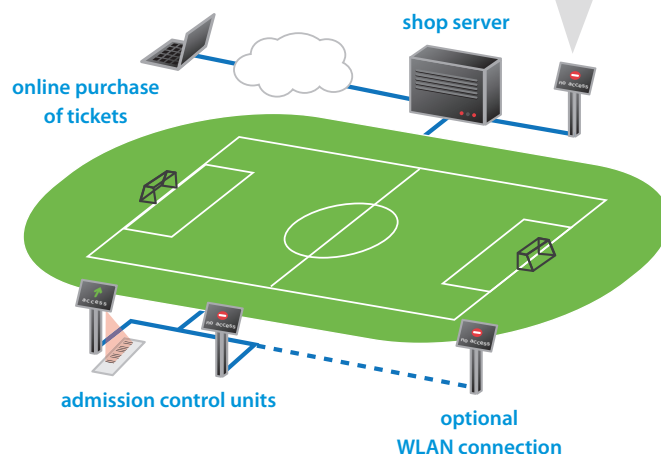




Smooth admission to the stadium with know-how from Applied Informatics

Play to Win with High Tech in the Stadium



They paved the way to the stadium at the last European Football Championship: innovative software modules for modular and networked embedded systems.

Fast, unerring and communicative – characteristics that are as important in sports as they are in business. Fast, in four months to be precise, a ticketing service provider from Zurich developed a completely new admission control unit. Unerring was its first use at the last European Football Championship in 16 Swiss Public Viewing Areas. The units communicated with each other continuously. Fakes were quickly debunked with bar codes, due to the server connection tickets could be bought online up to the last minute. Even during network failure the units worked autonomously. Promoters and fans were enthusiastic about the smooth flow. At the bottom of this simple application is an enormous know-how – starting with remote maintenance, ranging to extensive monitoring functions.

Open-source software as solid basis

The implementation of the firmware was facilitated by free and open-source POCO C++ Libraries. The POCO C++ Libraries are an extensive collection of C++ classes that cover numerous functions – from platform abstraction, threads, logging, file system access to XML processing, database programming, and network protocols such as HTTP, FTP, and SMTP. The libraries are available for Linux as well as for other operating systems such as Windows, Windows Embedded CE and QNX, and are the basis for the middleware from Applied Informatics.

Flexible software architecture with middleware from Applied Informatics

The application software for the unit consists of several separate processes such as ticket processing, user interface or system monitoring, which communicate with each other via the Remoting middleware from Applied Informatics. Remoting allows the user to define the communication interfaces between applications as C++ classes, the methods of which can be called across process boundaries. The required code is generated automatically. Communication functions via sockets, pipes, or SOAP. Processing of the tickets takes place in a separate modular application, based on an Open Service Platform (OSP) from Applied Informatics. OSP enables the partitioning of an application into single components, so-called bundles. A bundle can contain code as well as data, and is loaded dynamically at runtime. The advantages: better testability and easier extendibility of the firmware. New bundles can be installed via a web interface without changing the basis software. Another example is the integration of an NFC or an RFID reader. The software for integrating the reader is realized as OSP bundle and loaded automatically.

Let yourself be inspired by this case study. The world of embedded systems offers much more than you realize. With Applied Informatics you will make the impossible possible already today.

Technical details

HARDWARE

XScale computer module with 64 MB RAM/32 MB flash and Ethernet
 USB bar code scanner
 WQVGA (480 x 272 pixels) touch screen
 CompactFlash as mass storage
 Optional WLAN adapter

SOFTWARE

Operating system: Linux (OpenEmbedded)
 Application software: C++, using free and open-source POCO C++ Libraries, as well as Remoting and OSP middleware from Applied Informatics.
 Graphical user interface programmed with GTK+ toolkit
 Storage of ticket data: SQLite database



Applied Informatics
 Software Engineering GmbH
 St. Peter 33 | 9184 St. Jakob im Rosental
 Austria
 T +43 4253 32596 | F +43 4253 32096
 info@appinf.com | www.appinf.com