Cherry LAN

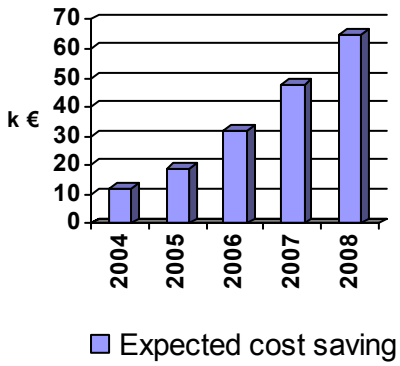
A Remote Monitoring System for Slot Machines

Cherry Maritime Gaming AB has developed a wireless system for remote monitoring and data retrieval from gaming devices. The game operator can access and download cash flow data from individual gaming machines, monitor the function, collect data for service and repair and deliver alert signals to security personnel. The new system eliminates the need for physical transport of data and reduces the travelling of service personnel to a minimum.

Cherry Maritime Gaming AB is a developer, manufacturer and operator of gaming machines. The major market is leisure and entertainment services on board on ferries and cruise lines. At present, 35 passenger vessels in international routes are equipped with gaming and slot machines from Cherry Maritime Gaming AB. The company has 30 years experience of multi-coin and multi-bill systems for gaming devices and slot machines, as well as of on-site data recording and retrieval systems.

Cherry Maritime Gaming AB	
Employees	15
Turnover	7 MEUR
Industrial sector	Leisure
Technology introduced	The LinuxOS and TCP/IP. Bluetooth and GSM wireless communication links

ECONOMIC BENEFITS



The new monitoring system eliminates the need for physical transport of on-site data (e.g. cash-flow statistics and operational conditions). If any unusual event occurs, the status of every gaming device can be monitored on an individual basis and the proper decision, e.g. to send service personnel to the site of the installation, can be made. Thus, the main benefit of the new technology is a substantial reduction of the operating and maintenance cost.

The company is operating in a market with global competition. With the new monitoring system, the company has reached a favourable market position with a clear competitive advantage. The rapid collection and retrieval of cash-flow data, prompt response to maintenance calls and improved security are obvious and clearly perceivable for the final customer.

PRODUCT IMPROVEMENTS

The new Cherry LAN system constitutes a complete change in the approach to monitor the gaming devices:

- Two-way wireless communication from a cluster of gaming machines to a local access point.
- Wireless communication from the local access points to a central operations control console.
- Software that allows the central operator to access every gaming device on an individual basis.

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How to go about it

TECHNICAL CHOICE OPTIONS

The Cherry LAN system has been specified to include widely accepted, industry standard operating systems, communication protocols, hardware and software interfaces. Also, the system architecture is modular with carefully defined interfaces. The over-all requirements identified before the project start were:

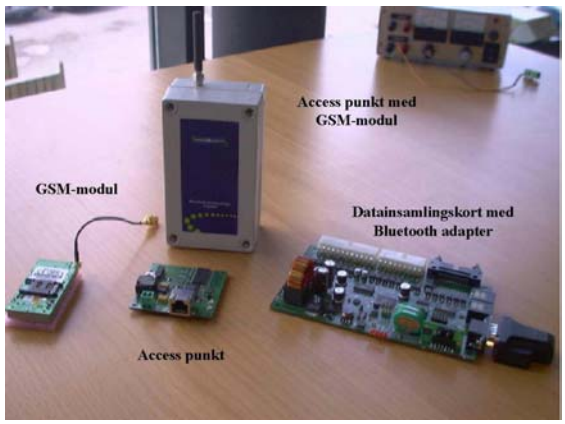
- Simple learning and operation.
- Proven technology with few reliability and safety problems.
- Cost effectiveness of the total system over the complete system life cycle.

A number of technology options were evaluated before the following decisions were reached:

- The Bluetooth protocol and communication hard-ware were selected for the local communication, because of the availability of low-cost standard components.
- The GSM phone network was preferred for remote access, because of the wide coverage, established technology and access to advanced GSM expertise within the project team.
- The TCP/IP data format, because of its wide acceptance.
- The Linux OS for embedded microprocessors, because of its stability, reliability, access to source code, low cost and access to expertise and development tools within the project team.

TECHNICAL IMPLEMENTATION

The data from the gaming device is stored in a hard-ware unit, the CDR box (Cherry Data Retrieval system). Typical data of interest is money inserted, games played and money paid out. In the CDR box also the Bluetooth adapter is included. One CDR box is installed into each and every gaming device. The functionality is implemented in soft-ware, which can be easily up-dated for new requirements. The GSM access points are designed with standard hard-ware modules. One GSM access point is designed to receive and process data from all CDR boxes in a predefined cluster, which could be one game room or a deck on a passenger ferry. When requested, the data stored in the GSM access points is transferred to the central operating console, using the GSM phone module.



BENEFITING FROM BEST PRACTICE

EC IST Programmes aim to improve the competitiveness of European enterprises by promoting the adoption of under deployed or emerging technologies. This will enable these enterprises to increase their competitiveness and enhance their economic growth. The demonstrator described here is one example of the many Best Practice projects undertaken. Further details of projects covering a wide span of applications, industry sectors and technologies can be found on **www.euroines.com**

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