

Cobalt RFID Parking Monitor

Project Type: Java Development
Customer: Cobalt Telephone Technologies

Product Overview: Cobalt is the leader in automated payments for parking. It created the RingGo cashless system to simplify payments for car park operators and users. Drivers who regularly use RingGo-enabled car parks can pay with a quick call to RingGo's automated payment line. Fines can also be settled via the phone or online.

Problem: Cobalt needed to enable attendants to monitor whether RingGo subscribers had paid. It chose a system based on Radio Frequency Identification (RFID) tags in subscriber's membership cards, mounted in the car. This would enable attendants to quickly check payments, without having to dial a call centre, or manually enter a membership number. Cobalt commissioned Penrillian to create software for a mobile device to read the RFID tags and provide information to the parking attendant.

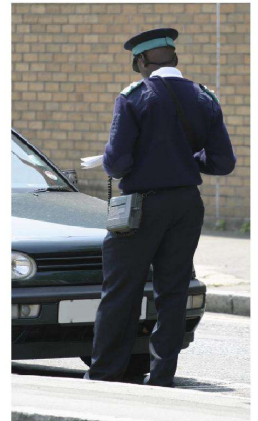
Objectives:

- Develop a robust, easy-to-use application
- Minimise complexity to speed development and minimise cost
- Integrate new RFID hardware with Java

Method Deployed: The system was developed for Nokia mobile phones with RFID readers. These were the first integrated RFID devices and at the time of development, the hardware and software interfaces were very new. Cobalt specified that the software should be based on Java to ensure portability of the code when new RFID devices become available.

Penrillian was challenged with integrating the new RFID interfaces with Java for the first time. With both the target devices supporting Internet access via GPRS,

Penrillian chose to build the software for the Mobile Information Device Profile (MIDP) of Java - a subset of Java designed for Internet-ready devices. This would ensure maximum portability to other MIDP-compliant devices.



Penrillian and Cobalt agreed the minimum functionality required so that a working solution could be delivered as quickly and cost-effectively as possible. The application was designed to collect information from the membership card via the RFID reader, and interrogate an online database hosted by Cobalt. The software then provides a simple yes or no response, confirming whether the customer has paid with a tone and message on the phone.

Results: One of the biggest challenges when creating applications for mobile devices is their limited, and often inefficient input capabilities. By using RFID, Cobalt and Penrillian created a streamlined way to introduce information into the application. Penrillian's agile development methods and knowledge of Java, enabled the company to quickly develop a robust application that met Cobalt's needs at a sensible price.

The application has proved a great success. Following a trial at Bristol Parkway station, parking provider APCOA is now rolling out RingGo across all 63 of the busiest stations on the Great Western mainline. The rollout is due to be completed in summer 2006.

Would you like to turn your concept in to a product? To book your one-hour free consultancy session, call us on +44 (0)1768 214400 or email us at consulting@penrillian.com.