

RFID-enabled Phones Help London Commuters Make Connections

Using cell phones equipped with Near Field Communication technology and a special application, commuters are evaluating a system for getting quick, personalized directions.

By Mary Catherine O'Connor

Dec. 7, 2007—For cell-phone-savvy Londoners, traversing the city via public transportation could become more convenient if a technology trial currently underway is ultimately successful. The pilot is based on using cell phones equipped with Near Field Communication (NFC) technology and an application for making connections across multiple modes of transit easier and time-efficient. The project, known as Visualization of Real-time Transport Interchange (VORTRIX), is a collaboration between [Transport for London](#), the city's transit agency, and a number of technology companies, as well as [Imperial College London's](#) Internet Center, which worked with [Kizoom](#), a developer of transportation-based applications for mobile devices, to develop the cell phone application used in the trial.

At the Blackfriars transit station—a transfer spot for the Underground subway station, as well as buses, ferries and commuter train services—19 smart posters have been installed for the technology trial. What makes each poster "smart" is an RFID tag embedded into the frame. Pilot participants are provided with [Nokia](#) 6131 cell phones equipped with NFC technology (a 13.56 MHz RFID module containing a high-frequency interrogator and tag made to the NFC specification).

Participants use the Kizoom application loaded on the phone to select their final destination, then hold the phone up to the tag embedded in any of the station's smart posters. The phone's RFID reader collects a URL from the tag, and the phone's Web-enabled browser downloads route and timetable information based on the time of day and the smart poster's location. The Kizoom application then shows the user where and when to meet the next train, bus or ferry, in order to reach their final destination.

The trial commenced in August and is expected to last until the end of the year. Transport for London has been providing phones to participants since the pilot began and may issue up to 1,000 before it is complete, says Steffen Steinmeier, [NXP Semiconductors'](#) head of NFC global business development. NXP has been a major developer of NFC technology, first developed through a collaboration between Philips Semiconductors (which was spun off to become NXP Semiconductors in 2006), [Sony](#) and Nokia. The company is providing the NFC-compliant RFID module inside the Nokia phones used in the trial, as well as the RFID inlays embedded in the smart posters.

If a participant does not select a specific destination before using their phone to read the tag embedded in a smart poster, the phone application generates a list of local attractions the user could visit, along with route directions and timetables, based on that person's location and the time the tag was read.

RELATED_ARTICLES This trial is important, Steinmeier says, because it could mark the beginning of NFC technology becoming a viable travel tool for those using one of the largest public transportation systems in

Europe. Additionally, if NFC phones become prevalent in Europe and Transport for London rolls out a payment application enabling commuters to use NFC phones to pay for transit services, the phones would serve a dual purpose for commuters: providing transit fare and receiving real-time directions.

Of course, even if the trial is successful and Transport for London outfits all its stations with smart posters, commuters without NFC phones will still be able to find their way by reading paper-based maps and timetables.

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