Press Releases

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HKUST Develops First Open and Secure Infrastructure for Mobile E-Commerce

Computer experts at the Hong Kong University of Science and Technology (HKUST) have taken the lead in developing an open and secure infrastructure to support mobile electronic commerce.

The first of its kind in Hong Kong, the HKUST Open and Secure Mobile E-commerce Infrastructure incorporates PKI (Public Key Infrastructure), WAP (Wireless Application Protocol), and smart-card technologies to establish an open and secure end-to-end wireless channel between customers, companies and banks.

Hi-res image Prof Chanson tries the secure transaction with HKUST m-card at the Souvenir Shop.

"Existing mobile e-commerce systems are proprietary, incompatible with one another, and relatively insecure, "said Prof Samuel Chanson, Director of HKUST's Cyberspace Center. "Our infrastructure, however, is capable of supporting new players in a simple seamless way."

"More importantly, the application of PKI and smart-card technologies will provide a highly secure end-to-end channel for electronic banking and financial activities over mobile and wireless communication platforms," he said.

The infrastructure is designed for applications in real-world business activities ranging from shopping and ordering to payment and possibly delivery. Pilot tests have been conducted at HKUST's Souvenir Shop where users are issued with a personalized HKUST m-card, a SIM card programmed with the HKUST STK application, and an L2000i dual slot handset. After they have browsed through the Souvenir Shop's WAP site for product information and have uploaded their order requests, a secure channel between the PESM (PKI End-to-End Secure Module) and the handset is then established. They may then input sensitive information such as credit card numbers from the handset. The information is simultaneously protected on the m-card by PKI and transmitted back to the PESM. As the information can only be decrypted and used by authorized parties, payment is processed in complete security through the channel.

The project is sponsored by the Hong Kong Government through its Industrial Support Fund, and is supported by four industrial partners, Gemplus Technology Pte Ltd., SmarTone Mobile Communication Ltd., Standard Chartered Bank and Hongkong Post.