

Full title/name of award:	NETS Innovator Series 2005
Organisers:	Network for Electronic Transfers (Singapore) Pte Ltd Mensa Singapore Baldwin Boyle Shand Pte Ltd
Supervisor:	A/Prof Tan Kok Kiong
Members:	Mr. Leong Chee Yen Mr. Ong Kok Choong
Achievement:	2 nd Place S\$3000 Book Vouchers
Details of Competition:	<p>The NETS Innovator Series with Mensa Singapore is a competition that challenges teams of students to develop a “Future Payment Concept” targeted at NETS’ key markets and consumer segments. This concept must be technologically and commercially feasible within the next three years.</p> <p>The competition is open to teams of up to four students in any post-secondary to undergraduate educational institution in Singapore, including Junior Colleges, Institutes of Technical Education, Polytechnics and University undergraduate programs. This competition has no bias in terms of educational level or institution, and recognizes that talent and genius comes in all forms and from diverse backgrounds.</p> <p>There are no limits as to what the concept can be as long as it supports Singapore’s move to a cashless society and it can potentially be used in NETS’ business. Teams may, for example, develop a mobile commerce or Internet payment application; or demonstrate innovative use of technologies, such as contact-less RFID for game or music downloads; or it might be a convergence of technologies and applications in a mobile phone or an entirely new device.</p>
Our Work:	<p>Using Philips Electronics Near Field Communication (NFC) technology and DOMUS (NUS invention), three forms of payment system, namely the Merchant Card System, Peer-to-peer System and the NFC Electronic Fund Transfer Point of Sale (EFTPOS) System are proposed.</p> <p>The Merchant Card System only requires the merchant to have an RFID card which provides a specially designed URL to the consumer’s mobile phone when tapped upon. The consumer’s mobile phone is then directed to Mobile NETS payment portal via GPRS/3G. The consumer can then make payment using Mobile NETS. The following process innovation is achieved:</p> <ul style="list-style-type: none"> • Reduce the time required for transaction by embedding purchase information into the URL link. • Reduce consumer time spent on typing the URL, which is a troublesome task if executed on a mobile phone. • Eliminate queues. <p>The Peer-to-peer System allows electronic fund transfer across two parties</p>

with NFC-enabled mobile phones. The strengths of this system are as follow:

- Very low installation cost for small businesses like hair-cut and taxi.
- Creation of new markets like e-Bay meet-up transactions and personal transfer of funds.

The NFC EFTPOS System mainly replaces the current card-swiping EFTPOS System with the benefits of:

- Enhanced security from phishing with the use of the computing power of mobile phones.
- Complements the other two systems proposed above.

