Security Gate
proposed supervisors: Dr A. Djordjevich, Dr. Bing Luk and Prof S.K. Tso

Project Background
In order to speed up the cross-border traffic, Hong Kong Immigration Department plans to automate the passenger clearance procedure. Instead of facing uniformed officials who check the passenger identity and identification documents, travellers would operate fingerprint scanners and smart-ID-card readers for these purposes. CityU’s MEEM Department has built a prototype of such gate for an industrial partner, a multinational company specialising in computer systems, software, and general electronics.

Objective
To provide the incremental improvement of the design and prototype of the security gate.

Details
It will be assumed that the trigger pulse indicating whether the passenger has been cleared will be available from the client supplied smart-ID-card reader and fingerprint scanner (in other words, fingerprint scanner, fingerprint recognition software, and ID card reader are not part of this project).

The basic outline of the gate is shown in the pictures below. The gate design includes a sensing system for detection of the passenger arrival, for assuring safe operation of the gate (for example the door should not close while the passenger is still within the door frame) and for assuring basic security features (for example, the detection of an additional person inside the gate, tailgating the first person).