

FC15A140 Application note 10
Smart card application demonstration

Thanks to its small size, the FingerChip™ may be directly integrated into a smart card, with less problems and less cost than a large square chip. One of the main advantages is the ability to use the existing smart card reader without changes, and to replace the personal identification number (PIN code). But this is still a difficult challenge at the moment:

- There is no smart card processor chip able to perform the whole authentication process at the moment in a reasonable time.
- Ergonomics must be carefully studied: the reader must leave a part of the smart card outside in order to use the fingerprint sensor.
- Smart card flexibility may be compromised to an extent due to size of silicon. Strengthening may be needed.

A demonstration to simulate such a use and to study the ergonomics has been built by TCS. A Chip-On-Board FingerChip™ has been connected to the ISO connector of a smart card. A smart card reader is then connected to the regular demonstration kit linked to a PC.

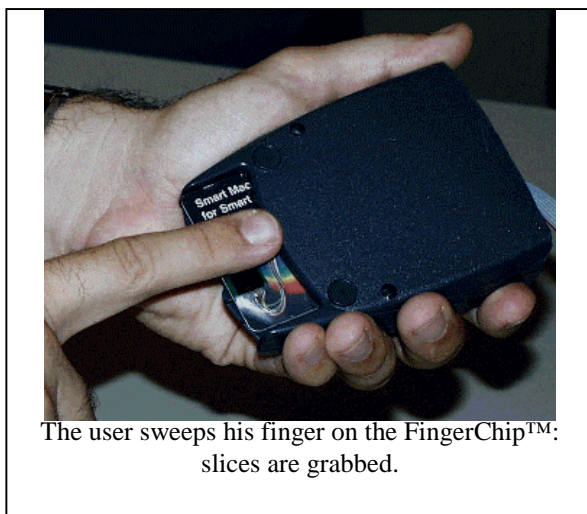
This demonstration shows that the user can possess a smart card with an on-board fingerprint sensor plus his/her template, increasing the security of the system without worrying about remembering a code. At the same time this avoids large fingerprint databases and decreases the infrastructure impact on the reader side.. The user holds his/her identity and the means to verify it.



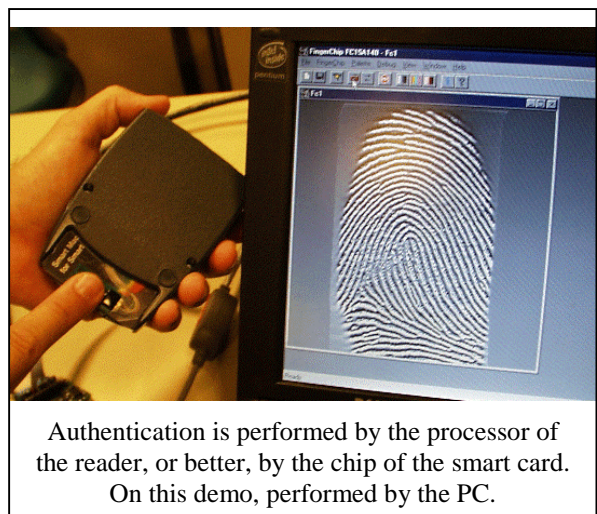
The FingerChip™ is integrated on the smart card, connected to the chip. Here, connected to the smart card connector.



The smart card is inserted in the reader. On this demo, the reader is connected to a PC.



The user sweeps his finger on the FingerChip™: slices are grabbed.



Authentication is performed by the processor of the reader, or better, by the chip of the smart card. On this demo, performed by the PC.

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