TactileSense Development Tools

Ethentica provides both hardware and software tools for the developer and systems integrator.

Hardware

TactileSense T-FPM Fingerprint Sensor, Mechanical and Electrical Design Specifications

Platform Support

Windows 95, Windows 98, Windows NT and Windows 2000 Drivers

Tool Kit

Ethentica offers a software development kit which provides a platform for developing a customized user interface for any TactileSense installation. The software development kit includes an API that supports the Ethentica Fingerprint Module peripheral unit.

The software development kit includes tools for:

- Device initialization
- Raw fingerprint image data acquisition
- Verification/authentication of fingerprints

In addition, TactileSense includes a CD-ROM that contains:

- WhoUtility, which tests the functionality of the Fingerprint Module peripheral
- Application samples which provide HAAPI/BAPI compliant software that demonstrates the enrollment and verification or authentication of fingerprints.

Enrollment

Verification

Competition

TactileSense dominates competitive fingerprint security approaches in a variety of areas. First, TactileSense shows clear advantages over FTIR and silicon assemblies in integration and flexibility. Its slim profile, low power consumption and ability to be integrated into glass and small electronics makes it the most flexible option.

Further, TactileSense is an extremely durable alternative. It is the only sensor technology with a replaceable surface. Silicon, an expensive technology, can be costly to replace, while FTIR assemblies are highly complicated and rely on many components.

In addition, TactileSense is the most reliable fingerprint security approach in terms of accuracy and fault tolerance. Unlike FTIR, TactileSense can read a dry finger and detect a fake finger. And while silicon-based fingerprint devices can be unreliable due to their intolerance of static and contaminants, TactileSense manages static discharge and environmental factors by isolating the finger from the sensing processors.

Finally, TactileSense provides a high level of performance at a low price. Because it has a reduced number of components and low storage requirements, TactileSense is less expensive than either FTIR- or silicon-based fingerprint sensors. Long term, TactileSense provides cost efficiencies that continue through the life cycle of the host product.

	FTIR	Silicon	TactileSense™
Size/Integration Flexibility			
Small/thin profile		√	√
Small device integration		√	√
Glass integration			√
Low power consumption		√	√
Durability			
Wear resistant			√
Cost-effective replacement			√
Reliability			
Reads dry finger		√	√
Detects live finger		√	√
Manages static discharge	√	√	√
Easily cleaned	√		√
Opto-isolates finger from sensor	√		√
Price/Performance			
Component reduction		√	√
Small sw storage requirements		√	√
Long-term cost efficiencies			√

Market Evolution: The TactileSense Vision

Several critical factors must be addressed before fingerprint security becomes a mainstream application. First, current offerings must become smaller, more cost-effective, reliable and flexible. Second, fingerprint security must be a more integrated technology rather than simply offering adjunct or peripheral capabilites.

Ethentica is poised to address these market needs. In fact, TactileSense will evolve as an even smaller and more cost-effective technology. The inherent properties of the TactileSense polymer make it the most flexible fingerprint sensing alternative. The TactileSense polymer can be applied to a variety of materials–such as plastic–making it easy to incorporate into emerging technologies and products.

Further, fingerprint identification software and matching will move closer to the host processing device, making it an integral part in future products and portable security-equipped devices. This will enable users to be authenticated before starting up, logging on, or beginning a secure transaction.

TactileSense is poised to drive this integration of fingerprint security to the processor level, by taking advantage of new technologies such as smart cards and PCMCIA cards. These products are examples of new technologies that will integrate fingerprint security into mainstream applications for a wide variety of functions. The first product solution to incorporate TactileSense is the Ethenticator MS 3000 Touch Verification PC card from Ethentica. The product provides secure system and network access, a secure screen saver, and it also eliminates the need to remember passwords altogether.

Finally, the Internet provides the most immediate opportunity for fingerprint security devices. Ethentica will partner to work with Internet leaders to integrate fingerprint identification as an alternative to PIN/password access. TactileSense uses an open security infrastructure to incorporate the best in user identification and authentication technologies. Ethentica's goal is to grow with the on-line world, today and in the future.

TactileSense T-FPM *(Available August 2000)*

Technical Specifications

Components	1. Fingerprint Imaging Sensor 2. Windows 95/98 and Windows NTdrivers 3. API Developers Tool Kit w/ Sample Applications
Imaging Resolution	400 DPI
Fingerprint Imaging Area	0.76” x 0.56” (approx.)
Module Size	approx. 0.3 inch, 1/6 inch think
Systems Integration	Embedded
Weight	<25g
Recognition Speed	<=0.6 second on a Pentium 133
Touch Surface	Rugged Opaque Polymer, over 1M touches
Data Stream	Raw Fingerprint Images
Power	5mA sleep, 12mA snooze, 54mA ready, 211mA active
Host Platform	Windows 95/98, NT, 2000 and various embedded CPUs
Interface to Host	Parallel, USB, PCMCIA and various proprietary designs