

Intelligent On-line Signature Verification System For the User Authentication Security

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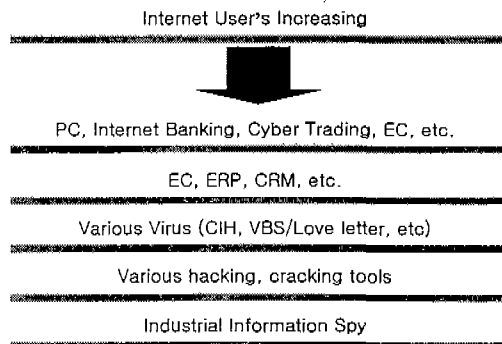
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(2001 CeBIT, 2001 COMDEX Spring)

Concept of Security

- 1) Information Protection
 - Protection for destroy, exchange, reveal of important data
 - Access of only right person
- 2) Computer Security
 - Network, Web Server security,
 - Client PC, Terminal Security

Needs of the Security



Products of the Security

anti-virus	Protection against computer virus
firewall	S/W or H/W for protection against invader
encryption	Encryption for the special information (file, folder, etc.)
VPN	Intranet/extranet with the strengthen security system
PKI	Encryption/decryption solution using public key and private key Digital signature with a certificate of authentication
authentication	User authentication ID, password, Biometric security
IC CARD	User authentication using card including memory chip of semiconductor

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Importance of the Security

More serious problem

- unauthorized inner user
- hacking of ID and password

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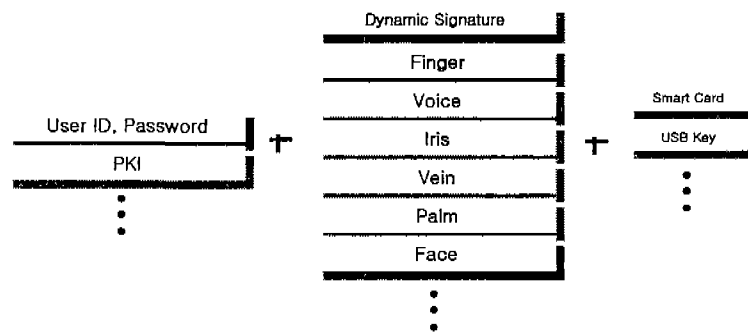
User authentication

*existing methods :

User ID + Password

PKI

*new trend : existing methods + multi modal biometric security + H/W



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Application fields

[Finance]

- ATM
- safe lock
- credit card
- payment

[Computer, Internet]

- electronic commerce
- PC / PDA security
- file / folder security
- network security
- cyber banking / trading

[Company]

- intranet/extranet
- VPN
- workflow
- entrance system

Combine

Smart Card, USB Key, etc.

signature, finger, voice, palm, iris, etc.

ID, Password, PKI, etc

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Various Pen Devices

- * Tablet & Electronic Pen
- * Touch Panel on PC monitor
- * Smart Phone
- * PDA, Handheld PC, WebPAD
- * Tablet PC
- * Touch Screen Notebook PC (or Desktop PC)

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Concept of On-line Signature Verification

- * Real-time verification for the individual writing signature using electronic pen or mouse
- * Feature points of individual signature :
(Dynamic information)
shape, writing speed, pressure, angle, sequence,
number of stroke, pen up, pen down, etc.
- * Decision → True Signature, Forgery Signature

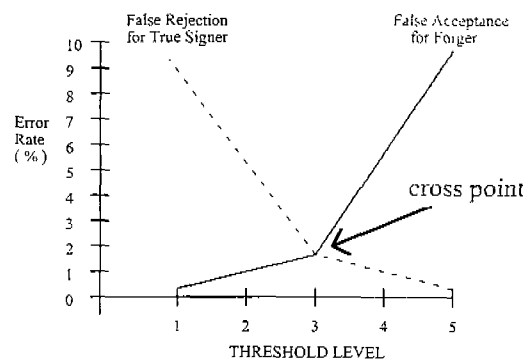
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Core Technologies

- (1) Low error rate
(False Rejection Rate, False Acceptance Rate)
- (2) Convenience to user
(useful user interface)
- (3) Small size of signature database
- (4) Speedy processing time for verification
- (5) Protection against hacking(hacker)
- (6) Flexible system
- (7) Reliable system

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Good System for error rate



Lower cross point → Better signature verification system

교차점이 낮을수록 좋은 서명 검증 시스템이 된다.

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Feature Points for the writing Signatuer

- 1) speed, velocity, pressure information
- 2) shape, vector, angle, skew information
- 3) signature size
- 4) pen down information
- 5) pen up information
- 6) cross points
- 7) total elapsed time
- 8) pen up time for each strokes
- 9) pen down time for each strokes
- 10) number of strokes
- 11) number of points

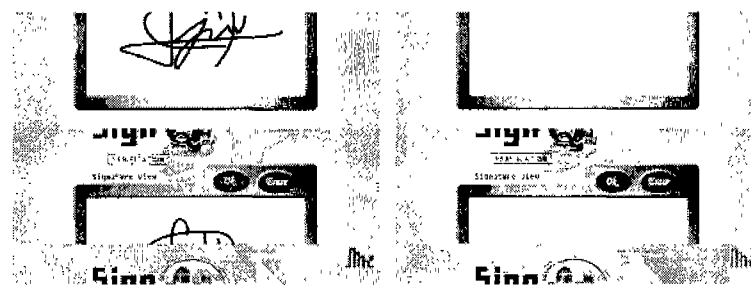
Register window



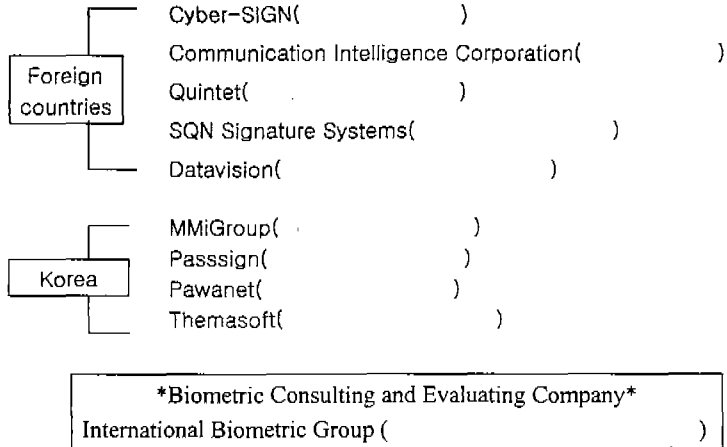
Test window



Verification window



Reference Site



MMiGroup

MMiGroup is trying to be a leading company in the fields of Mobile, Multimedia, Internet. We want to develop various application fields using ultramodern technologies such as voice recognition, TTS, On-line cursive character recognition, On-line signature verification and so on.

And we are trying to build up better user interface environment between users and computers so that we may widely pervade it. As the significance of security has been increasing, we hope to contribute to the safe management and maintenance of tangible and intangible assets of individual, organizations, companies, and nations developing and pervading integrated security solution using the unique information of human organism.

Exhibitions

2000.11.20 - 22	Pusan SOHC Exhibition	South Korea
2000.11.23 - 27	2000 Korea Technology Exhibition	South Korea
2000.11.29 - 30	Seoul Information Security Solution Exhibition	South Korea
2000.12.07 - 12	2000 Korea Patent Technology Exhibition	South Korea
2001.03.22 - 28	Germany CeBIT 2001	Germany
2001.04.04 - 07	COMDEX China	China
2001.04.02 - 05	COMDEX Spring	USA Chicago
2001.04.06 - 08	Security Exhibition	USA Las Vegas

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Business and Service

- * sale of On-line signature verification engine (Sign Q)
- * FileSafe, MMiPen, MMiBoard, MMiSignSaver, MMiVisiBook
(individual sale, bundle sale)
- * multi modal biometric security system
(signature, finger, voice, iris, vein, face, etc.)
- * consulting for IT, Biometric fields

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Products

Product Name	Description	Price
Sign Q	Signature Verification Engine S/W	Negotiation
FileSafe	Application software for the file, folder encryption using Sign Q	\$ 70
MMiSignSaver	Application software for the screen saver using Sign Q	\$ 10
MMiPen	Handwriting character recognition software for Korean, Alphanumeric, Special character	\$ 20
MMiBoard	Electronic white board software	\$ 60
MMiVisiBook	Electronic visitor's book software	\$ 30

(Reference site : <http://www.mmigroup.net>, 'Products' button)