

# Finger Vein Authentication

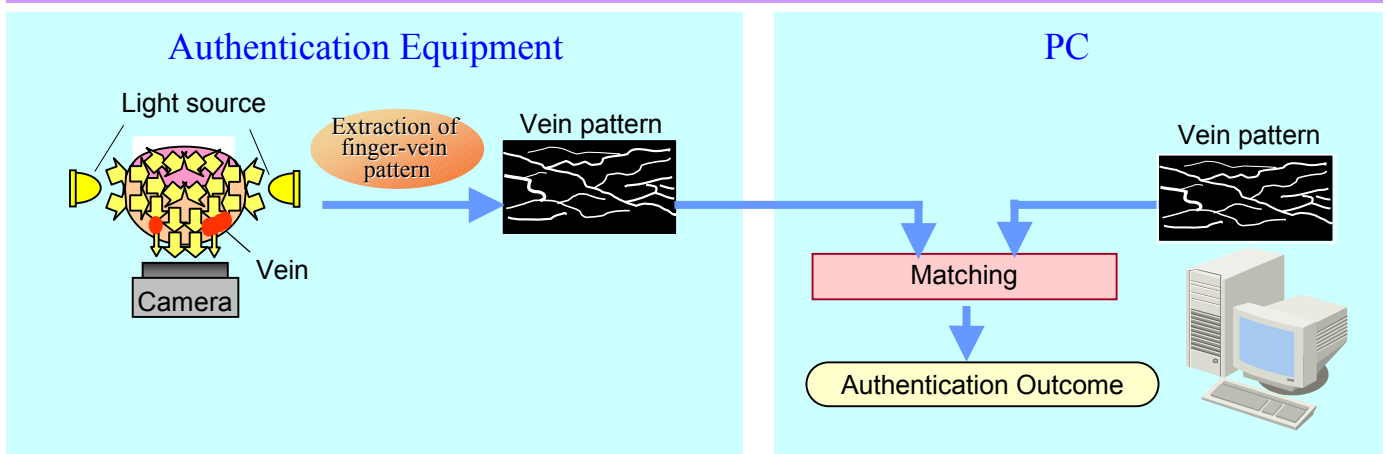
## Technology

Finger vein authentication is a new biometric technique using near-infrared rays to scan the vein patterns inside one's fingers for personal identity verification.

## Advantages

- **Secure:** Extremely difficult to forge or steal
- **Accurate:** FAR 0.0001%, FAR 0.01%, FTER 0%\*
- **Fast:** Authentication time = < 1 second
- **Contactless:** Clean, convenient user experience
- **Small:** Portable / Embedded in portable devices

## Authentication Process



## Biometrics Comparison

Biometrics	Principle	Security	Accuracy	Cost	Authentication Speed	Size of Equipment
Finger vein	Uses finger vein patterns	High	High	Low to Medium	High	Small to Medium
Palm vein	Uses palm vein patterns	Medium to High	Medium	Medium	Medium	Small to Medium
Fingerprint	Uses distinguishing points of a fingerprint	Medium	Medium	Low	Medium	Small
Face	Uses facial contours, location and shape of eyes and nose	Low	Low	Medium	Medium	Large
Iris	Uses the pattern of the radial features of the iris	High	High	High	Medium	Large

\*based on the Evaluation Method for Accuracy of Vein Authentication Systems of Japan Industrial Standard Trade Report (JIS TR) X 0079.

# Finger Vein Authentication Systems

## Hitachi's Finger Vein Authentication Devices



### PC Login "Mouse"

- for login to Windows or user applications, unlocking screensavers etc.
- option to use with smart cards



### PC Login: Embedded

- for login to Windows



### ATM Authentication

- used when withdrawing funds at ATMs
- used with smart cards



### Physical Access

- for home or office use
- option to use in conjunction with smart cards, surveillance cameras and other security means



### Automobile Access

- for home, office, automobile use (prototype)

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