

Company Profile

Name	Universal Robot Inc.
Foundation	Feb 1, 2005
Address	2-45, Aomi, Koutou-ku, Tokyo Japan
R&D Center	3-10-9, Minato, Chuo-ku, Tokyo Japan
CEO	Eizaburo Iwata
Joint Research with University	Keio University Kinki University The University of Tokyo Nagoya Institute of Technology
Vision	<p>The origin of our company name came from Karel Capek's play "Rossum's Universal Robots" in which "Robot" first appeared. Our mission is to explore and develop the core software technology for Robotics. We call this "Software Robotics".</p> <p>We hope to play a key role for realizing robotics that is truly useful for everyone in our society</p>

Microsoft Innovation Award 2008



**Prize Winner,
The Microsoft Innovation Award 2008**

Wrist Vein Authentication System

The Microsoft Innovation Award is to honor an entrepreneurial venture that started a commercial business built on innovative ideas based on Microsoft Technology.

Microsoft technologies we use : Windows Mobile 6.1(CE6,0)

Using only a standard mobile phone camera and standard natural lighting, this unique software solution extracts information on the veins in the wrist from a digital image.

**Award Ceremony at Microsoft Innovation Day 2008
Yasuyuki Higuchi (President & CEO, Microsoft Japan)**





**Vein Authentication Software
for
Cell Phone**

Mobile Phone Vein Authentication

**Vein Authentication is the Bank ATM standard in Japan
only UR has Software Solution for the Cell Phone**

- Use Standard Cell Phone Camera
No Need for IR Sensor/Camera and Light Source
- Easy and Free-hand Operation



- Compact Software Suitable for Embedded Use
(Terminal, Robot, ...)

Proprietary 3D Image Correction Technology

Key to High Usability for Free-hand Operation

Registration



Registered
Vein Image

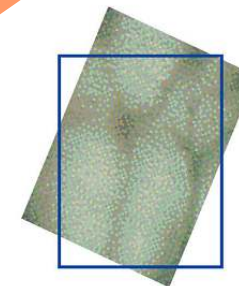
Authentication



Parallel
Translation



Tilt
Twist



Rotation

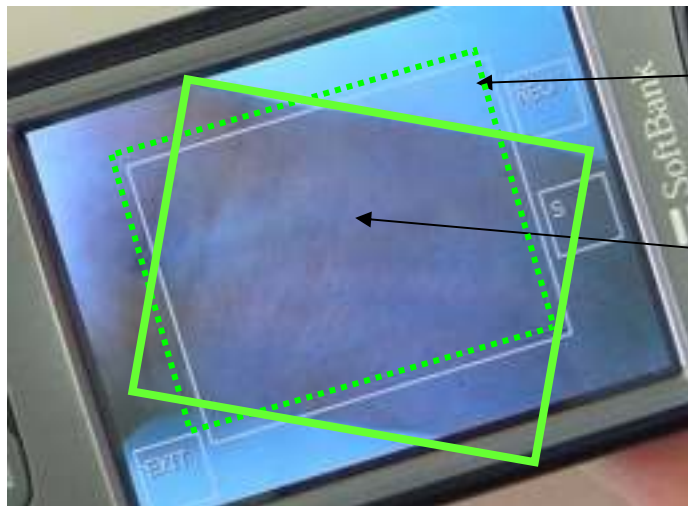


Zoom
Pan

Unique User Interface

Easy Operation

- ➔ **Hand Recognition technology is a big help in trying to capture the registered position.**
- **Capture the registered position accurately**
- **Automatically triggers the camera shutter**



① search the registered position

② trigger Automatically

Small and Fast Authentication Software

Best Fit for Cell Phone Environment

1. Compact Software Size

→ 40KB Core Module

2. Excellent Portability

→ Applicable for multi platforms

CPU: power PC, ARM, XScale, Pentium, etc.

OS : Windows Mobile, Brew, Symbian, Linux etc.

3. Fast Recognition Time

→ 0.3~0.5sec

4. Frame by Frame Recognition

→ Matching Process can be performed at video rates
enabling smooth and natural User Interface

Approaching ATM-Level Accuracy in Mobile

Achieved Higher Accuracy than Cell phone Finger Print
Established Basic Technology to ATM Level Accuracy

	Mobile Phone Face	Mobile Phone Finger Print	Mobile Phone URobot Vein	Bank ATM Vein
FAR False Accept Ratio	1.0%	0.01~ 0.001%	less than 0.001%	0.0001 %
FRR False Reject Ratio	0.2%	0.1~1.0%	less than 0.1%	0.01%