



FingerScan Enrolment User Guide

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FUJITSU Australia Limited

376 Lane Cove Road
North Ryde, NSW 2113, Australia
Tel: +61 2 9887 9222
Fax: +61 2 9878 5150

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STYLE CONVENTIONS

BOLD	External document or heading
Lowercase Bold	Selection option (check box or radio button) or menu option
<i>ITALIC</i>	Internal cross-reference
[xyz]	manually keyed input
<u>UNDERLINE</u>	Note, Caution or Warning or emphasis

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Introduction

This part of the manual is for users who have Enroller status which allows them to enroll users onto the FINGERSCAN system.

Also included in this part is a guide to users who want to verify their identity on FINGERSCAN. This user guide is in poster format and a copy can be displayed close to the FINGERSCAN unit in the users' view.

Enrolment

Enrolment is the process of scanning a finger to create an image which is stored as a template. Each time the user places his or her finger on the scanner the image is compared to the one represented by the template to verify their Identity.

Enrolment is carried out at designated FINGERSCAN units by a user with enrolment authority. The process takes approximately 45 seconds and the resultant template may be stored in various places: in the unit itself, on a personal computer, in a mainframe computer, on a smart card, and so on.

Each user enrolled is allocated a unique ID number which they use to call up their template before scanning their finger. No ID number is required where the template is stored on a smart card, or where the ID number is effectively stored on a PC, access control card, barcode or magnetic stripe.

Up to three fingers can be enrolled against the same ID number to provide users with more than one verification option.

Ideally, one finger on each hand should be enrolled so that if the user injures the finger they usually use for verification an alternate image is available.

Verification

Verification is carried out when a user either enters their ID number, or inserts their smart card (or other access card) in the appropriate sensor, and then immediately places their finger on the sensor platen. Verification takes about .5 of a second.

Verification for individual users can be set at various threshold levels to account for users who may have very fine, worn or damaged fingers. In this event the ease of use can be enhanced by reducing their verification threshold.

The overall system verification threshold can be lowered in situations where little or no security is required, for example, time and attendance applications.

Enrolling Users

Before starting to enroll users they must be allocated a user id number. This number is used to call up their finger image template each time they need to verify their identity.

The number can consist of between 1 to 25 digits. If the template is being stored on a DOS based or Windows 3.1 PC then the filename length (ID) is limited to 8 characters, where the template is being written as an individual file with the id as the filename. However, other systems such as Windows 95 will support longer filenames.

Where the template is stored in an internal database system such as in Fingerlan III, the ID length is limited to 25 digits.

Every user ID must be the same length. Leading zeros can be used to pad the length. A typical numbering system could be the employee number, which will help to relate templates to users in the event that a user forgets their id number.

FINGERSCAN has four authority levels:

- User
- Enroller
- Supervisor
- Manager

Users are people who require their identity verified to gain access. Most users will have this level. Enrollers are authorised to enroll new users onto the system, and create a template which is stored in the database. Supervisors have enroller status and can also perform database management functions. Managers have access to all system facilities.

A manager cannot be deleted from the system except on system reset or by another manager. Managers cannot delete themselves from the system, to ensure that at least one user with manager authority is present in the system.

Before commencing any enrolments, consideration should be given to setting the Display Finger option and the Display ID options to **ON**. Refer to the **Fingerscan Supervisor & Manager User Guide**.

The First FINGERSCAN Enrolment

The first user to be enrolled in FINGERSCAN is automatically assigned Manager authority status. This is usually the person who carries out the system setup procedure after installation.

Enrolling a User

To enrol a user, a person requires the authority of manager, supervisor or enroller. To commence the enrolment process, press the **SYSTEM** key, enter the ID number and then verify.

1. Select **1-ENROL** from the Main Menu.

NOTE: the enrolment procedure can be canceled at any time, except when PLEASE WAIT is displayed by pressing the **CLR** key.

The following message is displayed

1, 2 or 3 FINGERS

2. Press [1], [2] or [3] according to how many fingers are to be enrolled against the same id number. Where system memory permits it is advisable to have at least two fingers enrolled for a long-term user. The display shows

Auth = USER
Accept YES/NO ?

3. Choose **YES** to assign user status. To assign enroller, supervisor, or manager status press **NO** until the required authority is displayed then press **YES**. The display shows

ENROL: PLACE
1st FINGER

4. The user being enrolled should place their finger firmly and squarely on the platen. The message

REMOVE FINGER
PLEASE WAIT

is displayed almost immediately. The user should remove their finger.

The message will be displayed for about 20 seconds while the template is being created.

The system will prompt the user with the following message to place their finger on the platen again and remove their finger until the procedure is complete.

PLACE
SAME FINGER

On completion the display shows

QUALITY = nnnn
GOOD: Accept ?

where nnn is the number indicating the quality of the enrolment, usually between 1000 to 2500. The lower the number the better the quality will be. A score of 1800 or less represents a good enrolment.

If the message is POOR, usually indicated by a score higher than 2050, the enrolment should be repeated.

5. Choose **YES** to accept the enrolment and test it.
6. Choose **NO** not to accept the enrolment. If the reason is a poor response, repeat the process.
7. If you selected more than one finger to be enrolled in step 2 above you will be prompted to enrol the next finger.

To test the enrolment

1. Choose **YES** at the following prompt.

TEST NEW
ENROLMENT Y/N ?

2. Get the user to do a test verification.
3. Press [1] to repeat the verification, this can be done as many times as required.
4. Choose **YES** to confirm the enrolment and store the template in the database. Select **NO** to cancel the enrolment.

Enrolling a User When the Display Finger Option is Turned On

1. Select **1-ENROL** from the Main Menu. The display will show

SELECT FINGER

followed by

Right Index
Accept YES/NO ?

2. Press **YES** if the right index finger was the one enrolled.
3. Press **NO** if it was another finger, and keep pressing **NO** until the correct finger is displayed then press **YES**. The display will prompt for the selected finger to be placed on the platen

ENROL: PLACE
Left Ring

4. Enrol the user, using the finger specified, following the above procedure.

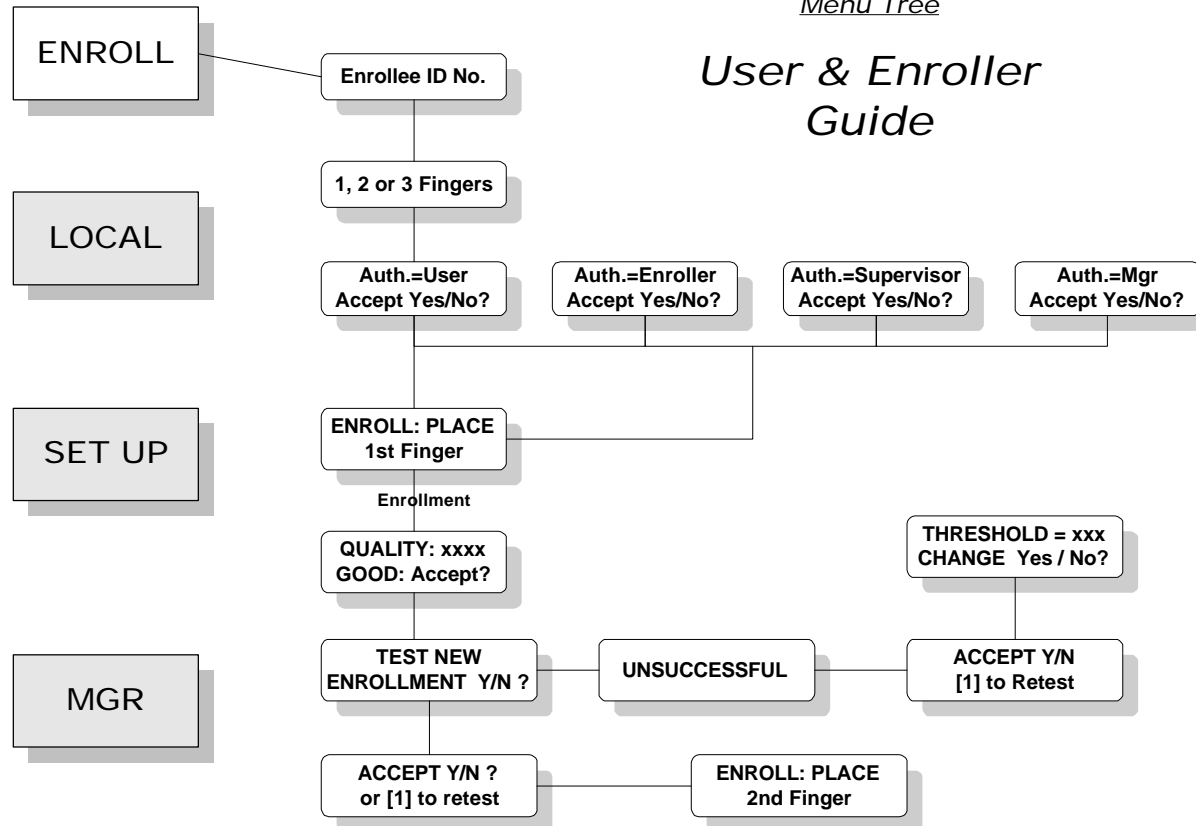
Hints for Successful Enrolments

A good enrolment will cause the user's identity to be quickly verified, while a poor enrolment will result in increased False Rejections and user frustration. To increase the number of good quality enrolments, observe the following recommendations.

The most common causes of unsuccessful or poor quality enrolments

Using a dry or dusty finger	Do not use water to moisten the finger. The recommended method to counteract dry skin is to vigorously rub the finger in the palm of your hand as this <u>adds</u> body oil to the finger. Do not wet the finger with water. Do not wash the hands unless they are extremely dirty as this removes necessary body oil.
Failing to apply enough pressure	When the finger is placed on the platen the user should apply downward, horizontal pressure
Choice of finger	<p>Choose a finger that has well-defined ridges and valleys and is scar and scuff free</p> <p>While index fingers are most frequently chosen, for some people the middle or ring finger is more appropriate as it is less likely to be scarred or damaged</p> <p>If a user has very small fingers choose a thumb</p> <p>If a user is left-handed use a finger on the left hand unless the position of the FINGERSCAN makes this uncomfortable</p> <p>If a user has arthritis and cannot straighten a finger, try to use a thumb, although for most people a thumb is not easy to use</p> <p>If you are also enrolling an alternate finger, choose a finger which is least susceptible to injury or damage, such as a ring finger</p>
Position of finger	<p>Make sure that the user places their finger horizontally down on the platen with a firm, measured, downward pressure and then repeats the same style for verification.</p> <p>Ensure that the <u>maximum</u> finger area is placed on the platen and ensure that the tip of the finger touches the rear section of the optic cover.</p> <p>Do not 'dive bomb' the platen with the finger partially vertical</p> <p>Do not stab quickly at the platen</p> <p>Do not slide the finger along the platen</p>
Familiarity	Often a user will perform their first enrolment in a particular way and will subsequently present their finger for verification in a different way. This may be a gradual change over a week or more of use. It is often good practice to re-enrol users who may be having difficulties after a week or so.
Poor quality enrolments	Despite every effort, every now and then there is someone for whom a good quality enrolment is impossible. In these cases, depending upon the perceived security threat to the organisation, you may wish to consider substantially lowering the user's security threshold.

Menu Tree
**User & Enroller
Guide**



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