BioServe Programm Demo **Version 1.05.02**

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This BioServe Program demo version is configured for the FingerPro USB Fingerprint Reader only.

General
BioServe use an extremely powerful fingerprint search engine for lightning-fast, automatic identification (one-to-many matching - 1:N and one-to-one - (1:1) that runs on 32-bit MS-Windows. BioServe employs state-of-the-art algorithms for enrollment and identification, setting new standards in fingerprint recognition technology. The automatical fingerprint feature selection - also a new mathematical procedure - sorts prints by feature classes, thereby reducing the searching times significantly. Matching speeds between 20 000 – 45 000 prints per second, sometimes even more are obtained as a result.

Still another new approach is triple-enrollment: Features from three different prints of the same finger are combined into one template, resulting in a virtual magnification of the scan area, and therefore an as yet unequalled exactness of recognition with extremely small false rejection rates. Fingers can be placed on the reader with a rotation of up to 180 degrees. Only 32% of the enrolled print area are sufficient for secure recognition. BioServe has been tested with 6200 prints on four different scanner types. Each fingerprint was compared with all others (42,760,000 comparisons). Mean results are summarized in the following table:

Rotation: 0 - 360 Grad
FAR: better than 0.0001%
FRR: better than 0.001%
Enrollment time: 0.16 sec., single
Matching speed: **30 000** FP/sec.

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The BioServe Program is developed with BioCheck Software Developer Kit
The BioCheck Fingerprint Search Engine is available as a Software Development Kit (SDK) with these main functions:
- Fingerprint Features Extraction from a bitmap,
- Fingerprint Triple Enrollment from three prints with generalization,
- Feature Quality Control and Noise Elimination (Enrollment) and
- Fingerprint Recognition (Matching)

For further information, prices and licence agreement about BioCheck SDK please contact:
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System requirements
- CPU 1 GHZ or better.
- 32-Bit Windows 2000/XP/Vista/7
- FingerPro USB Desktop Reader

Installation of BioServe Program
LogIn as an "Administrator" !
1., BioServe Program Version is shipped as a ZIP-file. After unpacking into a directory of your choice, you will find BioServe_winxp_Setup.exe or BioServe_win7_Setup.exe . Start installation with a double click.

2., The BioServe Program Setup installs the
- ODBC database definition file for MS Access to C:\
- fpjet.mdb Database file to C:\
- USB Driver for FingerPro Reader
- BioServe.exe to ..\Programme\BioServe-Demo
- biocheck.ini to ..\Programme\BioServe-Demo
- Related DLL´s
- fingerprint_log.txt at C:\ with Date, Time, User

Start
1., Connect the FingerPro Reader to USB Port
2., Start BioServe.exe with a double click as admin (..\Programme\BioServe-Demo).

Important:

If no fingerprint reader is installed, open the “biocheck.ini” file first with an Text editor and replace „ vsf“ with „non“ in the field „device= “; This will disable the reader present check!

Adding a new user
1., Select "User Management" from the menu. The user management dialog comes up.
2., Select "Add" and enter the user name and whatever additional information you like in the "Enter name" dialog. Click "OK".
3., Select the finger you want to enroll by clicking the appropriate check box (e.g. Left index).
4., Select the button "Start Enrollment from Reader". Sweep your finger three times on the scanner and wait for "Enrollment OK".
5., After successful enrollment confirm with "OK". This will close the user manager and returns to the main window.
If the print quality is insufficient, the enrollment procedure is repeated until either a satisfying result is achieved or you cancel the action with ESC or menu "Cancel reader (ESC)"
6., Alternatively you may enroll fingerprints from TIFF, BMP, JPG-images.
Select "Start Enrollment from TIFF-File" and highlight **three** image files containing fingerprints (if present) for triple enrollment.

Changing and adding fingerprints
To add a template of another finger, select the user name from the drop down field in user manager. Check the appropriate box and proceed from 3. in the above description. Tip: The recognition quality may enhanced by overwriting an already enrolled finger.

Changing and deleting a user
1., Change: Start the user manager. Select a user ID from the drop down field, click "Change" and enter the new name in the "Name" dialog, then confirm with "OK".
2., Delete: Start the user manager. Select a user ID from the drop down field and click "Delete".
In any case, if your changes are correct click "Write changes to database". Otherwise, select "Exit without changes", which cancels all changes you have made in this session.
Remark:.- Together with the inserts for placement of the finger the values for "Average Gradient Level" (Threshold to determine the presence or absence of an image) and "Number of Features" (Threshold for the number of extracted features) are displayed.

Identifikation
1., From the menu "Identification" (one-to-many matching) you come to a finger selection dialog. Here you may specify that the database be searched for a specific finger, or either that all entries should be searched.
2., Check one of the finger controls or click "No selection"
3., Place your finger on the reader to start the search.
4. Alternatively, you may select "Identification from TIFF-File" to search the database with an image file.
It is possible to store fingerprint scans automatically in tiff-files, by setting the following parameter in “biocheck.ini” file :

write_temporary_file=0 ;1-99 = writes a $$temp0xx.tif`s ; Up to 99 fingerprint TIFF images can be written.

Results display
Depending on the results of the database search, such values as "found" or "not found", user name, finger and several other parameters like score level and search times are displayed.

The “BIOCHECK.INI” file
A couple of parameters may be changed by editing the “biocheck.ini” file. Explanations are included as comments in the file. Usually it won't be necessary to change these parameters, but you may do so if you like. **Caution: Changing the reader parameters may deteriorate performance considerably, so be sure to make a copy of the original file.**