MBARK Open Source Release Build Instructions

Multimodal Biometric Application Resource Kit

Public Release Documentation
31 July 2006 Version

This living document describes some of the details about the structure and nature of the MBARK Open Source Release.

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Required Software

To **download** the latest MBARK source tree from the NIST Image Group Open Source Server (NIGOS), you will need a *Perforce* client. Instructions specific on how to obtain and use a *Perforce* client with NIGOS may be found at *http://www.itl.nist.gov/iad/894.03/nigos/nigos.html*.

To **build** MBARK you will need:

Visual Studio 2003, and
SyncFusion Essential Studio (*http://www.syncfusion.com/*).

MBARK makes use of code-generation. While it may not be required to simply build MBARK, changes to certain data may require running:

CodeSmith 3.0 (*http://www.codesmithtools.com*).

At the time this document was written, SyncFusion and CodeSmith provide evaluation versions of their software.

With the exception of the virtual sensor, all example sensor projects require the libraries provided by the various vendors' SDKs. Proprietary device drivers, SDKs, and requisite libraries must be obtained from the original manufacturer.

Manifest

The main MBARK directory is divided into the following subdirectories

FxCop. According to the FxCop homepage (*http://www.gotdotnet.com/team/fxcop/*) *FxCop* is "a code analysis tool that checks .NET managed code assemblies for conformance to the Microsoft .NET Framework Design Guidelines." This directory contains FxCop project files and an accompanying *FxCop* custom dictionary.

Library Builders. This folder contains batch files that generate static .NET interop libraries from various vendors' libraries to reduce the negative effects of the default Visual Studio 2003 behavior of creating dynamic interop DLLs at design time. Everything that is needed to build these static interop libraries is contained in this folder, *with exception of the vendor libraries themselves*. The batch files in this directory need to be built from a *Visual Studio 2003 Command Prompt*.

Security. This folder contains a dummy strong key used to digitally sign the MBARK libraries.

Solution. This folder contains the MBARK source code.

Third-Party Libraries. This folder is the expected destination of non-MBARK libraries. Libraries generated by the batch files in the Library Builders

The Solution subdirectory is further divided into the following subdirectories. The first set of projects are needed for building a basic MBARK demonstration application, which uses "virtual" sensors. Using the *Virtual Sensor Controller* allows for getting a flavor of the capabilities of MBARK without requiring sensors from any particular manufacturer. To build the *Virtual Sensor Controller*, use *Solution/Virtual Sensor Controller.sln* solution.

Infrastructure. A library providing base functionality to all other MBARK assemblies, such as common controls as well as utility functions.

Sensors. A library providing base sensor-related and data-acquisition functionality. The core functionality of MBARK is found in this assembly.

VirtualSensor. Example "virtual" sensors that allow for development and experimentation with MBARK source code while not requiring any particular third-party hardware.

VirtualSensorController. Example application that integrates multiple virtual sensors.

The following projects are not part of any particular solution. They include vendor-specific examples, or are more utility oriented.

BioAPI. Contains a C# wrapper to BioAPI. This project is only a minor modification of H. Kaiser Yang's excellent *C# wrapped Biometric API project* (http://sourceforge.net/projects/boiapi-dt).

Code Generation. CodeSmith templates used to generate code for MBARK.

ConfigurationFileWriter. Automatically generates the XML configuration files needed by the BaseSensorController.

CrossMatch. Example sensor interface for a CrossMatch ID 500, Crossmatch ID 700, or CrossMatch LScan Guardian 10-print scanner.

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CrossMatchVerifier300. Example sensor interface for a CrossMatch Verfier 300 single fingerprint scanner (optical).
LGIris. Example sensor interface to a LG IrisAccess 300 iris camera.
OlympusCamera. Example sensor interface to a wide variety of Olympus digital cameras.
OlympusCameraServer. Standalone remoting server that allows the cameras to be hosted on a remote machine.
SmithsHeimann. Example sensor interface to a Smiths-Heimann LS/2 slap 10-print scanner.
SmithsHeimannACCO1394. Example sensor interface to a Smiths-Heimann ACCO 1394 single fingerprint scanner.
SmithsHeimannSharedLibrary. Contains functionality common to the *SmithsHeimann* and *SmithsHeimannACCO1394* libraries.
StandaloneSensorController. Simple sensor controller application.

More Information

For more information about MBARK, contact *mbark@nist.gov*. However, note that this software is provided *as is* and is not a commercially supported product. All product names and trademarks are owned by their respective companies.

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