



# LogoTrace Demonstrator User's Guide

v1.5 August 1, 2009

## **Product Description**

The LogoTrace Demonstrator from 31Hex gives you the opportunity to test the performance and functionality of the Logo Recognition algorithms prior to licensing. The software and technology are designed to be an engine that is integrated into your application and/or workflow. End-users looking for an application that can recognize logos should contact one of our customers.

The functionality of the LogoTrace Demonstrator is quite simple. In this documentation, we will walk you through opening an image, selecting a template area that contains the logo you wish to recognize, creating a template for your logo, and then running the algorithms to find the logo in an image.

### **1.1 Features of LogoTrace**

LogoTrace is a suite of premier image processing algorithms designed to quickly and accurately find logos found in images. Applications for LogoTrace include the following:

- (a) Replacing the Manual Process of inserting separator sheets with bar codes in document imaging/scanning applications by finding logos or other items that are typically found on the first page of a single or multipage document.
- (b) Quickly indexing scanned documents based on the company logo.
- (c) Cataloguing stored images based on unique features found in the image.

Some of the key features include:

- Create your own templates.
- Select from 1 to any number of logo templates that you have created.
- User specified name for each Logo Template.
- LogoTrace provides you a virtual box with the coordinates of each corner, as well as the virtual center of the logo.
- LogoTrace provides orientation of the logo within the image.
- *NEW in Beta2 Release.* The LogoTrace demonstrator includes an algorithm to update logo templates created with previous versions of LogoTrace such that they are compatible with the new version.

## 2.0 Running the LogoTrace Demonstrator

Follow the instructions to install LogoTrace found in the *LogoTrace Software Quick Start Guide*. LogoTrace Demonstrator will run on your PC for 90 days. Prior to being able to run the demo, you must install the HASP run-time environment.

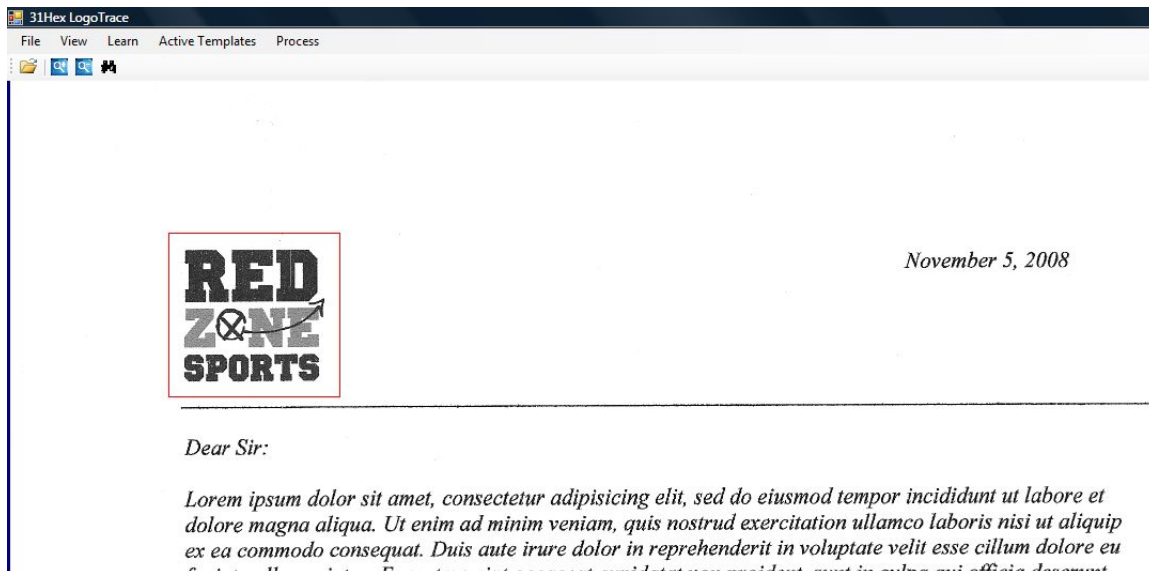
Click on Start/All Programs/31HexLogoDemo/31HexLogoDemo.exe to run the LogoTrace Demonstrator.

## 2.1 Creating a Template

Open an image file with the logo you wish to recognize. The LogoTraceDemo program will automatically convert the file to an 8-bit gray-scale image.

In the LogoTrace Demonstrator

- (a) Select File/Open...
- (b) Browse to and select the file you wish to open and click Open.
- (c) Click on Learn
- (d) Click Select
- (e) Move the mouse pointer to the upper left corner of the logo area you wish to select, and draw a red box around the logo, as in the example image below.



- (f) Click on Learn.
- (g) Click Build. Logo Trace – using its proprietary algorithms – will create a template based on the information you selected.

(h) Enter a name for your Logo, as shown in the image below. This is the information that LogoTrace will pass back to your application.



(i) Click OK. LogoTrace will save 2 files to the “C:\31Hex\logo templates” directory. If this directory does not exist, LogoTrace will automatically create it for you. File 1 is a bitmap representation of your selection and file 2 is an encrypted template.

**RECOMMENDATION #1:** For best results, 31Hex recommends adding some “quiet-zone” around the logo, as shown in the sample.

**RECOMMENDATION #2:** The logo recognition algorithms can handle Scaling of the logo, so it is not necessary to create smaller or larger templates for the Logo.

**RECOMMENDATION #3:** The logo recognition algorithms can handle some rotation, so it is not necessary to create rotated templates of the logo.

## 2.2 Making Templates Active

- (a) On the toolbar, click on Active Templates.
- (b) On the drop-down, click on Select...
- (c) A window will pop-up and display all of the templates that you have created, as in the image below.



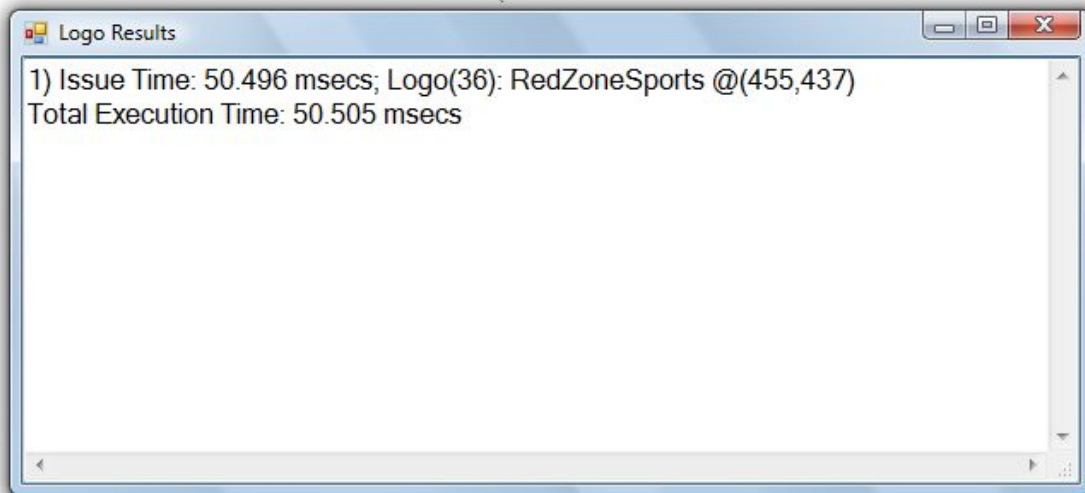
- (d) Double click on the logo you wish to activate and a green-box will appear around your selection. See the figure below.



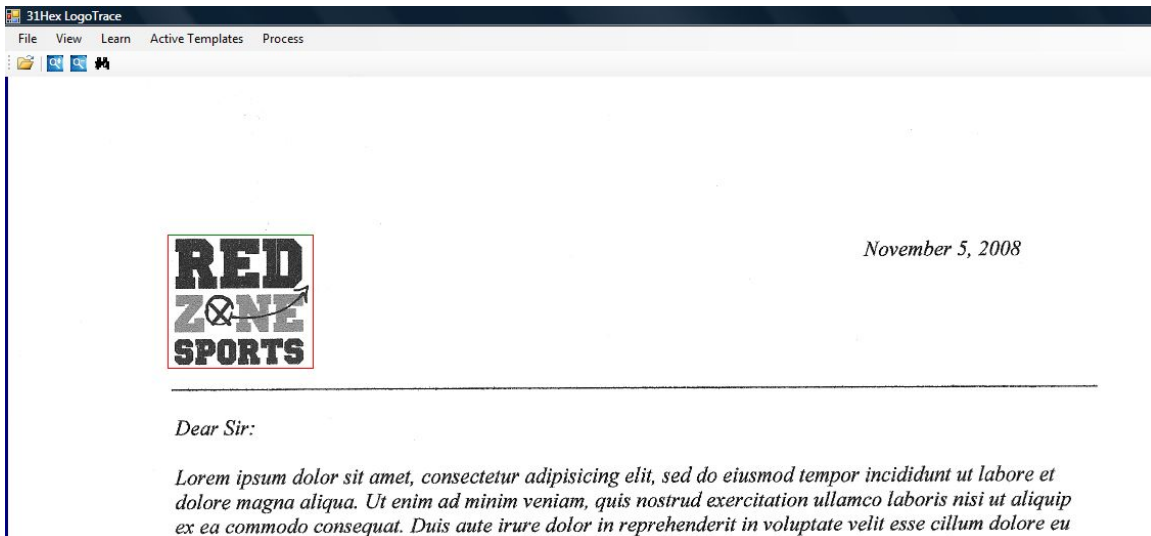
- (e) Click on the "Disk" icon to save your selections. All of the templates you have selected are now active.
- NOTE: There is an upper limit of 64,000 logos that can be selected. However, as more templates are made active, the time to process an image will increase. The LogoTrace algorithms are designed to minimize the potential increase in processing time. Depending on your application, computing power and willingness to test, you will find a sweet spot that works best for you.

## 2.3 Find Your Logo in a Sample Image

- (a) Select File/Open...
- (b) Browse to and select any file that has the logo and click Open.
- (c) On the Toolbar select Process or Click on the Binocular icon.
- (d) LogoTrace will systematically go through the image and find any of the logos that you have active.
- (e) When the processing is complete, a pop-up window will display all of the logos found by listing (i) the name that you specified for the logo; (ii) the time to issue the result; and (iii) the coordinates of the virtual center of the logo. See the image of the Result Window below.



- (f) In the image, the LogoTrace demo draws a box around each logo that was found. The green line indicates the top of the logo. See the image below.



## 2.4 Other Features

**View:** Click on View on the toolbar or use the two icons for zooming in and out on the image.

**Update:** On the menu bar, click on “Active Templates”, there is an option called “Update”. If you click on this option, the LogoTrace demonstrator will run through your Logo Templates located in the “C:\31hex\logo templates” directory and automatically update all of your templates to be compatible with the current version of LogoTrace.

**Template Window:** If you click on “Active Templates” on the toolbar in the Template Window, the following options are available.

Clear All: Clears all active templates.

Set All: Sets all of the templates in the directory.

Save: Sets all of the selected templates as Active.

Cancel: Cancels any changes you made in the Template Window.

## 2.5 Integration of LogoTrace Into Your Application

Please refer to the 31HexAppDemo Documentation for details on the function available in the DLL, a sample application program and other documentation on integrating LogoTrace into your application.