

FDWebTracker

User's guide

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SoftLab-NSK, Ltd.

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1. Introduction

The *FDWebTracker* application is intended for automatic downloading and recording time-varying text from a specified web site to a file. Weather reports, stock-exchange quotations, news published on a site are examples of such text.



Attention! The selected text must be within one line on the web site.

2. FDWebTracker Main Window



Fig. 1. Main window

The application main window (Fig. 1) contains two parts: the group of controls for text search and recording from a specified web site is on the left; the site-browsing window is on the right.


The **Project** group of settings is intended for a new project creation or operations with an existing project. In this application a project is saved as a file with *.webtrackerproj extension.

The **Search Tree** group of settings allows to make fine adjustment of the search (see 3.2).

The **New**, **Open**, **Save**, and **Save As** buttons are designed for, respectively, creating a new project, opening an existing one, saving changes in a project, and for saving a project with a new name.

In the **URL** field the source web site address is specified. Pressing the **Go** button opens the site page in the browsing window.

The string of text, which will be recorded to a *.txt file, is set in the **Output String** field. For example, the string may look like this: **temperature: Current [1]**. The **[1]** unit in the string is replaced with the text selected on the web site.

The full path to the text file, in which the received data (the string from the **Output String** field) is saved, is displayed in the **Output File** field. A text file in the *.txt format is created with the help of a standard dialog which can be opened with the  button on the right of the field. A text file can also

be created beforehand, for example, with the *Notepad* application, and then opened with the same button.

A time interval (in seconds) for web site refresh and search for the refreshed text string on it is specified in the **Refresh Time (sec)** field.

The required text is selected from the web site page with the mouse. After this, the **Get Selected** button or the equivalent command of a local menu in the browsing window generates a search query.

To make operations with the selected text easier it is possible to open the local menu with two options (**Get Selected** and **Copy**) with a right click in the browsing area in the right part of the window (Fig. 1).

Pressing the **Start Process** button starts the generation of the string with the selected text from the web site page. During this process the name of the button changes to **Stop Process** until it is pressed again, and the result is displayed in the **Output String** field and in the **Search Result** field at the bottom of the window.

Setting the **Write Data To File** check box allows to record the web site information to the text file.

3. Search

3.1 Search procedure

Any web page (HTML document) represents a tree structure containing the page description elements (tags). The main (root) element describing the page is the **BODY** element.

A search query consists of tags containing the required text. It is represented briefly in the **Search Tree** window. Each element contains text substrings located on the left and on the right of the required string and the tag length (in characters). A search query also contains the required text size (in characters).

The search begins with finding the tag nearest to the required text. The next step is search for the text items located between the specified left and right substrings in the tag. If the left substring is empty, the application finds the text from the beginning of the tag. If the right substring is empty, it finds the text up to the end of the tag. The application can find several text items if the left or the right substring are found more than once in the tag. These text items are ranked according to the following formula: $Err = 500 * deltaLen * lenW + deltaLeft * leftW + deltaRight * rightW + 1000 * SameLRStringRepeat * UseLRStringsRepeat$, where:

- **deltaLen** is the difference of the obtained and the required strings' lengths,
- **deltaLeft** and **deltaRight** are the differences of the obtained and the required strings' respective shifts,
- **SameLRStringRepeat** equals 1 if left or right located substring of the text found contains the same text. Otherwise this parameter equals 0.

The **lenW**, **leftW**, **rightW** and **UseLRStringsRepeat** parameters specified by the user determine the weight, i.e. the accuracy rating of the corresponding parameters in the search query. For example, it is possible to set the highest search priority to the length of the text (in comparison with the length of the text selected during the project creation). Increase the **lenW** parameter to make the length prior. If it is desired to consider the text location relative to the left or the right edge of the nearest html element, increase the **leftW** or the **rightW** parameter. If the surrounding text contains the same items as the required text, set the **UseLRStringsRepeat** parameter.

The string with the minimum **Err** value is considered to be the required one.

3.2 Fine adjustment of the search

It is possible to edit any **Search Tree** field by selecting it with the mouse. The **Edit** button opens the *Edit Strings* dialog (Fig. 2) where the **Left String** and the **Right String** values can be changed to the new ones. The changed values are displayed in the application main window in the respective fields.

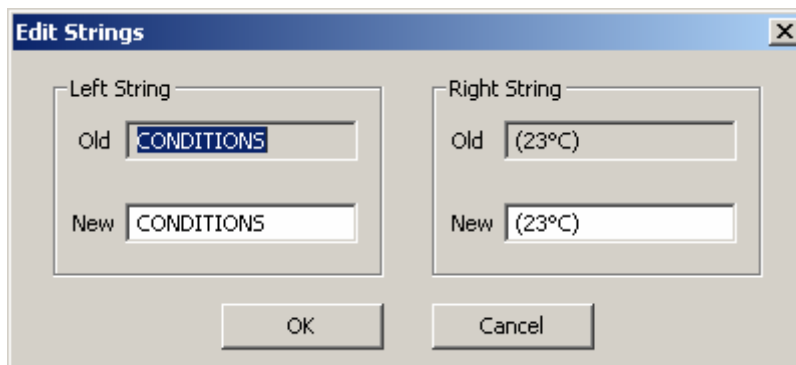


Fig. 2. Edit strings

It is possible to set exact restrictions on the length of the required string by setting the **Minimum Length** and the **Maximum Length** parameters. Strings that have the length less than **Minimum Length** or greater than **Maximum Length** are ignored at searching. The **lenW**, **leftW**, **rightW** and **UseLRStringsRepeat** parameters are set in the *Advanced Search Info* dialog (Fig. 3), which can be opened with the **Advanced** button.

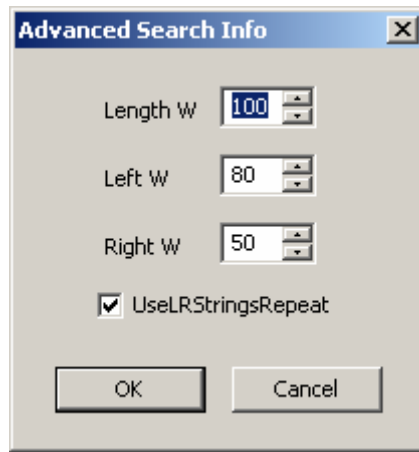



Fig. 3. Advanced search info

4. Usage of the application

This chapter describes an approximate way of the *FDWebTracker* application usage.

1. Create a project to save the text selected from a web site. Pressing the **New** button opens a standard *Open* dialog where the project file name is specified in *.webtrackerproj format. Full path to the project is displayed in the upper field of the **Project** group.
2. Specify the required web site address in the **URL** entry field. Pressing the **Go** button or the **Enter** key on the keyboard opens the site page in the browsing window in the right part of the dialog. When the page load is complete its address is displayed in the main window title next to the name of the application, for example:

FDWebTracker [http://weather.cnn.com/weather/forecast.jsp?locCode=ROC] (see Fig. 1).

3. Create a text file. It can be created beforehand, for example, with the *Notepad* editor, and then it can be opened by pressing the  button on the right of the **Output File** field. Besides, a text file can be created in this application in the *Open* dialog invoked by the same button. In the **Output File** field there is the full path to the file where the text from the web site is saved.
4. Set the text string, which is recorded to the file, in the **Output String** field. For example, a string may look like this: **temperature: Current [1]**. The **[1]** unit is replaced with the text selected on the web site.
5. Specify a time interval (in seconds) for the web site refresh and search for the refreshed text string on it in the **Refresh Time (sec)** field.
6. Select the required text on the web site with the mouse. Press the **Get Selected** button or choose the same option in the browsing window local menu to generate a search query. The query may take quite a long time (up to 10 seconds) for big sites. The result of the search is displayed in the **Search Result** field.



Attention! The selected text should be within one line on the web site.

7. Press the **Start Process** button to start recording the selected text from the web site. During this process the name of the button changes to **Stop Process** until it is pressed again to stop recording.



*It is necessary to set the **Write Data To File** check box to record the text selected on the site to the text file.*

8. It is necessary to save the project or the changes made in it when closing the application window or creating a new project. Use the **Save** and the **Save As** buttons. If there is no web site downloaded, a search query is not created, the **Output String** is empty, or **Output File** is not specified, a warning message will be shown and the **Start Process** button will be disabled.

5. *FDImageUpdateManager* Usage

The *FDImageUpdateManager* application supports text generation based on the *FDWebTracker* projects, i.e. files with the *.webtrackerproj extension. The *FDImageUpdateManager* usage is described in detail in its *User's guide*.

To generate text file basing on a *.webtrackerproj project in the *FDImageUpdateManager* application

- check the **Use text generator** check box in the *Add New Task* dialog (Fig. 4);
- press the **Browse** button to select a *.webtrackerproj file in the **Text Generator** group. The full path to the file is displayed in the field on the left of the button.

The text received from the web site is recorded to a task text file. The full path to the text file is displayed in the **Text File** field.

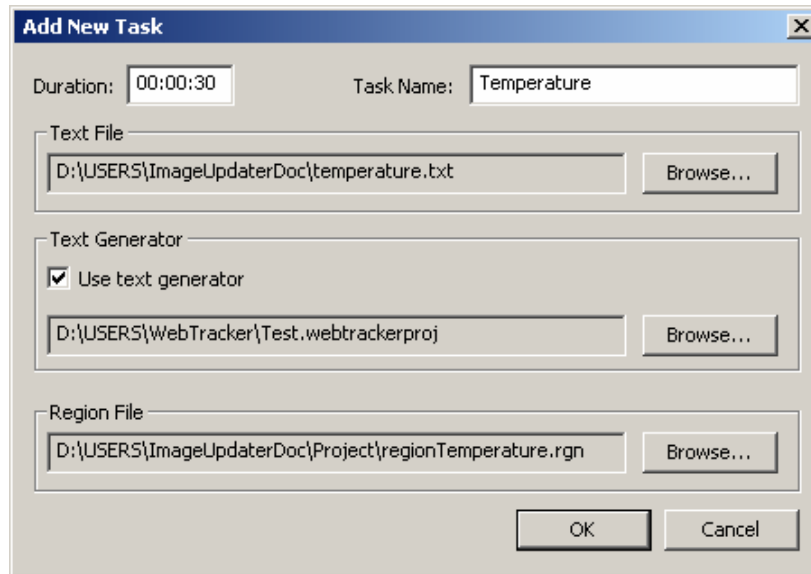


Fig. 4. Adding a new task using text generator

 It is necessary to exit the *FDWebTracker* application when working with the *FDImageUpdater*, because text file generation is performed by the *FDImageUpdater* application itself.