TextAnnotator 1.0 documentation

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1. Introduction

As part of the CVL OCR DB, an annotated image database of text in natural scenes, TextAnnotator is a free software for annotating text in natural scene images and storing them in the CVL OCR DB database [1, 2].

2. Installing and configuring TextAnnotator 1.0

Text Annotator 1.0 runs on the MS Windows platform. It requires no additional installation, just copy the **TextAnnotator.exe** to a particular folder and run the executable.

The main TextAnnotator screen (Figure 1) is divided into three main areas: **menu area** (1), **database navigation area** (2) and **image preview area** (3). Further, the database navigation area is divided into **category tree view** (left) and **data grid** (right). When running TextAnnotator for the first time the CVL OCD DB path is undefined, so the program automatically creates an empty folder *<TextAnnotator_path>\DATA* which serves as a CVL OCR DB root folder. This »empty folder« feature is useful when you want to start a fresh, completely empty version of a

database and ignore the actual CVL OCR DB images. For instance, a researcher may want to annotate some new text images and separate them from the original CVL OCR DB images or maybe even create a completely new database of text images.
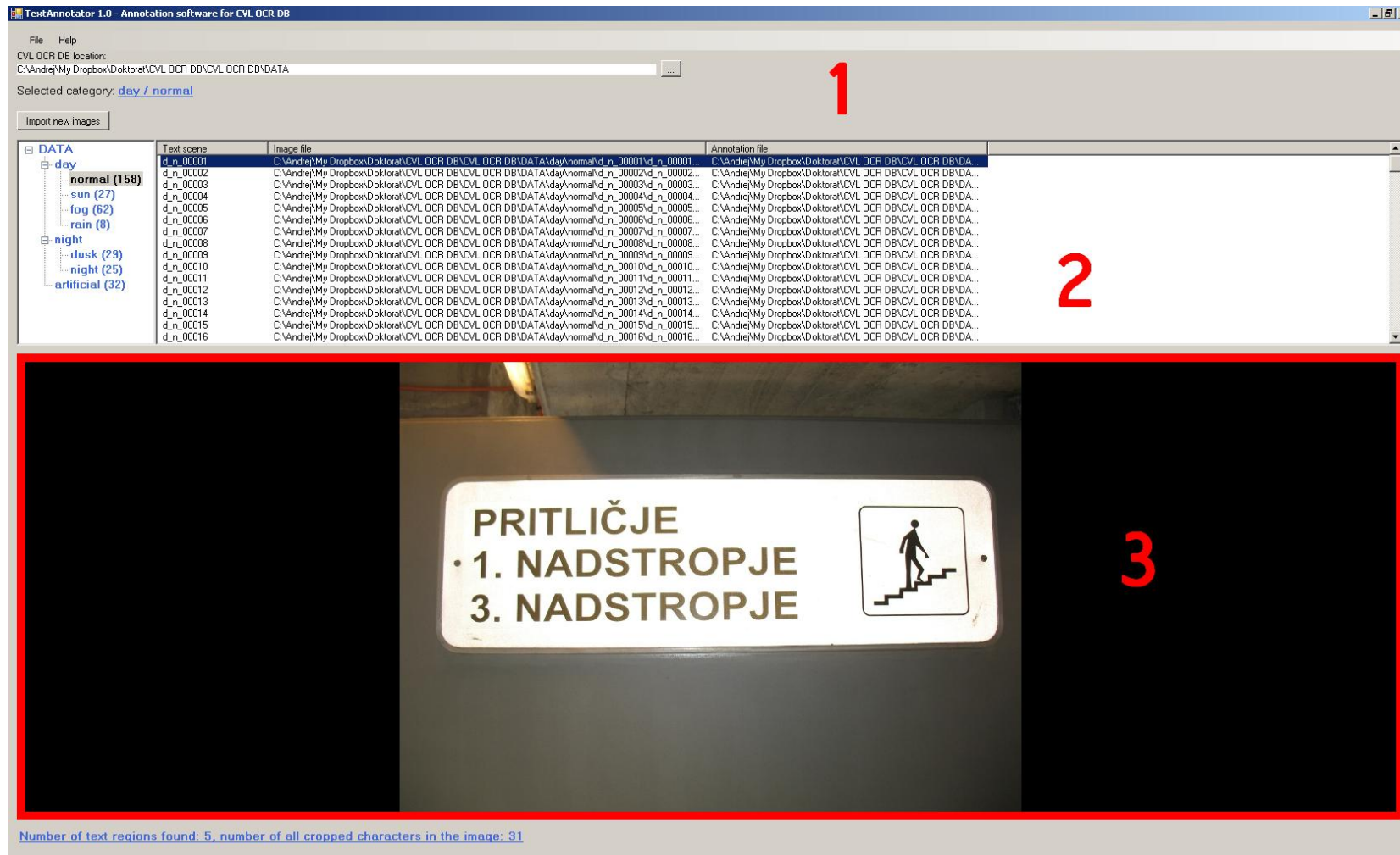

Figure 1: TextAnnotator (main screen)

To specify the actual CVL OCR DB location (the path where the true CVL OCR DB images are stored) first save CVL OCR DB data folder to your computer. Then click the **browse button** right to the **»CVL OCR DB location«** text box in the menu area and select an appropriate folder. You will notice that the category tree view is filled with non-zero numbers, i.e., number of images.

Select a particular category (normal, sun, fog etc.) from the category tree view and navigate between images in a data grid. Image that is currently selected is displayed in the image preview area. If the image is already annotated, it has a red border around it, otherwise no border is present. Below the image preview area image statistics is shown (number of text regions and cropped characters).

3. Image annotation

Annotation regions supported in the TextAnnotator are **n-polygons**, i.e., each text region is bounded by the polygon composed of n points.

To annotate an image first select it in the data grid and click on the image preview area. An annotation window will be displayed (Figure 2). If the image is already annotated you will notice red polygons and some entries in the **»List of the annotated regions«** box. Otherwise there will be no annotation areas visible.

To define a new text region a bounding n-polygon has to be drawn. Simply click on the first point and drag the mouse to the next and click it. Repeat this process until all the points are selected. When you selected all the points press <Enter>.

After selecting a n-polygon the cropped text region is displayed in the new window (Figure 3a). To annotate single characters within the cropped text region simply draw the n-polygon and press <Enter> (Figure 3b). The cropped character is displayed (Figure 3c) on the right side of the cropped text region. Enter the corresponding character in the text box below it (for instance 'C' in figure 3c) and press »Enter«. Repeat this process until all the characters are cropped. When you are done close the cropped text region window.
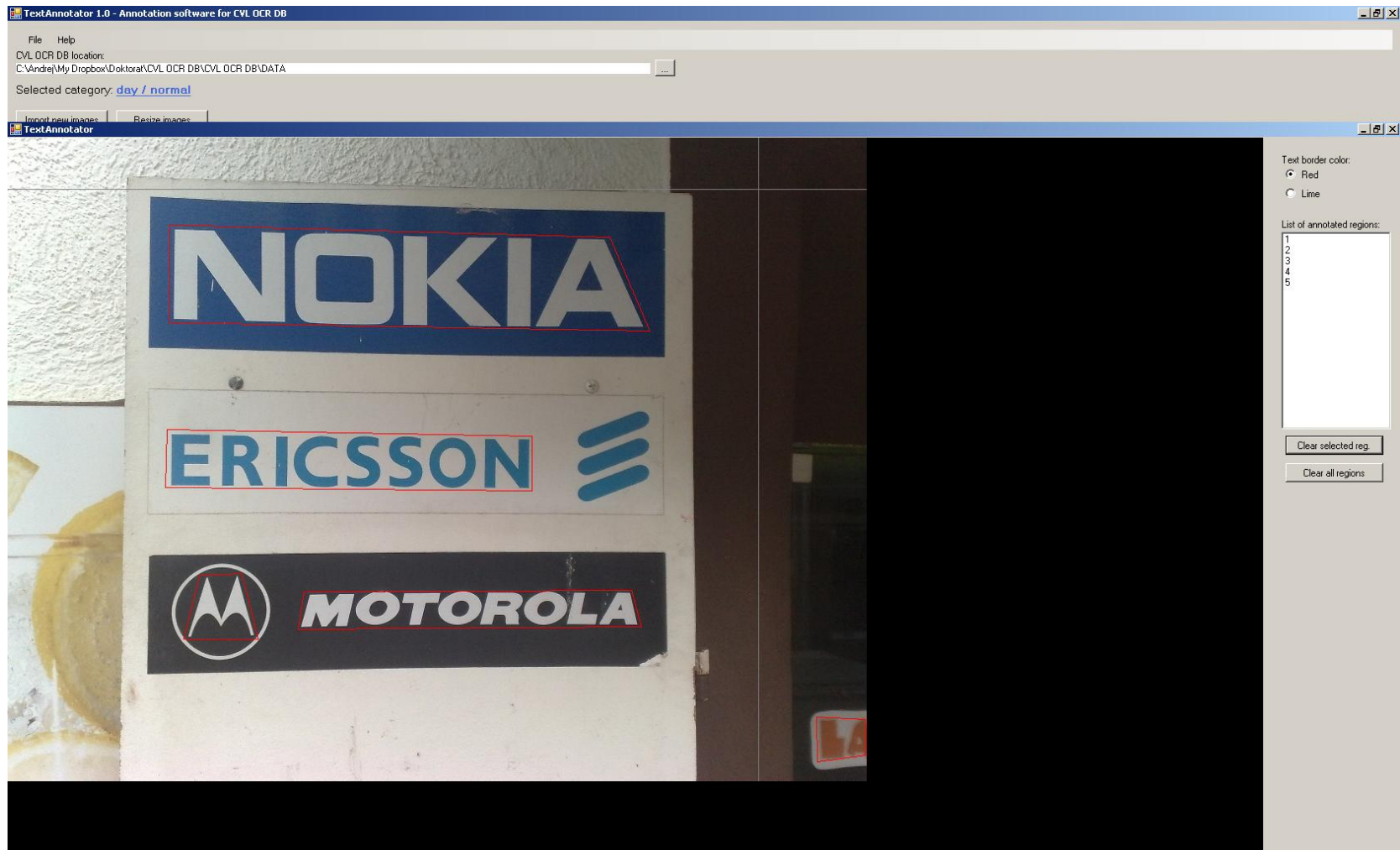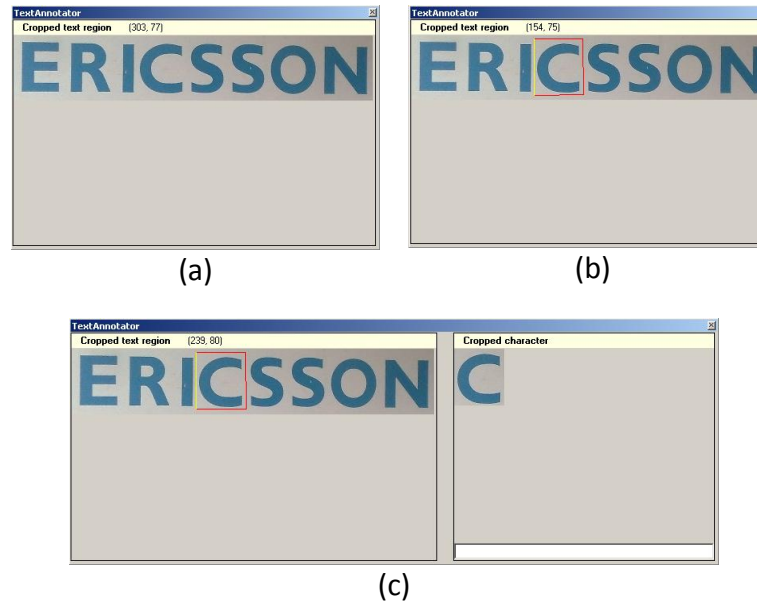
Figure 2: Annotation window

Figure 3: (a) Cropped text region, (b) selected character and (c) cropped character

4. Deleting annotated regions

In annotation mode (Figure 2) it is also possible to delete annotated regions. First select the region from the »List of the annotated regions« box - the region is displayed with thicker border (Figure 4) - and click **»Clear selected region«** button. The annotated region is deleted. To delete all the regions in the image press the **»Clear all regions«** button.
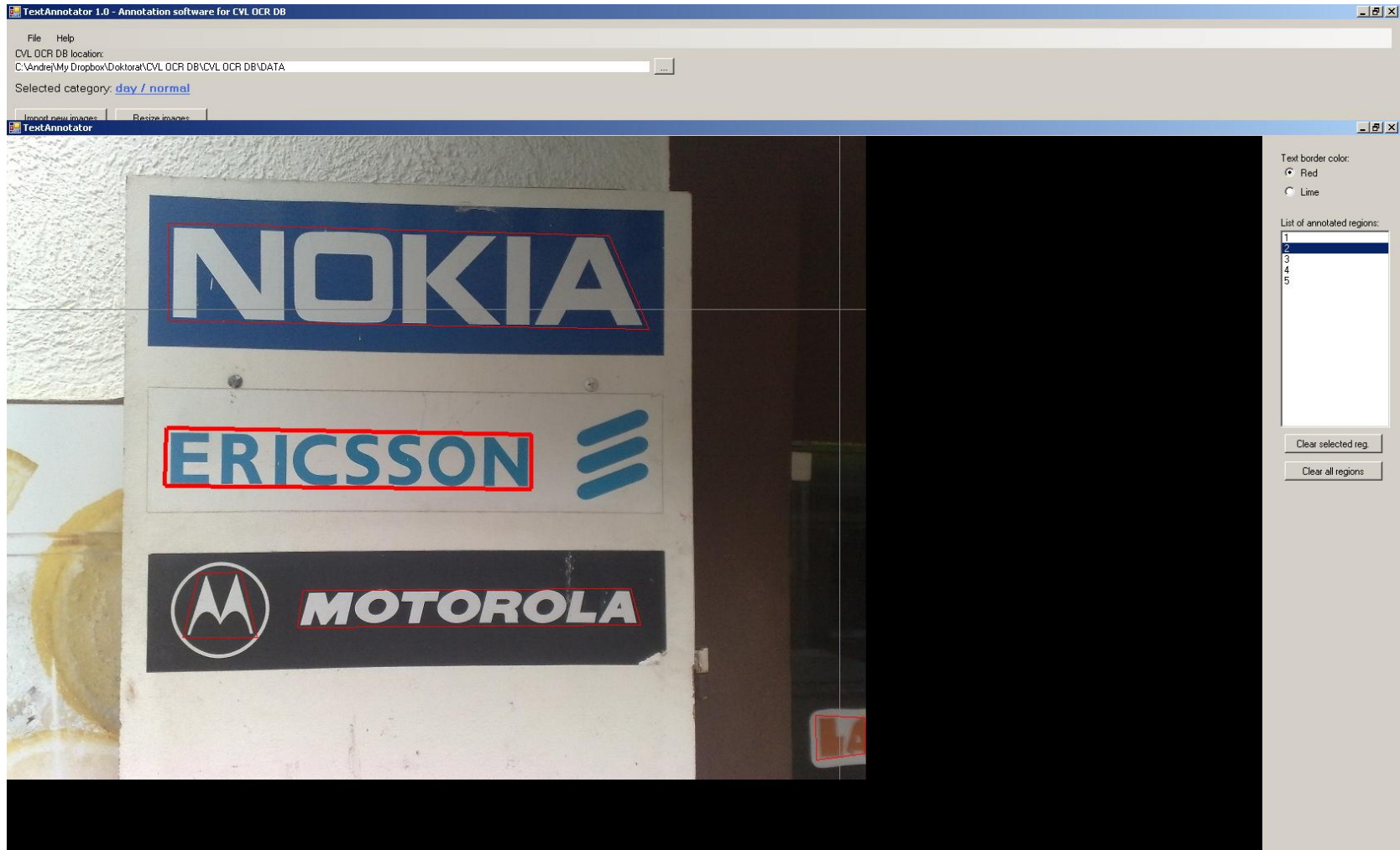
Figure 4: The selected text region has thicker border

5. Importing new images

To import new images to the CVL OCR DB database choose a corresponding category from the category tree view, click the **»Import new images«** button in the menu area (Figure 1) and select the images you want to import. The imported images are annotated in the same fashion as described in Section 3.

References

[1] A.Ikica, P. Peer, "CVL OCR DB, an annotated image database of text in natural scenes, and its usability", Informacije MIDEM, vol.41, no.2, pp.150-154, 2011

[2] http://lrv.fri.uni-lj.si/andreji/CVLOCRDB/