

PROFI

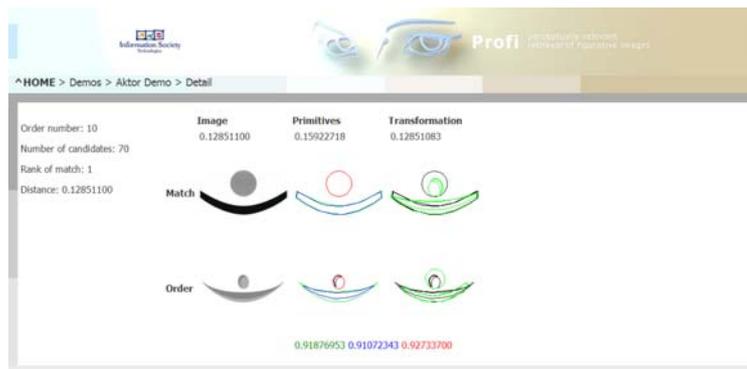


Project number:	FP6-511572
Project acronym:	PROFI
Title:	Perceptually-Relevant Retrieval of Figurative Images

Deliverable No: D9.3: Web-based demonstrator
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Short description:

This report describes the functionality of the public PROFi demo system.



Due month:	M38
Delivery month:	M38
Partners owning:	All
Partners contributed:	All
Classification:	PU



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1. Results Obtained

1.1. Objectives

In order to promote the results of the Profi project, we will build a web demonstrator of the prototype. It will show the effectiveness of the techniques that have been developed in this project. There will be public demo (with data sets suitable for online publishing) as well as a private demo (with data sets with restricted rights).

1.2. Results

The web demonstrator is launched at <http://www.cs.uu.nl/profi>

This section describes the functionality and design issues of the web demonstrator.

Design

Regarding the design of the web demo, there were a set of requirements to be met.

- To retain the original concept idea of the Profi logo, the peeking eyes.
- Visual clarity and coherence, not detracting attention from the demos and results themselves.
- Clear and simple site navigation
- To maintain the display of the Profi logo, name and hyperlink to Information Society Technologies.

With the original logo as footprint, the result consists of two base concepts. The first styling consists of a three dimensional version of the peeking eyes logo, as if it were a sculpted form within an art gallery, placed in a similar space. The inherent consequence is a rather descriptive environment to frame the logo in. Tests with lighting, shadowing and color toning resulted in tricky balancing acts: problems arose to make the outer borders fit seamlessly to the rest of the website framing. Lighting and shadowing appropriate to the Profi logo in 3D, conflicted with integration to the rest of the website framing. Therefore, the decision was made to abandon this concept, for a more simplified concept.

The Profi logo was now to be flattened some more, with a central placement in front of a flat background with a soft color gradient. This solidified the basis for the Profi website header image: the Profi logo itself in a shiny and clear blue color. The background image features gradient colors from baby blue at the left, via white in the middle to a soft earth color at the right.



Figure 1. Header image with navigation menu containing the new logo

Furthermore, site navigation was to remain clear, simple and easy. Having to display already, a huge image database in the framed demos, it was crucial to keep image files in the website layout to a bare minimum. Otherwise, the website might load unnecessarily slow due to all those images in the layout. Therefore, we have decided to only have the header image based. See Figure 1 for a screenshot of the header image.

The rest of the layout was to be made using color codes: we decided upon a 'blocked out' version of the gradients in the header. Thus we made the main menu bar with blocks of colors from left to right, similar to the colors in the header; a blocky color gradient on the horizontal plane. For the main demo window we used the same principle; but now a blocky gradient on the vertical plane instead. To not detract from the demo itself we used a gray tone gradient for the main demo window instead of a color gradient. We used mid tone gray to light gray because the images from the data base can range from hard edged black - white contrasts to low contrast gray shapes.

Below the main menu bar navigation we have placed an info button and buttons for the other query order numbers. Directly underneath these buttons, we placed a text instruction with a drop down menu to choose between 'complete complete' and 'complete partial'; all against the light gray background of the main window.

The Profi logo remains central in the header image at all times with the hyperlink button to Information Society Technologies at the left.

The Tahoma font was used because it is a clear, modern and compact font which fits the emphasis on the main image window frame. See Figure 2 for a screenshot of the demonstrator displaying a set of returned items for a particular query.

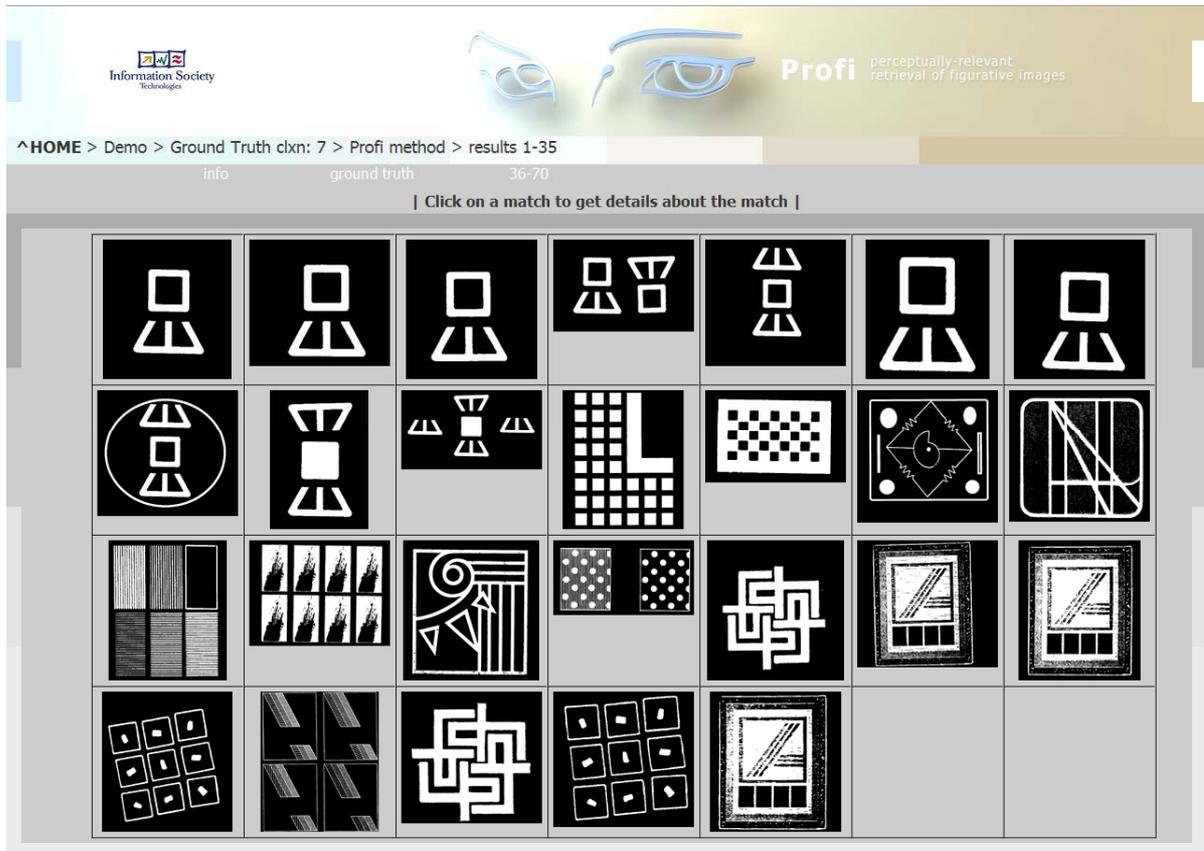


Figure 2. The web demonstrator displaying query results

Functionality

The public web demonstrator allows querying in the following data sets:

1. The complete UK PTO data set that contains over 10,000 trademark images. For these queries, vantage indexing is used.
2. The ground truth data set. This set is a small subset of the full UK PTO set, for which a ground truth sets are available. A ground truth set for a query image is the set of images that a panel of human experts consider similar to the query image.
3. The layout data set. This set is a subset of the full UK PTO set, for which layout features are considered to be important.
4. Hieroglyphics. Additional data set to illustrate the different search features. This uses the vantage indexing as well as the polyline matching.
5. The MPEG7 Core Experiment image collection. This forwards to the SIDESTEP system.

For querying in the first two data sets, various methods can be chosen for the matching: our Profi probabilistic method, as well as several others for comparison. The Profi probabilistic matcher can be chosen in three way:

- Partial-partial matching.
- Partial-complete matching.
- Complete-complete matching.

Furthermore, the user can click on each returned item when the results are displayed. The demonstrator then presents a screen containing details on the match between the query image and the returned item, as can be seen in Figure 3. Besides some information on the query (Order number, number of candidates etc.), it shows distances between query and returned item, calculated with both transformation based matching and primitives based matching. Furthermore, it shows by means of overlay how exactly the query was transformed before matching.

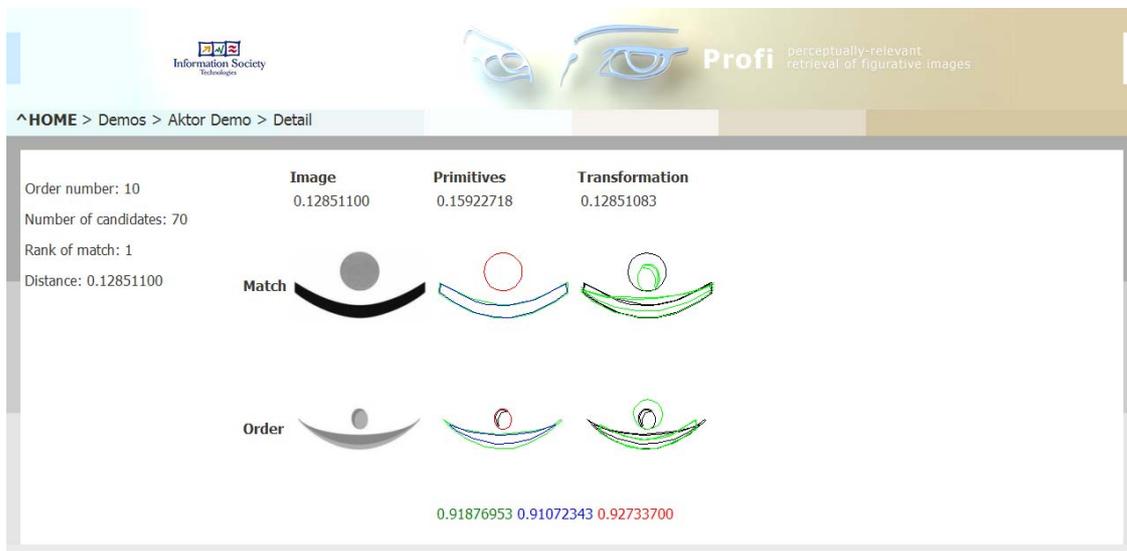


Figure 3. Displaying result of the matching between query and returned item.

While querying the third data set, the user has the added possibility of inspecting the ground truth for each query. The system presents the user a screen with the complete ground truth, together with the rank of each ground truth item in the search result. See Figure 4 for an example.

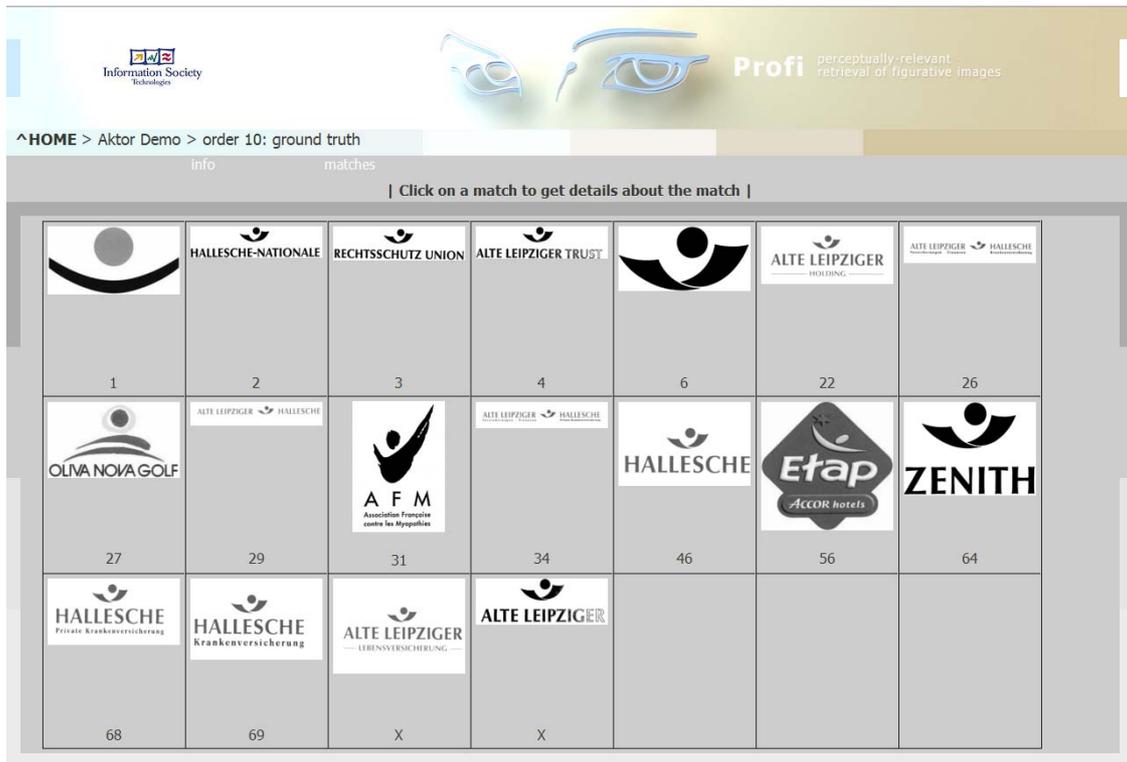


Figure 4. Displaying the ground truth for a specific query, together with the ranking of each ground truth item in the search result.

1.3. References

Public demonstrator: <http://www.cs.uu.nl/profi>

2. Deviations from plan

There have been no deviations from plan.