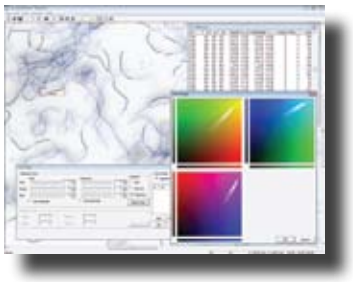
Fibres

Your fiber detector
and identificator

Software Fibres v3.0 is designed for the automatic fibre detection in scanned color pictures (patterns) in the forensic science laboratory. No special device is needed, solution is using USB scanner. **Advanced color filter** and special view modes provide an easy tool for fibre sorting, comparing and matching according to their color. All information about detected fibres could be **saved for future use** and searched for fibres that pass the selected color filter.

User Interface



Fibres v3.0 is running on the **Windows based systems** so the main benefit is in the ease to use environment with lot of standard features (e.g. loading and printing pictures, zoom-in and zoom-out of the picture, transparent dialogs for various actions and setups (like color selection, algorithm parameters specifications and more)).

Image Analysis

Image analysis of the picture is divided into the two steps:

- first, it is necessary to erase the background of the picture so just the relevant information for the analysis remains on the picture,
- second is the fibre detection, where fibres are detected in the picture.

Background Erasure

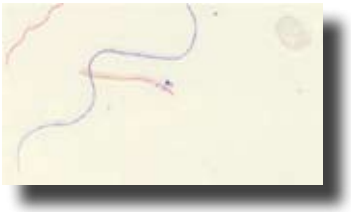
Application offers the automatic erasure of the background, so the user just clicks the button and a special algorithm does it for him.

Fibre Detection

Sophisticated algorithms are used for fibre detection in the image. After this stage of the analysis, user can see the list of detected fibres with their average color and position in the image. The black mask is drawn over the each detected fibre as well (depends on the view mode).

FIBRES

View Modes



View modes allow the user to see just **the relevant fibres** on the picture.

There are three types of the image view modes in the application:

1. original image - user sees the original image,
2. skeletons of the detected fibres - user sees just skeletons of the detected fibres (with their average color),
3. schematic mode - user sees just crosses representing each fibre.

There are three types of the skeleton image view mode:

1. all fibres - user sees all detected fibres,
2. selected fibres - user sees just selected fibres (fibres that pass the color filter),
3. none - user doesn't see any detected fibre.

There are three types of the mask view mode:

1. all fibres - fibre masks are drawn over the all detected fibres,
2. selected fibres - fibre masks are drawn just over the selected fibres,
3. none - fibre masks are not drawn.

Color Filter

Color filter is the set of the color intervals, where each color interval has a flag + or - respectively, that specify weather fibres with color inside this interval pass the filter or not. Special dialogs allow the easy setting of the color filter.

There are two modes of selecting color intervals - absolute and relative:

- absolute – allows user to select the concrete color intervals,
- relative – allows user to select the relative colors from the **Maxwell color triangle.**

Database

All information about detected fibres could be saved to a special file. Each file could be reloaded anytime for the future use.

Files together **create a database**, which could be searched for fibres that pass the selected color filter. Searching is the strong feature, which makes the finding of relevant fibres from the former analysis very easy.

Printing

Printing is another strong feature of the Fibres v3.0. Besides the printing of the list of detected fibres (with precise position and average color of the each fibre), **fibre map** (with the real size of the pattern) could be printed as well. Selected fibres are printed thicker, so the user can easy match selected fibres with real ones in the pattern.

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