powered by

COMMON VISION
BLOX
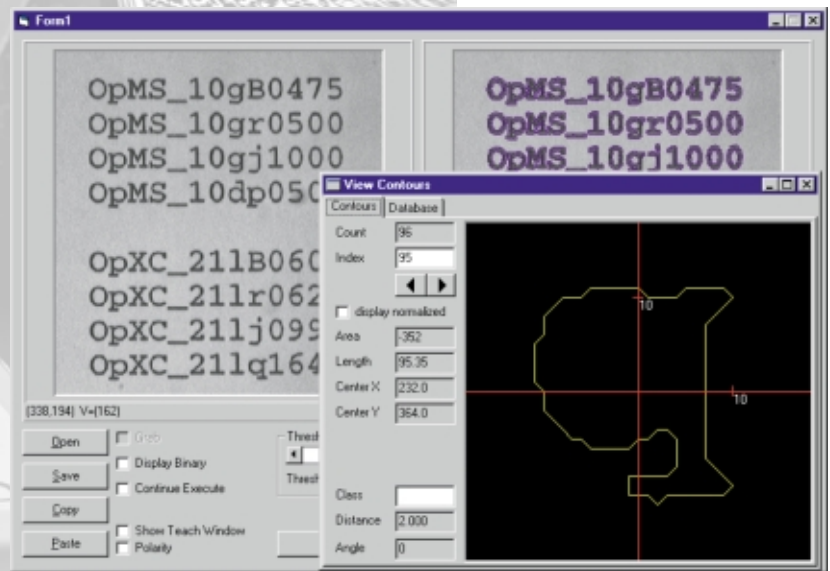
**Software tool
for contour recognition**

STEMMER®
I M A G I N G

▶ Contour

The software tool Contour provides users with an easy way of identifying the outlines of objects of any type. To do this, the system is presented with a contour which it subsequently recognizes in the image. The image information is first converted into a binary image in which the contour is then searched for. A contour is defined as a number of dots on the contour line in question which are stored in a database. Contour is also able to search for objects independently of their size or rotational position.

▶ How is a contour traced ?

Step 1: First of all, a pixel transition from white to black is searched for in the search window: w0/b0.

Step 2: Then the pixels around pixel w0 are traced in a clockwise direction starting from the last known black pixel (here: b0), and a transition from black to white is searched for. In our example the algorithm finds pixel w1 which acts as the starting point for the next step.

Step 3: Again a white pixel is searched for in clockwise direction around w1, starting from the last known black pixel (i.e. b1 now). In our example w2 is the third point of the detected contour.

Other steps: The Contour tool records all contour points according to this algorithm. Unwanted contours can be filtered out based on the contour length or the area enclosed by the contour. The remaining contours are normalized in respect of their length and compared with the contours that are stored in a database.
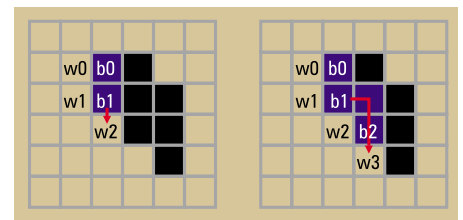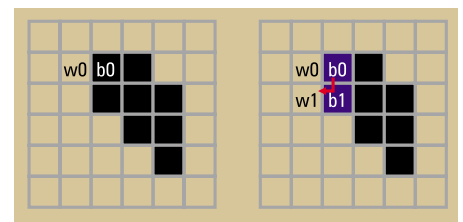

Some potential fields of use:
- Recognition of plain writing
- Detection of the outline of components
- Sorting of various components
- Detection of contour lines of components, e.g. milled areas

Contour supports functions like:
- Sorting of contours that are found
- Output of the contour length
- Taking rotation into account
- Database of various contours
- Position/contrast of the individual contour points
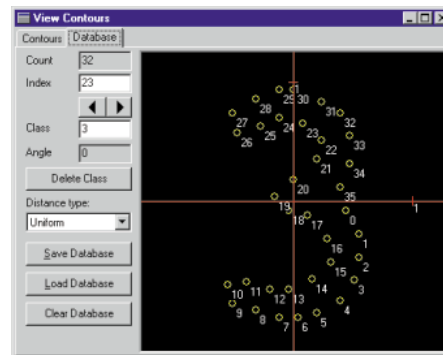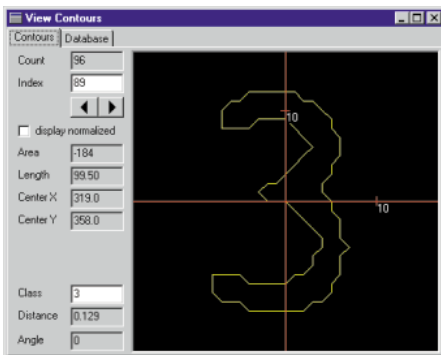
Of course, it is also possible to access each separate contour dot individually and query both its position and contrast.