Technical developments





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The Framework Software

General purpose framework software to handle common tasks in video inspection scenarios.

Main features:

- ✓ Measuring module as a plug-in library (dll)
- I/O control module as a plug-in library (dll)
- ✓ Multiple processing lines
- Multiple video sources
- Configuration profiles for the measuring module
- User management
- ✓ Configurable hardware/software triggers
- Configurable output actions
- Detailed data logging

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Example module: Screw Counter



Operator GUI

- ✓ Visible to all users in batch mode.
- ✓ Input images.
- Segmented images (detected screws with white).

Note the different lighting conditions – the segmentation algorithm can handle the variation as long as some basic criteria are satisfied.

Microcontroller emulator

- The developed emulator is designed for the Atmel 89x series. Its main componenst:
- editor,
- compiler,
- error locator,
- simulator.



The application of the emulator reduces development time and cost.

Interface card for peripherial devices

The interface card connects to the serial port of the PC and is able to communicate with different controlling hardware.

It has 8 output and 8 input channels.



Quality measurements methods







Object shape recognition

Color based recognition

Checking of perforation



Laser surface-scanning

- Object surface may have quality defects.
- 2D cameras are unable to monitor several kinds of 3D surface errors, shape deformations, scratches.
- Laser scanning can give 3D information about scratches or shape defects.



Laser scanning with lines





Reconstructed 2D MatrixCode pattern

3D model

Laser surface-scanning

Overview



Animation

