PROTOTYPING TOOL FOR INSPECTION AND FAILURE DETECTION IN REFLECTIVE SURFACES

DATOS DE CONTACTO:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

RESUMEN

A Spanish research group has developed a prototyping tool for reflective surfaces inspection systems. The tool must simulate all the inspection process phases. Therefore, it must give realistic images from particular surroundings, motif and calibration conditions. Once simulated it must extract several conclusions about the perception scale of the objects, angles, illumination conditions, etc. The group looks for partners to adapt the technology to their specific industry needs.

VENTAJAS Y ASPECTOS INNOVADORES

MAIN ADVANTAGES

When the surfaces show predominance of the specular reflection and not of the diffuse, as occurs with metal-faced products, enamelled, plastic-coated, etc. the discrimination between reflexes and defects is complex even for experts. In general, the inspection done in companies is not very safe due to the variable capacity and experience of the workers, as well as the weariness and the monotony of the work. The automatic inspection vision systems allow a supervision of the products that does not need human assistance and therefore improve the chain value of the companies. These systems improve the productivity and the quality management and give also a competitive advantage to the industries that use this technology. When the inspection is on specular surfaces is even more interesting the automatization.

In particular, the system has the following advantages:

- An important reduction of time cost when analyzing the system and on its development in the assembly line.

- Reduction of economical costs of technological material thanks to the reduction of very expensive physic prototypes needs.

- It allows keeping the knowledge bases about inspection systems (its technology, its processing modules and in general, the designed architecture that can be used to do similar systems).

- It allows reducing defects derived from the analysis phase of the system, design and implementation of real inspection systems and that can be detected at the beginning, before expending too much. Once finished the virtual prototype of the inspection system, the conclusions can be used directly for its physic manufacture or to present feasibility studies.

INNOVATIVE ASPECTS

Even when the prototyping tool is not new in the field of tools to do prototypes, it is new as regards visual inspection systems for specular surfaces. This tool presents a novelty because it allows facilitating the design of inspection systems for specular surfaces: feasibility studies or design of the system. In the tool, the proposed model presents novelties about the way of inspection through the use of a general sketch that can be applied in any area without using heuristics as kind, shape, size, defects, etc. It uses knowledge bases for all the process parts.

APLICACIONES DE LA OFERTA

The interest is in the development and implantation of quality control systems for industries with problems in the inspection of reflective surfaces.

COLABORACIÓN BUSCADA

- Type of partner sought: the group looks for companies or entities interested in adapting the technology to their specific applications.

- Specific area of activity of the partner: companies or entities related to navigation systems or to tourist or guidance activities.

- Task to be performed: the companies that are interested in this particular area of activity should be willing to adapt the technology to their specific needs as well as to finish the parts of the technology that need a further development.