TRENDS for research

TRENDS mixes metholodogy and technology

The TRENDS system is the output of a collaboration between research and industrial partners. It relies on an extended knowledge of industrial design, and as such requires a thorough study of the designer's cognitive process.

This process, along with the inspirational material used by the designers, had to be structured and translated into an information retrieval system. For that, the TRENDS project established a link between design experts, engineering experts, cognition experts and technological experts (Cf the description of the TRENDS team)

TRENDS follows an end-user oriented design process

In order to build a human machine interface supporting the activity of the designers, and to minimize the risk of rejection of the TRENDS system, the team has set up a metholodogy and an evaluation protocol that progresses iteratively. Creativity, ergonomics, design, emotionnal evaluation, all these disciplines focused on the production of a cutting-edge graphical user interface adapted to a complex activity.

TRENDS relies on advanced technologies put together

Text retrieval and image retrieval technologies finally fit together in the TRENDS system. In order to answer high-level semantic queries and visual queries adapted to specific colors, textures and shapes descriptors, the TRENDS system relies on a fusion between text and image retrieval technologies into a single search engine. Along with relevance feedback techniques, and image classification tools, this system contains some of the most advanced image technologies adapted to an industrial need.

TRENDS leads to the technologies of tomorrow

The TRENDS project has investigated a serie of domains like knowledge acquisition, subjectivity management, human machine interface design, etc. The results produced by the technological and methodological teams will surely lead to the formulation of new problems like the integration of numerical design resources and CAD 3D models, the elaboration of a numerical design chain, image high-level understanding techniques, the integration of ontologies in image and text retrieval, and the optimization of the design process.

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