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The graphical 'Google' for engineers

Applied Search Technology Ltd (AST) of Aston University has announced the launch of its new software CADFind Sketch and Search – the first commercial design retrieval system in the world that can find 2D engineering drawings from a sketch.

The new software could save manufacturing companies thousands of pounds in part design by allowing the user to search, retrieve and use geometrically similar parts from their database, based on a customer drawing or a simple sketch.¹

“In practice, this means that engineers can find those existing parts easily and efficiently, even when the company may have hundreds of thousands of parts on its books,” said Dr. Doug Love, AST’s Research Director. “Sketching out the desired part aligns with the way an engineer thinks and avoids all the problems of interpretation that are a feature of current text-based database systems.”

CADFind can also handle all types of mechanical parts and thus avoids the waste and inefficiency of having a number of different databases for different types of part. It also offers retrieval accuracy of 95% for the most basic drawing with search speeds of around 4000 parts per second on a standard PC. Plus, there are also plans to add a 3D graphical search system to the software.

“Many researchers have concentrated on 3D graphical search systems but this approach ignores the fact that the majority of older part designs are held in the form of traditional 2D drawings. CADFind can deal with 2D engineering drawings now and will offer 3D support in the near future.”

CADFind is the result of many years of research into part retrieval and classification and the system has been tested on genuine engineering databases of over 20,000 drawings. Applied Search Technology Ltd was formed in 2004 by Doug Love, Jeff Barton and Neville Holmes as a ‘start-up’ through Aston University’s Business Partnership Unit. It is currently based in Aston Science Park on the University campus.

A workable demonstration programme of CADFind is available to download at <http://www.SketchAndSearch.com>.

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¹ Recent research by the US Department of Defense estimates that \$20,000 is saved each time redesign is avoided. Retrieval of an existing part rather than designing a new one could save \$5m in a typical product programme. (US Department of Defense Standardization Program, see <https://www.dsp.dla.mil/library.htm> ‘Reduce Program Costs Through Parts Management’)