Renderings

How important is Industrial Design to your product development strategy?

By Mike Edwards, Editor

How do you know whether or not you have come up with a good design? Try consulting with an industrial designer.

These folks are not usually engineers, but can put the necessary punch into product designs that communicate with the consumer. According to David Duncan, director of St. Catharines, ON-based I.D. Workshop ((www.idws.ca)), "It is often subjective and difficult to nail down, however good design seems to be recognized when both form and function are unified."

The 2D and 3D software giant Autodesk, Inc. of San Rafael, CA, has recognized this and recently acquired Toronto-based Alias, developer of products such as StudioTools – software for design tasks from 2D sketches to production models – in order to add industrial design and high-end visualization capabilities to Autodesk's manufacturing software packages. "Autodesk Canada's staff will double from approximately 450 to 900 with the Alias acquisition," said Al Steel, general manager of Autodesk Canada at

Engineers don't go to ... magazines for design ideas

the Autodesk University 2005 international conference in Orlando last fall. He noted the company also has R&D centres in Montreal, Ottawa, Calgary and Toronto.

Alias customers are some of the world's premier entertainment and manufacturing companies, including Industrial Light & Magic, DreamWorks SKG, Nintendo, General Motors and BMW.

"This acquisition is designed to leverage the strengths of both companies," stated Doug Walker, president and CEO of Alias. "Alias' customers will benefit from nearly $300 million in R&D spending while having access to new and complementary products and technologies. Together, Autodesk and Alias will deliver products and services that give form to great ideas from the fantasy world of film to the factory floor."

Robert Kross, vice president, Autodesk Manufacturing Solutions Division is excited about having an industrial design software developer in the Autodesk stable. "It's a pretty interesting area for us ... a really good engineering team, a great product (that) brings a premier set of customers – every car in the world is designed with Alias.

"I see great possibilities for integrating Inventor and Alias. For things like the consumer products world, you could do conceptual design in Alias, hand files over associatively to Inventor for the engineering work, make modifications there and hand it back to Alias. In other words, I see a great closed loop environment that closes the gap between design and engineering."

Kross noted "great crossover opportunities, too. The thing that Alias liked most about Autodesk was our Vault (data management technology inside Inventor). They tell me that their customers are constantly losing files, can't find the old data and view data management as way too corporate, way too hard to use. Alias saw Vault's friendly GUI and said 'this is perfect for our customers.'"

Steel noted that Vault is the entry-level tool into data management that many Canadian designers are looking for after "the more expensive solutions have failed."

Ultimately there will be capabilities from Inventor put into Alias and capabilities from Alias put into Inventor, like advanced rendering, said Kross. He then compared the design approach of both companies: "When Autodesk presents a software demo in the CAD world, we tend to think of engineering parameters and come up with hard requirements. The demo that Alias did for me was to design a pair of ski goggles. First thing they did was go to the fashion magazines to look at what else is out there. Then they picked a face that is kind of symmetrical and did a design sketch over this person's face.

"I've never heard an engineer yet say 'let's go to a fashion magazine.' It's a very different process marrying these two disciplines, engineering and industrial design. Getting products to work that are visually compelling and actually function in the market gives you a big competitive advantage. If you can put those things together, it's a real win for you."

M. Edwards

Good industrial design can provide you a competitive advantage

By David Duncan
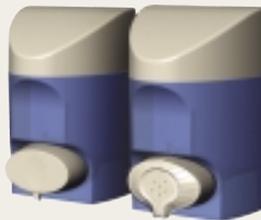
Consumer culture gravitates towards products that express good design; tapping into this can become a source of competitive advantage for companies. But what is good design?

Seen here is the Hygiene-Technik Inc. (HTI) R8-F Soap Dispenser, a re-usable 800 ml foamed soap output dispenser. HTI was interested in re-designing the presser of the R8-F in order to get the end user to push directly in the centre of the presser. The mandates of the project were to develop a solution that would not affect the engineering of how the soap is dispensed, plus the design needed to be complimentary to the other plastic components.

I.D. Workshop took on this project and set out to develop a design solution for the R8-F. The main design issue that a commercial product like this has is the language barriers, and so the initial sketches set out to eliminate the need for any text on the presser. From these sketches a clay model was sculpted onto a R8-F body in order to work out the 3D shape development. From here I.D.

The Hygiene-Technik Inc. model R8-F, a re-usable 800 ml foamed soap output dispenser. HTI was interested in re-designing the presser of the R8-F in order to get the end user to push directly in the centre of the presser (solution on the right).

Workshop took the model and interpreted the surfaces into 3D CAID (Computer Aided Industrial Design) math data to refine the aesthetics and ergonomics. The 3D CAID model was presented in four variations, which gave HTI the ability to fully visualize the concepts from all angles. Early communication of the product concepts in this format was an effective tool for brainstorming and problem solving solutions before major investment was made on the project.

Once the 3D CAID model was finalized, HTI was able to use the math data to create a FDM (fused deposition modeling) rapid prototype for physical review. This also gave HTI a good 3D CAD platform, which decreased the risk of misinterpreting the original presser concept, which resulted in a good design.

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