

## USER REVIEW

# Online estimator puts a handle on project times

Estimating times and costs for engineering projects is essential to a company's success. Underestimate often enough and your company goes broke. And overestimating sends business to competitors. The difficulty in estimating a design job is partially due to CAD programs. "CAD is a huge multiplier of all the good and bad that engineers do, so the difference between estimated and actual time has the potential to be greater than ever before," says Stephen Samuel, president of Design Visionaries Inc., a product-design firm and CAD software reseller and trainer. He adds that the estimating problem is exacerbated because many people who quote jobs are not necessarily experienced CAD users.

To solve the problem, Samuel's team created the Design Project Estimation Tool (DPET). He says it captures his company's experience and the critical factors related to CAD that determine project schedules.

Users register to receive a password that gives access to the estimator. The software consists of about five input windows, each of which is fairly self-explanatory. The first screen deals with variables such as a single user's skill level. Samuel suggests that estimators know what work will be performed by beginners (slow users), those of average skill, and experts. The calculator is intended to account for the project work of a homogenous staff (all mechanical or electrical) with differences in skill level as accounted for in the first input section. But it seems you could run the calculator once for each skill group. The separate totals would be combined for the aggregate project time.

The Project Planning Phase (the second input screen) asks for estimates relating to initial project work. Built-in factors handle complexity of purchased components.

Part Design and Modeling requires estimates for how many parts must be designed and the complexity of each. Samuel says it's better to slightly overestimate the number of parts if an exact amount is unknown because engineering often takes longer than anticipated. Also, there may be a requirement for more parts than initially expected, or the effort to design fewer parts may take longer than anticipated. The estimator accounts for simple geometric to "superexotic" forms.

A single screen handles hourly inputs for Part Fabrication/Prototype and Assembly and De-Bug. "Although these tasks will not likely take much time, accounting for them increases accuracy. These sections can also be used to account for tasks not listed in the calculator," he says. The final window shows the estimated total time in hours, days, and weeks.

It takes only a few minutes to input data and results are accurate, according to Samuel. And he says he's open to suggestions. OK. How about a help file with a little more guidance for first time users? And a print feature would be useful to provide users a record.

The software is available free from **Design Visionaries**

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Please provide the following information

Skill level of the employee (Single)

Complexity of the drawings to be done

Strength of software used

Actual time applied/per hour

Note: Calculations are based on a single person working 40 hours/week.

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The screen describes the skill of the design team, or a single user. The inputs are reasonably self-explanatory.

Part Design and Modeling

Complexity of Form →

Enter number of Parts to be done	Simple Geometric Form	Geometric Form with Some Detail	Sculpted Form	Highly Sculpted Form	Super Exotic Form
Very Simple Parts (Dim 10 or less)	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="0"/>
Simple Parts (Dim 11-30)	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Moderate Parts (Dim 31-50)	<input type="text" value="3"/>	<input type="text" value="4"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Complex Parts (Dim 51-100)	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Very Complex Parts (Dim 100-200)	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Number of Sketch/Feature Dimensions ↓

The screen requires a count of parts from simple to complex.

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Total number of hours =

Total 8-hour days =

Total 40-hour weeks =

The final screen provides a total hour estimate that users will have to translate into costs.

Inc. at [www.designviz.com](http://www.designviz.com), under the Goodies page. They are located at 7034 Calcaterra Dr., San Jose, CA 95210, (408) 997-6323.

— Paul Dvorak  
Circle 426