Quick on the draw

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Thinking bricks

Good on paper
First impressions

Glass act
Lots of bottle

Ground force
Streets ahead
Is the pen mightier than the computer when it comes to product design? Karl Hurn reports

Quick on the draw

It would be foolish to doubt the advantages of a three dimensional Computer Aided Design (CAD) system to the modern engineer. The mind boggling array of tools available for every aspect of the engineering process seems to become more diverse by the day, from mould flow analysis, tooling design and rapid manufacture to e-drawings and even 3D pdf's. But what of the humble product designer and indeed the product design student? Just where exactly should CAD fit in the design process?

Product designers, in my view, have always had to be a jack of all trades, and a master of many. But in the ten years (or so) since my graduation, the skills required to function as a product designer seem to have increased, certainly in the area of CAD.

But is this a good thing? Has CAD had too much emphasis placed on it, which in turn has led to designers and students seeing it as a one stop shop for creativity? Have we developed a “sit down at a PC at the start of the project and don’t leave until it’s finished” mentality?

From a design education point of view, CAD systems have been integrated into all courses for a number of years, but their application
seems to range from a simple visualisation tool taught as a small part of the course, to being the whole ethos of it in courses like BSc (Hons) Computer Aided Product Design. So it appears that academics and indeed the design industry, unlike their engineering counterparts, are still grappling with how to define the use of CAD applications in the design process.

It is becoming increasingly difficult for academics to prise students away from University CAD labs and understand the need for some of the older methods of expressing their creativity for some elements of the design process. It seems that gone are the days when the product design student’s bible was Dick Powell’s “Presentation Techniques” book. This, it can be said, is partly due to student’s mistrust of how academic staff express their fondness for the “old school” methods, making students assume this is because they are the only methods they know, rather than advocating the use of the pen, marker and sketch pad as the fastest, and loosest way of getting their ideas across and developing a concept.

Now I’m obviously not against the use of CAD in the product design process, after all, it’s my job, but it is important to make students understand that it is just one of the tools at their disposal. Concept generation, in my opinion, is far better conceived with a piece of paper and a pen, with CAD stepping in to realise and perhaps visualise the design later on in the process. So, perhaps it could be said that when to use a tool, not just how, has become just as important a skill for students to learn.

Design students are the next generation of professional designers; therefore they hold quite a few cards when it comes to influencing the design process. I have first hand experience of our graduates at the University of Derby landing their first job with a small design consultancy or start up company and choosing the software they work with. This is mainly because even today an awful lot of smaller design firms are still embarking on the shift from 2D to 3D CAD, and graduates are playing a key part in software choices. As a result of this, software producers are targeting universities in order to breed a whole new crop of potential customers.

This in turn makes the role of CAD lecturers like myself more pivotal because in some cases, the software that is being pushed by the manufacturers might not be the package that everyone in the commercial world is actually using. It is up to us, in what can be the disconnected world of academia, to maintain contact with graduates, industry professionals and software companies in order to help steer the leading choices of software and therefore improve their integration into the design process.

Walk around the New Designers exhibition in Islington’s Business Design Centre, and it is impressive to see how students are more than capable of producing visual work that is industry standard. In the last ten years, the face of student presentation has changed immensely, largely due to CAD. These CAD visualisations can however make it easy for you to believe that all product design graduates are of the same standard. You could say it used to be easier to spot a good designer by the strength of their hand produced presentation work; today this is not the case.

This is increasingly borne out in job adverts for product designers. Scan the pages of any design magazine or website and employers are seeking graduates with the right mix of skills, yes CAD is always there as a required skill, but more often than not, its sketch work and hand development work that is required for the interviews.

One thing remains constant in all of this, being a good designer is about having good ideas that are right for the time, environment and society you design them for, on top of all of the corporate marketing, manufacturing and logistical issues.

The judges at New Designers always reaffirm my faith in the design industry by selecting winning designs that at first you may not have noticed because there isn’t a flashy CAD visual on the students stand, but the idea itself is innovative and amazing.

Someone once told me that the most important component in a Formula 1 car is the “nut” that holds the wheel. It is clear to me that the analogy works for product designers and CAD in that the tool is only as good as the driver, but also, the product designer must decide when to drive, or when to walk.

Karl Hurn is a Senior Lecturer in Computer Aided Design for the Product Design Programmes at the University of Derby.