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 per-
haps 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 consul-
tancy 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 pro-
ducers 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 integra-
tion 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.