



Zoë Warne, August

Moving Beyond Technology: Redefining the Design and Engineering Professions



Ok. I'm calling it; designers are engineers. Engineers are designers. Why do we persist with the different names? Is it their perceived qualifications? Certifications? Ego? Or something more?

Both professions are becoming increasingly aware of their potential for positive impact in the design of better systems, services, and processes. However, their time as siloed disciplines is limited. Collaboration is the key to unlocking—or better yet, unleashing—their potential, and it's time we challenged their definitions. While engineering is often rooted in infrastructure, technology and systems architecture; the critical relationship between these elements, and an engineer's role as a designer, is not often recognized. The same could be said in reverse for those of us that call ourselves designers.

In a world where the relationship between technology and its ubiquitous role in society is accelerating, the purpose of design and engineering must evolve in parallel, or either profession risks being left behind.

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In a recent survey of the public, engineering was considered a ‘professional designation’ by 55% of surveyed participants – well above the 30% that identified it as a mere ‘skill-set’¹. I’d argue that the results would display a similar shift in the design profession. Design is moving beyond a skill-set to be seen as a professional designation – and given the impact of design on the world we live in, this shift is far from unprecedented.

Designers are known innovators, especially in the digital space. Their skills and knowledge are regularly consulted for creative projects and idea execution. However, their design contribution isn’t often leveraged in a technical or system-led capacity. How often do we say to ourselves as designers, that our value and insight was not consulted early enough in a project? I say that designers need to become more like their engineering counterparts – looking at the system and process design stages of a project, not just the solution. And, if we are not invited, we bring our own seat to the table and make it happen.

I recognize that the specialty known as Service Design is starting to examine this opportunity further, but it still has a way to go in terms of recognition by our key audiences – our clients. Designers are engineering a future that must be as practical as it is beautiful. The rigorous methodologies often associated with the engineering profession can be used to help create this balance.

Engineers are most commonly identified as having an affinity for developing technology and infrastructure that helps to solve problems. This definition outlines the profession’s approach, but not its purpose.

In contrast to designers and engineers, scientists have written prolifically on the social significance of their own field. However, the immense impact of engineering is sometimes lost in high level statements. Engineers don’t typically define their contribution accurately enough – and if their long-lasting impact is to be captured, they need to better define their relationship with technology and design, and the collaborative approach required of them to achieve success.

With many disciplines claiming ‘they make the world a better place’, this language fails to highlight the unique capabilities of designers and engineers. In the case of engineering, their contribution to a shared outcome needs to be more than mechanical. Their potential can be overshadowed by the perceived creative limitations of their profession.

In contrast, designers have chosen a professional identity that showcases their contribution towards a greater society. Design is often seen as more of a ‘movement’. It retains its dynamic identity due to its fundamental inclusion of diverse groups and ideas. The engineer’s tendency to specialize and operate in an insulated environment has not fostered a collaborative approach with those outside. Whether in the digital or physical world, engineers are often relegated to projects that are built rather than invented; and more precise than they are purposeful.

The role of engineering relative to technology, science, and other key groups is not well understood, even by those of us in the thick of it: the designers and engineers themselves. There’s an interesting fragmentation happening right now whereby

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technology, design, and engineering are separating. At this stage, further division is one thing the world can avoid.

In this context, engineers retain a strong technological focus when using established tools. And while designers let aesthetics guide their use of technology, they do not feel it is their duty to drive the social future of tech.

Problem solvers at heart, engineers are taught to think systematically and break down complex issues, which can be a powerful tool when approaching design problems. However, their contribution is limited due to a perceived disconnect between design and engineering. The creative aspects of an engineer's role are sometimes overlooked. Or worse, considered socially irrelevant because they are identified as systematic problem-solvers. 'Over-engineering' a solution is something we often hear in a negative context. Black and white. Function over form.

This disconnect results in engineers and designers, both as individuals and at a company level, often excluding themselves from opportunities, simply because they don't sit within their prescribed job description.

However, this separation is only a symptom, and hopefully, not a foregone conclusion. More than ever before, there is a growing desire within these communities to redefine how designers and engineers interact and collaborate to solve problems. It could be called taking a 'Venn diagram approach' to sharing skills and mindsets. It's no surprise that this is also often referred to as a 'logic diagram'².

Engineers have a unique opportunity to change, or even merge, their positioning. They can approach problems proactively by developing technology that is driven by societal needs, rather than reacting within technological constraints or pre-defined ways of working. Engineers are 'systems designers' at heart: it is time to practice this art for their own profession and redefine their own system from within. This shift is for both themselves and the end user – the citizens of this better world valuing their design input, precision and penchant for process.

Designers are advocates for this end user. Recent developments in the areas of UX and accessibility are testament. Designers must now further champion their input beyond what they have curated for society. Designers have the potential to show more leadership and better recognize their ability to contribute beyond the creative arena. Reaching deeper into the systems and problems they are tasked with solving will allow designers to approach projects with an engineer's eye and bring about truly collaborative problem solving.

In order to transcend from the lowest common denominator understanding of design and engineering, we must work towards an identity for both that exists along a continuum. To study engineering or design is to be on the cutting edge of social and technological change.

Being on the cusp of this change means these professions should be measured by their impact more so than their means.

Design by engineers is most impactful when integrated into collaborative settings that explore new approaches. This could mean having more engineers embedded in

design teams, and consulted earlier in the problem-solving process. Their knowledge of technology and system design is hard to beat, providing a unique mindset. Technology gives both designers the ability to create, and engineers the opportunity to provide the necessary tools and new ways of thinking that accomplish the societal goals we are working towards.

Designers and engineers looking to contribute on a systemic and process level face a massive challenge. Both are ultimately disruptors. They need to break out of the accepted silos of their roles and facilitate social change. The problems we are asked to solve are increasingly complex. The world is becoming more complex. And it requires more nuanced systems, born of collaboration, to solve and simplify these complexities.

This journey will always require the technical expertise that engineers are renowned for, however they must no longer be self-contained and must continue to pioneer. This must be encouraged by designers; it's time to stop protecting the perceived sacred turf. Designers are cultural generators, and their work needs to continue being generous, inclusive and useful – especially towards other professions that can contribute in the way engineering can.

Engineering has the potential to shape the evolving relationship between society and technology. Designers are their partners in this interplay. When designers and engineers collaborate, the relationship between tech and society becomes more meaningful, and so does the role we play within it – no matter which of these professions we identify with. These are professions on a path of self-optimization: identifying value in meaningful bonds, aligned goals and shared potential.

Only by pursuing these relationships will we move beyond technology, professions, and their various definitions, and play the roles we, as designers and engineers, are capable of; having the maximum positive impact on world we want to see, together.

¹ Public Perceptions of Engineers & Engineering Report, Engineers Canada and Innovative Research Group, March 2017

² Wikipedia: https://en.wikipedia.org/wiki/Venn_diagram

About the Author: As August's Co-founder, Zoë engineers an organisation's online presence to create meaningful touchpoints with audiences. With a regular co-hosting gig on ABC Radio National and 774 Melbourne talking all things digital, she is also a guest lecturer at RMIT, Swinburne and Monash Universities, Chair of the Swinburne University Multimedia Course Advisory Committee and Vice-President of the Australian Interactive Media Industry Association (AIMIA) for Victoria.
