IDSA

I'M AN INDUSTRIAL DESIGNER, WHO AM I?

FRICTION IN THE EVOLVING TERMINOLOGY OF DESIGN CAREERS

RUSTY LAY
AUBURN UNIVERSITY

ABSTRACT: The broad scope of knowledge acquired and utilized through the training and practice of Industrial Design has created a significant difficulty for the field of Industrial Design. The difficulty in attempting to explain what it is that we do exactly. To family, friends, and more crucially – business in every sector of the economy. Part of the problem is that there is no exactitude for the broad education, experience, and potential for what the industrial designer can accomplish, function as or bring to a company/brand/experience/product. We are user and context focused generalists and as such, the terms "Product Design" & "User Experience" have a much more relatable and understandable relationship to what Industrial Designers contribute to industry and society than "Industrial Design". However, established terms like "user experience" and "product design" are being redefined by the tech sector and industrial design is suffering because of it. What can be done?

Keywords: Industrial Design, User Experience, Generalist, User, Context, Design Thinking

1. INTRODUCTION

Can I assume that the majority of our experiences as Industrial Designers describing our profession to non-designers goes something like mine:
Non-Designer: What is it that you do?
Industrial Designer: I'm an industrial designer.
ND: Oh, so you create industrial things like conveyor belts and factories?
ID: Not quite. Not even close, actually. Industrial Designers design most of the things we see around us – this patio furniture, your smart watch, those sunglasses, your coffee maker, that new electric lawnmower you were just mentioning.
ND: Oh, So more of an engineer?
ID: Still not quite. We work *with* engineers. We handle ergonomics, interfaces, aesthetics, and improve products and systems by considering the user and the context. Engineers are focused on the thing; we are focused on making the thing great for the right people.
ND: So, you design all the parts I get to touch and experience?
ID: That's It!
ND: Like a UX Designer but… for real things?
ID: Well, yes. How do you know what a UX Designer is?
ND: Doesn't everyone?

If you want to easily describe what an Industrial Designer does and be understood, this could be the most efficient route of communication: Industrial Designers are UX Designers for the physical world, the original UX designer.

2. WHERE WE NOW FIND OURSELVES

At this point in time Industrial Designers do also design, quite regularly, in the digital world, and perhaps more importantly, design at the intersection of the physical and digital worlds in which we now live. User Experience is perhaps the broadest category of design. Don Norman, the creator of the term "User Experience" speaks to the term: *"In order to achieve high-quality user experience… there must be a seamless merging of the services of multiple disciplines, including engineering, marketing, graphical and industrial design, and interface design."* (nngroup.com)

There are many posts on LinkedIn and on various websites and blogs about the differences between the design disciplines as well as conversations about the co-opting of previously defined and established terms "user experience", "product design", "interaction", "architect" and even "product manager" by the technology sector. On the tech industry side, it is argued, perhaps persuasively, that digital products (apps, online courses, music & digital art, and a variety of services) are also products, digital system architects are also architects, and digital product managers do indeed manage digital products – all just within the digital landscape. After all, as a traditionally trained, industry practiced, and now, professor of Industrial Design, I use these terms as well. I speak of "product architecture" when speaking of the physical relationships between internal componentry and external form and affordances that affect the physical and cognitive "user experience" while "interacting" with a physical or physical/digital product. There is no doubt an overlap in function and especially language in the design related disciplines, which is a good thing – semantic semi-consistency within the broad landscape of design. "User experience or UX design" is something that Industrial Designers have always practiced in the physical world with physical products and systems.

3. THE REVISION AND USE OF TERMINOLOGY

It seems that the frustration has arisen is primarily in the context of job/career seeking where previously established terms like "product design" and "user experience" no longer relate to a holistic product, system, or service experience but for the design of digital products interacted with on flat slabs of glass. Unfortunately, and probably to the frustration of Don Norman, the creator of the term User Experience, the job description for UX Designer has become narrowly focused on a *digital* experience and is often for a company that makes primarily digital products. As of early/mid 2023, this narrow focus is typical for tens of thousands of UX job postings on Linked-In. The terms have been redefined by the tech industry into much more narrowly focused and specialized job functions with particular skill sets rather than the original definitions that involved a robust and broad knowledge. Many designers trained specifically for digital UX have a deeper but narrower focus towards designing digital platforms or products. Some of the tools and skills required for digital UX design include the quantitative user

testing, feedback, data analytics, and fix loop, clear graphic visualization of data and translation of the data into wireframes and user flows of the digital user experience. This quantitative research and application of the data is more easily accomplished in the statistically relevant context of all-digital platforms rather than in the physical world in which industrial designers often operate.

Beyond the career searches, the broad scope of knowledge acquired through the training and practice of Industrial Design has perhaps created an even more significant difficulty for the field of Industrial Design. The difficulty in attempting to explain what it is that we do exactly. To family, friends, and more crucially – business in every sector of the economy. Part of the problem is that there is no exactitude for the broad education, experience, and potential for what the industrial designer can accomplish, function as or bring to a company/brand/experience/product. Industrial designers, perhaps alone, know what experienced industrial design practitioners can provide and accomplish, but with the descriptor of "industrial design", no one else does. Industrial Designers are human-centered generalists, with knowledge of systems, manufacturing, materials, visual communication, people and their motivators, emotions, sensitivities, intuitive understandings, physical and cognitive limitations and capacities, and physiology. This includes knowledge of and often focus on the relationships between a system or product and the person – ergonomics, affordance, product semantics, communication of actions through sensory feedback, pleasure and yes… User Experience.

4. ID IS PHYSICAL UX AND UX AT THE INTERSECTION OF PHYSICAL AND DIGITAL

The physical nature of ID has translated into a focus on physical products in industrial design education. This education, therefore, does not always formally train students in the tools and skills that digital UX designers regularly utilize. However, a continually growing number of products and systems are created at the intersection of both physical and digital worlds. Industrial Designers, perhaps, have the greatest potential to be the best UX Designers / Experience Designers / Interaction Designers / and, of course, Industrial Designers at that juncture.

Why? Industrial Designers are generalists. Eric Schmidt, former CEO of Google, writes

"A specialist brings an inherent bias to solving problems that spawns from the very expertise that is his putative advantage, and may be threatened by a new type of solution that requires new expertise. A smart generalist doesn't have bias, so is free to survey the wide range of solutions and gravitate to the best one." (Schmidt, 2014)

Digital only UX designers - UX certificate holders - without an ID or more extensive design education or background are "specialists" focused only on the digital product and making it the best it can be with the methodologies and tools learned. But… do all digital interfaces reside only on smart devices? Are all smart devices merely capacitive-touch glass slabs? There are indeed billions of smartphones and smart wearables in use today and most of them are primarily the capacitive touch glass slab with 90+% of the user experience happening while interacting with the digital interface. However, there are also hundreds of millions of products with a much greater diversity – Autos, riding lawnmowers, toaster ovens, toothbrushes, exercise equipment, battery backup systems, doorbells, and countless others, that fall at the intersection of physical and digital. Would the UX designer (as defined by technology sector),

trained in digital interface and digital experience design and hired to design digital experiences, ask the question: “Would this particular function be better for the user if it were a physical dial rather than a digital menu selection or digital button?” Would the Industrial Designer ask that question? The Industrial Designer would ask that question first, and a good industrial designer should always be considering and asking these types of questions.

The intersection of physical and digital is most likely to be considered properly with the holistic training of Industrial Design. To provide some context I would like to give an example of a product line that is a great example of how increased digital interface has decreased certain aspects of usability that the products were designed for. The iPod nano.

5. A BRIEF CASE STUDY

The 6th gen iPod nano is the first generation of the nano which removed the navigational “click wheel”, adopted from the iPod mini and instead, transitioned to a capacitive touch screen for the majority of navigation (Fig. 1). The nano, being one of the smallest iPods, was often utilized for exercise – running, cycling, workouts, etc. With the physical click wheel of the previous generations of the iPod nano and minimal experience, most of the navigation needed could be accomplished, mid-workout, with the senses of touch and hearing only. On the 6th gen iPod nano, the ability to use the click wheel to scroll through playlists, move forward and backwards though tracks, and control the volume were no longer a feel and press while one’s focus remained on the activity or exercise. With the removal of the click wheel, the action became: swipe to unlock; try and not touch the wrong part of the screen while running, cycling, etc.; try to properly touch the proper part of the screen for the right length of time – all while the user’s eyes were required to focus on the screen, not the environment in which they were navigating. Did removing the click wheel allow room for a larger capacitive touch screen or allow for a smaller device? Yes. Did removing the click wheel save money? Likely. Did removing the click wheel make for a better navigation and user experience? *Absolutely not*. Listening to music in a user-friendly way during exercise, a unique benefit of these smaller form factor mp3 players, became more difficult, and potentially more dangerous for any user that was attempting to navigate the UI while needing their focus elsewhere. The user’s attention was required to be on the device for touchscreen navigation, not the activity they were pursuing.

Figure 1. iPod Nano 5th Gen. (left) and 6th Gen. (right) images retrieved from www.walmart.com

6. CONCLUSION

So, do Industrial Designers do UX? Yes. If Industrial Designers do digital UX are they working outside their realm? Perhaps. Would a digital UX designer design or argue for a physical button, click wheel, dial or other physical control onto a product? Unlikely. As stated above, UX at the intersection of physical and digital is most likely to be considered properly with the holistic training of Industrial Design.

So, how do we define ourselves as industrial designers to others and specifically industries that could benefit from ID? Generalists, inventors, physical and physical/ digital intersection UX designers? Should we advise people to consult AI for what we do? *"Industrial Design… is a multidisciplinary field that combines creativity, engineering, and business to create functional and aesthetically pleasing products that meet the needs of users and the market."* (Viemeister, 2023). What adoptable description can best describe what we have influence over, what we are trained to do, and what others can understand without a lengthy explanation and series of corrections? Is it even possible? Industrial Design has existed as a profession for over a century with Christopher Dresser being "*considered the first industrial designer"* (metmuseum.org). Does "Industrial Design" have too much "brand equity" and history to force the maintenance of its non-descriptive name? Will the tech industry rethink and reframe their career descriptions? Design is not just problem solving. Many fields and industries solve problems. In addition to the ChatGPT description of industrial design above, design is a process of finding the correct problem and solving it through a combination of creativity and critical thinking. It is important that others and other industries understand who Industrial Designers are. We clearly have a few problems. Let's find the right problem(s) to solve and get on it.

REFERENCES

Norman, D., & Nielsen, J. (2021). The Definition of User Experience (UX). Nielsen Norman Group. https://www.nngroup.com/articles/definition-user-experience/ Retrieved April 7, 2023

Schmidt, E., & Rosenberg, J. (2014). Google : how Google works. Grand Central Publishing.

Viemeister, T & ChatGPT (2023, April). Chat bot finally explains industrial design. Retrieved April 11, 2023 from linkedin.com

Oshinsky, S. J. (2006, October). *Christopher Dresser*. The Met. Retrieved June 19, 2023, from https://www.metmuseum.org/toah/hd/cdrs/hd_cdrs.htm