

AI AND UX

WHY ARTIFICIAL INTELLIGENCE NEEDS USER EXPERIENCE

Gavin Lew
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AI and UX: Why Artificial Intelligence Needs User Experience

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About the Authors

Gavin Lew has over 25 years of experience in the corporate and academic environment. He founded User Centric and grew the company to be the largest private UX consultancy in the United States. After selling the company, he continued to lead a North American UX team to become one of the most profitable business units of the parent organization. He is a frequent presenter at national and international conferences and the inventor of several patents. He is an adjunct professor at DePaul and Northwestern universities. Gavin has a Masters in Experimental Psychology from Loyola University and is currently the Managing Partner of Bold Insight, part of ReSight Global, a globally funded UX consulting practice across North America, Europe, and Asia.

Robert M. Schumacher Jr. has more than 30 years of experience in academic, agency, and corporate worlds. He co-owned User Centric with Gavin from its early stages until it was sold to GfK in 2012. While at User Centric, Bob helped found the User Experience Alliance, a global alliance of UX agencies. Also, he founded User Experience Ltd, a UX agency in Beijing. He is co-founder, co-owner, and Managing Partner of Bold Insight, part of ReSight Global, a global UX company. Bob was the editor of and contributor to *The Handbook of Global User Research* (2009). He has several patents and dozens of technical publications, including user interface standards for health records for the US government. He also is an Adjunct Professor at Northwestern University. Bob has a Ph.D. in Cognitive and Experimental Psychology from the University of Illinois at Urbana-Champaign.

Preface

Our perspectives and biases

We have both been around long enough to see technology grow from mail order Heathkit computers sold from the ads in *Popular Mechanics* to the exponential and ubiquitous presence that technology has in our lives. And we're not that old.

Because computing advances came at us so fast, the user was often seen simply as an input/output device. The user had to adapt to the system rather than building the system around the user's skills, knowledge, and capabilities. What has driven us professionally and personally is that what we do as user experience (UX) professionals matters in the lives of people. While working together at Ameritech (a "Baby Bell" regional phone company) in the 1990s, we were involved with making products more successful by focusing on the UX. We evaluated products and often paused to shake our heads and think, "Why would anyone design the product *this way*?"

To put it simply, *we believe experiences matter*. We want to make the world a little easier for people.

Our perspective on how AI can be more successful is admittedly and unashamedly from a UX point of view. AI needs a focus on UX to be successful.

UX has a history with DNA strands from several places, most notably psychology. We were both trained as experimental psychologists, but along the way we had some significant exposure to computer science and AI in particular. It was easy to be seduced by programs like Eliza that seemingly converses with you or believe in proclamations of the glorious future that AI would bring because the culture had such limited experience in computing technology. It was mysterious and magical. But as the scales fell away, we saw it for what it was: *code*. What we thought was smarter computing was simply clever code that often fooled the user. That's not to say that computer scientists weren't sincere—they understood that these were not true thinking machines. But those who did not understand (journalists and the rest of us) may have gotten over our skis as to what AI could do. The payment for overhyping in the eyes of the public was to lose faith and trust in AI.

Part of that loss of trust, as shown in several examples, was due to the fact that AI was often unpolished. The thinking was often this: the AI engine works, yay! But there was not a lot of attention to how the end users benefitted

from the AI tool. Humans are impatient and fickle creatures; unless they are going to see the benefit very early on, they often will not invest the time or attention needed to appreciate the AI brilliance. And this is what happened. A bad experience with AI poisons the well. People won't go back. What's worse is that those users will often paint a whole class of AI-enabled products with the same brush.

These failed experiences in AI bore a remarkable similarity to failures we saw due to poor UX in product design. Bad experiences meant poor perceptions, lack of usage, and ultimately declining success.

But with AI, we often witnessed a gap where those who normally have strong opinions would give AI technology the benefit of the doubt, as it was beyond their area of expertise. If AI is to be successful, the design matters. The UX matters. How people would interact with AI matters. We believe UX *can* help; that's the main point of the book!

About this book

AI and UX are expansive, and we are unable to plumb the depths of either of them. We try to stay close to what we know and what we thought was relevant to make our points.

We don't wish to lump all AI applications together. In this book, we mainly center on AI that directly touches people doing tasks—whether it's at home, in the office, or on the go. The focus is not on financial trading algorithms or epidemiological modeling or the AI that runs in the background of industrial automation that does not rely on or present information to people. Our focus in this book is on the AI that most of us will experience—specifically the AI that is experienced by us all in commonly used applications.

We employ dialogs in the book that allows us to be more casual and communicate more as you would talking to a friend or colleague. Sometimes we use the dialogs to make the point, other times to reinforce it. It is our hope that this technique is successful in highlighting our key points.

The book is laid out so that in the early chapters, we describe the relevant history of both AI and UX—and how that history intertwined in the lives of some very influential researchers. We then lay out the specific problem in Chapter 4. Chapter 5 is where we are prescriptive about how UX can benefit AI through the user-centered design model.

Acknowledgments

Any endeavor of this sort does not happen without support from an awesome collection of people. What started as a number of discussions with a colleague, Dan Delaney, over lunch perhaps 5 years ago formed the thesis that drove the book, which was to not focus on the algorithms but the impact AI could have on everyday people. But we knew that this could only occur if AI was successful. We spent our careers shaping the design of products to better fit those who would use and benefit. *What was the applicability to AI?* Those lunchtime discussions became a concept used in the book where Bob and Gavin have a dialog. We wanted to use these discussions to bridge the gap between history and opinion to give the reader something tangible and, hopefully, an insightful perspective. Dan is acknowledged as a major influence, and we wish he was able to have played a larger role.

We also would like to thank Ethan Lew, Gavin Lew's eldest son who is studying computer science. When Gavin gave a presentation on some of the key messages in the book, Ethan called the main points *rudimentary*. Somehow Gavin was able to recover when one of the founding fathers of cognitive science and subsequently UX, Don Norman, told Gavin after listening to the presentation, "Rudimentary means it has appeal to a wider audience. Write the book." Both Ethan and Don helped energize our belief that the time was right for the discipline of UX and the development of AI to come together and design better outcomes. We can all play a role in shaping AI to be more successful.

We also want to express our sincere gratitude to Claudette Lew, Gavin's spouse, for countless hours reading revisions for clarity. We are also indebted to our team at Bold Insight. Their perspectives were invaluable in shaping our ideas and crafting our book. Their insight during brainstorming meetings to review for flow and comprehension helped us bring this whole thing together.

We also want to acknowledge the early support from JD Lavaccare who helped craft our early drafts. Our editorial team at Apress was ever-present and always helpful—their ideas sharpened our language and clarified our thinking. Lastly, many thanks to our families who put up with us while we were catatonic facing a blank page. We did our best to stay with this moving target. Any errors or omissions are entirely our own.