About This Book

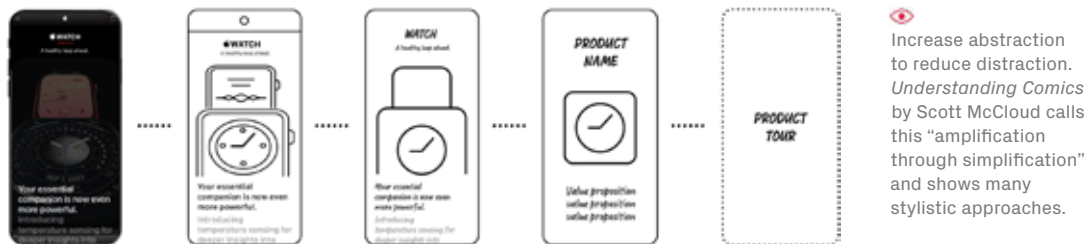## • The concept

Digital designs do not exist. There's only a screen, with pixels changing color in patterns that convince our brains and bodies to believe or do something. Digital design is a psychological craft; the designs are only impressions in time.

Pixels might convey familiar shapes or invent new ones. They might reflect a viewer's physical environment or conjure cyberspaces. They might fade in soothing rhythms or pop in surprising bursts. If all these tricks connect systematically, they create a symbolic language people can interact with.

Interactive systems are logical, emotional, visual, and invisible at the same time. And because they are so complicated, product design has to split ideas into workable parts, refine each micro-system, and then see how they combine.

Abstraction helps us handle digital levels of complexity. When we reduce fidelity visually, we can focus on a few details at a time. When we synthesize many insights into a single theme strategically, we can keep that big idea in our short-term memory and use it with other things. This book works entirely at low fidelity to show what a focused, abstracted design process looks like.

Increase abstraction to reduce distraction. *Understanding Comics* by Scott McCloud calls this "amplification through simplification" and shows many stylistic approaches.

Think in 4D turns this conceptual viewpoint into a practical handbook. It's a book about product experience design: how to think holistically, creatively, and critically to design savvy strategies and valuable products. It pushes you to think beyond 2D designs and 3D devices to 4D impacts.

• The outline

Part 1 of this book, FRAMEWORK, outlines the 4D Thinking model. I define product experience as consisting of four phases (threads, impressions, interactions, and memories) that occur in three types of dimensional space (2D, 3D, and 4D). This easy-to-remember model splits product design into manageable parts and helps us recall related nodes throughout the process.

Part 1 also supplies a method of working with the model: for best results we prototype, lower the fidelity, work backward, work in circles, use principles, use metrics, and co-create.

Part 2, PRACTICE, takes the 4D Thinking model into usable design guidelines. The three chapters in each of the four phases include key questions, principles, examples, and exercises for that topic. Each phase also ends with a larger design challenge (creating concepts, flows, screens, or links) and critique outline. I suggest doing the exercises while reading to increase your absorption of the material; they should expand your thinking and your design toolkit. If you're building a design portfolio, the exercises will also help you develop a solid process and show the deep thinking that hiring managers love to see.

Part 3, CRAFT, wraps up the book with ways to advance your creative and conceptual skills. Prototyping is the tangible craft; we build our executional skills by refining how we write, sketch, wireframe, and play. Thinking is the invisible craft; we improve our strategic skills by learning to deconstruct, frame, research, diverge, converge, differentiate, and think in 4D.

This book will not cover the details of user interface design; visual design systems are definitely their own specialty at this point, and style guidelines quickly become dated in print. You don't need to master color, motion, or high-fidelity design software to do great product design. You *do* need to leverage hierarchy, contrast, and patterns, so I've included those visual foundations. As you advance your practice, you can layer on skills in UI (or research, or coding, or writing).

For additional resources and updates, subscribe to my newsletter at thinkin4D.com.

• My experience

This book draws from more than twenty years working as a design consultant in New York City. I got my first paid web design job as an art school freshman and have stayed in the field ever since. I've gone from the era of designing and coding entire websites and apps myself to strategizing multiyear, multimillion-dollar products with executives. Product experience became my core focus; I love its combination of problem-solving, systems thinking, visual composition, and human behavior.

As a near-lifelong consultant, I'm sharing an adaptable approach drawn from common principles across many industries and applications. I've done strategy and design for agencies, small businesses, early-stage startups, nonprofits, and Fortune 500 companies. This material is not specific vocational training to get a job at a large tech company (though I think it would help you do that too); rather, it is a guidebook for the type of strategic thinking that large companies hire consultants to do.

This book also builds on my courses for Parsons School of Design, the School of Visual Arts, Skillshare, and various clients. I taught undergraduate interaction design and graduate product design at Parsons, helping develop the curriculum for their master's degree in the latter. I taught summer intensives for SVA's MFA in interaction design and did thesis advising for their MFA in design. I've led UX workshops in multiple NYC startup accelerators and launched three top-rated prototyping classes on Skillshare. And, working as part of the Runyon Design studio, I taught the UX portion of an accelerator program at a Fortune 100 company.

Think in 4D shares the lessons I have learned along the way.

● The problem

Teaching interaction design and product design made me aware of recurring gaps in how students thought about digital experiences. Art students fixated on the graphic design aspects, career changers struggled with the flexible thinking required, and experienced professionals still just seemed to copy existing sites and apps instead of being strategic and developing unique solutions.

The learning experiences I saw did not address these issues well. UX bootcamps provided formulaic processes and boring portfolios; corporate programs were vocational training for their particular deployment structures; video lessons focused on software and surface details; and a flood of articles rehashed familiar concepts for SEO or personal brand-building without any awareness of how the topics fit together.

I saw the need for a solid and practical conceptual model for creative and strategic thinking, a clear and memorable structure that could also adapt to a wide variety of digital projects.

● The goals

Think in 4D is a strategic practice manual for the product design community: those looking to enter it, and those already shaping its features. It shares ways to make design work more impactful for audiences, businesses, and designers. The 4D Thinking model will help you generate many ideas from valuable perspectives; as I was finishing up the second draft of this book and also kicking off a new project, I came up with twice as many concepts as anyone else (and the final product was extremely well received).

If you're learning or practicing digital design, this book will help you…

- Plan effective, valuable design initiatives

- Apply cognitive and visual principles at appropriate times

- Design memorable concepts, enjoyable flows, clear screens, and useful links

- Advance from reactive production to strategic leadership

- Retain learning within a solid conceptual model

If you're managing a product or design team, this book will help you…

- Frame productive design discussions and initiatives

- Strategize valuable experiences for audiences

- Prioritize design initiatives and iterations

- Critique experience designs from many angles

- Differentiate products for success in the marketplace

• The book

This book takes a postmodern approach: it attempts to recognize its influences while also building new ideas from them. It is full of connections to other sources for continued learning, but tries to remain as useful as possible on its own. This book is:

As visual as possible
I don't think it makes sense to use a lot of words to teach product design, so I try to show rather than tell. The book's 500+ illustrations will feed and build the visual or experiential parts of your brain. They are prompts to pause and think. Use your imagination to build on them. 👁

As short as possible
There are plenty of 700-page design bibles you'll never finish. This book is a collection of stand-alone sections for busy schedules and modern attention spans. Try a page at random or skim through the whole thing.

As challenging as possible
This book asks a lot of questions and doesn't always provide the answers. That may feel frustrating at first, but deep thinking is a core skill to practice. Interacting with information helps you develop your own point of view and become an independent creative professional. Respond to, riff on, or argue with the prompts.

A companion, not a lecture
You can't learn design just by listening; have paper or software on hand so you can practice. Applying the ideas to a project as you go along will prevent information overload and increase retention. Take breaks to jot down notes, try the exercises, or sketch your thoughts.

A perspective, not a dictionary
Our field does not have a standard vocabulary for many processes and deliverables, which is kind of a problem. People use the same term to mean different things, or different terms for the same thing. This book labels and groups ideas using the terms I've heard most often and a structure I find most useful. Refine and redefine as needed.

A resource list, not a checklist
No project will need every step in this book; use what's relevant and skip what's not. Workflows to create new marketing sites vary hugely from those to refine existing apps. Each of the four practice phases has nine exercises before the final design challenge. As in real life, do as many or as few exercises as feels right for you.

"'What is the use of a book,' thought Alice, 'without pictures or conversations?'"
Lewis Carroll, *Alice's Adventures in Wonderland*