Pretotype It

How to make sure you are building The Right It <u>before</u> you build It right

10th Anniversary Edition
Version 1.0
July 19, 2022

Alberto Savoia
(Google, PretotypeLabs)

Table of Contents

About This 10th Anniversary Edition

Pretotyping is the fastest and easiest way to test the market for new products and business ideas. It is also the most rigorous and reliable way to test the market for new products and business ideas.

You must test the market for your ideas because most new products and businesses fail due to insufficient market interest. With pretotyping, you can quickly and confidently determine the market's level of interest in your idea *before* you go through the hassle and expense of turning it into a product or a business.

I released the original version of this booklet a decade ago. I designed it to be both an introduction to pretotyping and an example of pretotyping—the pretotype for a book about pretotyping. I completed it in a few days, so it was short and rough around the edges, consistent with its core message—don't waste time creating a perfect and complete version of something until you have evidence that people are interested in it. That message is as valid today as it was then.

Everything I wrote about in the first version remains 100% valid. I still believe in it; I still stand by it; and I still teach it. If anything, I believe in it more than ever. The principles and ideas I first introduced in this book have stood the test of time. Thousands of readers and

practitioners have put them to the test and told me how well they worked for them. So, as far as this 10th anniversary edition's content goes, my goal is to keep the material, tone, and spirit of the book intact—why mess with success? I have kept the changes to the original structure and text to a minimum. I also kept the original silly examples because many people told me that the humor made them more memorable.

Although the principles and tools I wrote about stood the test of time, some of my original text formatting and editing choices were horrific and had to be fixed. "It's as if a cat walked on your keyboard and pressed *italic* and **bold** keys at random," as one reader said.

Once you know that an idea is The Right It, then it's worthwhile to improve on It. So, while this is still far from being a painstakingly edited and thoroughly polished book, I have invested some time to clean up the formatting and to rewrite or delete some confusing paragraphs. I also teamed up with a wonderful editor (thank you, Natalie!) to fix some of the other most egregious problems, and I have added a few more illustrations as well as some photos.

In terms of new material, I have added a bonus chapter in which I introduce a powerful new tool, the *XYZ Hypothesis*, an update titled *A Decade of Pretotyping* (in which I share how pretotyping evolved from a Google-internal

methodology to a globally adopted practice at companies big and small), and I sprinkled in a few short *Ten Years Later* notes in which I share pretotyping insights my clients, students, and I have gained along the way.

OK. Enough preambles. Time to jump in. Let's go!

This Is Embarrassing!

This is not a proper book. It's not a first draft of a book. Heck, it's not even a proper *booklet*.

What you are reading now is a pre-rough-draft version of a book that I am thinking of writing. It's what I would call a *pretotype* for a book.

I would love to write a proper book, but that effort would take months, if not years. And at this time, I have no data to suggest that such a book would be worth writing. Most books fail in the market; not because they are poorly written or edited, but because not enough people are interested in them.

Before committing, I wanted to test the market for my book idea, so I decided to pretotype it. I wrote and edited this booklet in days instead of months—just to see if anyone would be interested in reading it. I had a few friends and colleagues review it, but don't be surprised if you find typos, misspellings, bad grammar, awkward formatting, and all sorts of mistakes.

Releasing it in its present state is not easy for me.

The toughest thing about pretotyping is not creating pretotypes—that's the fun part. The toughest part is getting over our compulsion for premature perfectionism—*prefectionism*, as I call it. The toughest part is resisting the

urge to add more features, or content, before releasing the first version. The toughest part is finding the courage to put our imperfect pretotypes in front of people, where they will be judged, criticized, and possibly rejected.

Reid Hoffman, founder of LinkedIn, once said: "If you are not embarrassed by the first version of your product, you've launched too late."

I am plenty embarrassed. I must be on the right track.

Ten years later: It turns out that I had no reason to be embarrassed. I expected to be roasted (or at least criticized) for putting out such an imperfect and incomplete artifact. Thankfully, instead of roasted, I was mostly toasted (as in celebrated, not as in what you do to a slice of bread.) I received hundreds of compliments, positive feedback, and countless offers to help, collaborate, and spread the word.

Best of all, that "proper book" I mentioned became a reality. In 2018, based on the success of *Pretotype It*, a major publisher offered me a generous advance to write a full-length book on pretotyping. In 2019, *The Right It* was published by HarperCollins. If you like the ideas and approach you will read about in this booklet, you are going to love how they've been refined and expanded in *The Right It*.

There is an important lesson in here: When you bring a rough version of your idea into the world, you might get a bit of a roasting from a handful of people, but don't let that stop you—"haters gonna hate," as they say. If you are upfront about the fact that your idea is a pretotype and behave ethically and morally, most people will be very forgiving, and many will be helpful.

Introduction

At this very moment, millions of people across the world are pouring their hearts, souls, hopes, dreams, time, money, and energy into developing new ideas that, once launched, will fail.

At this very same moment, a much smaller number of people are developing new ideas that will turn out to be successful—and some of them will be world-changing: the next iPhone, the next Airbnb, the next *Harry Potter*.

What group are you in?

Most people believe that they are working on an idea that, if competently executed, will succeed. But we know that can't be true.

Most new ideas fail in the market, and predicting the actual market success of a new idea with any degree of confidence is next to impossible. Some brilliant "it can't fail" ideas turn out to be titanic fiascos, while some crazy "nobody would buy that" ideas turn out to be spectacular successes.

You may think that some people and organizations are much better at predicting winners and losers than others. Don't believe it. Even the best venture capitalists, investors, and entrepreneurs get it wrong more often than not:

they regularly invest way too much on ideas that will fail, and fail to invest on ideas that would succeed.

The problem is that if all you have is an idea for some new product (or service, or book, etc.,) the best thing you can do with that idea is collect opinions about its usefulness or market potential. Ideas are fuzzy and abstract. Opinions are subjective and even more abstract. So when you combine ideas and opinions, you get a big ball of fluff and nothing tangible to go on.

What About Building Prototypes?

"Well, I could make my idea more tangible by building a prototype," you might say.

You are headed in the right direction. Prototypes can help to test and validate the market potential of new ideas more concretely and objectively than ideas and opinions.

In almost all cases, however, the development of a "proper prototype" is more difficult, more expensive, and more time consuming than necessary—a waste of time if done prematurely.

You see, it's normal to invest weeks, months or years, and thousands or millions of dollars to develop prototypes. And the more you invest in something, the harder it is to let it go and admit you've been building the wrong thing. Once you have a proper prototype working, it's

tempting to work on it a little longer and invest in it a little more: "If we add this one feature, I am sure that people will finally buy it and use it." Prototypes often turn into productypes (a prototype taken too far), and by then there's no turning back.

Prototypes should be built to answer questions such as, "Can we build it?", "Will it work as expected?", or "How will people use it?" These are important questions that you need to eventually answer. But an even more important question that you need to answer first is: "Is there a big enough market for this new product?" Answering this last question is where pretotypes come in.

Pretotypes occupy the space between abstract ideas and prototypes. They make it possible to the gather the market interest data you need to make an evidence-based go/no-go decision on a new idea, and they will help you get that data at a fraction of the cost of prototypes: hours or days instead of weeks or months, and pennies instead of dollars.

Most new ideas will fail in the market. That sucks, I know. But pretotyping helps you fail fast, recover fast, and leaves you plenty of time, money, energy, and enthusiasm to explore new ideas (or tweaks to your original idea) until you hit on something that people will want.

A lot of what you will read in this book may seem obvious to you. But before you say "duh!" and dismiss it, look

around at all the products, services, apps, books, etc., that are launched every day, only to fail soon after. Most of these new products don't fail because the people who worked on them were stupid, lazy, or incompetent, nor because they were poorly built or incompetently marketed. Rather, they fail because they were not the right product to start with!

Unless you are just getting started in your career, I bet that you can look back at some of the products you have worked on and name a few that, in retrospect, should never have been built. That's certainly the case for me. I've been lucky enough to work on product ideas that turned a few months of work into millions (and eventually billions) of dollars. But I've also worked on several product ideas that turned years of hard work and millions into diddly-squat, nothing, nada. Guess which experience I'd love to repeat and which I'd rather avoid at all cost? Well, that's why I am here and why you are here.

Even though this version of the book is itself a pretotype, you will find in it plenty of actionable ideas and tools to help you turn the odds for success in your favor. So let's get started!

CHAPTER ONE: THE RIGHT IT

I will define and explain in detail what I mean by preto-typing very soon. Before I do that, however, we need to address the following question:

> What is this 'It' I speak of, and why is it so important to have 'The Right It'?

What Is This 'It' I Speak Of?

In the context of this book, 'It' can refer to a product, a business, a startup, a service, a book, a charitable organization, a video game, an innovative type of boat, a new musical instrument, a revolutionary genetically engineered hypoallergenic hamster, …

'It' is something that does not exist yet, but that you would like to create and bring to life.

'It' is something important to you, and creating 'It' will require a non-trivial combination of your time, effort, and money—as well as a considerable amount of your energy, enthusiasm, and commitment.

Ideally, 'It' is something that you are deeply passionate about, but it's OK if 'It' is just something you must do as part of your job.

As you read on, some good acronyms and mnemonics for "It" are:

• **I**dea on the **t**able

• **I**dea to **t**est

• **I**nnovation to **t**ry

Going forward, I will capitalize 'It' to differentiate your idea from the pronoun 'it'. Since this book is a pretotype itself, I might have missed a few Its here and there. Hopefully it will be clear from the context when I am referring to your It.

The Right It and The Wrong It defined

Since The Right It is such an important concept, let's give it a clear definition:

> **The Right It is an idea for a new product that—if competently executed—will succeed in the market.**

The Right It has an evil twin, The Wrong It, which also deserves a proper definition:

The Wrong It is an idea for a new product that—even if competently executed—will fail in the market.

Now that you know what we mean by The Right It—and have also been formally introduced to its evil twin, The Wrong It—it's time to learn why I consider this concept so crucial that I made it the title of this book.

What's So Important About Having The Right It?

The odds are heavily stacked against the success of new product ideas. Hopefully this is not news to you. I'm sure you've heard statistics like the following many times:

- Four startups out of five lose money for their investors.

- 90% of all mobile apps don't make any money.

- 80% of new restaurants close within one year.

Most new ideas fail. And even though you may feel that you and your idea are special, your odds are the same as everybody else's. Chances are that the idea you are currently thinking of will not succeed—unless it happens to be the exception, The Right It.

If your idea is The Wrong It, one of the most wasteful and costly things you can do is to continue working on it hoping to make it a success through sheer willpower and effort. Unfortunately, this never happens. No amount of time, effort, or money can make The Wrong It succeed. On the other hand, if you have The Right It, the wind will be at your back, and the odds of success will swing heavily in your favor—even if you will, inevitably, run into a few obstacles along the way.

I like to summarize these two scenarios as follows:

> **If there's a market, there's a way.**
> **If there's no market, there's no way.**

Most people and organizations don't have unlimited time, energy, or money to sustain a long string of slow and expensive failures caused by chasing The Wrong It, so making sure that you have The Right It is essential.

The goal of pretotyping is to help you weed out ideas that are destined to fail and to help you find ideas that are The Right It. And to do so with the minimum investment of time, money, and effort.

Ten years later: At first, I was unsure about using the terms "It", "The Right It", and "The Wrong It." They felt a bit awkward and ungrammatical. But, once again, I was unnecessarily worried. Most people immediately understood what I meant and had no problem adopting them. The lesson: sometimes you get lucky on the first try! :-) … But first, you have to try.

"If there's a market there's a way. If there's no market, there's no way."—what a great aphorism (if I can say so myself.) That expression came to me a few years *after* I published this booklet. I had noticed that, one way or another, ideas that are The Right It seem to always find a way to survive and come to life—as if they are guided by an invisible helping hand. At the same time, I had witnessed way too many projects where people desperately tried to generate interest and get traction for The Wrong It—to no avail.

CHAPTER TWO: PRETOTYPING

What Is Pretotyping?

Now that we have a good definition of what we mean by The Right It, we can give pretotyping a proper introduction. The best way to do that is by sharing with you the two stories that got me thinking about this way of testing new business ideas: the IBM speech-to-text experiment and the Palm Pilot experiment.

The IBM Speech-to-Text Experiment

I first heard this story during a presentation at a software conference a few years ago. I am not sure how accurate my description of the events is, and I probably got a few details wrong. But in this case, the lessons from the story are more important than the details. With that caveat out of the way, here's the story as I was told it.

A few decades ago, well before the age of the Internet and even before the dawn of ubiquitous personal computing, IBM was best known for its mainframe computers and typewriters. In those days, a small minority of people were skilled and efficient with a keyboard—mostly secretaries, writers, and computer programmers. Most other

people typed with one finger—slowly, clumsily, and inefficiently.

At the time, IBM was ideally positioned to combine and leverage its computer technology and typewriter businesses to develop a speech-to-text machine. This device would allow people to speak into a microphone and their words would "magically" appear on the screen with no need for typing. It had the potential for making a lot of money for IBM, and it made sense for the company to bet big on it.

There were a couple of major problems, however. Speech-to-text requires a lot of processing power, and in those days computers were much less powerful and much more expensive than today. Furthermore, even with adequate CPU power, speech-to-text translation was a very difficult computer science problem. Tackling it would have required a massive investment and many years of research, a major commitment even for a company with IBM's resources. But everyone would have wanted such a device. If they could pull it off, it would surely be a great success. Or would it?

Would all the people and companies who said that they wanted and needed IBM's speech-to-text machines actually buy them? Several folks at IBM were not too sure. They feared the company would end up spending years in research and lots of money to develop something that

very few would actually buy—not just an embarrassing product failure, but something that would tarnish IBM's great brand and track record in office equipment.

In pretotyping terms, they were not sure that speech-to-text was The Right It. After all, people had never used a speech-to-text system before, so how could they know for sure they would want one without ever trying it? IBM wanted to validate their assumptions and hypotheses, but even a basic speech-to-text prototype was years away. So they devised an ingenious experiment instead. Here's what they did.

They invited potential customers for the product (the companies and people who said they'd definitely buy this new machine if it were available) for a demo of the new system. They put them in a room with a computer box, a computer monitor, and a microphone—but no keyboard.

Then they told their guests that IBM had built a prototype for the revolutionary speech-to-text machine and wanted them to give it a try: "Just begin dictating a letter into the microphone and you'll see." When the test subjects started to speak into the microphone their words appeared

on the screen almost immediately—and with no mistakes. The users were impressed. It seemed too good to be true. And it was.
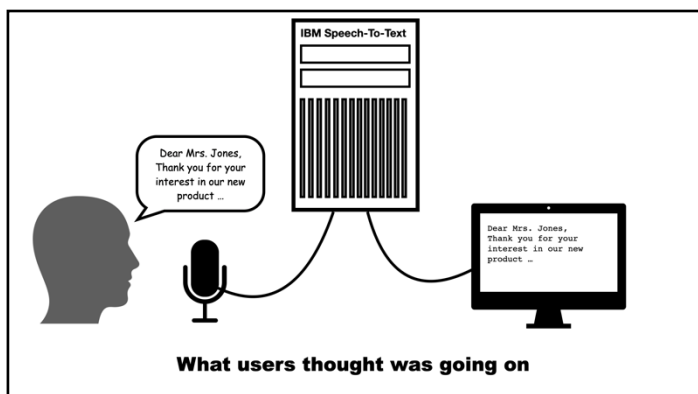
What was happening, and what makes this such a clever experiment, is that no working speech-to-text machine existed, not even a rough prototype. The computer box in the room was a dummy. In the room next door was a skilled typist listening to the user's voice from the microphone through headphones and typing the spoken words and commands using a keyboard—the old-fashioned way. Whatever the hidden typist entered on the keyboard showed up on the user's screen, so the setup tricked the user into believing that what was appearing on the screen was the output of the speech-to-text machine.

What was actually going on
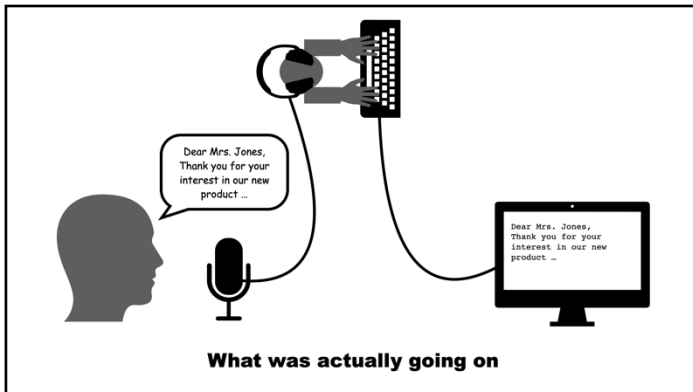
So, what did IBM learn from this clever experiment?

Here's what I've heard: After being initially impressed by the "technology" and after using the system for a few hours, almost all of the people who had said that they would buy and use a speech-to-text machine had second thoughts. Why?

Because even with the near-instantaneous and near-perfect translation that the skilled human typist was able to produce, using speech to enter more than a few lines of text into a computer created several unforeseen problems. For example:

• People's throats would get sore by the end of the day from all that talking.

• It created a noisy and distracting work environment.

- It was also not ideally suited for any confidential material. Imagine someone speaking out loud into the microphone "Bob is incompetent, and we need to fire him ASAP" … as poor Bob walks by.

Based on the results of this experiment, IBM continued to invest in speech-to-text technology, but on a much smaller scale—they did not bet the company on it.

As it turned out, that was the right business decision. Keyboards are still proving hard to beat for most text entry tasks. Forty years ago, most people could not type, but look at any office (or coffee shop) today and you'll see people of all ages and professions typing away on their laptops almost as fast as professional typists. In devices where a full-size keyboard is not possible, such as mobile phones, speech-to-text can be very convenient for short messages, but otherwise the keyboard is still the device to beat—it is still The Right It.

The IBM experiment was ingenious, but what would you call it? The speech-to-text setup with the hidden typist was not what one would consider a "proper prototype"— at least not unless they were planning to stuff living and breathing typists into computers cases. IBM did not prototype a speech-to-text system, they *pretended* to have a speech-to-text prototype, created a non-functional artifact (the empty computer box), and used that artifact to test the desirability and usability of their idea. This way,

they were able to collect valuable user and market data instead of the opinions they would have collected by organizing a focus group and asking hypothetical questions. And they did that with a very small investment of time and money.

I thought that this was a novel and effective approach, and that it was different enough from prototyping to deserve its own name (more about that later) and more study. But first I set out to find similar stories and uncovered another brilliant example.

The Palm Pilot Experiment

The IBM speech-to-text story got me thinking about the concept of pretotyping, but this next example is the one that convinced me that it was something worth pursuing further.

Introduced in 1996, the Palm Pilot was a palm-sized digital device with four basic functions: a calendar, an address book, a to-do list, and a simple note taker. The Pilot was the first successful PDA (Personal Digital Assistant.) But Jeff Hawkins, Palm's co-founder and one of the inventors of the Pilot, did not take the eventual success of PDAs for granted. Quite the contrary. According to a March 1998 story in Time magazine:

"Hawkins, 40, Palm's chief technologist and Pilot's creator, designed one of the first handheld computers, the

*GRiDPad, a decade ago. It was **an engineering marvel but a market failure** because, he says, it was still too big. **Determined not to make the same mistake twice**, he had a ready answer when his colleagues asked him how small their new device should be: "**Let's try** the shirt pocket."*

*Retreating to his garage, he cut a block of wood to fit his shirt pocket. Then he carried it around for months, **pretending** it was a computer. Was he free for lunch on Wednesday? Hawkins would haul out the block and tap on it as if he were checking his schedule. If he needed a phone number, he would **pretend** to look it up on the wood. Occasionally, he would try out different design faces with various button configurations, using paper printouts glued to the block.*" [**Emphasis** is mine.]

Below is a photo of the pretotype Jeff built out of wood and paper on display at the Computer History Museum in Mountain View, CA.
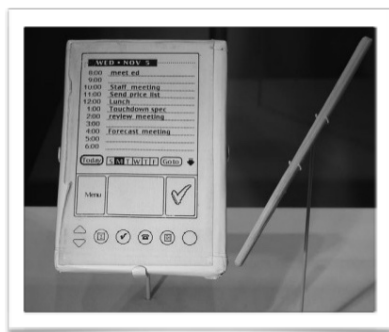
Jeff Hawkins' wooden Palm Pilot pretotype complete with matching chopstick stylus.

Can you imagine how people reacted when Hawkins pulled a block of wood out of his pocket and tapped on it with a chopstick pretending that it was a working device? They must have thought he was crazy.

Yes, crazy like a fox! That piece of wood with paper printouts convinced Hawkins that he was on the right track. He had answered the first, and most important, question: "If I had a pocket-sized Pilot, would I actually carry it with me and use it?" And his answer was a definite "yes!"

He also had data on what features he used the most: calendar, to-do list, address book, and short notes. He would concentrate on implementing just those essential features.

After the experiment, Jeff knew he had The Right It. Now he could focus on the next set of questions, such as: Can we build it this small? How much would it cost to build? How long will the batteries last? It was time to invest in building a "proper prototype."

The Palm Pilot was not just a success; it was a huge hit and had a tremendous impact. The Pilot was the predecessor to today's smart phones, and it all started with a little piece of wood—just like Pinocchio.

Ten years later: These days, people send me new sightings and examples of "pretotyping in the wild" all the time—I've collected hundreds of them. But I still use the IBM speech-to-text and Palm

Pilot stories to introduce pretotyping even though they are a little dated, partly out of sentimentality, but also because they are such clever, memorable, and timeless examples.

Test It Before You Invest In It

The IBM speech-to-text example and Palm Pilot example share some important traits:

- Both teams had doubts about the eventual usefulness and market adoption of their innovation. It was a cool idea. It made sense. It solved a problem. But was it The Right It? Would people use it as envisioned? Jeff Hawkins had just been burned by investing years to develop a product, the GridPad, that was "an engineering marvel but a market failure" (i.e., The Wrong It) and was determined not to make the same mistake twice.

- Because of their doubts, both teams wanted to test the usefulness of their idea with a prototype and collect feedback from real-world usage of the product (as opposed to opinions about the product) before committing to its development.

- In both examples, however, even the development of a working prototype (a crude but functional version of the final product) would have required a lot

of upfront time and a significant investment in research and development.

- Their solution to the working prototype problem was to pretend that they had such a prototype and to see what they could learn from it. In the speech-to-text example, actual hardware and software were replaced by a hidden typist, and in the Pilot example, it was replaced by "make believe" and Hawkins' imagination.

I find these two stories striking because they are so different from the typical approach people and companies take when they have an innovative idea they want to pursue. Most people fall in love with their idea (their It), assume that it will be successful (The Right It), and just start building it. They jump the gun. They invest too much, too soon and build a first version of the product with too many features, too much functionality, and too much polish. They assume that if they build It right, people will want It. In most cases, that assumption turns out to be both wrong and costly. "If we build it, they will come," makes for a great line in a fantasy movie plot, but it's a dangerous way to think when it comes to new product ideas meant for the real world.

Ten years later: This section was originally titled "Fake It Before You Make It," but over the years I have heard that expression used to justify all sorts of nonsense and unsavory behaviors. Although that phrase occasionally still slips out of my mouth (or keyboard),

these days I've replaced it with "Test It before you invest in It"—it still rhymes, and it's a far more accurate representation of how and why to pretotype.

Pretotyping: A Word Is Born

The more I thought about the IBM speech-to-text and Palm Pilot experiments, the more I became convinced that what those teams did should not be just clever one-off examples, but a crucial phase that belongs in the process of exploring all new and innovative ideas. They illustrate a step that most people skip and—more often than not—end up paying dearly for doing so.

Over a span of several months, I shared these two stories with dozens of colleagues, friends, entrepreneurs, venture capitalists, engineers, and product managers. Surprisingly, none of them had heard of these examples before. But all of them were impressed by the clever solution of "pretending to have a working prototype" to see what they could learn before investing to build one. Many of them slapped their heads and said things like: "I wish I had done something similar before sinking years and millions in my last idea," or "preto before proto—makes a lot of sense."

I realized that I had stumbled into a valuable and important step in the idea development process that, while not new or original, was not well known, not talked

about, and—most importantly—not widely practiced. Quite the opposite. Part of the problem was that this missing step did not have a specific word to describe it. Without such a word, it would be difficult to help it become better known, properly discussed, and more widely adopted. Before proceeding further with my discovery, I had to give it a name.

Since a core element in both examples was the act of pretending (the IBM folks pretended to have built a speech-to-text system and Jeff Hawkins pretended to have a working PDA in his shirt-pocket,) the first word that came to mind was *pretendotyping*—yikes!

The second word I came up with was even worse. Since the core concept is to quickly test an idea even before you invest in building a proper prototype, I came up with the word *preprototyping*—double yikes!

Fortunately, these two painfully awkward words contained the seed for a much better one. By dropping a few letters here and there, I came up with the word *pretotyping* for the verb that describes the activity, and *pretotype* for the noun that describes the artifacts created for, and used in, pretotyping (e.g., Hawkins' wood block with paper sleeves.)

I liked the words "pretotyping" and "pretotype," but was I the first to use them? Perhaps someone else had already been using them and owned the rights to their use and

meaning. I typed "pretotyping" in the Google search box. To my delight, Google came back with "Did you mean pr**o**totyping?" The search engine assumed that I had misspelled the word, so it gave me a bunch of results for prototyping instead—a good sign. When I insisted that I did *not* mean pr**o**totyping and to please give me results for "pr**e**totyping" instead, Google returned a relatively small number of pages where people had misspelled "prototyping." Searching for "pretotype" (the noun) yielded similar results. The coast was clear. I had coined a new word that nobody else, besides bad spellers, was using.

Even better, the domain names pretotyping.[com, org] and pretotype.[com, org] were also available. My first instinct was to pull out my credit card and buy all of them. But I realized that by doing so I would be violating the core message of pretotyping: Test It before you invest in It. Even though it would only cost a few dollars to buy the domain names, it was a matter of principle. I thought that pretotyping and pretotype were great words to describe a great concept, but would other people feel the same? I had to pretotype pretotyping.

Luckily, as part of my job as Google's Innovation Agitator, I had the opportunity to talk to a lot of colleagues and customers about innovation and experimentation. So, along with the speech-to-text and Palm Pilot examples, I started using the words pretotyping and pretotype in all of my presentations, meetings, and discussions. Everyone

responded enthusiastically to both the concept and the words. Not only that, but they began sharing their ideas for new products with me and asking me for suggestions for pretotyping them. Several of them began lobbying with their colleagues and managers, urging them to pretotype their next product or feature idea before building it. It looked as if I were on the right track.

One day, I received an email from the head of one of the biggest advertising agencies in the world. A few weeks earlier, he had attended a two-day Google executive summit, which included my presentation on innovation and pretotyping. He thanked me for my presentation, said that learning about pretotyping was the highlight of the visit both for him and his team, and that "… the word pretotyping has now entered our company's lexicon."

That day, I knew that "pretotyping" and "pretotype" were the right words for the right concept. I felt confident taking the next step and invested a few dollars to buy the associated domain names.

Ten years later: Today, if you type "pretotype" into any search engine (including Google) instead of a "Did you mean prototype?" response, you get thousands of results from websites all over the world. Much to my delight, the word has spread beyond Google and Silicon Valley, and it is no longer considered a typo—at least online. Sadly, most spell-checkers still flag "pretotyping" as a misspelling. But as pretotyping continues to spread and become adopted by many more people and organizations every year, who knows? Perhaps in another decade or so it might even be included

in the Oxford English Dictionary, and you will no longer have to click on "learn spelling" the first time you type it.

Pretotyping Defined

Examples are the best way to explain pretotyping, but I believe it worthwhile to also define it.

Here's a formal definition—the dry, technical kind you'd find in a dictionary:

> Pretotyping [prē-tō-tīp-ing], verb: Testing the initial market appeal and/or actual usage of a potential new product by simulating its core experience with the smallest possible investment of time and money.

Here's a less formal definition:

> Pretotyping is a way to test an idea as quickly and in-expensively as possible by creating artifacts to help us test the hypotheses that "if we build it, they will buy it" and/or "if we build it, they will use it."

My favorite definition of pretotyping, however, is based on the subtitle of this book:

> Make sure—as quickly and as cheaply as you can— that you are building The Right It before you build It right.

Pretotyping And Prototyping

Some people might argue that pretotyping is very close to prototyping both in spirit and practice; therefore, there is no need to differentiate between the two nor to invent a new word. I have thought about this issue a lot. The problem is that the term prototyping covers a huge territory between an abstract idea for a product and the appearance of the final product.

A prototype for a speech-to-text computer, for example, could include an actual combination of hardware and software to digitize speech, break it down into phonemes, convert the phonemes to possible words and sentences, apply error corrections to those words and sentences, and so on. Such a system would take years of development and cost millions of dollars, but it would be a one-off and still be far from being a final product, so it would be considered a prototype. In fact, it would fit *exactly* the definition most people think of when they think of a prototype.

Mention the word prototype, and some people imagine something primitive, with rough edges, yet somewhat functional and close to the final product. If Jeff Hawkins had mentioned he had a prototype for the Palm Pilot, people would have expected to see something with batteries

and an LCD screen (see photo) not a block of wood with a paper screen and a chopstick.
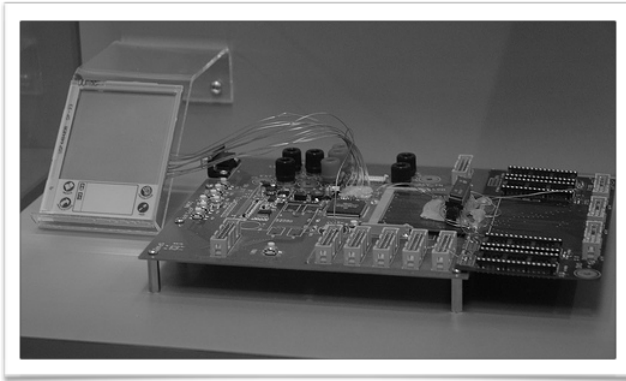
Working prototype of Palm Pilot on display at The Computer History Museum in Mountain View.

Similarly, when IBM had told its potential customers that it had a prototype speech-to-text machine, they would not have imagined a human typist hidden in another room.

Another key difference between pretotypes and prototypes is that the cost and timeframe for pretotyping must both be at the very low end of what is usually involved in prototyping. It's acceptable for a prototype to take months or years of development and cost millions of dollars. By contrast, a pretotype should take no more than a few hours or days to develop and it should cost little or nothing.

When I teach pretotyping to university students, a significant part of their grade is based on how quickly and how inexpensively they can design and build a pretotype that

they can use to collect data on the usability and desirability of their idea. Ideally, a pretotype-based experiment should be one or two orders of magnitude faster and cheaper to develop than a prototype-based experiment.

Below is a slide from my pretotyping workshop showing the relationship between pretotype, prototype, and product in terms of time and money required.

At this point, you might think that I have something against building working prototypes. Far from it! I am an engineer, and I love to fire up my soldering iron (or my compiler) and to build (or code) actual working prototypes. It's huge fun for me.

But I've learned—the hard way—that it pays to be patient because building a working prototype is even more fun
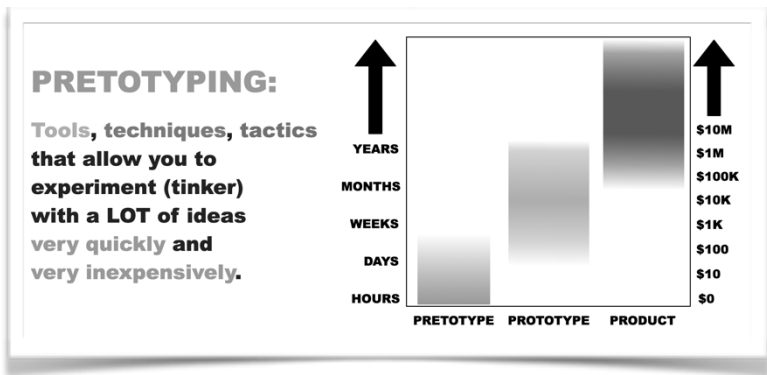
and more motivating when you are confident that a market and eager users for what you are planning to build exists.

So make no mistake: pretotypes are not a replacement for prototypes. You don't want to jump from pretotype to product, any more than you want to jump from idea to product.

Prototypes are a necessary and incredibly useful tool in the new product development process. They can—and should—be used to answer many questions about a potential product, such as:

- Do we know how to build It?

- Will It work at all?

- Will It work as intended?

- How small/big can we make It?

- How much would It cost to produce?

- How long will the batteries last?

- …

Pretotyping, on the other hand, focuses on answering just one very basic but very important question: If we build It

right, will enough people want to buy it? Once we have enough data to indicate that the answer is likely to be "yes", then it makes sense to move forward from pretotyping to prototyping.

Hence, pretotyping deserves to stand on its own. Just as a startup is a specific type of early-stage company, pretotyping can be viewed either as a specific subset of prototyping or a prelude to it.

Ten years later: Today, I am more convinced than ever that pretotyping and prototyping are—and should be—two distinct phases in the idea development process. I have seen way too much time, money, and engineering talent wasted on building totally unnecessary working prototypes before validating market interest for that idea. Once you've sunk a lot of time, money, and talent into building a working prototype, you are also vulnerable to *the sunk-cost fallacy* which can turn an already bad failure into a catastrophic one*:* "We've already invested so much to get this thing working as a prototype, we might as well invest a bit more and make a product out of it."

CHAPTER THREE: IT WILL FAIL

You should now have a good idea of what pretotyping is all about, and we'll get into more details and examples a bit later. But before doing that, I want to explain why pretotyping your ideas is so important.

Do you remember these sobering statistics from earlier on?

• Four startups out of five lose money for the investors

• 90% of all mobile apps don't make any money

• 80% of new restaurants close within one year

The actual numbers may vary a bit, but the message is clear: most new product ideas are destined to fail—yours included. Most new ideas are destined to fail because they are The Wrong It; they sound great in theory, but once developed they turn out to be nowhere near as desirable to the market, nor as useful and helpful as originally anticipated—regardless of how well they are designed, engineered, manufactured, marketed, or sold.

Unfortunately, pretotyping does not have the power to turn The Wrong It into The Right It—nothing can do that. But pretotyping will help you identify The Wrong It

quickly and inexpensively, so you can keep trying new ideas (or variations on the original idea) until you find The Right It.

Since failure is our enemy, and it's important to "know thy enemy," let's look at failure more closely.

The Law Of Market Failure

The evidence for the really unfavorable odds against new product ideas is so reliable, so compelling, and so consistent, that we can decree it to be a law:

The Law of Market Failure

Most new ideas will fail in the market—even if competently executed.

By "*most* new ideas", I mean a dishearteningly high percentage (80-90%) of all ideas that are actually developed and brought to market. This law applies to every category of new ideas you can think of: ideas for new products, services, startups, restaurants, movies, books, soft drinks, TV shows—you name it.

Let me also repeat this because often people don't hear what they don't want to hear: You and your ideas are subject to this law like everyone else. The Law of Market Failure does not play favorites—there are no exceptions.

I can hear some of you complaining: "But how does the Law of Market Failure help us? All it does is give us lousy odds for success, and then it tells us that we'll probably fail even if we do a great job developing our idea. All this law does is lower our morale and kill our enthusiasm."

True. On the surface, the Law of Market Failure is the opposite of a morale booster for aspiring entrepreneurs and innovators. Strictly speaking, it's not even a proper law. Can you imagine if Sir Isaac Newton had stated his observations on gravity as: "*Most* things will fall if dropped?" Sir Newton, however, had it relatively easy. He was dealing with an immutable and universal law of nature. The eventual market success of any new product, on the other hand, must contend with highly fickle, mutable and (more often than not) irrational human behavior. In this context, the statistical formulation of the Law of Market Failure is as good as it gets.

But while not a morale booster and based only on statistics, The Law of Market Failure must not be ignored. If you accept it as true, then your mindset should change from, "Let's go for It! Let's go ahead and build It!" to a more cautious, but still enthusiastic and motivating, "Let's prototype It!" That mindset change alone will dramatically increase your odds of success.

I know that "Go for it!" has great romantic and heroic appeal. "Jump in with both feet," "bet the farm," and "damn the torpedoes" is how many legends are born. But it's also how a much greater number of catastrophic failures begin. If your attitude is "damn the torpedoes," then don't be surprised if you do get torpedoed:
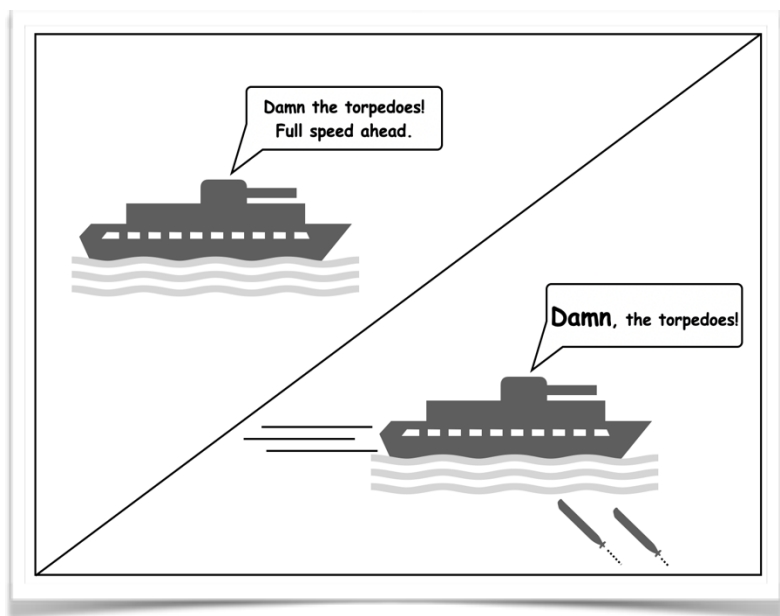
That said, you may decide, in some cases, that you don't care what the odds are. You just want to go ahead with your idea regardless of the consequences—or torpedoes. I don't want to discourage that completely.

Sometimes in life we might take some crazy risks and just go for it. In some situations, you care so much about bringing your idea or vision to life that you don't care

about the odds. If that's the case, laugh at the Law of Market Failure, throw caution to the wind, throw this book in the wastepaper basket, and throw your heart and soul into your project. Perhaps, if successful, they'll make a movie about you and your idea. I am rooting for you and I wish you success.

If, on the other hand, you are not 100% committed to *one* specific idea and the price of failure for that one idea would be too great or unacceptable (say, if you bet the farm and lose, you will lose your home or retirement savings, or because a torpedo would sink your company and hurt your employees and investors) then give the Law of Market Failure the respect it deserves because …

… Failure Is Not An Option

Life is not a Hollywood movie, and you are not Indiana Jones or Wonder Woman. For any new and untested idea, failure is not *an option*—it's *the most likely outcome*!

We can't get away from the Law of Market Failure. We can't change the odds for new ideas.

What we can do, however, is use the Law of Market Failure to our advantage, in the same way airplane engineers use the laws of aerodynamics to beat the law of gravity.

How do we do that? We go on a hunt!

Good Failure Hunting

Failure is inevitable, but not all failures are created equal. There are bad failures and good failures. What's the difference? Here's how I look at it:

They say that failure is a great teacher. I agree. All failures have a cost; they *take* something from you. But they also *teach* you something. Failure can yield valuable morsels of data, lessons to learn. The trick is to make sure that you don't pay too much of a *failure tax* for that data and those lessons—that is what marks the difference between bad failure and good failure:

Bad failure: Cost of failure > Value of lesson

Good failure: Cost of failure < Value of lesson

If we fail, and the cost of failure is greater than the value of the lesson, then it's a bad failure—something we want to avoid.

But if we can fail quickly and cheaply while collecting valuable real-world market data and lessons that we can apply going forward, that's a good thing—something we want to do.

The Beast of Failure

Think of failure as a beast, a beast that likes to feed on ideas that are likely to fail and that, given the chance, will

also take a good bite out of the people working on that idea—a nasty creature. But *The Beast of Failure* has a gift: it can smell failure the way some pigs can smell truffles. This is a gift we can use to our advantage, to learn if our idea carries with it the stink of failure.

To do that, we put together some really cheap bait in the form of a pretotype. Something that looks and smells like our idea that we can use to try to trick the beast into rearing its ugly little head. We trek to the entrance of the dark and musty cave where the beast dwells. Then we dangle our pretotype bait at the entrance of the hole to see if the beast emerges from the shadows and inches toward us. We wait until it's close enough that we can smell its putrid breath and catch our reflection in its beady eyes. Close enough to make sure that it is the real beast. Then we toss our cheap pretotype bait at the beast as a sacrificial offering and run like hell in the opposite direction—before the beast can sink its teeth into our flesh and drag us down to its den to feast on us. And then we watch how the beast reacts to our idea. Will it go for the bait?

As I've said, the beast has a keen sense of smell for failure, and it likes to eat ideas that stink of The Wrong It. You must be ready to toss sacrificial morsels of your ideas at the beast and run away. If you are not nimble; if you get too attached to your idea; if you invest too much to develop your idea before testing it, it is *you* that might end up taking a journey through *the belly of the beast*.

This is something I don't recommend—I speak from experience.

But if you do this well, the only thing you'll lose is your cheap bait (your pretotype.) In return, you will have learned something valuable about your market, and you get to live another day so you can try a different idea, and keep trying until you come up with a bait that fails to attract the beast—a strong sign that you might have found The Right It.

Pursuing your idea to the end, even if it turns out to be the wrong idea, may sound exciting and heroic, but I guarantee that pretotyping that idea is just as exciting and even more heroic—not to mention that it's a much smarter thing to do.

You are still on an epic and challenging quest—the quest for The Right It. Between you and The Right It stands your nemesis, the much-feared Beast of Failure. You cannot avoid dealing with the beast; you must fight it. But armed with the formidable power of pretotyping, the odds that you will emerge victorious are much, much greater.

That's the essence of our strategy—the very essence of pretotyping. But playing this game with failure only makes sense if the bait we use is cheap and inexpensive, a pretotype that we put together in a few hours or days and at a minimal cost—something we don't mind abandoning in front of that cave.

Ten years later: The Law of Market Failure has been neither repealed nor revised. It is still in full force and vigorously enforced—every day, in every market, for all entrepreneurs and innovators.

The Beast of Failure is also alive and well. I had fun writing this metaphor in which I depict the market as a cruel beast and pretotypes as bait. (Perhaps I was subconsciously pretotyping a career as the next J. R. R. Tolkien, or George R. R. Martin.) But I wasn't sure how people would react to it, or if it made any sense to anyone but me. As it turns out, many readers wrote to tell me specifically that they loved the grotesque image of The Beast of Failure emerging from its cave to sniff our bait. Many also told me that it was a great metaphor for how they felt afraid and apprehensive when they first approached the market with their idea.

Three Ways To Fail

You have three options for dealing with the potential failure of your idea:

- **Drop It**

- **Go for It**

- **Test It**

Here's a quick overview of these choices.

Drop It

The first way is to simply drop your idea and do nothing about it. This way of dealing with possible failure is the way of sloths and chickens: people or companies too lazy, insecure, or cowardly to put forward any effort or risk anything. Dealing with failure by not trying at all is the surest way to fail. If you've read this far, I'm sure you are not in that category. You are ready to build something. Good for you!

Go for It

The second way of dealing with failure is the exact opposite of the first. Instead of laziness, insecurity, and cowardice, you show excessive eagerness, confidence, and hubris. Dealing with failure by underestimating it while overestimating your own ability to avoid it leads to very costly lessons (i.e., what we've just defined as a *bad failure*) most of the time.

Test It

Test It is the Golden Mean between Drop It and Go for It. Fortune favors the brave—not the cowards, nor the reckless. I'll have a lot more to say about the Test It approach in the next chapter. But first, I want to explain why, despite being the most common paths people take, Drop It and Go for It are to be avoided.

Lost In Thoughtland

Although polar opposites, Drop It and Go for It have one thing in common: they both involve lots of thinking, lots of talking, and very little real-world interaction. All Its are born as ideas, but if we don't quickly shift from thinking and talking to putting something concrete in front of our potential users and customers, our ideas run the risk of spending too much time in a very dangerous place I call Thoughtland.
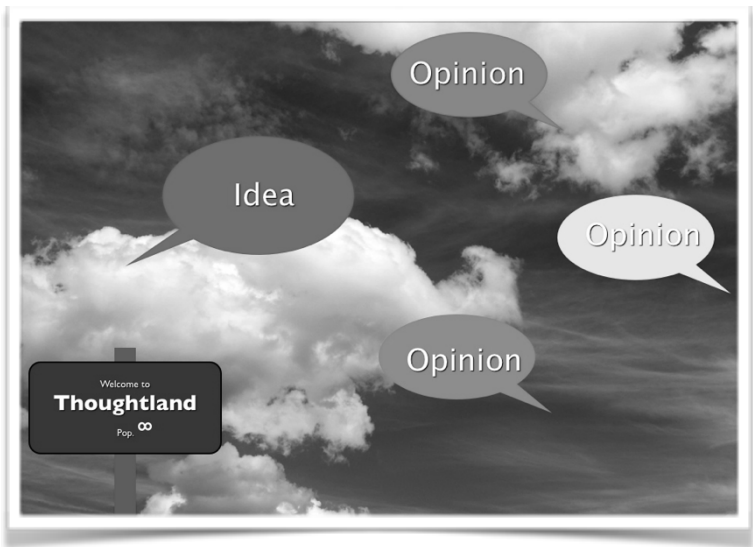
Thoughtland is a fictional place inhabited by two ghostly entities that bounce around and interact with each other: ideas and opinions. More precisely: unrealized ideas and various opinions about those unrealized ideas.

Thoughtland is a very dangerous place for creators, innovators, entrepreneurs, and authors. The opinions that fester in Thoughtland and attach to our ideas can lead us to fail in the two painful ways we just described:

False Negative opinions about our idea can scare us into abandoning it—the Drop It scenario.

False Positive opinions about our idea can make us overconfident and blind us to The Law of Failure. And in doing so, they get us to commit to building It before we have sufficient evidence of market interest—the Go For It scenario.

Let's see how these two scenarios unfold using some examples.

The Drop It Scenario

Most ideas never leave Thoughtland. They remain in limbo, forever unrealized. This is the saddest form of failure. Sure, most ideas are The Wrong It, but there is a small chance that any one idea could become the next Amazon, or Google, or Tesla. If someone gives up on it without even giving their idea a chance, that's a sad scenario for the ideators, the idea, and its many would-be users or customers.

A good percentage of ideas fail to see the light of day simply because the people who come up with them never get off their butts. They believe the idea is a winner, other people tell them that the idea is a winner, but they are too lazy/tired/busy/broke/inexperienced/afraid/(add your favorite excuse) to do something about it. As we'll see later, pretotyping can help us deal with this situation.

The remaining percentage of ideas fail to see the light of day not because those who come up with the idea are lazy/tired/busy/…; but because, while in Thoughtland, those ideas attracted enough negative opinions that belief in them first wavered and then collapsed altogether. Unfortunately, this is a very common scenario; it's the sad fate of many ideas that are The Right It and could have become great successes. How does this happen? Let me illustrate this with an example.

Alice In Thoughtland

Alice, a talented and creative software developer, has an idea for a new mobile app that allows people to create short messages (222 characters or less) that will automatically be broadcasted to their friends, family or anyone who wants to follow them. She calls this app idea *MultiTextBot*.

To see what other people think about it, Alice takes her concept for MultiTextBot on a tour of Thoughtland. Let's see what happens:

Alice invites several of her friends for coffee, "I have an idea I want to share with you." And while her friends sip cappuccinos and munch on cupcakes, she enthusiastically describes MultiTextBot to them.

Her friends don't get it:

"Who cares about what I am doing or thinking?"

"Why would I follow you or anyone? My life is busy enough."

"People can follow me? You might as well call this app *StalkMe*."

"What's with that stupid 222 character limit?"

A couple of friends who are too nice to be completely negative give her helpful suggestions: "Perhaps you should get rid of that character limit and add the ability to send photos, share documents, and tag with GPS coordinates."

"Silly friends," thinks Alice. "What do they know, anyway? Big mistake asking them." So she decides to take her idea to the professionals—venture capitalists. They'll see how great it is.

The VCs don't get it either. Some just pass: "This is not a big enough idea for us, but good luck!"

Others ask for user data, but Alice has none: "Sorry, it's just an idea at this time. But let me show you my PowerPoint slides and revenue projections …"

But before Alice can boot up her laptop, the VCs get up from their chairs: "Come back when you have a million users. We can talk then."

Wow. How could Alice have ever thought that this was a good idea? Good thing she asked for other people's opinions before quitting her job to work full-time on this silly app.

"Phew, that was a close call," she says to herself. "I'm glad I asked for opinions before going ahead with this crazy idea."

What happened to Alice happens all the time. It's probably happening at this very moment in living rooms, coffee bars, and VC boardrooms all over the world. Since most ideas are not The Right It, negative opinions kill a lot of bad ideas. But they also kill many innocent and promising ideas that are The Right It but never get a chance.

Ten years later: Most of you have probably realized that my example of Alice's MultiTextBot idea is a very thinly disguised description of Twitter—arguably one of the most successful ideas in

history and one that has drastically changed the way we communicate with each other.

Today, Twitter's success and impact are undeniable. But years ago, and especially at the very beginning, the initial opinion and reaction of most people who heard the idea for Twitter (including a lot of VCs and smart investors) was negative. They didn't get it. Some still don't get it, but that does not matter because hundreds of millions do get it and use Twitter every day. Twitter was The Right It—but you wouldn't have known it by its reception in Thoughtland.

Opinions, bah!

(At the time I am writing this, Twitter has a market cap of over 30 billion dollars. Sorry Alice!)

The Go For It Scenario

We've seen how negative opinions in Thoughtland can kill The Right It. But that's only half of the problem. Let's look at the flip side: how positive opinions can get us to commit to The Wrong It.

Tom In Thoughtland

Like his cousin Alice, Tom is a talented software developer who has his own idea for a smartphone app to help romantically-challenged guys like himself appear to be more thoughtful. Tom's app will automatically send

thoughtful text messages to the user's significant other at random times during the day. Thanks to this app, which he calls *HoneyTextBot*, the user's beloved will receive text messages like: "Hi honey. I'm thinking of you. Love. Your little squirrel." or "Hey babe, I am just texting you to say I LOVE YOU. XOXOXO"

HoneyTextBot's messages will make their recipients think that their romantically-challenged mate is thinking about them at that very moment —even though, as in Tom's case, he is probably out drinking beer with his pals and watching mud wrestling. How romantic!

This is Tom's It—his new idea on the table.

Here's what happens to Tom's idea in Thoughtland:

> Tom mentions his concept for HoneyTextBot app to ten of his pals and asks for their opinion. He calls this his "market research."

> Seven out of the ten friends tell Tom that they think the app is a great idea, that they will definitely buy it for $1.99, and would use it regularly. Two express doubts, and the last one said that his girlfriend just broke up with him so he's single—to which Tom promptly replied, "you wouldn't be single if you had my app!"

Tom extrapolates from his "market research" and reaches the conclusion that he could easily make millions with this app: "70% of guys with phones and a significant other multiplied by $1.99 = ... dunno exactly ... but it's got to be a lot of money!"

Boosted by such favorable expert opinions and by his judicious financial projections, Tom quits his job and spends three months and all of his savings to write a full-featured and highly-polished version of Honey-TextBot.

Tom is a skilled software developer and has an excellent sense for design, so the app looks beautiful and operates flawlessly. The first version can send lovely little text messages in over 20 languages! To cover all bases and preempt any competition, Tom decides to develop and launch his app on both major mobile platforms (Android and iPhone) simultaneously.

The great day arrives. Tom finally launches Honey-TextBot on both the Apple and Android app stores, and …

… nothing. Nobody seems interested in Tom's beautifully crafted app. Not even his friends. Of the seven friends who said that they would buy HoneyTextBot, only three do—and only after Tom pesters them to do so. After a week, two of them quietly uninstall it from their phones, and the third one forgets it is even there.

What happened?

How can an idea that receives such positive opinions turn out to be such a flop? How does Tom's 70%-will-buy projection turn into 0.0002%-actually-bought? Well, that's what happens when you make your decisions based on what you "learn" in Thoughtland.

In this case, Tom's Thoughtland-based analysis gave him a false positive. While dwelling in Thoughtland, Tom was misled into believing that his idea was The Right It. Thinking he had The Right It, Tom quit his job and spent three months developing the full-blown app. Tom didn't just skip the pretotyping phase; he even skipped the pro-totyping stage. He went straight from idea to what I call a *productype*.

If pretotyping can be summarized as: "make sure you are building The Right It before you build It right," produc-typing can be summarized as: "build It right even though you have no evidence at all that you are building The Right It."

What was Tom thinking? He is a smart guy. Why did he spend even one minute creating more than one version of HoneyTextBot? Why did he bother to provide support for multiple mobile platforms and multiple languages?

What happened is that, fooled by the positive opinions he collected in Thoughtland, Tom ignored The Law of Market Failure. He assumed success and decided to Go for It!

Like the Drop It scenario, the Go for It scenario happens all the time. When our own infatuation with an idea is combined with false positives from Thoughtland, it's hard to curb our enthusiasm and hold back.

Just in case you are wondering, smart but naive and overly-optimistic individuals like Tom are not the only ones who fall for the false positive trap. Far from it. Experienced professionals at major companies fall for it just as often.

Ten years later: Has my hostile position against opinions changed since I first wrote this? Have I mellowed out? No way! How could I, when I continue to see opinions killing promising ideas and giving false hope to ideas destined to fail?

Note: In retrospect, I wish that I hadn't used two mobile apps examples in a row. Several readers commented that this may have given the false impression of a narrow applicability of pretotyping techniques. This would be a pity because pretotyping applies to all kinds of products, services, and initiatives—not just software and most certainly not just mobile apps.

In fact, when we taught pretotyping as part of a Creativity and Innovation course at the Stanford d.school, students were not allowed to pick a mobile app as their innovative idea for the team project. Why? Because mobile apps are not that innovative anymore. These days, there's already an app for practically everything, and we

wanted to push the student's creativity beyond the easy and obvious.

I took the readers' comments to heart, and in my new book, *The Right It*, I used a wide variety of examples to cover all types of new ideas: software, hardware, personal services, books/movies, restaurants, education, etc.

Get Your Idea Out Of Thoughtland ASAP

Let's do a quick review because this is important stuff.

All ideas, whether they are The Right It or The Wrong It, are born in Thoughtland. As we've seen, spending too much time in Thoughtland can often lead us into abandoning potentially good ideas, or prematurely committing to potentially bad ideas. In other words:

- **Drop It, or**

- **Go for It**

As we know, chances are that our idea is not The Right It. But the place to make that determination is not in Thoughtland. It must be done in the real world where, instead of subjective opinions, we can collect actual market and usage data.

We must not let our idea fester in Thoughtland; we have to get it out of there as soon as we can and as cheaply as possible. We must

> • **Test It**

And that's where pretotyping—the third and the best way to deal with The Beast of Failure—comes in.

CHAPTER FOUR: PRETOTYPE IT

Time to get to the heart of this book—the actual creation and testing of pretotypes.

In this chapter, I will introduce you to several pretotyping techniques, and in the next two chapters I will demonstrate how you can unleash these techniques to put your idea to the test by collecting reliable market data in the real world instead of undependable opinions in Thoughtland.

A Small Sampling Of Pretotyping Techniques

Let's begin with a quick overview of the techniques we'll learn about:

- **The Mechanical Turk**—Replace complex and expensive computers or machines with human beings.

- **The Pinocchio**—Build a dummy, non-functional version of the product and bring it to life with your imagination.

- **The Stripped Tease**—Create a functional version of your idea, but stripped down to its most basic functionality.

- **The Provincial**—Before launching broadly, run a test on a very small sample.

- **The Fake Door**—Create a fake entry-point for a product that doesn't yet exist in any form.

- **The Pretend-to-Own**—Before investing to buy whatever you need to develop your idea, rent, or borrow it first.

- **The Re-Label**—Put a different label on an existing product that looks like the product you want to create.

These techniques are just a small sample of what you can do with pretotyping. Feel free to combine, refine, re-define to your heart's content. Even better, come up with your own techniques!

Now let's look at each of these sample techniques in more detail.

The Mechanical Turk Pretotype
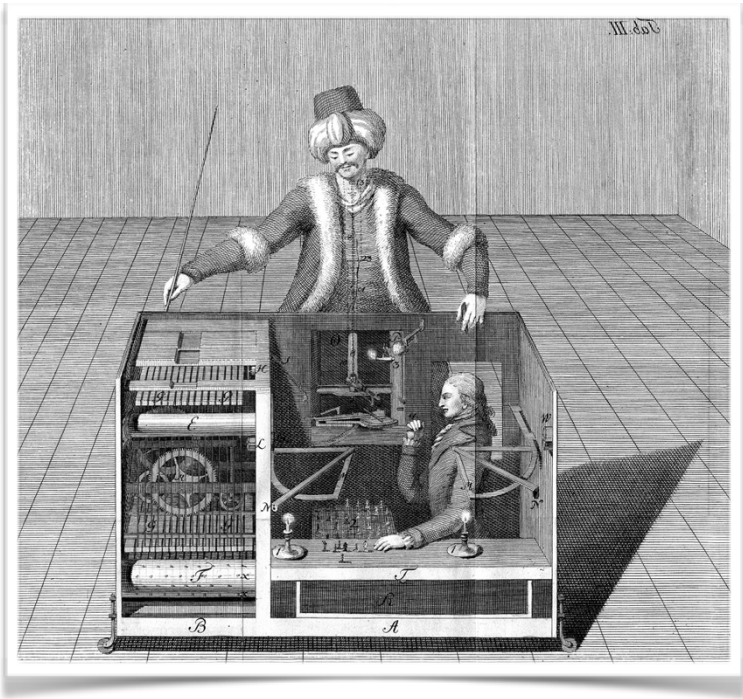
This pretotyping technique borrows its name from the famous Mechanical Turk chess-playing "machine" that toured the world in the late 18th century. People were led to believe that the "Turk" was a mechanical contraption (an automaton) programmed to play chess. In reality, the box concealed a small expert chess player making the moves by manipulating the mannequin.

A Mechanical Turk pretotype is ideal for situations where you can replace costly, complex, or yet-to-be-developed

technology with a concealed human expert performing the functions of that advanced technology.

The IBM speech-to-text experiment is a perfect example of this technique. Developing a good enough speech-to-text engine would have taken years and a huge investment. But a human typist, hidden in another room the same way the chess player was hidden inside the Mechanical Turk device, easily simulated that complex functionality.

Ten Years Later: Until recently, developing robotics and/or artificial intelligence applications required extensive knowledge of AI techniques, expensive hardware and software, and a lot of time and effort. Today, incredibly powerful AI software development tools and other AI resources (e.g., training courses) are available—many of them for free! These new tools make the development of AI applications relatively easy and quick. Nevertheless, for the time being and in most situations, a Mechanical Turk pretotype can still yield your first batch of market data faster and more inexpensively.

The Pinocchio Pretotype
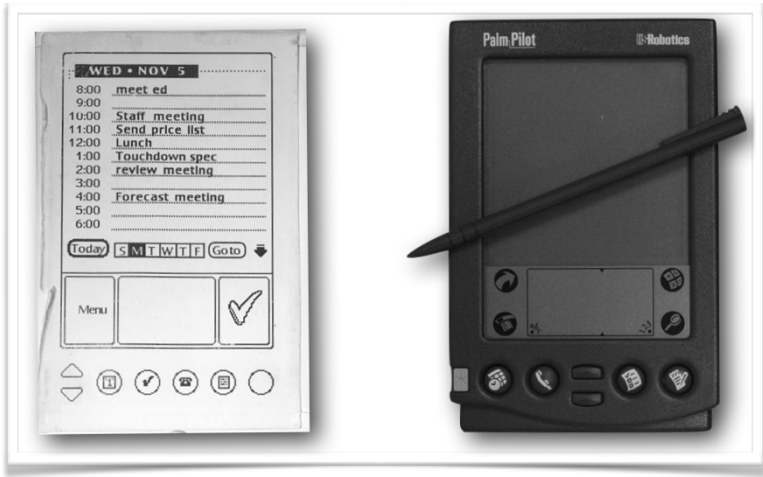
This pretotyping technique was inspired by Jeff Hawkins' wood and paper pretotype for the PalmPilot. I named it after the wooden puppet who, after being visited by the Blue Fairy, became a real boy.

The Pinocchio pretotype is best suited for situations where factors like size, shape, weight and/or portability, are important and where one's imagination can be used to fill in the blanks in terms of functionality—much the same way Hawkins' pretended that his wood block had the functionality required to schedule appointments, store phone numbers, and keep notes.

Ten years later: Today, with widely available and inexpensive 3D printing technology, creating Pinocchio pretotypes is easier than

ever. So if your idea involves a physical artifact and your wood-working skills leave something to be desired (like mine) consider taking advantage of 3D printing.

The Stripped Tease Pretotype

If a new product is something that people really, really want, they will put up with limited features and rough edges. The Stripped Tease pretotype takes advantage of this fact.

As the name suggests, this technique involves creating a *working* pretotype of your idea—but with its features and functionality stripped down to the bare minimum. A Stripped Tease pretotype for an online family diary application, for example, should only support text entries (and perhaps uploading of pictures), but it should not bother to provide support for different text fonts, video uploads, or complex sharing options. Such features may be nice, and even required, for the success of the final product, but should only be added once the initial testing indicates that such an online family diary is The Right It.

Since a Stripped Tease pretotype must offer some actual (although limited) functionality, it often involves a greater investment of time and money than, say, a Mechanical Turk or a Pinocchio pretotype. Nevertheless, you should be able to develop it relatively quickly and inexpensively, especially if you create it as a *mash-up* by

combining existing third-party technology and artifacts instead of developing everything from scratch.

By the way, I consider the booklet you are now reading to be a great example of a Stripped Tease pretotype applied to an idea for a book. It's considerably shorter than a proper book; it was hastily written and edited in a couple of weeks (as opposed to the twelve months I invested to write the proper book and go through several edit cycles), and the first few hundred copies were printed at Google and stapled by hand by yours truly.

Ten years later: In 2011, at one of the very first pretotyping workshops I organized at Google, I introduced the concept of the Stripped Tease pretotype along with an actual demonstration of such a pretotype that I developed for a mobile app idea. After the demo, one of the workshop participants raised a hand and asked: "Hey Alberto, how is this different from the MVP (Minimum Viable Product) concept from Lean Startup?" The Lean Startup movement was itself just starting up and was unknown to me and everyone else in the room, so at the time I did not have a good answer as to how MVPs and pretotypes related to each other.

Since that day, I have learned a lot about the great work of Steve Blank and Eric Ries. In fact, Steve Blank and I have often crossed paths and worked with many of the same clients. Pretotyping and lean startup are on the same side; we are allies in the fight to help entrepreneurs and innovators succeed. We independently reached similar conclusions and developed similar tools—we just use different names for them. The bottom line is that both MVPs and pretotypes help creators, innovators and entrepreneurs avoid the same basic mistake: investing too much time and money to develop and

launch products without first confirming evidence of sufficient market interest. Having said that, I think that the term pretotype is cooler, more descriptive, and more memorable than yet another three-letter acronym. So I am sticking with it!

[Pretotyping expert Leslie Barry puts it this way: "Lean Startup is *build-measure-learn*. Pretotyping is *learn-measure-build.*]

The Provincial

In many cases, the major costs associated with a new product idea are not in developing the basic functionality, but in scaling the product to support and making it useful for a very large number of users. A Provincial pretotype provides the core features of the intended final product but limits its scope and scale to support only a small subset of the ultimate target market.

To illustrate, Sandra has an idea for a service and a website to help people find restaurants that serve only organic food. Let's call Sandra's idea the Organic Restaurant Guide (or ORG.)

One of the most expensive and time-consuming aspects in the development of this idea is that it requires creating and maintaining an up-to-date national database of restaurants that serve only organic foods. There may be thousands of such restaurants across the country. To include them all and to write the code to automatically keep the list up to date, Sandra would have to do a lot of

work—unnecessary and wasted work if it turns out that ORG is not The Right It.

Sandra can pretotype her idea by focusing initially on a particular city or county—ideally her own city or county, because she's already there (think globally, test locally.) Since just a few organic restaurants operate in the area she has selected, the development of the app is greatly simplified. Sandra can manually maintain the small list of the names, locations, and menus of each restaurant instead of having to write, create, and maintain a large database with thousands of restaurants.

The Provincial pretotype will also simplify and accelerate Sandra's marketing and testing efforts. Instead of advertising the app nationally, she can focus on a smaller region, save a lot of money, and still learn whether or not her app is The Right It.

Ten years later: A lot of business is done online today, but does that eliminate the need to stay local and be provincial? Not quite. You should still limit your initial testing to a small but representative market segment. Instead of physical neighborhoods and regions, think in terms of online neighborhoods and regions.

For example, even though several online websites might allow you to pretotype (and eventually sell) your gardening idea (e.g., my garden.com, gardengoddesses.org, epicgardening.com) start by focusing on and working with just one at first—the one that is easiest to collaborate with and most aligned with your idea.

The Fake Door

The name of this technique comes from a presentation by Jess Lee, co-founder and VP of Products for Polyvore. Thanks, Jess!

With a Fake Door pretotype, all you have to do is create an entry point for a new product (or new feature). The product (or feature) does not have to exist yet. In Jess's words, "In a web product, what this means is that you *pretend* that a feature exists, and you see if anybody clicks on it."

Fake Door pretotypes are useful for determining the *initial level of interest* for an idea (more about initial level of interest later).

On the Internet, a Fake Door can be implemented as a link, a button on a web page, or a web ad for your product or service coupled with a one-page website (also called a landing-page website.)

Suppose Sandy is thinking about writing a book on squirrel watching (a rodent variation on the popular avian hobby of bird watching.) Before she takes months of precious time away from her actual squirrel watching pursuit to write *The Complete Squirrel Watcher*, Sandy can use a Fake Door pretotype to determine the level of interest in such a book.

These days, you can buy an internet domain and create a basic website with just a few dollars and in a couple of hours—a trivial investment compared to writing a book. So Sandy can start by acquiring a suitable internet domain, say "squirrelwatch.com" and by creating a very basic website—a single landing page is sufficient.

Then she can set aside a small online advertising budget (say, $50) to have Google display her ad on squirrel-related websites or whenever people search online for "squirrel watching." Something like this:

> **Are you nuts about squirrels?**
> **www.SquirrelWatch.com**
> **The official book for serious squirrel watchers**
> **by Sandy Watson. Only $9.98**

This Fake Door pretotype, simple as it is, will show Sandy how many people are sufficiently interested in her book idea to click on the ad, peruse the website, and possibly leave their email as a token of their interest.

We'll elaborate on this example in the Putting It All Together chapter. I am sure that you, and the dozens of squirrel watchers out there, can't wait.

Ten years later: Since it's so easy to develop and execute, the Fake Door pretotype has become very popular these days—possibly *too* popular. As a result, it's not just being used, but overused, misused, and abused. This is a pity.

These days, when I explain the Fake Door pretotype, I make sure that I also teach my students and clients how to use it to create pretotyping experiments that are not only effective, but also ethical and a win-win-win—for the entrepreneurs, for the potential customers, and for the overall market. When potential customers *knock* on your fake door, make sure that they are immediately informed of the fact and thank them with a gift, ideally, something very similar to what they thought they were buying or signing up for.

Plug alert: In *The Right It,* I give several examples of ethical and win-win-win Fake Door pretotypes. I also introduce a new pretotyping technique called *The Facade* that avoids any potential ethical issues. [Yes, this is a shameless plug for my new book which, unlike this one, is not a freebie. I've tried to keep such mentions to a minimum, and I include them only when they add to the topic. On top of that, I'll give you fair warning with a **Plug alert**, so you can skip them—just as I skip TV commercials on my DVR.]

The Pretend-To-Own

Many ideas require major upfront capital investments (tools, materials, equipment) before they can become a product or service. In such cases, instead of making that capital outlay—a mistake that I see happen all the time— it's essential that you first create your prototype by borrowing or renting what you need.

A new business idea that requires a physical store, for example, should not tempt you to commit to a multi-year lease until you have sufficient evidence that enough people will walk into that store. Instead, you should try to get

a short-term lease (the shorter the better) on some currently available space. Even better, try to make a deal to squeeze a pretotype of your business inside an existing store that already attracts a similar or complementary target market.

Let's say you have an idea for a travel-related product that requires a physical location to display and sell the item. Try to convince a luggage store owner to let you set up a booth or table inside the store: "Would you consider letting me put a sign and a small table over there for a few days to see if customers coming in to buy luggage are interested in my travel-related idea? I'll pay you $200/day." Pretending that you own the store (even if just part of it) for a limited time may cost you more on a daily basis, but it's going to be peanuts compared to a long-term commitment. Plus, you'll be right smack in the middle of your target market: people who travel.

Similarly, a concept for a company that rents electric skateboards to tourists should be tested by either renting or borrowing a few electric skateboards for a few weeks—not buying a fleet of hundreds of them upfront. Be a, ahem, cheap*skate* until you know you have The Right It.

Ten years later: Like the Provincial pretotype, the Pretend-To-Own pretotype seems too obvious to even mention—"Like, duh!" But you will be surprised at how many large companies and even

startups make totally unnecessary large-scale purchases and commitments (including hiring a lot of people who will have to be laid off a few months later) before they have any evidence of sufficient market interest.

Plug alert: In *The Right It*, I share the story of Webvan—a textbook case of how a simple Pretend-To-Own pretotype could have easily saved a company, its employees, and its investors $800 million—and a lot of unnecessary pain and embarrassment.

Ethical Considerations

Unless you are a borderline psychopath, some of these techniques may bother you from an ethical standpoint. For example: Is it right to create a Fake Door pretotype just to see if people click on it?

I have thought about this quite a bit and have come to the following conclusion:

Wrong ideas that are developed into products that fail are responsible for a huge amount of waste. They squander the time of smart people who develop them and divert the money and natural resources that could have been used to build something more useful and more successful. Time, money, and resources invested in The Wrong It are time, money, and resources stolen from The Right It.

Think of all the products you've bought and used only once or twice before discarding them and regretting the

purchase. Think of all the unsold products that end up in landfills. Pretotyping can save you, your potential customers, and the environment from such waste.

Use your judgment and sense of ethics when developing and testing pretotypes and you should sleep well at night.

Ten years later: Since I first wrote *Pretotype It*, the issue of ethics has come up several times. I always take it very seriously, and it became especially important when I started teaching these techniques at Stanford. In the *Creativity and Innovation* class that I taught with Professor Tina Seelig, we challenged the students to come up with innovative ideas and then asked them to use pretotyping techniques to test them in the real world—on actual people. We wanted the students to challenge themselves and to go beyond their comfort zone, but we did not want them to cross any ethical boundaries; so we asked them to evaluate their pretotype experiments using a flow-chart that included questions such as:

- Is it legal?
- Does it align with Stanford Values and Policies
- Would you feel comfortable if others knew about it or knew you did it?
- Would you want to read about it in tomorrow's news?

If the answer to *any* of these questions was "no," they could not proceed. Period. If the answers were mostly "yes," with perhaps a "maybe" or two, they were advised to seek advice and/or permission through the university's Office of Compliance and Ethics.

I recommend you adopt a similar questionnaire as you think about your own pretotyping experiments.

CHAPTER FIVE: TEST IT

The most reliable way to determine if your idea is likely to be The Right It is to test it on its target market—not by asking questions and collecting opinions in Thoughtland, but in the real world and using pretotypes to collect data from actual users.

Data Beats Opinions

At Google, decision-making is guided by two core principles:

> **Data beats opinions.**
> **Say it with numbers.**

But what kind of data should we collect with our pretotypes and what exactly should we say with numbers?

It's impossible to come up with a fixed set of metrics that will apply equally well to all ideas. The success of a book, for example, is typically measured by how many copies it has sold, and a movie by its box office receipts—both one-time events. The success of a web-based service such as Google GMail, on the other hand, is best measured not by how many people sign up for a GMail account, but by

metrics such as *7-day active users*—which shows how many people use their account on a regular basis.

To help you get started, however, I will introduce you to two basic, but useful and reliable metrics that can be applied to practically any idea for new products or services: *Initial Level of Interest* and *Ongoing Level of Interest*.

Initial Level of Interest (ILI)

The first metric you should use to test the market's interest in your idea is Initial Level of Interest, ILI for short.

ILI is a simple ratio:

ILI = number of actions taken / number of opportunities for action offered

Where:

number of opportunities for action offered represents the number of people who have been offered an opportunity to take an action which indicates that they are interested in the idea,

and

number of actions taken represents the number of people who have taken that action.

Here's an example of how you can use a pretotype to collect ILI data.

Let's Get Naked And Jump Off A Plane

Adam is a nudist, amateur airplane pilot, and occasional skydiver. He is so passionate about his three hobbies that he would like to combine them into one business. His dream is to quit his job as an accountant (especially since he keeps getting HR complaints about him showing up shirtless at meetings), buy a plane, and start the world's first nude sky-diving business: *Birthsuit Skydiving.*

Before Adam resigns from his job and buys a Cessna, it would be a terrifically good idea for him to test the level of interest in his idea. Is nude skydiving The Right It? We know that there are many nudists and many skydivers, but how many nudists would like to skydive and how many skydivers would like to jump from a plane wearing nothing but a parachute?

Here's how Adam can pretotype his idea and collect reliable ILI.

Adam belongs to an online forum where nudists who live in his area meet to organize events and to discuss whatever nudists discuss these days—perhaps how to avoid

sunburn on their naughty bits, but I digress. Adam could post the following message on the forum[1]:

> Hello naturist friends, I am renting a charter flight for a nude skydive. No skydiving experience necessary, and I promise you won't land on a cactus. The first jump will be a month from now: Saturday, May 31st in Santa Barbara. The cost will be $100 per jump. I hope you will join me. To sign up, please send me an email and I'll respond with the details. Thank you, Adam.

A cool thing about online forums is that they track and show you how many people have read each post. This gives Adam the first number he needs: the number of people who have read his post and had an opportunity to answer his call to action (in this case, by sending Adam an email expressing their interest in the opportunity.)

A week later, 1,490 people have read Adam's post (this is the *number of opportunities for action offered*) and he has received two emails from people who wanted to sign up (this is the *number of actions taken.*)

---

[1] These days, in addition to dedicated online forums, Reddit interest groups (subreddits) are a great place to pretotype and test your ideas. For example, the subreddit www.reddit.com/r/nudism/ (with the slogan, "No clothes, no problem") has more than 80,000 members. Make sure, of course, that you don't violate the group's rules and remain ethical and legal.

The ILI in this case and for this group would be: 2 / 1490 = 0.0013 or 0.13%.

Not very encouraging, but not too surprising either, since most people (including nudists) are naturally reluctant to jump from a perfectly good plane. At this point Adam can send the two responders a message saying that he's sorry, but due to a lack of interest, the nude parachuting event has been canceled.

Too few nudists are interested in skydiving to make Adam's idea viable. But what about the other target market, skydivers?

Before abandoning his idea for good, Adam posts a similar offer on the local skydiving forum:

> Fellow skydivers, aren't you bored with the same old jumps? To make things interesting, I am renting a charter flight for a nude skydive. I promise you won't land on a cactus, but on a nude beach—imagine the surprise! The first jump will be a month from now: Saturday, May 31st in Santa Barbara. The cost is $100 per jump. If you want to sign up, please send me an email and I'll respond with the details. Space is limited, so "first-come, first-served, first to jump" will apply. I hope you will join me. Thank you, Adam

A week later, 898 skydivers have read his post and a whopping 112 have emailed him to sign up.

The ILI in this case would be: 112/898 = 12.5%. Much better. Now we are talking!

With this simple Fake Door pretotype and a few minutes of work to craft a forum message, our nudist skydiving friend Adam has already collected two very valuable pieces of data:

> 1) Although there are more nudists than skydivers, sky-divers are a much better target market for his idea than nudists—by a factor of about 100.

> 2) ILI for skydivers is quite high, over 10%. With tens of thousands of skydivers in the US, this percentage indicates that the market might be big enough (thousands of potential customers) to make Adam's dream a viable business.

Things are looking good for the Birthsuit Skydiving[2] idea, but as we'll see, ILI is just an early indicator of market interest and market potential for a new idea. Let's investigate what Adam should do next.

---

[2] I have a sneaky suspicion that there might be FAA regulations against nude skydiving. Since this book is a pretotype, I did not investigate this matter at length. And, just to be sure, I am neither endorsing nor suggesting that nude skydiving is a good idea—don't try this at home. But if you do, don't blame me for giving you the idea and—I beg you!—please **don't** send me photos of you doing it.

Ongoing Level of Interest (OLI)

For new product ideas whose success does not depend on frequent repeat business (e.g., a book or a WiFi-enabled toaster), a good ILI may be sufficient. But in many situations, an idea's success depends on repeat purchases, return visits, or *ongoing* usage by the same group of people who were *initially* interested in it.

Unlike the ILI, which can be represented by a single number, the Ongoing Level of Interest (OLI) is best represented by a time-based table. Each entry in the table represents the level of interest over time. What you should be looking for in the OLI table is a trend. Three basic trends are possible:

1) If, over time, the OLI fades to zero, or close to that, then you are probably dealing with an idea that is The Wrong It—unless it's the kind of idea that is meant to be a one-time purchase or a passing fad, like the proverbial Pet Rock.

2) If the OLI drops a bit from the *Initial* Level of Interest but eventually settles at a lower but still acceptable level (let's say you go from an ILI of 11% to an OLI of 7%), you need to determine if this lower level of interest is sufficient to support a profitable business. Since you now have evidence that at least a portion of your target market has a long-term interest in your idea, perhaps you can experiment with different price

points to see which one will give you the best *ongoing* revenue and profitability.

3) Finally, if the OLI stays close to the ILI or goes up over time, that's a great indicator that your idea might be The Right It. It means that people were more than just curious about your new product.

As always, this is much easier to explain with an example. So let's pick up where we left off with Adam and his nude skydiving business.

In the case of Birthsuit Skydiving, Adam would be foolish to quit his job and buy that Cessna based solely on his ILI numbers. True, more than 10% of all skydivers who saw Adam's initial announcement were interested in trying nude jumping. But if they tried it once and didn't come back for more, Adam would soon run out of customers and be out of business with an expensive unused airplane on his hands.

Before making any major decisions (like quitting his job) or investments (like buying an airplane), Adam should test the OLI for his idea.

To test the OLI you need something more concrete than a Fake Door pretotype—people will not continue to knock on the same Fake Door. It's time to move to a more substantial pretotype. In this case, The Pretend-to-Own pretotype fits the bill quite nicely.

Instead of buying a plane, Adam should rent one on an as-needed basis for a few hours—just enough time to fly up and drop off some naked thrill-seekers. Renting a plane by the hour may cost too much to make it a viable *long-term* business option for Birthsuit Skydiving; he may even lose a few hundred dollars on each flight. But until Adam has enough data to support the fact that his nude skydiving idea is going to fly[3], it's better for him to lose a few hundred dollars *testing* it, rather than to drop tens of thousand of dollars in upfront costs, *hoping* that his idea is The Right It. Remember The Law of Market Failure—even with a positive ILI result, the odds are still against Adam's idea.

Let's assume that Adam follows the pretotyping protocol: he advertises the flights on his local skydiving forum every week, and over a period of two months he runs eight flights: one flight every Saturday.

Adam's cost to rent and fuel the plane is a fixed $2,500. (To keep things simple, let's assume that the skydivers will use their own parachuting gear.)

---

[3] Sorry about that. I try to avoid puns as much as I can. I really, really do. But sometimes I just can't help myself.

Below is Adam's OLI table after two months:

Flight #	Signups	Revenue	Cost	Profit (Loss)
1	21	$2,100	$2,500	-$400
2	25	$2,500	$2,500	$0
3	28	$2,800	$2,500	$300
4	17	$1,700	$2,500	-$800
5	7	$700	$2,500	-$1,800
6	3	$300	$2,500	-$2,200
7	0	$0	$0	$0
8	0	$0	$0	$0
Total	**101**	**$1,100**	**$1,500**	**-$490**

Notice those signups nosediving from 20+ to single-digit, and then to zero. Sorry, Adam! Things were looking good for Birthsuit Skydiving. He even managed to make a small profit on his third flight. But based on this OLI data, I'm afraid that this nude skydiving idea may not be The Right It. Until he comes up with some other idea, Adam will just have to endure suiting up to go to work.

This is important, so let me repeat it: A strong ILI is great, but if the success of your idea depends on *ongoing* engagement or purchases, it is not sufficient. You must also

test the Ongoing Level of Interest to help you determine if the interest remains sufficiently high over time.

This pretotyping experiment cost Adam a total of just $490—and I am pretty sure that he had quite a bit of fun running it. Compare this to the tens of thousands of dollars he would have lost if he had taken the Go For It route, or the gnawing feeling of a missed opportunity if he did nothing with his idea, the Drop It route.

In Adam's case, pretotyping helped him learn that Birthsuit Skydiving might work well as a fun hobby or side activity. But at this time it would be unwise for him to quit his job—let alone buy a plane and try to make a living with it. Pretotyping saved the day. And it has also saved us from the risk of having a nude parachutist landing in our backyard.

Ten years later: I still teach and use ILI and OLI. But in 2016, while holding office hours at Stanford, I came up with an even better way to practice *Say It With Numbers*, the XYZ Hypothesis format. I will tell you more about it in the Bonus Chapter.

Since some people have asked … no, I have never felt the urge to go around naked or the desire to jump off a perfectly good airplane—let alone combining the two. Along with some other examples I use in the book, the nude skydiving business idea was supposed to be a placeholder until I came up with something more conventional. But the initial readers of the booklet told me that they really liked the off-beat characters and examples, so you are stuck with nude skydivers and squirrel watchers—sorry!

CHAPTER SIX: PUT IT ALL TOGETHER

Now that all the key pieces are in place, let's run through a pair of complete examples. I will show you how to choose, create, and use pretotypes to test ideas, and how to make go/no-go decisions based on the data you collect. As you go through these two examples, don't be surprised if you come up with different ways to pretotype and test these ideas—that's great! Get creative with your pretotypes. No single approach is best.

Example 1: The Complete Squirrel Watcher

Let's build on one of our previous examples. As you might recall, Sandy is thinking about writing a book on squirrel watching. Since she would have to sacrifice months *writing* about squirrel watching as opposed to *enjoying* squirrel watching, she thinks that it would be a good idea to test the level of interest in such a book before she goes ahead with the project.

The success of a book like Sandy's is determined by the number of sales to individuals—it does not depend on repeat purchases. So all that Sandy needs is a pretotype to help her discover the Initial Level of Interest (ILI). Here's how Sandy might use a Fake Door pretotype:

For about $20, Sandy could buy the domain squirrelwatch.com and create a simple landing page—say a photo of a squirrel climbing a tree and a few lines of introduction with a "call to action" (the **bold and underlined** text below):

> Fellow squirrel enthusiasts,
> Thank you for your interest in The Complete Squirrel Watcher.
> I am hard at work on the book, but it's not quite ready for publication.
> **To reserve a copy at the special pre-order price of $9.98, send an email to: iwantthebook@squirrelwatch.com.**
> I'll let you know as soon as the book is available.
> In the meantime, happy squirrel watching and don't forget your rabies shots!
>
> Sandy (Squirrelgirl) Watson

Sandy can then craft an online ad, something like this:

> **Are you nuts about squirrels?**
> **www.SquirrelWatch.com**
> **The official book for serious squirrel watchers**
> **by Sandy Watson. Only $9.98**

For a few additional dollars, she can have the ad shown on websites dedicated to squirrels or when someone uses a search engine to look for squirrel-related information. If people click on her ad, they will be redirected to her website and will be given an opportunity to act if they are interested in the book.

Creating this pretotype would cost less than $100-200, take just a couple of hours of work, and require minimal technical skills.

With the website in place, Sandy runs the ad for a month (or perhaps until her online ad budget runs out.) The online ad service will take care of collecting all the data and sharing the results with her.

Here's how Sandy's ad performed:

Number of people who have seen the ad: 23,402

Number of people who have clicked on the ad: 634

Number of people who sent an email saying they want to buy the book: 230

We see two relevant ILI ratios here.

The first is an indication of how many people who go to squirrel pages or search for squirrel-related information are interested enough in a book on squirrel watching to click on her ad. This first ILI, let's call it ILI_1, can be calculated as follows:

ILI_1 = number of clicks on ad / total number of ad impressions (i.e., how many people have seen the ad)

In this case, ILI_1 = 634 / 23,402 = 2.7%

This is not great, but not too bad either.

The second ILI ratio gives her the percentage of people who, after clicking on the ad, were interested enough in the book to send her an email:

ILI_2 = number of emails received / number of page visits to the landing page

In this case, ILI_2 = 36% (230 / 634)

This is encouraging! An impressive 36% of the people who visit the squirrelwatch.com landing page send her an email to reserve a copy of the book. Not all of them will follow through, of course, but this is still a very good number and a strong indication of interest.

Now comes the difficult go/no-go decision. Should Sandy go ahead and write her book based on this data?

That all depends on her expectations for the book. The data indicate that the book is unlikely to land a spot on The New York Times's bestseller list—not enough people seem to share Sandy's peculiar passion. But that was never Sandy's expectation. Becoming an authority on a subject dear to her heart and selling a few dozen copies of her self-published book each year—enough to cover the costs of her squirrel-watching gear and expeditions—is her criteria for success. In this case, the data from her pretotyping experiment suggests that The Complete Squirrel Watcher will probably be The Right It for Sandy.

Let's be happy for Sandy and her rodent friends, and move on to a slightly more challenging example.

Example 2: Bob's Rate This Plate App

Bob is a nutritionist who wants to create a mobile app that will analyze a photo of a meal and return a nutritional analysis along with a health score, from "A: Healthy and nutritious" to "F: Junk food". Let's call this idea *Bob's Rate This Plate* app.

Bob shares his idea with his friends and some of his clients. Most of them tell him that it's a brilliant idea and that they would definitely buy and use such an app. Fortunately, Bob has heard about the dangers of Thoughtland and knows how misleading such opinions can be. He does not know for sure how many people would use such an app or be willing to pay for it. Would users even remember to stop and take a photo of the food before they start digging in with their forks? Would they use it a few times—just for fun—and then never again?

Bob also realizes that developing the app and the associated AI software that will automatically analyze a meal based on just a photo will take a lot of time, effort, and money. And such a system may never get to the point where it's accurate enough to be useful—a problem like

the one faced by the IBM team with their speech-to-text idea.

With lots of questions that need answering and expensive technology to develop, this idea *definitely* calls for some pretotyping. Let's see how Bob can go about it.

First step: Fake Door and Pinocchio pretotypes

By now, you should not be surprised that, as a first step, I would recommend a Fake Door pretotype to measure ILI (see previous example for how to do that.)

Let's assume that Bob has run a Fake Door experiment and that the ILI data is encouraging. Great start, but, as we know, that's not enough. To be successful, Bob's app needs not only initial interest, but regular ongoing usage—a strong Ongoing Level of Interest. If the app is cumbersome or awkward to use, people may not stick with it. And what about Bob?

Would Bob himself stick with it?

Would he remember to take photos of his food before he starts eating it?

Would he be embarrassed to do it in front of people, especially in a restaurant?

Would he only take photos of his healthy meals and conveniently forget to record that banana split?

To answer these questions, Bob should follow Jeff Hawkins' Palm Pilot pretotype example and develop a Pinocchio pretotype to test the idea on himself. After all, if we don't believe in our own idea, or if we don't use it consistently ourselves, how can we sincerely convince, or expect, other people to do that? Since Bob already has a smartphone with a camera, he does not have to go out and build a wood-block like Hawkins did. He can simply pretend that his phone's camera is the app he wants to build and fill in the blanks with his imagination.

If Bob discovers that, after a few days of using his Pinocchio pretotype, his initial enthusiasm for the idea starts to wane and he takes fewer and fewer photos, that would strongly indicate potential problems with the OLI. Bob might try to explain the fact away, "I would not create this app for myself because I am an expert nutritionist. I already know what I should and should not eat. I want to develop it for my clients and other people who want to eat healthier." He might be right in this specific case, but he should still be concerned about the fact that, expert or not, he's not using the app as he thought he would. The "I won't use my own idea, but others will" argument is a giant red flag with The Wrong It written all over it—not something to be dismissed lightly.

However, to continue our example, let's assume that Bob quickly becomes so used to taking photos of his food before eating that it becomes a habit for him, and he does it

consistently and automatically. Not only that, but when other people see him do it, they get curious, and tell him that they would love an app just like that to help them make better food choices. Bob also starts to post his photos in an online album so he can keep track of everything he has eaten. He mails these pictures to Nina, a colleague nutritionist, so she can give him objective feedback on his diet, and he can experience first-hand what it feels like to have someone criticize what you put on your plate. It turns out that just knowing that Nina will evaluate what he eats is by itself a powerful motivator to eat healthier. All this is good evidence that his idea might be The Right It. Bob now knows that he'd use the app himself, and on an ongoing basis.

Using these first two pretotypes, The Fake Door and the Pinocchio, Bob's idea passed the first set of tests. The ILI was good, and his personal OLI was also very good. Now it's time to see if enough other people would also use the app on an ongoing basis.

What Bob needs is a simple but functional pretotype to collect OLI from users other than himself. Unfortunately, Bob is a nutritionist, not a programmer. Before hiring a programmer, Bob wonders if there's another pretotyping solution that will give him the OLI data he wants. Fortunately for Bob, the answer is yes!

Super-cheap, low-tech, Mechanical Turk pretotype

As a nutritionist, Bob has over 520 clients, so he can select a small sample (say, 50 of them ~10%) and invite them to participate in a one-month experiment. He explains that all they have to do is take a photo of each of their meals before they start to eat and email that photo to him. In return, at the end of each day, Bob will send them an email with a nutritional grade along with some comments and suggestions on how to improve their diet, something along these lines:

> Dear Mary,
> Thank you for helping me test Rate This Plate:
> Here are your ratings for today:
> Breakfast: D (Eggs and bacon, tasty, but way too much saturated fat and no fiber.)
> Snack: D (D is for donut!)
> Lunch: B (Sushi, lucky you. Watch that salt from soy sauce and miso soup, though.)
> Dinner: B+ (Chicken and rice look healthy; a salad would have earned you an A.)
> Please try to include more fruits and veggies in your next few meals[4].
> Sincerely, Bob

---

[4] Please don't send me emails commenting on how Bob's nutritional advice and recommendations are out of date with the latest research—I am looking at you Paleo diet fans! I appreciate your desire to educate me, and I don't necessarily disagree, but this book is about The Right It, not The Right *Eat* :-).

Let's say that 30 (out of 50) of Bob's clients agree to participate in the experiment; that's an ILI of 60% (30/50) — pretty darn good. After talking with the clients who declined the opportunity to join the experiment, he learns that many of them did not want to participate for privacy reasons—they were not comfortable sharing actual photos of their meals. Good thing to know and to keep in mind going forward.

The experiment starts! Bob emails the 30 volunteer clients simple instructions on what to do: "At each meal, take a photo of everything on your plates <u>before</u> you eat it and email it to bob@ratethisplate.com."

To Bob's delight, photos of food-filled plates start coming in at a rate of approximately 80/day. At the end of each day, Bob goes over the photos, rates the meals, and emails his analysis to each participant. This is a lot of manual work, but since he's not a programmer, this is a faster and cheaper way to test his idea for now.

Plus, by getting first-hand experience of what kind of photos people submit, he is learning a lot about how his app will be used in real world scenarios, putting him in a better position to design the software. For example, as the app's name suggests, Bob had assumed that all photos would be of food on a plate; but his pretotyping experiment shows that in 34% of the photos, people are eating

food that isn't always served on a plate, such as sandwiches, burgers, and ice cream—something that a future software program must be able to handle. Bob's experience is not the exception, but the norm when you run a pretotype—you will not only learn if people are interested in your new product, but also all sorts of things you did not expect about your market, including how people will use, misuse, or abuse your It.

After a month of running the experiment, Bob has enough OLI data to draw some conclusions.

Bob's Ongoing Level of Interest Data		
Week	Active users (out of 30)	Photos received
1	28 (93%)	434
2	24 (80%)	398
3	22 (73%)	368
4	22 (73%)	351

As often happens, some people who said they would participate didn't send even one photo; and as time passed, a few other volunteers dropped off. By the end of the month, however, 70% of the original participants are still actively sending photos of their meals to Bob. This is very encouraging. Anytime someone does something regularly for a few weeks, it tends to become an ingrained, long-term habit. Bob's idea is looking good!

Even more encouraging, a lot of users are sending him requests for new features and functionality: "Hey Bob, can you send me my average rating for the week?" "If I forget to take a photo can I just send you a description of my meal?" "Can you send me a menu for each day that will guarantee me an 'A'?"

He also gets some complaints: "Bob, I don't have good phone reception in our cafeteria; it sucks that I have to go outdoors to email you the photo while my food gets cold."

When you don't hear from users, chances are that they are either not using your product, or don't care enough about it to send feedback on how to enhance it or improve it. On the other hand, getting feedback, feature requests, and even complaints is a great sign. It means that your users like your idea and want to help you to make it even better.

With a compelling OLI and lots of user feedback, *Bob's Rate This Plate* app might just be The Right It.

But there is still a little issue of revenue and profitability, something Bob needs to test if he wants to make a viable business out of his app. Would people who have been using the app for free be willing to pay for the service? If so, how much would they be willing to pay: $10/month, $20/month? By now, I am sure you know how to answer

that question. Bob still has 450 "virgin" clients to experiment on. He offers 100 of them the opportunity to sign up for the service at $10/month, and another 100 the same opportunity but at $20/month. What would be the ILI and OLI for each group?

Only a couple of clients sign up for the $20/month service but, to Bob's delight, 42 sign up for the $10/month service—more than he could handle manually. It is time to invest in automation. Unfortunately, even with all the recent advances in machine learning, he realizes that the technology for automatically analyzing a meal based on just a photo is at least a few years away. So he comes up with the idea of hiring students of nutrition science at the nearby college to help him out on a part-time basis. After a few hours of training, the students became adept *plate raters*. In addition to helping nutrition students make some money and gain some real-world experience, Bob is even able to make an average profit of $4/client each month. He is getting the market data he needs to make a decision, and his clients are getting valuable nutritional advice. That's what I call a win-win pretotype—as all pretotypes can be and *should* be.

After a few months running the service and making a profit, Bob has compelling data to support the fact that his idea is The Right It. He hires a developer to create a custom app (instead of the clumsy email-based pretotype) and trains more students to handle the load.

Bob's Rate This Plate app is The Right It, and because of it, quite a few more people out there are eating healthier meals. Don't you love a happy ending?

Ten years later: Today, there are several food tracking apps very similar to Rate This Plate, some with thousands of active users. Bob was on the right track!

CHAPTER SEVEN: NOW GO MAKE IT

We have gone through many new concepts and tools very quickly, and I've subjected you to some rather unusual examples, but I hope that in the process I was successful in answering the following questions:

- What is pretotyping?

- Why is pretotyping an important first step and why is it so risky to skip it?

- What pretotyping techniques can you use?

- What data should you collect and what metrics should you use with your pretotypes?

We've taken ideas on a journey from Thoughtland to the real-world and put them to the test. Some ideas, like *Bob's Rate This Plate* app and Sandy's book on squirrel watching, passed the test. Others, like Adam's *Birthsuit Skydiving* did not fare as well. Adam may have been disappointed in the results, but thanks to pretotyping he did not lose too much money or time, and he's in a good position to pursue the next idea that comes to him.

Now It's Your Turn!

If you have an idea that you would like to turn into a product or service, pretotyping will help you in two ways:

- • If your idea has been stagnating in Thoughtland for a while, pretotyping will make it much easier for you to get started. Ignore the naysayers and get off your butt. Pretotype it and see what happens.

- • If you are getting ready to take a big risk or make a big investment in your idea, pretotyping will help you get started more quickly—and more safely. It will provide you with valuable data that will either give you more confidence that your idea is The Right It, suggest that you need to make some changes to your idea, or tell you that it might be best to explore a different idea altogether.

I can't promise you that your very next idea will be a great success. But I am confident in promising that if you put the principles and tools of pretotyping into action and are willing to consider and test multiple ideas, the odds for success will flip in your favor: from ~80% chance of failure to ~80% chance of success. Let me explain.

If you are truly passionate about something or on a mission to solve an important problem, such as helping people eat healthier, and your original idea fails to get your target market interested, don't give up. If pretotyping tests don't generate the data that you were hoping for, this does not mean that you have to forget your passion or abandon your mission. It just means you have the opportunity to come up with alternative ideas to solve the problem. And the best way to come up with a great idea (one that is The Right It), is to come up with *a lot* of ideas.

In the *Creativity and Innovation* course that I taught with Tina Seelig at Stanford, we gave students specific problems to solve (e.g., reduce food waste on campus). Then we told them to *"fall in love with the problem, but flirt with different ideas to solve it."*

To help them flirt (i.e., play around, experiment) with alternative solutions, we asked each team of four students to come up with a list of one hundred (yes, one hundred!) different ideas to solve the same problem. And guess what? In almost all cases, the best and most innovative ideas were not the first ones, but the very last ones the students came up with.

The beauty and power of pretotyping is that it makes it possible for you to explore and test many different ideas very quickly and inexpensively. This way you can remain

committed to your mission while maximizing your chances for ultimate success.

If you have entrepreneurial ambitions, with pretotyping you have very little to lose and a lot to gain—there's no smarter bet or better opportunity in the world. So what are you waiting for?

BONUS CHAPTER: THE XYZ HYPOTHESIS

The following is an excerpt from my full-length book on pretotyping, *The Right It*—and not just any random excerpt. As a way to thank you for reading *Pretotype It*, I wanted to share with you one of the most useful and powerful new tools I've developed during my decade of teaching, coaching, and practicing pretotyping: The XYZ Hypothesis.

The XYZ Hypothesis is the simplest, most essential, and most impactful tool I know to help you understand, communicate, and validate your new product ideas—bar none! It's a tall claim, I know. But I can back it up. Since 2016, the XYZ Hypothesis has become a key tool in all my pretotyping seminars, workshops, and various online training courses; and the feedback I get from my students and clients is always the same, some version of: "Thank you *so much* for introducing us to the power of the XYZ Hypothesis. It was a highlight of the workshop. Pretotyping has changed the way we validate ideas, and the XYZ Hypothesis has changed the way we articulate, refine, and communicate those ideas."

So, without further ado, here's the amazing XYZ Hypothesis!

Excerpts from "The Right It", Chapter 4: Thinking Tools[5]

The XYZ Hypothesis is a tool that originally grew out of frustration as I tried to get a group of my students to say it with numbers. It happened during my office hours at Stanford, sometime in 2016. A team of four engineering students from our class had an idea for a personal air-pollution monitor and came to me for advice on how to pretotype it.

The quartet of students kept coming up with fuzzy descriptions of what they thought their market was and how potential customers would engage with their product. Here's how the students initially described their idea:

"Some people who live in very polluted cities would be interested a reasonably priced device to help them monitor and avoid air pollution."

How many people is "some people"?

What cities qualify as "very polluted"?

What does "would be interested" imply?

What does "reasonably priced" mean?

---

[5] With permission from HarperCollins, publishers of The Right It.

We were meeting on campus in a whiteboard-lined room where a previous group of students had left a bunch of mathematical equations on the board. I looked at those equations and had an idea. I jumped off my chair, grabbed a marker, went to the whiteboard, and wrote out the following:

At least **X %** of **Y** will do **Z.**

Then I explained:

"**X%** is a specific percentage of your target market.

Y is a clear description of your target market.

Z is how you expect the market will engage with your idea.

As you may recall from high-school algebra, X, Y, and Z are the letters we use to represent unknown variables. And at this point, that's exactly where your idea stands— you are dealing with many unknown variables. But you can begin by making educated guesses about those unknown variables, running some simple experiments to test your initial hypothesis, and adjusting as necessary."

Finally, the students smiled and nodded. I was speaking their language. After a few iterations, the fuzziness was eliminated, and they had a respectable, testable, say-it-with-numbers hypothesis:

> *At least* **10%** *of* **people who live in cities with an AQI level greater than 100** *will* **buy a $120 portable pollution sensor.**

(AQI stands for Air Quality Index, an objective measure of air pollution.)

Note that the initial values for X, Y, and Z are just starting points—best guesses based on the minimum market size the students believe they need for their idea to be viable. Is 10% a good estimate of the market? Is greater than 100 the right AQI? Is $120 the right price? Probably not. These initial numbers may prove to be way off, but at least the students defined what "some people," "very polluted," "would be interested," and "reasonably priced" meant to them, and they could test to see if the market agreed.

In addition to having the virtue of being testable, the XYZ Hypothesis is a great tool for getting teams to make their implicit assumptions explicit. One student's version of reasonably priced was $200, while another one thought that they could not possibly reach 10% of the market at that price and that the device would have to cost $80 to $100. The two students didn't know that they had different ideas about pricing, but when forced to put a number to "reasonably priced," the disagreement was unmasked. Which student's price is right? We don't know—perhaps neither. It's quite possible that no significant market exists at either price point or at any price point. It's quite possible that people are simply not interested—for whatever set of reasons—in a portable pollution detection device. Ultimately, the market will decide what "reasonably priced" means, but for the time being the students met halfway and compromised on an initial price of $120.

Before XYZ Hypothesis	After XYZ Hypothesis
Some people	At least 10% of people
Very polluted cities	Cities with an AQI > 100
Interested	Buy
Reasonably priced	$120

The XYZ Hypothesis format proved to be a wonderful "de-fuzzer." It replaced broad and imprecise terms ("some," "very," "reasonable") with precise counterparts, and the vague notion of "interested" with the specific action "buy" at the specific price of "$120."

After that first success, I suspected that the XYZ Hypothesis format would prove to be a valuable tool, so I asked one of the students to take a photo of the whiteboard to commemorate that Eureka! moment.
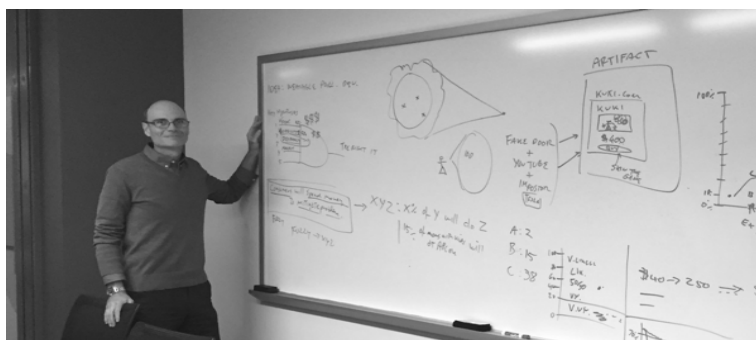
Birthplace of the XYZ Hypothesis,
Stanford University 2016

I am really glad to have that photo as a memento because my suspicion proved correct. The XYZ Hypothesis has become a permanent and valuable part of my toolkit and one of the first things I teach. In fact, if I only have a few minutes to help aspiring entrepreneurs or product managers, I use that time to explain the XYZ Hypothesis and to help them express their idea using it—an exercise that

never fails to clarify their thinking and to bring to the surface any misunderstandings or disagreements between team members, thus paving the way for success.

Venture Into The Unknown

As I've already mentioned, X, Y, and Z are the letters conventionally used in science and mathematics to represent unknown variables. The letter X, in particular, is often used (even in popular culture) to represent mysteries, elements that we don't yet fully understand or whose existence we cannot prove: The X Factor, The X Files, Planet X.

That which we don't know or fully understand represents both a danger and an opportunity. This makes these three letters very appropriate for our task, because bringing a new product to market is akin to a journey into the unknown—a journey that could bring us great rewards or result in failure. It's like entering a colossal dark cave that is both full of treasures and full of traps—home to the Beast of Failure and the trolls of Thoughtland.

X, Y, and Z are also used to describe, measure, and graph things in three-dimensional space. In our case, the unknown three-dimensional XYZ space we are exploring and want to map and understand consists of:

X: How big a slice, what percent, of our target market can we capture?

Y: Who is our target market?

Z: How and to what extent will the target market engage with our product?

No sane explorer would venture into the unknown without the basic tools (GPS, surveying equipment, charting kit, etc.) needed to track their position, measure distances and elevations, and draw maps. The XYZ Hypothesis is the first tool in our market exploration toolkit. And it's an essential one, because it gives us an objective way to measure and map our steps into that dark unknown that is the market.

Ten years later: These days, the very first thing I teach my new students and clients is not how to pretotype their idea, but how to write a proper XYZ Hypothesis for their idea. Why? Because the more clearly and precisely you can articulate your idea in relation to your expected market, the easier it is to come up with a way to pretotype it and test it on that market.

A DECADE OF PRETOTYPING

This anniversary edition is a bit late; we are closer to the 11th anniversary of *Pretotype It*, but time flies when you are having fun and keeping busy. And pretotyping has kept me busier than a mosquito at a nudist colony[6]. Since the original batch of hand-stapled copies of the first draft were distributed at Google in 2011, teaching, coaching, refining, and practicing pretotyping has become my primary occupation—and passion—which was totally unexpected.

One day I was Google's Director of Engineering and Innovation Agitator, the next I was put in front of Fortune 500 CEOs and other "bigshots" who, somehow, had heard about this guy named Alberto and this thing called pretotyping.

Alberto teaching pretotyping at a Google Executive Summit

I became one of the most in-demand Google speakers

---

[6] Ten years later and I am still making nudist jokes! What's wrong with me? :-)

when the company's major clients came to the Mountain View headquarters to "learn Google's success secrets."

The growing interest in pretotyping was not limited to already large and successful companies that wanted to become even larger and more successful. The original booklet (which I released online as a free PDF when I got tired of printing and stapling hard copies) had also found its way into the Silicon Valley entrepreneur community. Pretty soon I was teaching two to three seminars and workshops a week, not only at Google but at startup and entrepreneurs organizations all over the valley.

Pretotyping Goes To Stanford

Badge for the very first Pretotyping@Work workshop at Stanford

My high-school grades would have never gotten me accepted at Stanford, but my "baby", pretotyping, did. One of the attendees at a Google summit in which I presented pretotyping was Stanford Graduate School of Business professor Baba Shiv. Baba saw the great potential and need for pretotyping, and thanks to him I began a series of collaborations with Stanford that continues to this day.

Besides Baba, I was also lucky enough to receive enthusiastic long-term encouragement, support, and teaching opportunities from another fantastic Stanford professor, Tina Seelig. Thanks to Baba and Tina (and several other faculty members), I had an opportunity to teach pretotyping to hundreds of students not just at the Graduate School of Business, but at Stanford's famed d.school (the birthplace of Design Thinking), the School of Engineering, and Stanford's Technology Ventures Program.

Alberto teaching pretotyping
at the Stanford d.school

Bye Google, see you later

To make a long story short, pretotyping took off like a rocket and, like it or not, I was strapped to that rocket. I became the pretotyping guru.
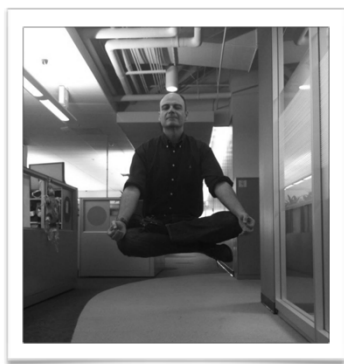
Google's pretyping guru?

Patrick Copeland, my Google manager at the time, was a great supporter of what I was doing. In fact, it was Patrick who gave me a week "off" so I could focus on writing the original version of *Pretotype It* (thanks again, Patrick!) However, the demands for my pretotyping seminars, workshops, and coaching had grown to the point that I had to choose between focusing on that or on my job as an engineering director at Google—not an easy decision.

But then I thought about the many hard-working engineers working countless hours on products that will fail in the market, and realized that I could help them avoid that fate. There are plenty of great engineering managers, but I could not find anybody who taught what I did. So I decided to change the focus of my career from helping engineers build products that worked right, to helping organizations identify products worthy of being built. My motto and mission became the subtitle of this book: Make sure that you are building The Right It before you build It right.

In 2012, I left Google to teach, coach, and practice preto-typing full time. The rest, as they say, is history—and it's history still in the making. Here are just a few of the great things that have happened to pretotyping (and to me) since then:

- Pretotyping has entered the lexicon and has become an essential practice and toolkit in many of the world's most successful companies and in countless startups.

- Hundreds of entrepreneurs, innovators, product managers, CEOs, and venture capitalists, have shared with me how pretotyping has changed the way they think about ideas and how to validate them before deciding to invest in them.

- This original version of this booklet has been translated by volunteers in a dozen or so languages and has become required reading at some of the most prestigious universities and business schools. Since I did not put any restrictions on copying and sharing the PDF, I have no idea how many people have read it, but I estimate it's in the tens of thousands.

- Based on this booklet's success, I was offered a book contract and a handsome advance from HarperCollins—one of

the world's greatest publishers—to write *The Right It*, a proper, full-length book on pretotyping.

Pretotype: The first edition of the booklet you are reading.
Prototype: The full-length manuscript for *The Right It*.

- I have given hundreds of lectures, seminars, and workshops on pretotyping, reaching countless more people across the globe. To help me spread the pretotyping message without spreading *myself* too thin, some of my best students, like Tim Vang in Europe and Leslie Barry in Australia/Asia Pacific, have become full-time pretotyping evangelists, teachers, and coaches and are doing an amazing job.

- In 2016, I co-created and taught a pretotyping-centric ten-week innovation course for Stanford University's d.school with the great Tina Seelig, and I now teach this course as a workshop at other universities and companies.

- *Google's Innovation Agitator Emeritus*—although I no longer work at the company as a "regular" employee, Google continues to hire me regularly to teach seminars and run workshops on pretotyping and innovation for their top clients.

It's no exaggeration to say that pretotyping has changed my life and the lives of countless entrepreneurs and innovators. If you have read this far, I am confident that it will also change your life—or at least the way you think about your ideas and how to test them before you invest in them.

Hungry For More?

If you want to learn more about pretotyping and how it can help you to make sure that you are building The Right It before you build It right, you are in luck—and in good company!

Today, the community of pretotypers keeps growing, adding many new resources that you can leverage. Here are some of them.

The Right It Book

Think of this booklet, *Pretotype It,* as an appetizer—a small sample of the power of pretotyping. If you found the concepts and tools in this booklet appetizing and valuable, I'd love it if you would consider buying and devouring the final product: my full-length, properly edited, and professionally published book *The Right It.*

My new book benefits from several years of teaching and successfully putting pretotyping into action at startups,

Fortune 500 companies, and some of the best universities and entrepreneurship programs in the world. In *The Right It*, you will not only find many more pretotyping techniques and examples, but also new tools, metrics, and a full step-by-step plan for going from idea, to pretotype, to data you can trust. All the tools and know-how you need to make those critical go/no-go product decisions with unparalleled confidence.

The Right It YouTube Channel

To complement my books, I regularly upload videos to my YouTube channel (*The Right It Video Lessons*) in which I elaborate on specific pretotyping topics, introduce new tools and ideas, answer readers' questions, and share particularly interesting and illustrative examples of pretotyping in action. Stanford and several other organizations with whom I have worked have also uploaded videos of my classes, seminars, interviews, and keynote presentations; search for "Alberto Savoia" on YouTube, and you'll find plenty of knowledge to help you pretotype your ideas as effectively and efficiently as possible.

Pretotyping.org

In addition to being the official repository for links to many pretotyping resources, pretotyping.org is a growing global online community with active discussion forums

in which entrepreneurs and innovators like you exchange ideas and help each other.

Social Media

My website is AlbertoSavoia.com. If you would like to keep up with my latest work, you can follow me on LinkedIn (*Alberto Savoia*), Twitter (*@Pretotyping*), and YouTube (*The Right It—Video Lessons by Alberto Savoia*.)

Join The Fight Against The Beast Of Failure

Entrepreneurs and innovators are one of our most valuable resources; when they fail, we all fail, and when they succeed, we all succeed. So if you have found this booklet useful, please share it with friends who might benefit from it, post about it on your social media, and—if you want to do something special—write a (hopefully nice) review on Amazon or Goodreads.

If you would like to translate this 10th anniversary edition of the book into your native language, you have my permission—and my gratitude. All I ask is that you make the PDF version of your translation available for free, and that you notify me so we can put a link to it on the pretotyping.org website to make it easy to find.

Acknowledgments

About the Author

Alberto Savoia was Director of Engineering and Innovation Agitator at Google where, among other things, he led the development and launch of the original Google AdWords.

Prior to Google, he was Director of Software Technology Research at Sun Microsystems Laboratories, and co-founder and CTO of two software development tools start-ups (Velogic Inc., acquired by Keynote Systems, and Agitar Software, acquired by McCabe.)

Alberto's thought leadership in the area of software development tools and innovation has been recognized with numerous awards, including:

The Wall Street Journal Technology Innovation Award (2005)

InfoWorld Top 25 CTOs Award (2005) and Technology of the Year Award (2005, 2006)

Software Development's Jolt Award (2005, 2006, 2007, 2008)

Software Development Magazine Productivity Award (1998)

Java Developer's Journal World Class Award (1998).

Since 2012, Alberto has been teaching, coaching, and practicing prototyping and innovation in collaboration with some of the world's best-known companies, universities, and entrepreneurial organizations. He is the author of "Pretotype It" (Google, 2011) and "The Right It" (HarperColllins, 2019).

"May you always find The Right It.
I am rooting hard for you!"

Alberto Savoia