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DESIGN
SPRINT
A Practical Guidebook for
Building Great Digital Products
Early Release
RAW & UNEDITED
Richard
Lombardo and Trace Wax

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O'REILLY®

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Richard Banfield, C.Todd Lombardo and Trace Wax

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A Practical Guidebook for Building Great Digital Products

by Richard Banfield, C.Todd Lombardo and Trace Wax

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Contents

The product professional

This book is for you.

You're the product person in your organization. You may have no one reporting to you. You might have 50 people in your product group. You might be responsible for the entire product. Maybe the design team doesn't report to you, neither do developers nor the marketing or the sales teams. Maybe you're in a startup without all those defined roles, and you wear a lot of hats. Maybe you're in a large enterprise organization that has each one defined to the nth degree. Maybe you are a product design freelancer. You might work in an agency as a consultant. You probably have read a blog post about this process. Maybe you even tried one yourself. You're very likely wondering how your unique needs will work with Design Sprints and are seeking more information than you can find in a few blog posts.

If any of these descriptions sound familiar, then this book was intended for you.

Objectives

There were three things that drove us to create this book. **Reducing the amount of waste**, providing **practical applications to the process** for a range of companies and **improving the accessibility** of Design Sprints. We are attracted to the **Design Sprint** process because it's a simple way to prototyping and testing just about any product in a week, or less.

Like most digital product managers, we witnessed the creation of far too many products that didn't have a good market fit. These misfires waste money and energy — but worst of all, they waste time For many companies (especially startups), getting a product to market quickly is the difference between life and death. .

The hardest part of creating a product is to get to market and get traction before the opportunity disappears. For larger companies, and the design firms that serve them, the challenge is often more complicated than just time and cash; there's also organizational politics to deal with.

Might there be a process out there that helps control costs, reduces the waste of going in the wrong direction, and helps keep the peace? Could such a fabled thing exist in the chaotic world of product design?

The digital product design landscape

Although digital products have only been with us for a few decades, they have become the dominant way we consume information and communication. At the writing of this book, there were 500+ new apps being released into the wild every single day! That doesn't even include the related physical products and services that accompany those apps. At that rate, it's hard to grasp the effort and time needed to make so many products. Let alone understand the wasted hours and dollars.

You'd think that digital products would be easier to build than physical products. CEOs and founders often can't understand why their investments in digital products aren't paying off. The path to creating digital products appears so much easier — no injection-molding, no flying to China to meet suppliers, hardly a whiff of dirty labor at all. Building a digital product is, in fact, relatively cheap and quick. But building the right product to win in the marketplace is as hard and grueling as ever. This is because the key components to digital products are not pixels and code, but rather people, time, and process. And people are always going to be complicated.

If you're product lead, time (or lack thereof), is what keeps you up at night. Having collectively worked on over eight hundred digital products, we feel your pain. The frustration and the consequences of losing ground to bad decisions and missed opportunities was the primary motivation for writing this book.

We will focus on the realities of designing digital products, and lay out a practical guide to implementing the Design Sprint principles and techniques. Knowing full well that there is no single way to creating the perfect product, we don't want to sound prescriptive. However, having a disciplined and proven process wins out over winging it, every time. This book will help almost anyone working on digital products go from knowledge to action.

Another distinguishing element of this book is that we discuss how the Design Sprint fits into the real world. Unlike in controlled environments or case studies, things don't always align. In the turbulent reality of our lives, it's hard to find five days of uninterrupted time. It's hard to get the attention of the executives. It's hard to find testing subjects that fit your exact target profile.This book was written for the sticky, messy, chaotic world we all live in. We interviewed dozens of product designers just like you, and we saw a huge variety in the way Design Sprints were being used. In fact, no two organizations we spoke with do it the same way. Google Ventures evangelizes a five-day process while Intrepid Pursuits does a Design Sprint over 4 to 6 weeks. Agencies like fresh tilled soil have undertaken sprints that take up to two weeks. At the other end of the spectrum, a Design Sprint can be run every other day, rather in blocks of one to two full days. At larger companies like Constant Contact, a Design Sprint can last from a half-day up to 9 days, depending on the project. The Design Sprint is a framework, not a set of rules. We'll show you several ways to mold the Design Sprint to meet your specific needs.

As flexible as Design Sprints are, we like the approach better than most design processes for one simple reason: it's as far from the "gut feeling" approach employed by many product designers as you can get. As Patrick Solvabarro, the CEO of Upward Labs, a Constant Contact InnoLoft startup resident said,

"These Design Sprints are a lot like mini science experiments." We like that comparison. The scientific process has successfully given us a model to get our ideas out of our heads (a hypothesis) and test them against the pressures of the big bad world (experimentation) so that we can either validate the hypothesis or figure out what's not working. Creativity is never the product of lightning-strike inspirations or flashes of brilliance. It's a consequence of a disciplined trial and error process. The greatest scientists, artists, and engineers have built their work on the "ideate, build, test, validate" model. We think it's time that all product designers did the same. Edison famously iterated through thousands of designs on his way to inventing the light bulb. Picasso is considered as one of the most prolific artists, not because he produced many artworks, but because he constantly experimented with artistic directions.

This process won't prevent failures, but it'll help your team identify them quickly and move your forward to the next breakthrough. There's no process that will prevent mistakes. In addition, we're not looking to eliminate mistakes entirely. Failing faster is a part of the process. The Design Sprint process gives you 'bounce back' power. By providing almost immediate feedback, the Design Sprint allows you to determine which directions your design will be most likely to succeed or fail. You might fail a few times, but you'll have the tools to get back up and tackle the next challenge. As one of our favorite observers of humans, Ira Glass, points out "If you're not failing all the time you're not creating a situation where you can get super lucky."

The final reason for writing this book was to make Design Sprints as accessible as possible. In preparation for this book, we interviewed over several dozen digital design leaders (studio owners, design leads, UX experts) and a large number of product designers from companies big and small. We heard time

and time again that, although they were aware of these approaches to product design, very few were implementing them in their organizations. A lot of this has to do with the fact that many product designers just didn't have any practical experience with Design Sprints. By showing how the Design Sprint has been used in a variety of organization sizes and types, we hope to bridge the gap and make them accessible to more product design leaders.

Design Sprints are a great way to make sense of the complicated. Translating the objectives or problem into a narrative and then physically crafting potential solutions is a powerful way to make customer needs and desires visible and poignant. Connecting these customer stories to practical and emotional feedback generates a roadmap that becomes the path for future design and development work.

Who this book is for

You're the product person in your organization. You may have no one reporting to you. You might have 50 people in your product group. You might be responsible for the entire product. Maybe the design team doesn't report to you, neither do developers nor the marketing or the sales teams. Maybe you're in a startup without all those defined roles, and you wear a lot of hats. Maybe you're in a large enterprise organization that has each one defined to the nth degree. Maybe you are a product design freelancer. You might work in an agency as a consultant. You probably have read a blog post about this process. Maybe you even tried one yourself. You're very likely wondering how your unique needs will work with Design Sprints and are seeking more information than you can find in a few blog posts.

If any of these descriptions sound familiar, then this book was intended for you.

We interviewed CEOs and founders of startups, CTOs, Product Managers, Product Owners, VPs of Product and Lead Designers. We asked them what worked in their product design cycles, and we asked them what didn't. They told us how they structure teams and keep people focused. What we learned is that no two Design Sprints are alike. Each of their perspectives is included here so you can learn from their experiences in driving product development using the Design Sprint approach.

And we're not just of academics, either; we've been there too. C. Todd had been running the same sequence of activities during his time as a consultant for design-minded organizational change consultancy, XPLANE as well as his consulting agency, CATALYTIC. In his current role as Innovation Architect at Constant Contact's InnoLoft, C. Todd guides both internal Constant Contact teams and InnoLoft startup residents through Design Sprints to gain clarity, solicit customer input, and define design direction for their products. He has to marshal resources from different areas of the organization to bring a product idea to life — or watch it die if he is unable to do so.

Richard leads a team of senior design strategists and personally runs Design Sprint sessions with his clients at Fresh Tilled Soil. The team works with clients ranging from Fortune 500 corporations Intel and Staples to venture funded startups and emerging businesses. The design and development team at Fresh Tilled Soil has run over 50 sessions using either the Design Sprint or Deep Dive methodologies.

As a developer leading an office for thoughtbot, Trace has attended and facilitated a large number of Product Design sprints for clients to ensure new projects start in the right direction with enough initial validation.

One product owner we interviewed was tasked with bringing an idea called "Presence" to life. She worked with the internal UX team to identify one part-time UX resource for a couple hours a week, and she was able to leverage a full-stack developer from another team. As with many organizations large or small, it is not like Burger King where it's "your way, right away." Negotiating these valuable hours of design, UX, and development time is no easy task. The Design Sprint can help by integrating a number of these different areas into the project and inject them with a sense of belonging to the project. Co-creating something makes people feel like that have an ownership stake in the project, as opposed to the mentality of just being told what to execute on.

Very often, the person driving the Design Sprint won't be a senior executive. If you're a Product Manager trying to get the CEO, CMO, and key stakeholders to give you up to five dedicated days, you're going to need more than a nice smile. Finding support for a Design Sprint requires you communicate the value of the process and outcomes. Alleviate the paralyzing uncertainty normally associated with product design efforts. As Robert Cialdini, author of The Small Big: Powerful Persuasion says "Moving people under conditions of uncertainty is difficult—the first thing they do is freeze. They're scared of what they might lose. For this reason, it's good to tell people what they will lose if they fail to move. Daniel Kahneman won a Nobel Prize for showing that if you're trying to mobilize people under conditions of uncertainty, notions of loss are psychologically more powerful than notions of gain. Managers can take the wind in their

faces and make it wind in their sails by speaking not just of what will be gained by moving, but also of what will be lost or foregone if people fail to move."

Output versus outcome

Enter design artifacts. It is always a bit of a chore to transcribe all the post-it notes and get it into digital form. There are many tools in existence that can help such as Rocketboard, Evernote, Boardthing, 3M's Post-It(TM) Plus app, and others. The creation of artifacts gives all participants a chance to see collectively what they have accomplished, and gives them a sense of ownership and empowerment. Artifacts also act as communication tools. . Arming yourself with artifacts that you've produced will help you explain the outcome to others who may not have participated. This is especially important if anyone, such as an executive team member, is not yet a convert to the Design Sprint process. Instead of merely capturing the outcome, artifacts show the process itself and help make clear the reasoning behind it. This will critical to obtaining buy-in from decision makers, whether you're an internal product person or a consultant at an agency.

How we did it

In writing this book, we had to solve a large, unstructured problem in a lean and rapid way. So, of course, we used a Design Sprint.. Creating a book with the tools you're writing about keeps you very in tune with the benefits and flaws of the methodology. Since the Design Sprint forces a concept to become a reality in a few intense days, this book came to life due to the effort an equally extraordinary multi-day session. This is not to say that the hundreds of Design Sprints, classes and workshops we've run, taught and facilitated over the past five years haven't influenced the work here. We wouldn't have been able to write this from scratch without all those experiences. Our initial hypothesis was that product people in the digital design world need a guidebook to Design Sprints. After all, if we heard rumblings from our peers, partners and clients then this would be worth the investigation. We started that inquiry in order to understand a product designer needs better. We included as many viewpoints from Product Managers, Product Owners, Product Designers, CEOs, CTOs, and Vice Presidents who all manage digital products. We planned to validate our solution on the final day of the sprint with a prototype. In our case, our prototype would be a draft of the book that we could share with our peers. That prototype was the first iteration of the book you are reading today.

Like most teams, we struggled to find five consecutive uninterrupted days. As we had already done dozens of Design Sprints, and we had some preparation completed, we settled on four days for our 'book sprint'.

The breakdown of our Design Sprint book writing process was this:

Day 0 (We had many day 0s, btw)

Plan, gather as much information from our past sprints we have run as well as view what other people have posted about their experiences using Design Sprints. Set up interviews and arrange any logistics. We wrote this book primarily in Northampton, MA secluding ourselves away from our day-jobs to focus on the writing.

Day 1

Work out our scope the overarching story, our objectives for writing this book, the target audience, the book layout design (we handed off to our creative director, Michael Connors) and a first attempt at a chapter breakdown with each having some content filled in, so we had some understanding of the overall flow of the book.

Day 2

Complete some interviews, send off for transcription and then break down all the chapters, do a word count and assign each chapter for one of us to finish over the next day and a half.

Day 3

Finish the draft writing and flow the content into the book layout that Michael designed for us.

Day 4

Prototype it: Show people the book! We brought in Ethan Bagley from Constant Contact, Alex Fedorov and Kristy Stetson from Fresh Tilled Soil to give us in-person feedback. We sent copies to James Macanufo, author of Gamestorming, and watched how they reacted, what they said, and paid close attention to their responses.

After our sprint, we iterated, of course! We refined the text, sent off the manuscript for a round of editing, added in anecdotes from our interviews, clarified the content based on input from others as well as our editors, created illustrations and selected which images to include, all the while stalking, er, talking to different publishers until we finally landed with O'Reilly Media.

The Design Process

1

This section digs into the issues that product professionals face today, what stages of development are ideal for a Design Sprint, and we'll attempt to define what a Design Sprint actually is.

People and process

CHAPTER 1.1

What's wrong with today's typical approach?

In the world of digital products, the future is very hard to predict. To be successful in creating digital products you have to reduce the risk of failure but it's almost impossible to do that. Traditionally design leads have tried planning their way out of that conundrum. Only to find that no amount of planning can guarantee an outcome. In our lives, we've been guilty of this too. Our gray hairs should stand testimony to the failure of waterfall and even Agile project management methodologies.

The traditional approach to product design is broken. We all know that. So what's the alternative? The answer lies in people and process, not in new project management tools.

A Design Sprint is a time-constrained five-phase exercise that uses design thinking to reduce the risks in bringing a product to market. Design Sprints are excellent starting points to kick-off a new initiative, whether that be a feature, a workflow, a whole new product, new business or solving problems with an existing product.

The Dark Side of Process

As designers and developers of digital products, we like the idea of having a process to follow. Often, even a mediocre process is better than none. An unforeseen result of a bad or mediocre process is that it creates bad habits and poor outcomes or if it stifles work by being overly bureaucratic. Even small bad habits like waiting too long to show potential customers what you're working on can create much bigger problems down the line. Designing, building, testing and releasing a product is how things get to market. Getting blocked because of the inability to include outside contributors are what stops products from getting to market.

The adoption of Agile and Lean principles have helped us escape the drag created by traditional waterfall techniques. The old school approach of requirements gathering, writing specs, and tightly bound dependencies were killing projects. And possibly contributing to a few heart attacks too. Agile helped liberate the developers and Lean gave them even more 'in progress' tools to speed up release cycles. Unfortunately, these methodologies avoided dealing with the design process adequately. Design became the red-headed stepchild. Sometimes it just got dumped into Sprint Zero or, as Kim et al. coined the term in 2002: the "fuzzy front end." We don't know about you, but we don't like our front-end to be fuzzy.

The problem with Agile and Lean is that they weren't invented for designers or the design process. Agile has its roots in software development. Specifically, Agile grew up around those software projects that had a single team working on a single project within a single company structure. If you were running multiple product tracks, with multiple teams across several clients, as

is the case with agencies and centralized product teams in large corporations, Agile fell apart like a mud house in a rainstorm.

Lean has its origins in manufacturing. Its efficiencies were felt on the factory floor but weren't as obvious back in the design studio.

On the factory floor, Lean reduced the waste of inventory management and gave engineers a 'just-in-time' solution to making the things they needed. While Lean engineers were working hard at finding efficiencies, designers fell behind. Our tools and methodologies hadn't kept pace with the engineering transformations. They were still linear and until recently looked like they would stay that way. It wasn't through lack of involvement or interest. It was because design has been considered an inherently linear process.

Think > Draw > Refine > Prototype > Build > Test

Notice the testing comes last, when it's too late. Most designers believed their ideas and concepts often needed time to mature before introducing those concepts to potential customers. This was a mistake.

Design needed a little nudge. Or maybe more of a push. That push came when Steve Blank, and later Eric Reis, started applying lean principles to the startup world. Blank, a Stanford professor, urged his business students to put aside their research and assumptions and use actual customer feedback as the means for validating their business ideas. His emphasis on experimentation over deliberation encouraged students to take their ideas "out of the build-

ing" and see if they would resonate with potential customers before they started building products. The concept of 'failing faster' was born giving start-ups the opportunity to update their ideas and pivot to better solutions before they ran out of time or money. Combining these ideas with Agile methodology, software and SaaS startups started adopting shorter development cycles with the goal of creating a flow of continuous improvements. This was very different from the "if we build it, they will come" that had dominated the era of failed dotcoms. It wasn't enough.

That's not to say things didn't improve in the age of Agile and Lean, they most certainly did. But when you're starting from a zero base every improvement starts to look awesome. Applying Lean ideas to the chaotic world of startups in his book The Lean Startup, Eric Reis gave us a new playbook for development cycles. It didn't promise that startups would now be creating better solutions, but it helped eliminate some of the time wasting that was common in linear processes like Agile and Waterfall. More importantly The Lean Startup put the digital product designers and developers at the table.

For the design process specifically, this was a path designers were already exploring. The big breakthrough came when design specialists at the industrial design firm, IDEO asked why can't we do several weeks of designing and testing in one week. By asking this, they were pushing back on age-old mythologies about how design gets done. Timeworn ideas like needing lots of time to think through a problem were put to the test. By collapsing the time constraints, these designers were essentially holding a gun to their heads and forcing themselves to come up with better solutions in less time. This might seem counterintuitive. Can you really do more with less? After all, designing is

a thinking problem. If you have more time to think you should be able to find a better solution, right? Not according to the latest science.

It turns out that when there's environmental pressure, like a drop-dead schedule to meet, whether real or manufactured, your brain jumps into action. Our brain chemistry is activated to produce more of the molecules we need to create solutions. This happens when you move from a stressful state to a state known as flow, also known as getting into the zone, first described by Mihaly Csikszentmihalyi. The pressure created by the short timeframe and the hard deadlines jump-starts both your brain and your body's physiology.

The work done by author Steven Kotler to document this research is a fascinating exploration of what makes high-stress situations, like deadlines, force us into the flow state. We don't have the space to get into all the details here but suffice to say that providing drop-dead dates for your product team has numerous advantages. In Kotler's words, "...the key message here is that organizations that are interested in these kinds of high-performing, flow-bonded, tight teams must absolutely allow those teams the space to take risks. Companies lacking that Silicon Valley 'fail frequently, fail faster, fail forward motto' are denying their workforce the easy access to flow that risk provides and the incredibly important social bonds that result." We should add that failure is not the objective of these companies, nor the Design Sprint practice. Rather, we are very interested in the learning that comes from that failure.

When the brain chemicals get going, there's also the side effect of creating social bonding. When your team is experiencing these changes and getting a rush of this neurochemical cocktail, they are going to get more done even with less time. With the help of norepinephrine, dopamine, endorphins,

anandamide and serotonin into the brain your team is going to be set up to be making bigger breakthroughs. As Kotler says, "... equally important is the role these chemicals play in social bonding. Norepinephrine and dopamine underpin romantic love. Endorphins are responsible for maternal bonding in infants and social bonding in adults. Anandamide, meanwhile, increases lateral thinking—our ability to link disparate ideas together— which expands perspective and can widen our sphere of caring. Lastly, there's serotonin, which is now believed partially responsible for everything from basic attachment to total OCD-esque infatuation." We're not sure how useful the OCD stuff is but we can definitely attest to the time-boxing framework of short sprints providing a creative kick in the butt.

What's the Best Application of Design Sprints?

You might be wondering if Design Sprints are going to be good for your particular project. Having been in the product design trenches just like you we know that there are huge benefits to this process but it's not for everyone. We've seen first hand on hundreds of projects that this focused effort will help you make significant progress in your project in a very short period of time. We also know it has its limitations. Let's face it: you will not build the next Facebook in one Design Sprint. However, there may be ideas about products and product features that need vetting before having significant assigned resources. Creating MVP's (Minimum Viable Products) or even EVP's (Exceptional Viable Products) if you're a fan of Rand Fishkin, are also where Design Sprints can help. Other projects such as marketing campaigns, finance initiatives, or even training and support initiatives could benefit from a Design Sprint before adding too many resources to a project.

Brian Colcord, Director, UX and Product Design at the publicly traded LogMeIn got the same kick out of discovering Design Sprints that we had.

> *"The Design Sprint was an eye opening thing to me, because you always struggle within these corporate settings with opinions, and stakeholders, and all of –those types of things. When I got introduced to the Design Sprint, that showed me that you can involve all of these people in that process, and the outcome can be exponentially better and faster than how we were going about it currently. It just really opened my eyes."*

Takeaways:

- People and process are the solutions to what's broken in product design
- A new design process is needed to supplement traditional development-focused Agile and Lean process
- Teams bond and are productive under time pressure with the ability to succeed or fail quickly
- Design Sprints evolved to design new products, but also can solve problems like finance or HR issues.

The creative flow

CHAPTER 1.2

Why make it a "Sprint?"

The word sprint comes from the world of Agile, and it describes a short period of time - normally 1 or 2 weeks. The Design Sprint is no different. It uses the original concept of the sprint to describe a period of time dedicated to working on the necessary design thinking. This time-bounded paradigm is critical to the success of the Design Sprint. 'Timeboxing', as it's sometimes called, is essential to driving the right types of behavior from the participants. It's not just important in speeding up the innovation process. It takes advantage of a core parts of our human nature - energy economy and social collaboration.

As we discussed in the previous chapter. Our brains need environmental and internal triggers to get us into the creative flow. To ensure our survival during times when calories needed for creative thinking were not as close as the vending machine, we evolved brains that conserve energy. Your brain wants to hang on to it's calories for as long as possible. In times of need, your brain jumps into action and chews on all that stored energy as quickly as possible. Times of need can be artificially manufactured by creating deadlines. Our brain doesn't know the difference. When you create deadlines, your brain stops procrastinating and gives you what you need.

The same thing happens when you create a time-bound Design Sprint. Scheduled activities and consequences snap your brain into action. The best way to create urgency and get the 'juices' flowing is to set hard dates for the sprint. There is a real need to create extrinsic motivators to get the best results. For example, schedule customer interviews on the last day of the sprint or set up a presentation to your bosses to show them what the sprint uncovered. These motivators get you focused, which the brain likes, and forces you to get the really important stuff, like prototyping completed, so you won't look unprepared come testing day.

Having said this, there is a deliberate and almost paradoxical tension that must be created for this collaboration to be successful. The Design Sprint is a framework that aims to provide enough structure to get the team to get engaged and excited while also remaining flexible enough that it doesn't smother the creative process. Time spent with the team needs to be sensitive to the very real technical challenges, while supporting the sparks of insight that come from collaborative exploration. The brilliant pianist Bill Evans said it best in his liner notes to Kind of Blue: "Group improvisation is a further challenge. Aside from the weighty technical problem of collective coherent thinking, there is the very human, even social need for sympathy from all members to bend for the common result."

Does a Design Sprint have to be 5 Days?

We have seen Design Sprints as short as a few days and as long as a few weeks. Our recommendation is to have at least one full day for each of the five phases of the Design Sprint. Trying to force the process into 2 or 3 days can undermine the very reason you are doing this Design Thinking exercise -

to think. The ideal Design Sprint provides time for the team to reflect on their ideas and challenges and also provides opportunities to validate or disrupt those ideas. By providing a day to each phase you have time to test assumptions and overcome the possibility of jumping to conclusions. This gives the team the opportunity to reflect on some of the decisions and discussions of the previous days work. We'll discuss the details of that in the next chapter.

In our experience and through the interviews we conducted, we discovered other ways in which design teams are applying the Design Sprint framework.

> *"One of the other things that we've really done, which is kind of an adaptation of the Design Sprint is Design Studios which I've learned a lot about in the last couple of years and putting them into practice here, which is more of like a day-long Design Sprint, where you kind of have these three design threads and you break off into teams. It allows for including more people, and I think it works better for something that's just like trying to iron out a specific flow, or that's a little bit less of a problem. Design sprints, I think, lend themselves better to a bigger, overarching problem. Where if you're just trying to figure out how we get somebody through a purchase flow or something like that, the design studio day, helps just to ignite that and push that along. We practice those as well; we use those."*
> *Brian Colcord, LogMeIn*

The biggest challenge to the 5-day sprint framework comes in larger, enterprise organizations. It is difficult to get all the right stakeholders in one place for five uninterrupted days since many stakeholders have other responsibilities and "day jobs" to attend to.

Matt Bridges, who leads Product Design over at Intrepid Labs, a digital design agency focused on mobile app design, told us that they spread their Design Sprints over four to six weeks, and for good reason. Their team and clients don't have the luxury of getting together for five full consecutive days.

Takeaways:

- Time-boxing your efforts creates a sense of urgency. Really: you get sh!t done.
- A team focused on one project can be productive
- Design Sprints' five phases can sometimes be spread over less or more than five days

Time-boxing works

The process is flexible

CHAPTER 1.3

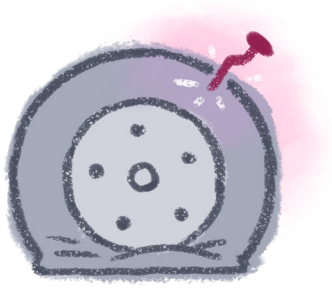
What is a Design Sprint?

As mentioned earlier, a Design Sprint is typically a 5-day product design-focused effort between preparation and wrap-up activities conducted with a small team with the objective of validating a prototype of the product they wish to design and build.

The Design Sprint is the first, and for some projects the most significant, phase of a design thinking process. It gets the entire product design and development team on the same page, reduces the risk of downstream mistakes, and generate vision-lead goals for the team to measure their success by. For the purposes of this book, we'll be focusing on the design of digital products only. We know many other design disciplines use the Design Sprint, but that would require a whole new book.

The Design Sprint is a flexible framework for starting new product design and development work. If you're a product owner or manager, you might be using the Design Sprint in any number of ways. You might use the Design Sprint to start new projects or to start a new cycle of updates. If you're on the product leadership team of an existing product, you might use the Design Sprint to initiate a change in process or begin the innovation of a product concept.

The Design Sprint can be broken into 5 phases:



Understand

Discover insights and define the problem

1 to 3 days

Focusing on the problem that needs to be addressed, what is currently known, and what more information is necessary.

Activities and Tools

- Facts Assumptions
- Discovery interview
- Task Modeling
- Empathy Map
- Journey Maps
- Who/Do

Diverge

Generate solutions

1/2 to 1 day

A brainstorming ideation session to generate ideas that solve the challenge(s) identified from your insights.

Activities and Tools

- Challenge Maps
- Scenarios
- Storyboarding
- Six-ups
- Who/Do

This structure is best for a design sprint for a product or a service. This is atomized so you can break it apart to best fulfill the needs of the sponsoring team.

Figure 1.3-1

Converge

Rank and select

1/2 to 1 day

Examine all of the solutions exposed over the past phases in order to select a single variant to bring to life.

Activities and Tools

- Assumption Table
- 3-12-3
- Storyboarding
- Dot-voting

Prototype

Build the solution

1/2 to 2 days

Make a prototype that can test the core assumptions of the Design Sprint.

Activities and Tools

- Illustrator, Photoshop or Sketch
- HTML/CSS
- Keynote or PowerPoint

Test

Observe the customer impact

1/2 to 2 days

Learn if your solution solves a problem the users have by watching them interact with your prototype.

Activities and Tools

- Testing Interview
- Plus/Delta

However you use it, the Design Sprint gives you a clear roadmap to kickstart and validate almost any digital product related work.

As we discussed earlier, the origins of the Design Sprint came out of the two camps. First, the world of industrial product design, where firms like IDEO developed short cycle design sessions called Deep Dives. Secondly, there was lots of influence from the modern Agile world of software product development. Although there have been versions of this approach used over the last decade, it was the work of Jake Knapp at Google Ventures (GV) that really brought them to product designers attention.

Startups are notoriously fast moving environments and value speed to market over almost everything else. This commitment to speed is what gives them the emergent advantage, but it also leaves out a lot of the essential thinking and testing required to build a truly useful product. Too many products go to market without customer validation. How do you maintain the speed while including the necessary design thinking?

Takeaways:

- The focus of a Design Sprint is to get the validation needed to maximize the chances of creating something people want
- The process is very flexible and can adapt to different teams and needs
- A Design Sprint has 5 phases: Understand, Diverge, Converge, Prototype, and Test

Kickstart and validate

How the Design Sprint gets done

2

This section dives into the details of each stage of a Design Sprint. We'll explore how to plan your design sprint, how you tackle each phase, and what to do afterwards.

Plan

CHAPTER 2.1

Make a Plan

Pick a Time

Design Sprints work best as a one-week exercise, Monday through Friday, where each phase takes one day. This timebox allows enough time for enough depth while the constraints lead to accelerated results. This one-week schedule is the most common practice and is recommended as a priority for your team.

Sometimes this just isn't possible, or the needs are a bit different. We've done Design Sprints in as quickly as 90 minutes to as long a seven days. As we've mentioned from our conversations with others who run Whatever your time availability is, your preparation is as important as the work you'll do both before and after the Design Sprint itself. Show up prepared and also prepare all participants for the Design Sprint too. All the participants should have the agenda handy and see examples of what the results of a sprint look like, but we intentionally don't want people to over-engineer expected feature lists, for example. We'll take anything people already have on hand, but don't want to prejudice the outcome of the sprint, which may be something very different altogether. If you're reading this book, we assume you're on the right track!

Create the Agenda/s

Each phase has an associated objective and should have an agenda. Each day's agenda should list the exercises and deliverables for the day, with a clear description of each. The days should be short -- 7 hours is ideal. The days are intense and can be tiring, so plan plenty of breaks. A good rule of thumb is to take a break every 80 to 120 minutes.

With that schedule, there's room for exercises to go overtime when needed, and attendees can have set time slots to be available to answer urgent issues.

A 'plan-to-be-flexible' approach is best. The agenda should have a prescribed list of exercises and associated time-boxes, but if the conversation goes in a particular direction and has a particular need, exercises can be added.

Refer to the next five chapters for example agendas for each day of the Design Sprint.

Set the Scope

In order to scope, we recommend starting the Day 1 session by answering a Challenge Statement.

This scoping often includes interviewing stakeholders and doing online research. A scope that is too broad will be too difficult to wrangle, and a scope that is too narrowly defined will not have enough meat to be worthy of a full sprint. Examples of a scope that is too broad: We want to re-think digital

marketing. Too narrow: We think there's a better way to sign into our product. Just right: We want to explore new ways to engage our users in a brand ambassador program.

The scope may be flexible at the beginning of the Design Sprint if it's discovered the greatest user or business need is outside that scope. However, this scope will be focused into the Challenge Statement described in Phase 1 and used throughout the rest of the Sprint. Do not come into the sprint with a challenge statement 100% formed, it's best to have a direction to refine in phase one and hone in phases 2 or 3. Given who we are and what we're tasked with, we want to output the thing that will have the greatest impact on the business and our users.

Pick a facilitator

It helps if you have the luxury of bringing in an external facilitator to run the sprint with you. A web search will reveal that there are dozens of design-thinking experts that can help with this. When C. Todd ran the first Design Sprint at Constant Contact, he hired a consultant from the global design agency DesignIt to facilitate. It was a huge help not only to have an objective 3rd party in the room, it also helped by having someone who had also undergone a similar process in the room.

Having an external facilitator is desirable but rarely happens in practice. What's most common is to select a designer or product person facilitate the sprint. They'll also be speaking, so they'll need to be cognizant to let everyone have their say and not just push their own agenda. Whoever has the most exposure to Design Sprints and good facilitation skills would be the best choice,

and that might just be you. Don't worry, if you're reading this book, we've got your back, and you're on the right track! In many sprints, there is often no facilitator, so a designer or product person in attendance leads the Sprint. However, it's important to truly facilitate and to not use the facilitator position to push any agenda. Your goal is to move things forward and ensure everyone can speak at the right times.

What makes a good facilitator?

The ability to listen, be adaptable and remain as objective as possible during the sprint. Everyone has a bias, and as mindful as you can become, there must be an effort to remain neutral throughout the sprint. This will be important in allowing those who have ideas that may seem wild at first to continue to drive to the crazy idea. After all, a crazy idea of strangers sleeping in your house just might turn into a billion dollar business. [AirBnB]

The facilitator's role is to monitor progress continually and keep the time. If an exercise is for 3 minutes, it's their job to enforce that. As we've mentioned already, the time-boxed nature of a Design Sprint might produce some anxiety, but it will be a forcing function for you to produce results.

Facilitators wield the power of the pen, and one goal is to allow all participants to hold such power. When you write what someone else says, be sure to write as close to what they say as possible. In fact, if you can write exactly what they say it's all the better. Why? Because you show the team that their input is valuable and by writing it exactly as it was said is gratifying to the individual. It's subconscious, but others will notice, and it helps to set the right tone for the Design Sprint.

Recruit and Inform Team Members

We recommend a one-page "Here's what you can expect" session plan that informs all participants of the basic questions: What's the objective? Where is it held? Who will be there? What time(s)? What's the outcome?

The ideal team for your Design Sprint will be about 4-5 people. Less than this and you're going to struggle to finish all the work ahead. More than this and you'll start to have some friction around 'who does what' and making sure everyone is included. In the spirit of writing this book for the real world, we know 4-5 people might not be possible. Certainly we have seen groups as small as two and groups with dozens of participants.

To make the selection task a little easier we've created three separate lists; startups, bigger companies and design firms (or consultants).

Startups:

- **Product Manager.** It's probably you. If it's not you, you'll want to find the person that has the highest responsibility for getting the product built.

- **Project Manager.** If you have a separate role for the Project Manager, which is preferable, include this person too.

- **Designer.** Specifically a digital product designer or UI designer. An illustrator or graphic designer without web/digital experience is not going to be able to translate ideas into designs efficiently.

- **Engineer or Developer.** This person will be a core team member responsible for leading development of the project. If you're a small startup, this might be your technical co-founder or CTO. Again, a little front-end experience goes a long way. If you're asking questions that impact device functionality you'll be glad, you included someone with experience dealing with accessibility, load-times, and transitions.

- **Customer facing expert.** In a small startup, almost everyone will have some contact with customers. Your designers and developers and founding team will all have frequent contact with the customers. If they don't you have bigger issues. However, if there's a single person responsible for customer support then they definitely need to be included.

- **CEO or Founder.** Including the CEO is tricky. In smaller companies and startups, it's inevitable and important that they are present. If they are also out trying to close deals or raise money then at the very least have them be there at the start of the sprint and at the end. They can also be useful as tie-breakers when you're stuck, but our advice is to rely on the process and not on a single opinion to drive you forward. The guys over at Link Texting probably said it best in their Medium article, "The CEO as a 'communication layer' doesn't work. We've seen CEO's who claim to know the 'vision' and 'product roadmap.' They dictate what they know and make hard demands on teams. Customer feedback is the source code for building a great app. Sharing customer feedback with the rest of the team helps everyone work in unison."

- **Marketing Manager or CMO.** Their viewpoints on positioning and marketing messaging are going to be essential to having the right

visuals and copy in the prototype. Just don't let that override the need to get something built quickly. Nitpicking on copywriting options will destroy your chances of meeting your deadline.

Bigger Companies:

- **Chief Product Officer, Product Manager, Director or Owner.** For complex projects, we sometimes see more than one person at the helm. Include them all if you feel they are all going to help you make the sprint a success.

- **Project Manager.** In some cases, there might even be a Product Manager and a Project Manager overseeing a product design. Again, include them both. If you're wondering what the difference is between a Product Manager and a Project Manager, read the sidebar.

- **Designer.** As above, this should be a competent UI designer. If you have a big group and are going to be producing several prototypes, we recommend you include another designer.

- **Engineer or Developer.** Follow the advice from above.

- **Customer facing expert.** In larger companies, this is a defined role. Customer Support Manager or Chief Feel-Good Director or something like that. If you have more than one customer segment, you might want to have an additional person in here from the marketing team.

- **CEO.** As we mentioned above, getting the CEO or founders involved

will depend on the availability and on the ability for the CEO to act as an equal and not run roughshod over the teams discussions and choices. In bigger companies, it's highly unlikely you'll get more than a few hours from the CEO so make those hours count.

- **Product Marketing Manager.** Their viewpoints on positioning and marketing messaging are going to be essential to having the right visuals and copy in the prototype.

Design Firms or Consultants

- **UX Strategist or Product Lead.** If you work at a design firm, then this is probably you. If it's not you, you'll want the person tasked with leading the project from the agency or consulting side of the fence.

- **UI Designer.** If your team has designers with experience using the Design Sprint, Deep Dives, or any structured design thinking then that will help provide momentum and efficiency to the work ahead.

- **Engineer or Developer.** In our experience, this will most likely be a front-end developer but you might have a back-end specialist on the team too. Either way, because you're going to be designing the prototype of your product interface, the more front-end experience, the better.

- **Project Manager.** For most design firms, this will be a more typical project manager role. In some ways, this person will be one of the most important members of the team. They will capture all the conversations,

sketches, decisions and help make sure the team stays on schedule and meets deliverable deadlines.

We've also seen suggestions to include "anybody else who's interested." This is inadvisable. More is not better. Design Sprints are not for anyone. They work best when you include the product team and the people that directly influence the products success. Including the office manager because he says he once spoke to a customer is just a waste of everyone's time.

Product Management and Product Management

There's an ongoing confusion as to the difference between Product Management and Project Management. Let's try clear this up once and for all. Providing product teams with leadership and guidance is something that a lot of companies struggle with. So let's get this straight right upfront: Product Management, especially the Product Director role, is different from Project Management.

If you're building a software product, you need both a Product Manager (or Director) and a Project Manager. Very small companies and startups might have those roles performed by the same person, but it's not advised. We don't recommend this for the simple reason that they are two very distinct areas of responsibility. The product management role is all about providing direction and leadership; the project management role is all about making sure the team gets to that vision. Another way to think about is that the Product Manager is in charge of the why while the Project Manager is in charge of the how.

Product managers are responsible for the overall product vision, directing the

people (including all the touchy-feely stuff) and the roadmap (the strategy) for getting there. Project managers are responsible for getting the logistics, scheduling, planning and task allocations done. Think of is as the Product Manager being the CEO of the product and the Project Manager being the COO of the product.

Regardless of the company size or structure these roles need to be distinct. In a service company like a design consultancy, the Product Designer is normally a member of the client team and the Project Designer is normally a person on the design service team. At Fresh Tilled Soil, we insist on having a Project Designer (not quite a project manager, but very close) on every project. If the client offers to provide a project manager, we will still provide our Project Designer to ensure that our team has all the support they need to be awesome. Updating schedules, task lists, coordinating phone calls and meetings and staying on track with sprint schedules is not something you want to trust to designers and developers when they have so much else to do.

Secure and Prepare the Space

Physical space is important and cannot be overlooked. The physical space you host a Design Sprint in is crucial. We recommend having a room that contains ample wall-space and whiteboards, with room to move about. For tables and chairs for larger sprints, we usually configure the room into "pods" with 4 to 6 people at each pod.

It's recommended that people be in person, but Design Sprints can still work well if people are in different cities and can't afford to travel. Ensure a solid remoting setup and that the remote party can upload their materials immediately whenever they create them.

For example at thoughtbot, a client wanted a Design Sprint in NYC but had one participant who needed to participate remotely from Portland. We double-checked everyone's connectivity and communication tools before we started, and created a Trello board where everyone uploaded their sketches, storyboards, wireframes and other content as soon as it was created.

Stock-up on Supplies

Yes we love post-it notes and sharpies, whiteboards and good old fashioned paper. **Here's what's in our "Sprint Kit"**

- **Sticky notes** — multiple colors, avoiding the darker colors like purple and blue since black-sharpies tend to not show up well, especially in photos. Get two sizes at a minimum: 3x3 and 5x7. Super-sticky preferable.
- **Drawing markers** — Any standard black or blue pen is probably fine.
- **Whiteboard markers** — Black and red are great.
- **Whiteboards** — Self explanatory. Not much good without markers though.
- **Dot stickers** — for voting. You want something small with a few colors. Red/yellow/green are recommended.
- **8.5 × 11 or A4 blank copy paper** — Preferably thicker than typical copy paper. We found that copy-paper tends to bleed and can leave marks on tables.
- **Snacks** — Sugar and caffeine are your friends.
- **Coffee** — Seriously, caffeine is your friend.
- **Adhesive Putty** — To stick things to the walls or windows
- **Easel Pads** — To put up on the walls so the walls stay nice :)

Nice to have:

- Large ½ inch thick **foam core boards** sized 4′ x 6′ or larger
- **Camera** — Your mobile phone works quite well unless you have an old Nokia flip-phone.
- **Timer Clock** — Optional, but totally awesome. Mobile phone works well. See above.

Post-it Note Pro Tip

Many people think that peeling a post it is straight up and off, but the problem with that is the edge where there are adhesive curls. Even if you flatten this when sticking to a vertical surface, the post-it does not lie flat. The best way to peel the post it off is to pull it from the side as flat as possible. The result is that the post-it will lay flat on the surface, and also there's less chance of falling off.

Establish Guidelines

It might seem strange to start a creative thinking process by establishing boundaries. This counterintuitive approach is often shunned by the uninitiated as being restrictive or dampening the creative process. This couldn't be further from the truth.

The guidelines we recommend are intended to level the playing field for all participants. Human beings are complicated enough without the additional pressure of having to solve problems while being stuck in a room full of peers

or strangers for five days. Put them in a room together to understand a problem, brainstorm solutions and make prototypes, it can get downright chaotic. The humans involved in the Design Sprint phases are more than just sources for ideas and arms to make things. They bring with them their own biases, emotions, preferences and even politics. Guidelines reduce the risk of those biases and focus the team on the customer's problems. Our goal with these guidelines is to get the team to fall in love with the problem and not with one of their own subjective solutions.

Constraints or guidelines are about reducing the anxiety created by too many choices. Anxiety uses energy and slows your decision-making process down. In the context of a high-stress Design Sprint, you're going to want to save as much of that precious glycogen as possible. If you're in any doubt that constraints are better for creativity, consider the following studies. In an experiment conducted by Stanford University's Professor Baba Shiv, two separate groups were given different mental exercises. The first group was asked to memorize a 2-digit number. The second group was asked to remember a 7-digit number. When the tasks were complete, the students had the choice of a piece of cake or some fruit. The students that had to memorize the longer number series choose the cake. It turns out they needed the quick fix of the high sugar content.

> *"... what happened is willpower and focus and concentration and working on problem-solving are all coming from the same pool of cognitive resources. More significantly, it's really a scarce resource that's easily depleted."*

Decision fatigue, as it's called was first introduced by Roy Baumeister and John

Tierney in their book, Willpower: Rediscovering the Greatest Human Strength. Tierney summarized the idea in an article in the New York Times like this:

> *"Decision fatigue helps explain why ordinarily sensible people get angry at colleagues and families, splurge on clothes, buy junk food at the supermarket and can't resist the dealer's offer to rustproof their new car. No matter how rational and high-minded you try to be, you can't make decision after decision without paying a biological price. It's different from ordinary physical fatigue — you're not consciously aware of being tired — but you're low on mental energy."*

The New York Times article goes on to say:

> *"No matter how rational and high-minded you try to be, you can't make decision after decision without paying a biological price. It's different from ordinary physical fatigue — you're not consciously aware of being tired — but you're low on mental energy. The more choices you make throughout the day, the harder each one becomes for your brain, and eventually it looks for shortcuts, usually in either of two very different ways."*

By providing guidelines and rules for the team you can empower the team. You reduce the opportunity for mental fatigue and ensure that each person's contributions will be given equal attention and value. One of the most important elements of a Design Sprint is that these are established on day 1 or even day 0. These are not guidelines to impose on everyone in an authoritarian fashion, rather ask the entire team to co-create them. What we often do is select three from this list (or your own!) then place blank bullet points and

ask the team to help you fill them in. [INSERT IMAGE OF THIS ON A WHITE-BOARD] If no one adds any to the list, add one yourself. By adding it on-the-fly as you're in front of everyone you're more likely to get things moving.

Here's a sample listing of guidelines we use:

- Everyone participates
- One conversation at the room level
- Withholding judgment of others' ideas
- Get up and draw
- Be comfortable
- Easy on people but tough on ideas
- Be timely
- The phone stack
- No Jargon (Skip the 'TPS Reports')
- No "Yes, but…"

Everyone participates - We mean everyone. Design Sprints are not for the faint of heart nor the introvert that never speaks. Rather Design Sprints are intended to, and encourage participation by all participants, regardless of their status.

One conversation at a time - Have you ever been in a meeting and seen lots of side-bar conversations? We don't want those in a Design Sprint because we believe that all comments are valuable. This may help others from talking over each other and prevent the s/he-who-speaks-loudest-wins.

Withholding judgment - This is increasingly important on ideation day when people are coming up with ideas. Bringing forth an idea can be a courageous

act, and if there's harsh judgment it can, even unconsciously, begin to erode the confidence and subtly drop the quality of ideas. There are mechanisms in place during a Design Sprint for judging ideas and bringing the better ones forward; those are when judging can happen.

Be comfortable - We don't want people to feel like they have to stand up or sit down all day, so if someone is sitting and feels the need to stand, that's OK, if they need to leave for a call or to go to the restroom, that's OK too. It seems almost too obvious to call out, but it does help make a difference and establish the tone of the sprint.

Easy on people, tough on ideas - Along the same lines as withholding judgment, we want people to feel like they can contribute. What better way than to value their contributions and also go easy on them for doing so. Ideas are where we can get critical, and this sometimes is a great "two-birds with one stone" guideline.

Be Timely - Facilitators take note. This one is mostly you; your job is to make sure the time doesn't go over what was stated and agreed on, so if you said you'd have lunch at 12:30, make sure you're breaking at 12:30. Otherwise, some people will be looking at their watch thinking "I thought we were supposed to break for lunch now?" and they will become disengaged.

The Phone Stack - Who doesn't love their mobile phone? Who doesn't put it down in a meeting? Most people. To keep the team focused and avoid the inevitable buzzing phone distraction we ask that everyone piles their phones up on top of each other. We call this the phone stack. The first person to reach for the phone might receive a small punishment such as having to buy the next round of coffees or drinks.

No TPS Reports - Do you know what a TPS report is? Neither do we! Keep the jargon and acronyms to a minimum so everyone in the room understands. If necessary, start an acronym dictionary in the back of the room to keep track and let everyone know what "BTKO" really means.

No "Yes, but..." - Any time the word "but" is said it often invalidates what was said earlier, so yes but is really a disagreement. Disagreeing is OK, and preceding with a yes can be subtly counterproductive. There will be times for debate and disagreement in Design Sprints. See rule on withholding judgment. Use "Yes, and" or "Yes, because."

If you ever see anyone breaking these guidelines in the sprint, call them out on it. If you violate these guidelines, call yourself out. If you are called out, admit it, apologize and move on.

Prepare Background Materials

Before the Sprint, ask the participants to provide background materials, to be organized for the other participants to review before the Sprint. These can include:

1. A list of apps, sites, or products similar to parts of what you want to create, as well as others with aspects you may wish to emulate.

2. Information about each of your key customer types: who they are, their stories, and how they feel about the problem you're working to solve. If there's documentation from interviews you conducted with them, that's great to have too.

3. Any existing materials you already have on hand, such as pitch decks, user stories, wireframes, or prototypes. These are great background, but don't flesh these out more than you already have. The Design Sprint will move these forward, and what you come to at the end of the Sprint will likely be different.

Schedule Time with Users

For the last day of the Sprint, you'll want to schedule time with users in the morning and early afternoon. Six users for 30 minutes to 1 hour each is ideal, though if users are very hard to come by, schedule longer sessions for fewer users. For example, we recently did a Design Sprint where the target user was the manager of a factory floor. These people were hard to come by, so we spoke with two users for 90 minutes each instead of 6 users for 30 minutes each. This approach gave us a lot of great information. You'll want to finish by mid-afternoon to prepare findings for an end-of-day discussion that day that will conclude the Design Sprint. Each participant will use the prototype, and be asked questions to get their feedback.

Note that who the users are may evolve during the first day of the Design Sprint. If the desired user type drifts from who is intended, you may need to cancel some sessions and reschedule with users who are better matches to who you're looking for.

Takeaways:

- Agree and align on the scope. Not too narrow, not too broad.
- Select a facilitator and recruit your team to have the right mix of different viewpoints in the sprint
- Set the daily agendas and circulate to the team so they have an idea of what to expect
- Get your space and supplies ready
- Co-create guidelines and rules of engagement at the start
- Prepare Background Materials
- Schedule Time with Users in advance, if possible

Understand

CHAPTER 2.2

Phase 01 - Understand

Although there are several goals for the Understanding phase, it is primarily an opportunity to bring the working team to a mutual understanding of the problem that is attempted at being solved. Another way to think about it is to ask the question, "what is the customer's, or users, pain?" It's not the objective of the Understand phase to answer this question but rather give the question the relevant context so it can be understood clearly.

Sample Agenda #1

Team intros	(15min)
Intro to the Design Sprint Process	(5min)
Intro to Phase 1: Understand	5min)
The Problem Statement	(10min)
Assumptions Board	(10min)
Introduce Back-burner Board	(10min)
Pitch Practice	(15min)
Existing research	(10min)
Definitions: The Business & The Customer	(1hr)
Definitions: The problem, The Value Prop, Success	(1hr)
Business Model Canvas	(30min)
Lightning Demos	(45min)
Expert Perspectives	(30min)
Daily Recap	(30min)

Sample Agenda #2

Kickoff	
Intro and goals	(15 min)
Rules	(5 min)
Icebreaker	(20 min)
Facts & Assumptions 1	
Explanation - heads down on facts	(10 min)
Post, group & share	(10 min)
Heads down on assumptions	(5 min)
Post, group & share	(10 min)
Break	(15 min)
Facts & Assumptions 2	
Categorize in 4 rounds of 2	(3 min ea.)
Competition & Trends	(10 min)
Questions	
Heads down on questions	(10 min)
Post, group & share	(10 min)
Dot vote	(10 min)
Lunch	
Questions	
Converge	(10 min)
Reframe	(15 min)
Customer calls/ visits	(30 min each)
Personas	(30 min)

Get Inspired

When considering new possibilities, you will need to start diverging from where you started. This diverging process will generate a multitude of options to select from later. What are some things that may inspire the group along the week? Perhaps it is an analogous solution in another industry. A competitor. An elegant solution to a different product that we'd like to mimic in some way. With digital products, many solutions exist so rather than reinvent the wheel, seek out solutions from other industries that might apply to your problem. They don't have to fit your problem exactly, remember you're only seeking inspiration at this point. We often take a section of a wall and print out apps, screenshots, drawings or web pages of things we find inspiring, useful, or maybe even want to replicate.

This helps when you're considering what the product experience could be. When diverging, you want to be mindful of the constraints, but also consider the possibilities. This is often best done as the first part of the Diverge phase; you can even start it in the Understand phase and continue throughout the Sprint.

Gather Insights

What have we learned? We take the data we have and consider those constraints. Since we've spent all the energy and effort up to this point understanding and identifying the problem, it is now time to consider what a solution might be. Before we jump straight to drawing wireframes or even coding anything, there are a few things we can do to push the thinking even further

in order to generate some impactful solutions. First look for patterns, maybe you've seen patterns in user behavior that were solidified with your discovery interviews.

Examples

One well-known way to search for insights is to list all of your known data that you've gathered in your research, interviews, surveys, etc. Bucket that under "We saw" then add another bucket "We Know" which are all the trends, accumulation of worldviews you have and past experiences the team can draw upon. Combine these to form an insight: a meaningful perception of human behavior of a particular design context.

We saw	**We know**	**Insight**
Retail store owners spending lots of time and money on maintaining their business' website.	It takes time and energy to build a website. Most businesses need to have a "home" online. Retail shop owners do not have the resources to compete with big businesses in common SEO search terms.	The pride that goes into a website effort is the same that goes into their physical store-front. Anything that interferes might be perceived as a competitive initiative.

Solve for something: A need or a problem

What's the problem you're attempting to solve this week? This is one of the most important aspects and sadly, it is one that's overlooked frequently with the many teams and clients we have worked with. Since most designers and engineers are trained to design and build things the propensity to create and deliver often overpowers the desire to understand why they are creating something. You can look at handful of digital products that were created and went nowhere. Here are a few examples you might have heard of along the way:

Remember Airtime, the face-to-face video chat web application that was launched on June 5, 2012 with quite a splash. Sean Parker and Shawn Fanning, the creators of Napster and famous Facebook investor did a number of talk-show appearances and held a launch party that any record company would envy, well, except for the glitches. The result? $33M of funding with no users after 16 months of operation.

What was the problem they were trying to solve for? Skype, Google hangout and Apple's Facetime already had been in the market to solve these needs and airtime offered little extra in the way of solving for another need. Had Sean and Shawn been more focused on the problem of video chat they could have worked towards a better solution, instead they kept building and didn't pay attention.

Facebook Home is or was a mobile digital product you might have tried on your Android device. We didn't. Did it even make any sense? This seemed to solve a problem for Facebook which was keeping your users in your app, however this did not solve any real problem or need for the user.

Not only does this happen with high-profile and well-funded initiatives, it can happen on a smaller scale as well. San Francisco based engineer Dan Cheung had an idea for an app. He wanted to rate specific dishes at restaurants while apps like Yelp and OpenTable only allowed rating an entire restaurant. He brought in his friend Michael Hughes and his sister Sam. While they may have identified a problem they didn't peel back the layers deep enough to understand how people were currently solving for this problem and if their solution or any other solution could deliver the same results. After launch, Spork reached 100,000 downloads through another app, Foodspotting, launched sooner and became the market leader when they were acquired by OpenTable. One year later, with no increasing app installations nor a clear monetization model, Spork was out of business.

Beyond understanding the problem, you're solving for is understanding what information you have on hand about the current user behavior. At Constant Contact, C.Todd has a direct access to business analytics team where he can make a request to get any information and data the company has available for a particular topic area.

Once you've dug into the data and information your company already has, consider what other the problems your users have faced? Are there tangential related problems? Are there seemingly unrelated problems? The objective is to paint as complete a picture as possible to understand the context of the situation.

Challenge Statement: Set Your Hypothesis Up for Validation

We mentioned earlier that the Design Sprint is like a mini science experiment. What's done here is to create a validation board at this stage to determine what you might be testing on your Validation day. You will not complete the entire board, but you'll get a sense of where you'll be headed. The most important parts of this are to craft your hypothesis and list out your assumptions. The rest of the board can be filled in as you progress in your sprint.

You'll have to craft a hypothesis. It is always surprising to us how many people struggle with crafting a hypothesis statement. Richard and C. Todd are both trained scientists, so perhaps this explains why it seems very natural to us. Here's a guide to help you get to a measurable and testable hypothesis:

You can start with a general hypothesis that describes the relationship:

> *SEO efforts affect the number of website pageviews*

This can be further streamlined into a directional hypothesis:

> *Increased SEO efforts will increase the number of pageviews*

This can then be re-written into a measurable hypothesis:

> *If SEO efforts increase, the number of pageviews will increase because the webpage appears higher in search results.*

You're probably thinking: "but the second one is measurable!" Yes, you can measure pageviews, but that's not what needs to be measured here. There is a step in between the search, the search result, and the pageview. You may not have the detailed information you need to craft a fully measurable hypothesis. That's OK. The Design Sprint is not a hard step-wise process, it is very fluid and starts out fuzzy area.

It is important to avoid using words like I, think, believe, all, never, and sometimes when crafting your hypotheses since they are too vague and general. On the other end, avoid taking on too many and, but and or that can further add ambiguity or caveats.

Don't assume: Write it out

We often recommend the Facts, Assumptions and Questions exercise at this stage (see the Toolkit). It's a great way to brain-dump all the information you have about a particular area into post-it-notes. Assumptions are tricky, you may have some data that backs them up but you may not have enough to consider it a true fact. This is where you have to understand (and why we call this phase "Understand") if this will be an assumption you might want to test, or you consider it a constraint.

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or you consider it a constraint.

Facts - What is known to be true. Not just in the hard data we have, also organizational information about our team and/or company that might affect our ability to understand this particular problem at a deeper level. Objectivity is what you're going for here. Avoid local or organization 'truths' and focus on real unequivocal facts.

Example: *70-80% of users ignore the paid search ads and focus on the organic results.*

Assumptions - What do you think you know? Assumptions are defined as something you believe to be held true, but you might not have any proof or evidence to backup the statement. Worse, is when you have a hint of evidence, and it's taken as fact. This is where biases can come in and make an undesirable and unintended impact on the sprint. Calling out the assumptions is important so that the team can see just how many assumptions you're making. There are many assumptions you don't even know you are making.

Let's take the example of the 9 dot puzzle - This was used by many consultants in the 1970s and 1980s to make their clients feel inadequate, because to solve it you had to think "outside" the imaginary box formed by the outer perimeter of the 9 dots. Some assumptions that can apply to this problem are

1. you have to use 4 lines
2. they have to be those 9 dots
3. you cannot rearrange the 9 dots
4. the pen is thin

5. the line must connect the center of the dot
6. it must be in 2 dimensions
7. etc

There are many many more. Once you start going down this road, you can see what other options exist. Did you think about the 3rd dimension? It's unlikely if you did because in most of the workshops or sessions we run about this, there's rarely a person who comes up with this. The reason is that we don't even know what assumptions we are making. This is why calling all these assumptions out at the beginning of the sprint is crucial. Notice that each assumption in the nine-dot puzzle leads to a potential solution, if you're able to break that assumption. For example, what if the pen was super wide? One short, thick line could connect them all! The same applies to whatever problem you are solving. Some will remain assumptions; some will be things that you can break, and some will be treated as facts.

Questions that still need to be answered

We then look at our facts and assumptions and even our hypothesis if we've generated one at this stage. We'll do another round of heads-down question generation.

Discover more

Once complete with facts, assumptions and questions, you might need to reach out to some users for answers to a key questions raised before proceeding. This is part of the Lean 'build-measure-learn' mantra. Product teams and

engineers are often reluctant to speak to or visit users. These discovery interviews help break that and force the whole team to get in front of a customer (or on the phone, or on video chat (maybe not Airtime).

We use a discovery interview process (see page XXX) to accomplish this. The discovery interview is a very conversational approach to delve deeper into the context of the problem. We encourage video and audio recordings of these whenever possible so that the team can go back and listen to what the customer said.

Define Your WHO

If you already have personas from past work, excellent. If you don't, that is OK, and this point is a great time to investigate WHO you are solving for. Regardless of what anyone else says, people are the ones to buy and use your product so keep them at the center of your work. Personas are composite constructs of people, representations of the different types of people who use your product.

We often find that the WHO/DO exercise (from our friends who wrote Gamestorming!) is a great way to start this. WHO are the different stakeholders and what do you want to them to DO…

…with your product
…after using your product
…when using your product.

You don't have to consider all of these, one can suffice.

Further diving into personas you can start to create story-based version of your different user-types. What's their background? What re their motivations?

Define The Journey

Taking a page from service design, look from a holistic viewpoint of what the users are doing before they use your product, and also afterwards help add context to your project and can highlight opportunities you may have otherwise missed. So many times we see teams focusing only on the areas where the customer is engaged in product use they miss out on may opportunities to create delightful experiences based on that behavior or entry point. For example [INSERT EXAMPLE HERE]

Use of an experience map or a user journey map (see page XXX in Toolkit) are excellent tools to accomplish the journey. In a user journey map, you break down the journey of each persona into different stages. Once you have all of those stages, and goals for each stage you can see the touchpoints that the a user would interact with your product or service.

Let's go back to the SEO example, before a user is thinking about SEO they are writing content for their blog, creating marketing collateral or perhaps responding to a review on Yelp. Maybe they're taking a call from a customer or writing an email in response to a support ticket. All these activities can yield insight into how you might engage users who have this need. As mentioned above with Job Stories, understanding the user's situation is key to defining the context and the opportunities your team has to create a solution that delights.

Re-frame the challenge

How might we re-frame the challenge given what we collectively know? Taking all the information in you may realize that your initial hypothesis might be the wrong one. If so, that's great! Congratulate yourself as this process has worked for you. As we mentioned earlier, there are plenty of stories about products being built that no one needs nor wants.

Why reframe? Often we see organizations thinking and speaking in terms of their features and their products, not the customer nor the user's eyes. (Yes, we realize that the paying customer and the user may not be the same)

Here are some great examples of reframing:

Have you ever purchased a pair of socks? Our guess is you probably have purchased many socks over your lifetime, and they are always sold in even numbers. 2, 4, 6, 12, etc.

In 2003 Jonah Staw,, a product designer at the prestigious frog design and Arielle Eckstut were joking about how they could solve the problem of missing socks by wearing all the surviving socks that did not match. That silly joke inspired them to start LittleMissMatched. The reframed the problem from "I have missing socks" to "I can combine and wear these leftover socks" to "None of my socks match, and that's awesome!" They sold socks in "pairs" of three that have matching color palettes but no matching design patterns. Your suit-wearing Wall Street businesswoman might not wear them, but 11-year-old girls absolutely loved it. Eleven years later the company is reportedly grossing over $30 Million annually in sales .

The ability to reframe a situation can lead to incredible breakthroughs, and it can also lead to small insights that you can leverage to delight your users. It all depends on your perspective and the ability to shift perspective once you have all the context in front of your team. If you asked a team of engineers how to improve the experience of the AmTrak ride between Boston and New York City, they may offer all sorts of suggestions for improvements in the rail structures, suspensions on the train, and more comfortable seating. However for the amount of funding it would take to implement that type of systems and infrastructure, you might also be able to hire exceptional wait staff as servers to serve top-shelf liquor and gourmet hors d'oeuvres to passengers during the trip. Rather than a shorter trip, passengers may start requesting a longer duration in the latter example!

This reframe went from a structural, smooth-ride, to an experience. The amount of effort it may take to improve the experience could be of a much smaller implementation. These are the little details you'll want to seek out as you reframe your challenge.

One tool that can help with exploring the problem further is Challenge Mapping (see page XXX) - A challenge map asks the questions "why?" and "What's stopping?" and forces you to consider the relationship between the possibilities. Once you're created a challenge map around a particular issue, you can start to see what might be blocking the advancement of a solution. Many times you start out in one area and learn that's not the area you need to focus on!

Takeaways:

- Inspire yourselves with background materials and other solutions to similar and related problems
- Define the problem and take time to understand it and the data you currently have about it
- Craft a hypothesis in a way that gets to something causal in nature and can be measurable. It's OK if this is not a perfectly testable hypothesis perfect today, but it will give you directionality
- List out all your assumptions, facts and remaining questions that your current data and research do not answer
- Consider conducting discovery interviews if the team needs to contextualize further
- Create personas and job-stories so you humanize your users, they are people, too!
- Map out their current journey or experience so you have a full visual context of the problem at hand. You'll be able to identify which areas to focus on creating a solution or a fix to a current friction point

It’s about empathy

Diverge

CHAPTER 2.3

Phase 02 - Diverge

When diverging, you're exploring possibilities. If you're not already inspired by the work you've done to date and inspired to craft a solution to the problem you're facing, you'll need to seek out other apps, designs and solutions that are elegant, interesting and give you the lift you want to bring to your project.

Sample Agenda #1

Intro to Day 2: Diverge	(5min)
Guidelines	(5 min)
Pitch Practice	(10min)
Recap Day 1	(45min)
Critical path for prototype	(45min)

User story that is most important for this sprint or that best addresses our most blocking/risky assumptions/knowledge gaps.

Diverge Cycle 1	(2 hours total)
Mind Map	(15min)
SixUps	(5min)
Storyboard	(20min)
Silent critique	(10min)
Group critique	(3-5min each person)
Diverge Cycle 1	(2 hrs)
Daily Recap/Retrospective	(30min)

Sample Agenda #2

Intro and Overview	(15min)
Journey Map and Opportunities	(1hr)
Dot-Vote	(10min)
Challenge Maps	(2 hr)
Dot-Vote	(15 min)
SixUps	(1 hr)
Scenarios / Storyboards	(1 hr)
Wireframe	(1 hr)

Generate Solutions

Ah, brainstorming! There are numerous articles, books and research on brainstorming. While we'll cite some of the most recent research, we'll speak mainly from our experience of what we've seen work and also what we have seen breakdown when generating ideas.

Individual first

When starting a brainstorming exercise, whether they be some of the exercises we have in the toolkit section, or others, beginning at an individual level will allow each to think in their own way about the problem. This allows their brains deconstruct and construct a model of the information in their brain that works for them. It also prevents someone else's mental constructs from overpowering and overshadowing. Once you've identified constraints (often in the facts and assumptions as well as validation board exercises), you want to unleash as much creative freedom as possible.

Group Second

Once individuals have had time to consider the problem and generate possible solutions, sharing with the group in an open manner will allow the participants to build on each others ideas and solutions. It is detrimental if voices are too critical of ideas at this stage. That is why the Converge phase exists. The guidelines established in the early portion of the sprint.

For the design firm:

Alex Nemeroff at Dynamo, a design and UX agency based in Montreal, suggests that individuals go first and are allowed their own time to draw out sketches. After a prescribed amount of time, he pairs them up, one person from his agency and one person from the client. They then have a chance to review each other's work and give feedback. Then each takes that feedback and refines and iterates on their sketches. Once the time is up, each shares their sketches with the whole group. This happens at the end of the day. No voting takes place until the following day when they start with a dot-voting exercise. This gives everyone the night to "sleep on it," which has been proven to make for better decision-making.

External Viewpoints Improve Ideas

At Constant Contact, the Diverge phase often brings in participants from other areas of the company into the project for their input. This allows a couple of things to happen: first, the additional brainpower and different viewpoints can act as a way to further challenge ideas and push them to be better since they bring a fresh perspective. Second, by inviting others in the organization to participate, you help evangelize the framework and the mindset. Over time, more and more Constant Contact employees took part in the Design Sprint process and it even reached a point where members of the executive team were advocating the approach on a number of initiatives in the company.

Quantity Begets Quality

The goal is quantity at the moment not necessarily quality. Ira Glass, the famous storyteller heard on This American Life® once spoke about how doing a quantity of work early in your career helps you get better at whatever you do. A very similar concept applies here. You're not going to come up with "the big idea" immediately. However you will generate multiple ideas or even iterations of those ideas. It costs very little to generate and iterate on ideas, however once you start executing and bringing them to life is when things can get costly, so go for quantity at this point. In C. Todd's Creativity and Innovation class at IE Business School he forces his MBA student teams to generate at least 100 ideas for the problem they are solving. Justin Lloyd, an instructor at the Maryland Institute College of Art, once spoke about how his graphic design professors forced him to generate 500 different concepts of a logo design for his class projects. A high quantity of concepts has the benefit of allowing ideas to evolve. Quantity helps to bring out the quality. There's no shortcut to a great idea, it is grinding away ideating and iterating and working.

Takeaways:

- Brainstorming works best when focused on each individual, not the larger group

- Quantity is more important than quality while diverging and brainstorming. Quality will come later.

Converge

CHAPTER 2.4

Phase 03 - Converge

It's already the middle of the week, so we're going to go from idea generation to narrowing down the choices. The Converge phase is exactly that - a phase about making hard choices and deciding on a direction.

Sample Agenda #1

Intro to Day 3: Converge, guidelines	(5 min)
Pitch Practice	(10 min)
Revisit our risks	(15 min)
Recap Day 2, identify themes	(30 min)
Identify conflicts	(30 min)
List the underlying assumptions	(30 min)
Storyboard your prototype	(2 hrs)
Determine prototype medium	(10 min)
Plan interview questions	(40 min)
Make plans for reducing risks	(40 min)
Plans for the week after design sprint	(30 min)
Daily Recap/Retrospective	(30 min)

Sample Agenda #2

xxxxxxxxxxxxxxx

xxxxxxxxxxxxxxx

xxxxxxxxxxxxxxx

Why don't we just test all our ideas?

Quite simply, you don't have the time, especially if you have generated over 100 ideas for solutions to a problem. The Design Sprint is also about getting you out of the land of concepts and closer to an actual product. Or in this case, a prototype of a product. This means you'll need to select a few design directions from your ideas.

There are two things that will influence how you approach this stage: the size of your group and the market that you're building your new product for. Let's talk about group size first. If your group is small, we don't recommend picking more than three design directions. If you have a really large group, you could test as many as you can handle. Just remember that the more ideas you choose to prototype the more downstream work you'll be creating for yourself. The second influencing factor is the market you're designing for. If this is a new product category, then you might be able to generate lots of different ways to solve the problem. If the market you're design for is an established and well-trodden space, you'll be restricted by what's already out there and what has already been proven. You probably don't want to design a product that's exactly the same as something that's already in this space. If you do, then you have other problems that the Design Sprint can't help you with.

Google Ventures (GV) divides up the potential paths into either "battle royale" or "best shot". They are fairly self-explanatory but for clarity's sake let's talk about the options. The "battle royal" option is when you have multiple design options that you'd like to test against each other. Jack Knapp at GV suggests that this is a good direction if your goal is to explore new territory. This approach is a lot of fun, especially if you have a good sized group to work on the

various design directions, but it also means a lot more work for everyone - including your test customers. More isn't necessarily better so be careful about chasing every design option your team comes up with.

The "best shot" option is the best design that will be tested against whatever else is already in the marketplace. For example, if we're designing a travel app that helps you buy airline tickets, you might go with the "best shot" approach because that allows you to see if your design wins out over the designs of the potential competitors. Of course, this direction means more focus. More focus could translate to a faster and more efficient design cycle for your prototype. As Knapp says, "The advantage of the "best shot" approach is that you can put a lot more work into that one prototype, or just get it done faster."

Another approach is a hybrid of the "battle royale" and the "best shot". These hybrids tend to happen when you have strong consensus about one area of the product by disparate ideas about other areas. By designing different paths or options for your prototype, you'll be able to reduce your options further through testing.

Keep in mind that it's not opinion that drives the Converge phase, it's the Facts, Assumptions and Questions you listed on Day 01. There's no need to test facts in your prototype. If you're building a design direction just so you can have the facts repeated back to you, you're wasting time. Use this phase to select for options that will help you understand your audience's needs further. The open assumptions and questions will need to be validated at the end of the week. Make sure you select the best design to validate those unknowns.

How do you do the converging work?

To get the best possible decisions, you're going to need to do two things: revisit the Facts, Assumptions, and Questions and tell a story. We recommend having the Facts, Assumptions and Questions at the top of the whiteboard or on a big piece of paper close to your working space so it's easy to reference. The second part, storytelling is more time-consuming and will probably take up a good chunk of the day. We've noticed that most teams will spend the morning doing the storytelling and the afternoon doing the actual design work. It's up to you to decide how to divide your day but it clear that the better your story, the easier it is to design a solution.

At our respective companies, we have the luxury of really big walls complete with a large whiteboard or painted in Ideapaint. This gives us a big canvas to create our stories on. If you don't have a big whiteboard, we suggest the large sticky worksheets you can find at any office supply store. Stick them up on any wall or window, and you have your canvas. The reason you're going to need so much space is because you're going to tell the entire story of the customer experience. Think of this as an experience roadmap. The purpose of the roadmap is to show the journey your users will take from the entry point (or points) to an end-point. These journeys will be told as a story because it's the best way to get everyone thinking empathetically about the customer's experience.

One of the best ways to tell a story is, in the same way, a comic book or children's storybook is laid out - frame by frame. To set yourself up to be able to do this, you'll need to create the grid-like structure of these books. Divide your whiteboard or paper sheets into grids or blocks so you can begin to tell your story. Just like in a children's storybook, each frame represents another

link in the story or journey. Your team's job on Day 03 will be to construct the story frame by frame.

Knowing how much detail to put in each frame is going to save you a lot of time. The best way to think about this is by activities. Each frame should represent a major action in the journey through the product or website. You'll want to provide enough detail so that on Day 04 you'll have a good reference for what to put in your prototype. For efficiency's sake, we normally pick the person on the team with the best drawing skills. That person might be you but if you're the facilitator you might need some help. Even though only one person is doing the drawing, everyone is required to participate. This is not an opportunity to kick back and watch an artist doodle away. The ideal situation is where one person facilitates; one person draws, and the rest of the team engages in the design conversation and makes suggestions for the story line. If you don't have a person on your team with good drawing skills, don't worry. This is not an art competition. Nobody really cares that the damn button is not a perfect rectangle.

Creating the story of how the user will navigate through the product is based on how they will find it easiest to understand. This is where empathy makes a difference and biases can steamroll good ideas. The team needs to remember that they are not the end users, and their preferences won't translate to the customer's preferences. We've gone as far as to write the statement "I am not the customer" on the whiteboard.

Including all the voices in the room will give you the best possible insights from your team. Designers, developers, executives, customer service and marketing folks will all bring different perspectives and solutions. Keep the conversation inclusive and open. While you're making sure you let everyone get a chance

to speak you are also not designing by committee so don't be too nice. As GV's Knapp recommends, "If there's a good argument going, don't try to find middle ground or make people agree. Help the team place a bet on one of the opposing solutions and keep the other in your back pocket if it fails."

Words of Warning:

It's easy for shy or quiet people to be ignored or railroaded in these group activities. It's the role of the facilitator to be sensitive to the entire groups needs and include all opinions. Ask for individual's contributions and beware of strong personalities that dominate conversations. We've observed this happen in almost all of the facilitated Design Sprints we've run. Don't let it happen to you.

Also, it's important that the key stakeholders are in attendance when the most important decisions are made. If they're not able to attend the entire design sprint, have them attend this day. If they can't attend the entire day, have them present when you converge on the storyboard and wireframes. Ask that they not duck out for emails, calls, or meetings during these sessions. This way, they'll be part of the decisions. If they need to change anything for business reasons, they can provide that information right away while there's still time to make adjustments before the end of the design sprint, so they'll be less likely to require changes afterward.

It's important to have a facilitator for this day. Again, one of the participants can facilitate if it's not possible to bring someone in from outside that group. The appointed facilitator can ensure disagreements are resolved, that everyone has a turn to speak and that the day keeps moving forward on schedule.

For the Design Firm:

If you are a design agency working with a client on a Design Sprint, you'll be limited to how much time and budget is available for these activities. Generating design ideas can be relatively inexpensive in comparison to how much time and energy it'll take to execute on each of these ideas. Set expectations with the client so that they are expecting the right number of design ideas vs. actual prototypes. This is especially true of situations where you might only have your client's attention for this brief period. If you have selected to run your Design Sprints over several weeks, then a greater number of design directions might be possible. Either way we suggest you use this rule of thumb ratio to help you plan. For every hour spent ideating you'll need about 3-4 hours for designing and prototyping.

Takeaways:

- There won't be time to test all ideas, so you'll need to prioritize and choose
- Lay out a storyboard for the interaction you decide on, and convert that into wireframes
- Ensure shy people have their say
- Ensure key stakeholders are present
- Appoint a facilitator

Include all opinions

Prototype

CHAPTER 2.5

Phase 04 - Prototype

Sample Agenda #1

You need an agenda? Just go build it!

Sample Agenda #2

- Build prototype(s)
- Define/Refine Testing Plan

What you need

- Any copy to be included - see below. (No Lorem Ipsum, please!)
- Your sketches, wireframes and storyboards
- More coffee
- A maker's mindset

Prototyping is a very rewarding activity. Broadly speaking, all product prototypes are living versions of the idea you have in your head. These tangible prototypes need not be perfect but should provide enough detail to be able to adequately test the assumptions your team has made. The goal here is not perfection. Don't get stuck in endless loops trying to make your prototype look like the final product. That won't help you.

Prototyping digital products can be done using paper, Keynote, PowerPoint, HTML or a prototyping tool like Invision, Proto.io, Balsamiq, etc. The act of making something gives the product life beyond the concepts and allows the design to be experienced for the first time by people outside of your immediate team. In the world of digital prototypes, the process of developing a prototype might be more important than the end product itself. This is very similar to writing a business plan. It's not the end product that matters; it's the mental exercise of thinking through the plan that will give you insights you need in the future.

The prototype, whether it's on a whiteboard, paper and online (HTML/CSS) is a test vehicle that will include some content, some of the primary navigation and possibly important copy or images as well as the key functional elements.

What a prototype is not

In our experience, we don't think of an application prototype as a beta product. You're trying to test assumptions not pre-launch your product. We're also unconvinced that making complex wireframes is a good use of time. Unless those wireframes are connected together, and you can observe the flow of your customer from one page/element to the next, and then wireframes do not constitute a prototype.

Who should be involved in the prototype?

If you're doing the Design Sprint as an internal exercise, i.e., without the help of a design partner, then you may only need to include your initial Design Sprint team. However, if you need the help of a competent designer try to find someone with prototyping experience. If you're running the Design Sprint as a design firm, then the client's core team and your core design team will be involved. Ideally you want the prototyping team to be as small as possible. Inviting more people doesn't invite better input.

The goal is to get something ready for the Validate phase the following day. So once you have your prototype mocked-up get final feedback from your team and then agree on an endpoint, so you don't end up going in circles. This can be difficult if the client needs additional team members involved in getting approvals. It's essential that you spend enough time before you start this process educating your clients or stakeholders that prototyping work is not to secure approval on the aesthetics or functional elements, rather define and refine the flow and navigation of the future product.

The ideal place to be before your Validate phase testing is to have the primary functional areas designed and linked together. Never show a test subject separate pages that have no relationship with each other if you can help it. By linking pages, you can easily see what might need to be added or subtracted to enhance the user experience.

Ensure the copy included in the prototype is appropriate. If it's possible, the copy should match the use case for an individual user. Sometimes it's not possible to change it between each user test, so you can explain to them where

they'd see their own information when viewing the prototype. The product owner is often the right person to come up with the wording for the right copy. Throughout the day, they should be in close communication with the designers or developers as they build out the prototype.

How to create your prototype

How do you do the prototyping work?

Step 1: Review previous day's work and plan the day

The day starts with reviewing the decisions you made the day before and confirmed which parts of the previous days designs will be used in the prototype or prototypes. If you are planning on making more than one prototype, then we recommend you divide into groups and work on the designs separately. Plan to have working periods followed by rests in approximately 90-minute cycles. We also recommend you start each new design session by bringing the group together and doing a quick (5mins max) review or critique of the previous session.

Step 2: Delegate and assign tasks

You only have one day to build your prototype, so the best approach is to spread the design work across your team. Don't worry too much about the consistency of the design elements. Use the morning to get the critical elements in place and use the afternoon to bring them all together in a consistent design pattern. Having one person to coordinate the designs across the group or groups will help tie things up at the end of the day. This work burns calories so make sure there's plenty of coffee and snacks.

Step 3: Sketch the entire prototype out

Even if you're not particularly good at drawing the best place to start is with pen and paper. Using the design elements you created and decided on the in Day 03, sketch out the basic elements starting with the overall user experience in mind. Your prototype should include all of the elements that will 'touched' by the users in the Validate phase. If you're creating more than one prototype, you'll need to decide if elements are going to be used across the board or used discretely in the different prototypes. Common elements like browser bars and fonts should be decided on before you create anything.

Basic usability questions

Use basic usability questions to direct your thinking. What will the user see first? How will they know what we do? Where should we direct their attention? How will they sign up or register? There is a lot of debate about using personas or use cases to define the initial designs. Although in some complex applications we develop use cases we generally find there is only one or two primary personas for each successful design. If you have too many personas or use case you either need additional flows or you need to go back to the Understand phase and get some better focus.

Step 4: Make!

At this early stage less is more – only focus on the essentials. Do not be tempted to fill in all the gaps and fill up the space on the home or landing pages you are sketching. That level of detail will come later. Drawing out the site pages helps everyone involved to visualize what you are doing. Getting

everyone on the same page, literally, is critical to understanding where the design will succeed and where it needs more help. As discussed in the previous chapter, in 90% of our prototype designs the first sketches happen on the white board and are then transferred in more detail to Keynote or Illustrator. Because you've separated the work and different team members are doing different things you'll probably have some inconsistency across the design. Leave time at the end of the day for the designer on your team to help clean up the designs and make them look like a single product.

Having created your core product pages or flows you can begin to build out the complete prototype. As for public facing sections of your product we start with the key entry points (e.g., home page, registration page, download page) a few primary pages. If it's a web application you are designing you'll also want to design the critical functional areas e.g. dashboard, profile setup/edit and uploading files. Each project will be slightly different but you'll notice patterns in all of them.

We're big fans of sketching but in order to create a 'true-to-life' design of a digital product we recommend you build your prototype in Keynote. PowerPoint is just as valuable but there are lots of GUI (general user interface) kits that are available for Keynote. The most popular one is Keynotopia.

A word of warning:

If you are planning on using sophisticated design tools like Illustrator, Sketch or Photoshop in the prototyping phase you're going to get bogged down. Unless you are a very experienced designer that can crank out the product designs in a few hours we recommend you stick with something simpler. In

all our years doing this type of work I have only met a handful of designers that can successfully design basic prototypes in Photoshop without getting distracted by the urge to add more and more complexity.

Try not to get too carried away with the details. If you are working with a copywriter then just add simple text fields, which can be updated later. We don't recommend using lorem ipsum to fill in blank spaces. It generally means you're not sure what the value proposition and it creates administrative debris to clean up later. In testing, you don't want to hear things like, "Why did you put Latin words in here?" Rather use real words and if necessary have your copywriter update it either in parallel or after you are done with your prototype. The best copy tends to be the first thing that comes to mind.

Low-fidelity mock-ups

In the design firm setting, to achieve the speed of execution our clients expect we move directly from prototypes to validation and then once we have feedback we move to low-fidelity mock-ups. The client reviews these mock-ups and any changes required are made immediately. Because we publish the designs to the web via Basecamp, we find progress is only limited by the speed at which we can get feedback. In some case we'll move from sketches to HTML/CSS immediately so we can make updates even faster. This can only be achieved if you have sign off on a design flow or concept.

Prototyping tools

You'll want to select the simplest, fastest tool that can best validate your assumptions.

You can use any of the following to create your prototype:

- Paper prototypes
- Keynotopia
- Wireframes
- Storyboards
- Physical objects
- Journey models
- Interactive prototypes, like InVision or proto.io
- HTML+CSS

Takeaways

- Your best friend is the clock. Use dedicated periods of work and rest to keep the team focused and on track. Remember that this is what makes the Design Sprint so powerful.

- As mentioned before, use real human language and avoid typos. Overly complicated language can intimidate or frustrate a user and cause them to become anxious.

- Focus the creation of the prototype on the testing of major assumptions, like the value proposition and the primary user experience. Don't get caught up in the details. What colors and design elements to use are less important to your testing than knowing if your users understand what problem you're trying to solve for them.

- Be consistent. Use the same terminology from one page or section to the next. For example, if you had a series of steps that required a user to go from one page to the next and you start by calling it a submit button but then change it half way, it will be confusing.

- Use the simplest tool that can most effectively validate your assumptions

Test

CHAPTER 2.6

Phase 05 - Test

Nike says "Just do it," we say "Just test it!"

Here's what this day often looks like:

9:00 **Interview #1**

10:00 **Interview #2**

11:00 **Interview #3**

12:00 **Quick Lunch.** Have a good-natured (read: snarky) conversation about what went wrong on the first 2 interviews. Make tweaks to fix the simple things.

1:00 **Interview #4**

2:00 **Interview #5** Twiddle thumbs and quietly mutter curses when user doesn't show up. Find a remote user to speak to in their place.

3:00 **Interview #6**

4:00 **Debrief and Discuss Next Steps.** End with final recap/retrospective.

Conducting the Interview

Test is the phase you've been working so intensely for, so it's important not to underestimate its impact. Your team will be pretty tired by the end of the week so use the natural excitement about getting this thing out into the wild to rally the troops. The goal of Day 05 is not just to confirm that the product you have prototyped is good, but that it's the right prototype. There's no point in doing all this work if you can't validate that this product would have a positive impact on the lives of the people that would use it and that it's relevant to your businesses larger goals.

Remember the Facts, Assumptions and Questions that we discussed on the first day? Today is the day you're going to be reviewing each of those and crafting your questions for your testers. There's no hard and fast rules to how you create your questions but we will give you some guidance on this topic later on in the chapter.

Using your prototype you can now begin with your first real test of the design. Keep the user testing simple by restricting it to a handful of target customers. For most product teams, it's realistic to get 4 to 5 people to test the product. We've seen as many as 12 being tested in a single day. This is probably the upper limit of what can be squeezed into one day and still get quality feedback. Try your hardest to get testers that are properly screened so that you are getting real potential customers to look through the prototype. We'll talk a little more about how to do this in the most efficient way later in the chapter. Larger sample sizes are not necessarily better than testing a small selection of users. For the statistically minded readers, you'll know that once you reach eight people you don't significantly increase your confidence level.

We definitely don't recommend using groups to test your product. Focus groups are the worst way to test product flow and features because they amplify biases and individual opinions. This group testing approach has been popular in consumer products for decades and it's a recipe for bad results. One of the many things we've observed is when a test customer with a strong personality unwittingly influences the other members of the focus group. In these group scenarios the testers will be swayed, or even emotionally bullied, by the other people in the group, and you don't want that. 'Groupthink' is avoidable simply by testing the participants separately.

How to prepare for the testing

To test anything you need assumptions or hypotheses. You have spent time on these on Day 01 so you should have some ground work. These are nothing more than questions you'd like answered. Just talking about them as a group and coming to a consensus about what you want to know is a great first step. Your objective here is to come away knowing things that you can't possibly know just by designing or prototyping. You'll want to end the day with answers that give you solid directions for the next round of improvements.

If your goal is to test the value of the new product, then you'll design your questions to solicit reactions that prove that the product is of value to your user. For example, you might ask, "Having tried out the product would you feel this is something worth paying for?"

If you're testing the actual architecture and features of the product you'll need to be more specific about the types of questions you ask. Questions should be from the point of view of achieving an objective. Give your users small goals,

like "show me how you would buy the _____ item" or "please register for the _____ service". What are the assumptions you created on days 1-3 and can you craft questions that will validate those assumptions for you now?

Tools

This will depend a little on the type of prototype you've created. As we're creating digital products in the Design Sprint you may need the digital devices you've designed for. If you prototype is a mocked-up version of a mobile app, you'll need the mobile app that people would use it on. This setup normally required two locations, one for the test customer and one for the observers. In our experience these are not always going to be rooms. It's very possible that you might have a test subject being tested on the street and the observers sitting back at the office. You'll have one observer with the test customer, and the rest of the team will be observing from afar.

The Testing Environment

To Test successfully you'll need to have the person being interviewed, your test subject, a device of some sort, and the observers hooked up to a screen sharing and video sharing product so you can watch the action. If you're not good at audio visual setups, you might need a little help with this part.

At a minimum we recommend the following things: (you can download a checklist and samples of the forms from our website)

- A few consent forms

- Notebooks and pens
- A camera with video capabilities
- A tripod for the camera (optional)
- A separate recording device (this is optional, but we like to grab the audio and send it to a transcription service so we have a written record of each interview. It's easier to scan these notes rather than re-watch an entire video)
- Apple Airplay, Skype, Go-to-Meeting, Google Hangouts, Zoom or any video-conferencing application that has screen sharing capabilities
- If necessary, a set of speakers or a speaker phone for the observation audience to listen into the testing audio (assuming your video conferencing service needs this addition)
- Testing goals written out for the tester to ask the participant during the test
- Whiteboard to track assumptions and testing goals (you'll want to list all your testing goals here and track them against your test subject responses or feedback)

A Word of Warning

Don't leave this setup until the last minute. A/V stuff can be cruelly complicated. Even in this day and age. Find a nerd and get them to help you!

We're big fans of getting out of the building and testing in the context of the tester's lives. If you're testing an app that is designed for use in a restaurant or at a bus stop, then try and meet your testers in those locations. This might require some extra work, but it's worth the effort. We've gone as far as to ride-along with people on their way to catching a plane to test a solution we were designing for an airport client.

If you can't get out of the building and meet your test subjects in the ideal situation then you can set up an observation room. This has disadvantages and advantages. For one it's really simple to set up and it's easier to capture, the feedback. The observation room will be the location for your test customer and you'll link their progress through the product to another machine in another room. This other room can be located anywhere you'd like because you'll be using a screen sharing and video technology like Skype, Go-to-Meeting or Google Hangouts to conduct the tests. If you're doing this work in a large office you'll need to reserve two, rooms. At our companies we've also used Apple Airplay and Zoom to conduct interviews. Zoom is particularly useful for testing on mobile projects because you can watch the screen of the person being tested and activate the camera to watch their expressions.

Guiding and Observing

Don't coach your testers through the prototype. As tempting as it might be, don't feel like you have to walk them through the entire product step by step. Once you've told them what you want them to do (e.g. sign up for a new service, select a movie, order takeout, etc.), let them navigate through the product on their own. Observe their paths and notice where they get hung up or stuck. If they are looking confused you can ask subtle questions like, "you seem stuck, are you?" or "what do you think you would do next?" If their answers don't provide enough information about what they're thinking, you can say "Talk more about that." The goal here is to observe and take notes, not to be a tour guide.

The team back at the office, observing on the video share, will be taking notes. This is not an opportunity for the team to make sarcastic comments

about the person being interviewed. If the test subject doesn't know which button to press next, it's most likely because you designed a substandard prototype, not because they are "stupid."

In our own testing routines, we will also include a Project Manager (PM) to take notes and gather comments and artifacts related to the interviews. This might be photos, videos, screen grabs or off-the-cuff observations made by the team. The PM will capture all these artifacts in a Google Doc for the team to review. We generally organize the captured data by interviewee, but we've also see it done by feature, question, or flow and further categorized by version if you're testing more than one prototype design.

Observing non-verbal cues is extremely useful. Look for changes in facial expressions, mood or body language. The person being tested might feel embarrassed that they can't figure something out and instead of blaming the design might blame themselves. This behavior generally doesn't manifest verbally so look for clues like frowning or fidgeting.

Assessing whether the prototype is something users want

After showing the prototype, you can ask each participant a question or two to gauge their excitement about using what the prototype could one day become. A variant of the growth question popularized by Sean Ellis is a good way to do this. We sometimes phrase the question like:

"On a scale from 0-10, how disappointed would you be if you could no longer use something like this?"

A variant of the "Net Promoter" question is another good question to ask:

"On a scale of 0 to 10, how likely are you to recommend this to your friends or colleagues?"

Before asking this, if the prototype didn't include a scenario appropriate to the participant's own use case, frame the question in terms of that use case first. Sometimes users and use cases differ and it's not possible to customize the prototype for each participant. For example, if you prototyped an app for dogs but the participant was a cat owner instead, say "imagine this was an app about cats instead of dogs. On a scale of 0-10,..."

Note that the answers may not be what you want to hear. Design Sprints were created in part to maximize the chance of building something people want by validating or invalidating your assumptions, so be prepared for some assumptions to be invalidated.

When results don't match your expectations

Many users will include some surprises, as users often won't do what you expect them to. This is normal, so don't start freaking out yet. Sometimes most things work, but when some or all of a proposed solution is invalidated, you'll need to iterate. This is discussed in the next chapter.

Some examples

At Constant Contact, C. Todd facilitated a four-day Design Sprint for the mobile team that had an idea to include the wealth of Constant Contact's helpful resources and tips for crafting great emails in an elegant mobile app. Helpful information all at your fingertips! Upon testing this with users, six out of six said something to the effect of "That looks nice, but I will never use it." While we may have been disappointed with that result, it allowed us to spent less time, energy, and resources building something nobody wants.

At thoughtbot, one design sprint invalidated two-thirds of a client's idea. The prototype showed metrics comparing users to others like them. When interviewed, users made it clear that other users' data didn't apply to them and they answered the above questions with a low number. However, metrics comparing users to their past behavior was of great value to them. We revised the prototype to show those metrics instead, and the paticipants answered those questions with a higher number. With this pivot, the product proceeded and has been successful.

Takeaways

- Test with at least 4 people, up to 6-10 if possible.
- Test people individually
- Prepare questions in advance
- Observe and take notes, record if you can.
- Ask questions before guiding a stuck user to the next step
- Use understandable language.
- End with a question to gauge whether you've created something users want
- The results may not match your expectations

Test and iterate

Iterate

CHAPTER 2.7

Iterate

You've finished your Design Sprint! Now what?

What do you do immediately after the Design Sprint? The answer to that question depends on how much validation you received during your interviews with users.

End the design sprint with a 1-hour meeting to review findings and discuss next steps. Look at the items on your assumptions board, and discuss users' feedback. See how the results of the test validated or invalidated your hypotheses and any supporting assumptions you made along the way. Answers will also depend on whether you are conducting the Design Sprint internally or as an agency working on behalf of your client.

The results will be in one of 3 categories:

Most stuff worked

This often doesn't happen during the first sprint on a project, but if it happens to you, everyone on the team is probably on the same page about the fixes and tweaks you need to make.

What to do next: Take a week to tune your existing prototype. Create a backlog for developers to start implementation of the most important features or API integrations.

Some big questions

A common outcome after user interviews is a mixed bag: a few hits, a few tweaks, and a couple of real head-scratchers. Fortunately prototypes are easy to change, and as long as some parts of your design are solid, you can probably build on what you have.

What to do next: You can move fast on the tweaks, but you'll want to come up with multiple solutions to the bigger problems. Start your next sprint at Phase 2: Diverge. You can do this with a smaller group and a shorter duration, perhaps two days.

Everything exploded

We've seen a lot of designs go up in flames, and that's OK. You learned that

something didn't work, and it only took you a few hours to build it. This is great progress and very cheap relative to building and launching a full product. Think what would have happened if you'd spent weeks or months implementing this solution!

What to do next: Start your next sprint back to the drawing board with Phase 1: Understand. The results of the interviews are perfect fodder for reviewing and building understanding as a group.

For the design firm

We send the client a Capture document that incorporates photographs of each day's activities. This includes all of the whiteboarding, post-it notes, prototypes, discussion notes and and anything else that was created during the day. The page layouts looks like a photo album with pictures on one side and typed notes on the other. The notes often act as clarifications of the visual artifacts that were created. This document often will include several questions or identifies gaps in our knowledge that need to be answered with further research.

The project team meets the day after the second session for a final debrief and discussion on scope. This normally takes about an hour to clarify scope, scheduling and budget. The PM then writes up the SOW (Scope of Work) and MSA and sends it over to the client for approval. If this is approved, the SOW becomes the contract to start the design and development of the product.

For the product team within an organization

The Design Sprint is a great way to vet and validate the problem-solution fit. It will give direction to where the product team needs to go next by arming the team with qualitative customer evidence of where the product directions should go. What we frequently see happen is the teams will incorporate design directions into their product workflows or even define a new roadmap. Some teams have continued to iterate and follow the build-measure-learn cycle. At Constant Contact, we are working on a mechanism called a "Jump Start" that incorporates this lean-startup ethos for a few weeks to further refine the features.

Life is too short to build something nobody wants.
- Ash Maurya, author of Running Lean

Document Everything

Some wrap-up documentation is often incredibly helpful for the Design Sprint, whether you're a consulting firm or an in-house product person. These summary artifacts are excellent ways to get new team members up-to-speed on the project and can also offer a historical snapshot. Often answering questions such as "Why did we go in this direction?"

The Design Sprint cannot answer every question and provide a flawless roadmap, but it can set a stronger foundation than the traditional design process does. Since the inception of Design Sprints as an accepted methodology for solving product problems, there have been thousands of sprints and proto-

types. Every Design Sprint won't guarantee a product launch, but it will guarantee that a crappy product won't go any further. In the cases where a design makes it through validation, the process may even generate a design and development roadmap.

As we've mentioned, the Design Sprint is a great springboard that will l accelerate the learning of the team as well as the alignment on which direction a product can take.

Distill what you've learned and then do another Design Sprint. Maybe it's not as intense, maybe its more intense. Keep the process going.

Takeaways

- Get together at the end of the sprint to review your assumptions and findings
- If most things worked, next steps can include tuning the prototype and preparing to start work on your product or service.
- If some things worked but there are large questions, iterate with a smaller Design Sprint to get them resolved
- If everything exploded, start over with another Design Sprint!

Design Sprint TOOLKIT

3

This section contains the how-to for the exercises mentioned in this book, and many others as well. Some of these can also be found in thoughtbot's open source repository at: *https://github.com/thoughtbot/design-sprint*.

Note: For this early release version we are still working on gathering and refining this section.

Understand

- Facts & Assumptions
- Discovery Interview
- WHO/DO
- Personas
- User Story
- Job Story
- User Experience / User Journey Map

Diverge

- Challenge Maps
- Scenarios
- Storyboards
- Six-ups/Crazy Eights

Converge

- Dot Voting
- 2x2 Matrix

Prototype

- Paper Prototypes
- Wireframes

Test

- User Test Interview
- Validation Board

3

Tools and Resources

UNDERSTAND

Facts & Assumptions

Why

Used to identify what data is on-hand, what is still unknown and most importantly, what assumptions is the team making. This helps to minimize confirmation-bias (it *never* is eliminated) and baseline everyone in the room to understand the context of the problem at hand. This also helps to identify what knowledge gaps exist

How

1. Allow participants 3-10 minutes to document facts and assumptions individually; one fact/assumption per post-it
2. Invite each participant to share their assumptions as they post them to a wall or display board
3. Ask participants re-write any successfully challenged facts on the assumption colored post-its
4. Document questions that arise during the group discussion process
5. Ask participants to approach the wall or board of facts and assumptions in pairs to work silently grouping the facts and assumptions by commonality
6. partway through the process replace the categorizers with two new participants allowing them to undo or redo any work previously done; continue to replace categorizers every few minutes until all post-its are categorized
7. once half the post-its are categorized give the categorizers medium-sized post-its to add category headings

Difficulty

Hard

Size

Individual-Pairs-Group

Materials

- sharpies
- medium-sized post-its
- small post-its in 2 colors

Context

This is a good generative exercise best in the front part of the Sprint and must be done before determining insights

Don't

let questionable facts go by unchallenged as they may be assumptions (anyone can challenge a fact or an assumption); let the group jump to insights without a full exploration of the facts and assumptions

Example

'9% of current customers use feature X' is a fact; 'current customers don't understand how to use feature X' is an assumption

Approximate Time

40-90 minutes

Credit: InnoLoft team at Constant Contact

UNDERSTAND

Discovery Interview

Why

To clarify the why. Research you may already have on-hand will tell you the what and when of a users actions, but the why remains elusive and the best way is to converse directly with one to discover this information, and any other relevant information which may help drive the design of a product or service.

How

1. Create a brief description (2 sentences) and goal of what you're looking to understand.

2. Select some ice-breaker questions - something build rapport with the interviewee. They are human, remember!

3. Make a topic map rather than specific questions.

4. After introductions and briefly describing the reason for the interview, work through the topic map.

5. Thank them and ask for a business card (to follow up with a snail-mail thank you note!)

Difficulty

Difficult

Size

Best in pairs

Materials

- A/V Recorder
- Notepad & Pen
- Camera
- Topic Map [designsprintbook.com/tools]

Context

Best on the first day of the Design sprint after you've done a fair amount of data-dump and have completed the Facts-Assumptions-Gaps post-up

Don't talk more than you listen, Lead them to answers, Do it alone or with a large group

Example

see website

Approximate Time

15 to 20 minutes to start, can take longer

UNDERSTAND

WHO / DO

Why

In order to be successful it is important to understand all the stakeholders surrounding a project, product or service. WHO|DO is a great first step in exploring them.

How

1. Draw a two-column table with "WHO" on the left and "DO" on the right.

2. Ask the group: Who are the stakeholders? Who might be an obstacle? Whose support is critical to this project's success? Generate an exhaustive list of "WHOs"

3. The DOs are typically more challenging. For each WHO, ask: What do they need to do, or do differently? What do they need to do for this project to be successful?

4. You can then rank and prioritize.

Add-ons: You can add columns if necessary (ex: "GIVES" and "GETS")

Difficulty

Easy

Size

Teams or Pairs

Materials

- Sharpies
- large Post-its and small Post-its in a variety of colors
- wall or display board (horizontally oriented)
- dots (optional)

Context

Good when first examining stakeholders of a project/product. Empathy Maps, Personas and User Stories or Job Stories are natural follow-ons.

Don't

Always drive toward action as there is a tendency to state "we just want them to understand." Ask the group, "What will happen when they understand?"

Example

TBD

Approximate Time

60-90 minutes

Credit: Dave Grey at XPLANE

UNDERSTAND

Personas

Why

To humanize your users and give the product team a sense of empathy for who they are designing and developing the product.

How

1. Gather all the user information you have both qualitative and quantitative: discovery interviews, site analytics, market research, etc.

2. Categorize your personas with the following information:
   - **Persona Category** (i.e. Information Seeker)
   - **Name** (Fictional names are often used, but sometimes using the first name of a real customer/user can help humanize further)
   - **Job titles and major responsibilities**
   - **Backstory:** Demographics such as age, education, ethnicity, and family status. Also include their physical, social, and technological environment
   - **Motivations:** The goals and tasks they are trying to complete using the site
   - **Quote:** This sums up what matters most to the persona as it relates to your product. Preferably a real quote obtained during a discovery interview.
   - **Images:** Photographs and images representing this user group

Difficulty

Moderate

3

Size

Teams or Pairs

Materials

- Sharpies
- flip-charts
- wall or display board (horizontally oriented)

Context

If you do not have pre-existing personas, a great place to start is a WHO/DO exercise and then base personas from the selected "WHOs" Combine that with any data from your market research, and other primary discovery interviews to create a composite.

Don't

Always drive to your product, consider their world;

Example

TBD

Approximate Time

30-90 minutes; depending on depth of data you have

Credit: Alan Cooper is considered the pioneer of personas

UNDERSTAND

Job Stories

Why

Job-stories add another layer of context by including situation

How

1. Start with the high level task or job the user is attempting to accomplish

2. Break down that job into smaller tasks, or smaller jobs

3. Observe how users solve the problem now (which job do they currently use).

4. Craft the Job Story, or Job Stories, that investigate the causality, anxieties, and motivations of what they do now.

5. Fill in the blank: When _(event)_ happens, I want to _(motivation or desire)_ so that _(outcome)_.

3

Difficulty

Moderate

Size

Teams or Pairs

Materials

Anything to write or type with

Context

Good after WHO/DO and deepening your personas

Don't

Focus on the feature, forget about the why

Example

TBD

Approximate Time

30-60 minutes

Credit: Alan Klement at Intercom

UNDERSTAND

User Stories

Why

To spark the discussion of what a user needs, they do not define the precise feature for that reason

How

1. Start with a card: A card is a title or some descriptive text about the story.

2. Consider what conversations this user has

3. Define what confirmations they might seek in completing that particular task.

4. Complete this template: As a _(type of user/persona)_, I want _(goal)_ so that _(reason)_.

3

Difficulty

Moderate

Size

Teams or Pairs

Materials

Anything to write or type with

Context

Good after WHO/DO and deepening your personas

Don't

make them too big, user stories are supposed to be small. make the too narrow, they are not to define the exact feature, rather get the team discussing the possible features.

Example

TBD

Approximate Time

10 minutes

Credit: The origin of User Stories in unknown.

UNDERSTAND

User Journey / Experience Map

Why

Documents the stakeholder experience from beginning to end, inside and outside of the product to identify opportunities for ideation

How

1. divide group into smaller teams according to the number of key stakeholders or personas (previously defined) you are completing journey maps for
2. in smaller teams work to define the stages of the stakeholder experience from beginning to end and post on large Post-its in a horizontal line at the top of the wall or display board
3. for each stage define the goal(s) the stakeholder has for that stage; write these on small Post-its, one goal per Post-it, and place directly beneath the corresponding stage
4. continue this process for tasks and tools
5. next map the stakeholder mental state by either drawing a moving line(s) across all the stages (high = happy, low = unhappy) or by noting significant points of mental state with the corresponding emotion label (ex: relieved)
6. based on low points on the mental state list needs then opportunities on small Post-its, one need/opportunity per Post-it, and post below under the corresponding stage.
7. if necessary perform a dot vote to determine primary opportunities to move forward with

Difficulty

Moderate

Size

Teams

Materials

- Sharpies
- large Post-its and small Post-its in a variety of colors
- wall or display board (horizontally oriented)
- dots (optional)

Context

Good to do after stakeholder activities and before challenge maps and ideation activities; it is not necessary to complete every level of analysis for all journey maps, chose the analysis points that meet the needs of each Design sprint; journey maps often focus on existing workflows but can be modified to map out futuristic goals and needs to define what should be built

Don't

just focus on the product workflow, be sure to include out-of product elements; leave out the mental state as this is significant eyeopener; forget to include the non-ideal journey

Example

TBD

Approximate Time

60-90 minutes

DIVERGE

Challenge Maps

Why

To push the initial assumptions and possibilities to new levels and ensure that your initial target areas are the right areas to focus on

How

1. Start with one "how might we" question and place it on a large post-it note in the center of a whiteboard or a flipchart

2. "Challenge" this statement with "Why should we do this?" in the upward direction. Answer that "why" question and flip the answer to another "How might we…?" question.

3. Repeat in the upward direction with "Why should we do this?"

4. In the downward direction challenge each "How might we…?" statement with the question "What's stopping us from doing this?" Answer that question then flip it to a "How might we..?" questions and place it below that post it.

Difficulty

Difficult

Size

Best in pairs

Materials

- Flipcharts
- large and small post-its [Download at designsprintbook.com/tools]

Context

Good to start before or at the beginning of the sprint and by the end have a full outline of the work completed

Example

TBD

Approximate Time

15 to 20 minutes to start, can take longer depending on size and nature of experiment.

Credit: Challenge Maps are credited to Min Basadur

credit: There are many different sources for journey maps and experience maps. Adaptive Path is often credited for taking

DIVERGE

Six-Ups Also knowns as: CRAZY-EIGHTS

Why

To generate ideas and solutions for an identified problem.

How

1. Start with a "How might we..?" question
2. Take a sheet of paper and fold into 6 [or 8] equal areas (letter tri-fold then in half)
3. Set the timer for 5 minutes,
4. Draw 6 [or 8] completely different solutions for that problem in 5 minutes.
5. If someone finishes before the timer is up, instruct them to take another sheet and continue
6. Share with the rest of group
7. Repeat
8. Converge by dot-vote or 2x2 matrix

3

Difficulty

Moderate

Size

Best done individually

Materials

A4, Letter or Tabloid sized paper for writing,

Context

Have a clear "How might we.." question to initiate the .

Example

TBD

Approximate Time

5 minutes per iteration

DIVERGE

Scenarios

Why

To push the initial assumptions and possibilities to new levels and ensure that your initial target areas are the right areas to focus on

How

1. Start with a persona for each different user: Who are they? Where do they work? What level of technical experience and competence do they have? Do they have any limitations?

2. Identify the starting state / contest of the persona. List as many details as you possibly can.

3. List out the goals for each persona: What are they trying to achieve? If you have job-stories, these can suffice

4. Prioritize the goals for that user. What are they *really* concerned about?

5. Write a story of how they would achieve these goals. This hints towards the solution but doesn't describe it exactly. A job story sets the context, a scenario is how the story resolves.

Difficulty

Moderate

Size

Best in pairs or individual

Materials

- A4, Letter or Tabloid sized paper for writing
- Scenario template [Download at designsprintbook.com/tools]

Context

Having personas and Job stories to begin are excellent. Job stories establish the context by their nature and scenarios can further build off them.

Example

TBD

Approximate Time

15 to 20 minutes to start, can take longer depending on size and nature of stories.

Customer Scenarios can be originally credited to Patty Seybold and Ronni Marshak. Many variants have evolved since.

DIVERGE

Storyboard

Why

To bring the scenario to life by visualizing how a user would use your product in their work/play/life.

How

1. Start with a scenario or a job-story
2. Take a sheet of paper and draw 4 to 8 boxes
3. Number each box for sequence
4. Draw out your scenario, consider human-human interactions, not just human-device interactions
5. Share with the group for feedback
6. Incorporate feedback and recreate the storyboard

Difficulty

Easy

Size

Best in pairs or individual

Materials

- A4, Letter or Tabloid sized paper for writing
- Storyboard template [Download at designsprintbook.com/tools]

Context

Having personas and Job stories to begin are excellent. Job stories establish the context by their nature and scenarios can further build off them.

Example

TBD

Approximate Time

30 to 45 minutes per iteration

Credit: Origins of the storyboard are unclear.

CONVERGE

Dot Voting

Why

To push the initial assumptions and possibilities to new levels and ensure that your initial target areas are the right areas to focus on

How

1. Distribute an equal number of dots to each participant.

2. Establish the voting criteria,stress the nature of not voting by popularity and to be independent with votes.

3. Explain the voting process: one vote per artifact, or multiple, this is your call as facilitator)

4. Invite participants to place dots on the artifacts they consider important according to the voting criteria

5. Tally the votes and bring the important elements to the forefront

Difficulty

Difficult

Size

Best in pairs

Materials

- Flipcharts
- large and small post-its [Download at designsprintbook.com/tools]

Context

Always a great converging exercise after many rounds of idea exploration and generation. Often times when one artifact gets only one vote, there is a risk for information asymmetry. A good practice is to inquire to those that have only 1 vote, and get the reasoning behind it

Example

TBD

Approximate Time

15 to 20 minutes to start, can take longer depending on size and nature of experiment.

Credit: Source of Dot-Vote game is unknown

CONVERGE

2X2 Matrix

Why

To narrow the solutions by forcing a categorization of criteria resulting in the solutions that are likely to validate or invalidate your hypothesis and provide the most value to the user.

How

1. Draw a cartesian coordinate "+" on a board

2. Define your x and y axes: These could be "value to user" or "cost of implementation"

3. Place all of the solutions on the matrix based on where the solution would fall.

4. The teams will discuss and debate where exactly each should fall. Having a cross-functional representation in the room

5. Select the quadrant which encompases the desired traits

6. Should there still be too many solutions to pursue, consider repeating ths process with another matrix and change at least one of the axes

3

Difficulty

Difficult

Size

Team

Materials

Small post-its and a wall or whiteboard to make the axes

Context

Sometimes dot-voting doesn't contextualize the implementation of the possible solutions and the matrix will help define the ideas relative to one another in the context of particular criteria.

Example

TBD

Approximate Time

15 to 45 minutes

Credit: The 2x2 Matrix was first used by Boston Consulting Group as the 'Boston Matrix' or growth share matrix. It has evolved to many variants since.

TEST

User Test Interview

Why

To validate or invalidate your prototype

How

1. Create a brief description (2 sentences) and goal of what you're looking to understand from your validation board.

2. Consider some ice-breaker get-to-know-you questions - something build rapport with the participant. They are human, remember!

3. After introductions and briefly describing the test and ask the participant to complete whatever tasks you want them to complete

4. Resist the urge to describe how the prototype works

5. Once complete, thank them and ask for a business card (to follow up with a snail-mail thank you note!)

Difficulty

Difficult

Size

Best in pairs

Materials

- A/V Recorder
- Notepad & Pen
- Camera
- Topic Map [designsprintbook.com/tools]
- and whatever you use to show your prototype

Context

A validation board and a prototype should be complete

Don't

tell them how to work the prototype. If they can't figure it out, your design is broken!

Example

TBD

Approximate Time

20 to 30 minutes, can take longer

Credit: Testing Interviews have happened for many years time. Just not enough! The source is unknown.

TEST

Validation Board

Why

To set-up your hypothesis, identify related assumptions and have a test method for your designs

How

Work with key stakeholders in initial sponsor meeting to complete the core hypothesis and success criteria components of the validation board. This can be completed before the sprint or during the Understand phase. It doesn't have to be perfect at first, but by the time you're prototyping it should be quite solidified

1. Craft your hypothesis
2. List all your relevant assumptions, a best practice is to list them in order of importance with your lynchpin assumption at the top
3. Define your success criteria
4. State what you will you measure along the way
5. Describe the actual test
6. Run the test
7. Once the test is complete, examine data and see if your core hypothesis is still true or was it invalidated? Move [copy] your assumptions into a validate or invalidated boxes and summarize with your conclusions, and recommendations

Difficulty

Moderate

Size

Individual or Teams

Materials

Blank validation board [Download at designsprintbook.com/tools]

Context

Good to start before or at the beginning of the sprint and by the end have a full outline of the work completed

Example

TBD

Approximate Time

15 to 20 minutes to start, can take longer depending on size and nature of experiment.

Credit: Trevor Owens of Javelin Software created the first validation board. There have been many variants since.

DESIGN SPRINT

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