Brainstorming Is Not Enough

Brainstorming can be fun and effective with a good creative team, but new ideas can keep rolling like waters to a shore, one right after the other, offering endless variations on a theme. In the creative flow, having so many ideas wash over you can be exhausting. But when waves dissipate on the beach, the energy of simple ideas—very good ideas—usually gets lost after the brainwash is over. There's a problem in the process of invention. Designers lack an efficient method for capturing and communicating the power of their best ideas.

In this chapter, I hope to solve that problem by showing you how to create what I call a "conceptual design." The process I describe can help you develop your idea from the point where you can actually envision it becoming a reality.

The process of creating a conceptual design is simple and quick. In less than three hours, you can develop a first draft, ready for sharing with your target user, colleagues, or team.

Conceptual Designs Let You Share and Improve Your Idea

Sharing ideas early and often is one way to assure for designers of new products and services. Sharing with target users gives you feedback to help you improve your concept. Talking with colleagues helps to ensure that everyone on the team has a similar vision. Sharing with your boss enables you to explain the support and feedback early and if the idea is correct, the early attention to it is more likely to notice for potential by your organization.

I've been developing the format for conceptual design since 1996, when I worked at Integral Research. Since then, I've taken this method with me to my professional work, inventing new products and services at Sun Microsystems, Canto, and Symantec, and for a variety of clients. I've also taught the method to about 150 students over the past seven years at Stanford University. Over this time, I've improved the format, distilling the formula down to its essential stages, and have created a series of slides as an example for conceptual design.

Like most conceptual design, these slides should be a logical sequence. What you don't see at first is how much the framework for conceptual design helps to identify and explain the steps to the process. As you read the end of this chapter, you should now recognize that a conceptual design is a subset of your own work.
Elements of a Conceptual Design

The standard conceptual design has twelve parts:

1. title page
2. overview
3. user description
4. storyboard of user experience
5. prototype
6. features-functionality
7. justifications for design (theoretical and practical)
8. results of user testing
9. shortcomings of design
10. expansion-what else is possible
11. next steps in design process
12. summary

As I've evolved the formula for conceptual designs over the years, I've modified elements along the way. As the formula stands now, these twelve elements serve most purposes, though at times teams may need to add some elements to describe market landscape or revenue models.

Over the years, I've also found that it's simplest to create conceptual designs in PowerPoint or other types of presentation software. Word processing programs aren't as effective because they don't have powerful visual capabilities. I've created a template (available at ) to help you develop your conceptual designs. With this template in hand, you won't have to think about the order of ideas or formatting issues. Instead, you can stay focused on the particulars of your user group, concept and audience.

The easiest way to demonstrate how this template works is to show an example. In the pages that follow, you'll find my template next to a student team's final concept, each slide side-by-side. I'll provide explanations along the way, but you should also note how the students worked from the template to create their deliverable. This two-person team spent 10 hours on this project, start to finish.

1. THE TITLE PAGE

[Concept Name Here]

By: [Student's Name]

Date: [Date]

Art Smart

By: [Student's Name]

Date: [Date]
In the conceptual design phase, the title page launches the concept quickly and clearly, the concept name and creators are listed prominently, and the graphic generates visual interest. Each of these elements sets expectations about what's to come.

Because the template is an example geared toward design challenges, the title page includes a summary of the design brief and the project timeline. In a corporate setting, designers should instead say what they are trying to accomplish with their concept (for example, "Project Goal: update our market share in the digital camera space"); and list how much time they've invested in the project so far, explicitly stating the goal and time investment helps the design team and executives decide whether it's worthwhile to continue the project.

2. The Overview

(project name here)

Art Director

The overview restates the project name and expands on the purpose. It's worth repeating these elements, since the concept may be new to your audience. The most important elements on the slide is the Visual of the industrial design, whether it's a physical device or an interface. Getting the visual into people's hands early helps them start thinking about your concept in concrete ways.

Note that at the bottom of each slide there are footers that contain information about the project, date, designers, and so on. If someone arrives at the presentation late, these elements help orient the listener to the concept. Also, as many corporate settings prevent handouts, paper slides for participants to take away. These pages can easily become combined down the road, so it's good practice to put all this information on each slide.
5. THE USER DESCRIPTION

The user description should not be overlooked, although it sometimes is, when designers assume that everyone knows the target user. In fact, those who are new to your concept may not know the target user unless you define them for them.

At this point in your design process you may not have much information about your target user, but you can put something down on this slide, ideally including photos of people to help your listener envision the target user if the project expands. This area in the conceptual design will expand dramatically as you gain more understanding about your target audience.

6. THE STORYBOARD OF USER EXPERIENCE

The most effective way to show your concept is to tell a story about how a particular user would experience what you propose. Tell all the values in a conceptual design, the storyboard slide has the potential to communicate best—and to win people over. If you have time to show only one slide from your conceptual design, this is the one to show.

Of course, executives will want to see hard numbers to make a business decision, but I've found that they can't easily say no to a good story. In the early stages of design, you don't have time to round up all the market data or technical
requirements, but you should take the time to reread a story and rewrite some
words. When you know a storyboard is exercises and decision-makers, they will
understand your idea quickly. And if your story is compelling, you may yourself
more time to round up the data that management will need down the road.
Storyboards are also a great way to share a concept with target users.

Storyboarding is also an effective strategy for cross-cultural innovation.
During the three years I worked with Japanese executives who had marginal
English abilities, I found that sharing storyboards was key to making my concepts
clout carefully scripted instructions can prevent language barriers.

I define "prototype" broadly. A prototype can be a visual that suggests functional-
ity, as the example above illustrates, or it can be photographs of a paper prototype.
Or it can be a rapid digital prototype created in just a few minutes. In these con-
ceptual designs, the level of prototyping depth depends on how much time you have
given the project. Even if you have just two hours to produce the conceptual design,
you can at least sketch a prototype. Often a sketch at this early stage is superior
to something that appears to be high resolution, since a sketch will create con-
movers about the overall concept while a high-resolution version can distract
users or executives who might focus on pixel-level details.

When sharing a new concept, some people jump right into presenting the
prototype before they establish the project purpose, the target users and the con-
text of use (shown in the storyboard). Rushing to show the prototype is a mis-
take. Without knowing the other elements, your audience won't be able to think
accurately about your concept or how to evaluate your prototype. They'll make
guesses about the purpose, the user and the context of use, which you don't want
them to do.

9. THE PROTOTYPE

![Prototype of a product idea](image)

![Prototype of an app idea](image)
In my year-long thesis at UC, just before the defense, I learned about a dozen or more techniques where entrepreneurs proudly showed off their prototypes. While my team and I sat in the dark, listening and watching, sometimes we heard, 'ideas'. And the entrepreneurs were showing us. It was fascinating. I eventually decided to stop the entrepreneurs who didn't say everyone's name. I would ask them to back up and tell us about their companies using their innovation, whether it was another company using their video compression technology as an end-user wearing a new type of framing device.

6. FEATURE/FUNCTIONALITY

This features/functionality slide gives you an opportunity to outline details of the concept, including how the storyboard and prototype could not convey. At this point, your audience understands the big picture and should be ready to deal with more details. But don't include everything on this slide. One of the hurdles is about creating a conceptual diagram with what to include in your concept and what to exclude. The temptation is to include lots of features and functionality that don't fit.

- To help yourself and others resist the temptation to overload the features/functionality slide, ended up adding a new slide toward the end of the template (Volunteer Your Idea). This is where you can put ideas you really like but which don't fit into the streamlined vision.

In an industry setting, after the sessions on the prototype and the features/functionality, you'll eventually want to include an overview of technical requirements or a systems diagram. When I work on industry projects, I am this part not as engineer.
The justification section allows you to explain the rationale behind your design decisions. In the example above, the designers justified their concept by drawing on academic theories of persuasion and compliance, which was fitting for a project like my persuasive technology class.

But in an industry setting, you've got to be more practical, since people who control the purse strings are rarely impressed by academic theories. While theoretical underpinnings might strengthen your case in the corporate world, executive want to see practical types of justification, such as the value proposition, market size, timing, and positioning, and the fit with company goals, risk profile, and competencies. If you understand a company's market and goals, these bullet points are fairly easy to outline in a few minutes. In my experience, the real benefit of this slide is to start a discussion—both inside the innovation team and with decision-makers—about whether or not it makes sense to pursue a concept further.

Results of User Testing
- Initial design was well-received, but the team had questions about the user interface and the overall layout.
- Users liked the concept, but suggested improvements for the usability and accessibility.
- Overall, there was a positive response, with some feedback for refinement.

In my always pleased when designers manage to complete some user studies as part of a 10-hour project. It's rare that having just a handful of studies may not reveal much (though at times it does), but I think it's good discipline to perform some.
I applaud this slide in the overall template to make a polite, user-friendly interaction. In reality, this slide-spectacle cradles an empty, white gold standard. It takes time to prepare materials and context with studies. If your time is limited, you won't be able to play with a database. Make your data feedback. But don't spew this slide blankly for weeks, just deliver. In my own work, when I didn't have the time needed to share a slide to outline, I used to slide to outline a rough plan for conducting future studies with groups. This takes only a few minutes and allows you to outline your vision ahead of the project.

5. SHORTCOMINGS

While all the other elements in the conceptual design formula point out the positives, this section on shortcomings points out the problems. Both in the concept and the work done so far. Regarding designers, find this step counterintuitive, but in an industry setting, it's vital to make weaknesses clear. And it doesn't hurt; nearly.

Perversely, the positive elements in your conceptual design become more positive when you point out key shortcomings: when you include shortcomings, the concept you're proposing will seem more realistic and less thin-layered. You also build your own credibility by showing an awareness of why your concept may not work.

If you do not point out the shortcomings of your design to executives, they will do it for you. In fact, this is likely to be an executive's first response: defining all the reasons why your idea won't work. When you point out the weaknesses before executives have a chance, you force the subsequent discussion on the merits of concept, not just the problems.

When pointing shortcomings with target users, they will agree with some of your points, but they sometimes may argue back, saying that certain things aren't really weaknesses. For example, the fine distinction indeed for the smartphone is that not everyone has a mobile phone. If you share this shortcoming with users, you may hear them saying: "Wrong, everyone has a mobile phone these days."—so they will—so this isn't really a shortcoming.
10. EXPANSION: WHAT ELSE IS POSSIBLE

<table>
<thead>
<tr>
<th>Expansion: What else is possible?</th>
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</thead>
<tbody>
<tr>
<td>- Other people's ideas can be helpful.</td>
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<tr>
<td>- Observing and investigating.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion: What else is possible?</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Any new ideas that come to mind.</td>
</tr>
<tr>
<td>- Distress your mind for new ideas.</td>
</tr>
<tr>
<td>- Take an idea from another category of ideas.</td>
</tr>
</tbody>
</table>

The section on expansion allows you to capture the wide range of ideas you had for the concept. Of course, not every small idea or feature can go into a single concept, you've got to make decisions about what ideas to act on. But some of these ideas may be good, and putting them can be justified some of the ideas may be part of Plan X or a future project. For these reasons I've found it important to include a section on what else is possible in the standard conceptual design template.

When an innovation team reaches a sticking point about what to include and what not to, being able to put someone's idea into this slide (rather than making it a key feature) helps the work move forward.

When sharing a conceptual design with executives, you might find that they love an idea you've listed in the expansion section. In the more typical case, showing executives what else is possible lets them see you have considered all possibilities and ruled out competing alternatives.

Sharing the expansion, helping users allows them to give you quick feedback about ideas you're putting into the project. You may find that some of the ideas you're proposing are actually the secret sauce for your entire concept.

II. THE NEXT STEPS IN THE DESIGN PROCESS

<table>
<thead>
<tr>
<th>Next Steps in Design Process</th>
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<tbody>
<tr>
<td>- What is the purpose of the project?</td>
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</table>

Building a prototype of the concept.

- Test in a prototype with target audience.
- Get feedback on initial concept.
- Make improvements based on feedback.

- Prototype with different user groups.
- Build马上 prototyping project.
- Feedback on new concept.

- Build and test.
- Modify and improve.
- Get feedback from users.
This is a new piece of information: in a conceptual design, the first step is to outline the design process.

In an industry setting, the section on "next steps" gives the team a chance to discuss and identify what they should do next. This helps people coordinate and align their plans, even if their plans seem to be misaligned at first. As the conceptual design is more fully developed, this section will start looking more like an action plan, with a work schedule and milestones.

I've found that many projects are unattainable (or narrow) about what their next steps would be. Eventually, after the discussion, most people start to see the same next step: "get funding." This gives the team a chance to understand what steps would come after the first draft of a conceptual design— and it's not fund-raising.

12. THE SUMMARY

The final section in a conceptual design can take on different forms. The default made is to provide a summary of the project. Or you can simply cut the summary and focus your conclusion around the "next steps," as divided in the previous section, either approach works.

When presenting a conceptual design to decision-makers in an industry setting, I almost always use the summary section for action items. This is what I want from you now. I typically list bullet points asking for immediate feedback, for support (including money or talent resources), and for a decision about the next deliverables and deadlines. I like to discuss and decide right on the spot, not in some future meeting. This keeps a project moving.

If decision-makers decide to kill the project, it doesn't have to be bad, because you have spent weeks or months putting your heart and soul into the concept; you've invested only a handful of hours. And if the decision-makers like your concept, you can move forward with confidence and with some preliminary feedback. Getting fast and effective feedback early boosts your efficiency and, in all likelihood, your work satisfaction.
What Comes after the First Conceptual Design?

After you've created the first version of a conceptual design, you can build on it to develop expanded versions.

You can complete the first draft of a conceptual design in about 3 hours. Once you have the first draft, you can continue to expand the document as the project moves forward. For example, in one situation, project about digital imaging, my team expanded and refined our conceptual design for over 6 months. At that point, many other parts of the organization were involved. They started creating their own documents (such as technical requirements or spreadsheets with revenue models), but the central aspect of the project was still the conceptual design format. We eventually had about 70 pages of content. When we had a presentation to give, we would select the pieces we needed for our audience and purpose. We set out of slides for a meeting with a potential strategic partner, for example, and another set for a meeting with technical people inside the company. No matter what audience or purpose, we almost always included user descriptions and storyboards as part of the mix.

As you start to use the conceptual design format, you'll find it's both easy and powerful. A few words of warning, though: First, unless you have a compelling reason, don't change the order of the ideas in a conceptual design. I've created and evaluated over 300 conceptual designs, and I've found that when people change the order of the ideas, they usually weaken their document.

Next, depending on the breadth of your job, you may need to add slides to the conceptual design that deal with business or technical issues. This won't be true for all designers and innovators, but I've found that "blue sky" ideas don't go far in most companies without something more concrete behind them.

Another caution: realize that, when you present a conceptual design, most people will assume you've further down the development path than you really are. The conceptual design framework creates the illusion of lots of work. That's one reason I like to include the time investment on the title page. If your listeners guess, you've invested 100 hours into the project, they will expect excellent answers to tough questions. When they know you've invested only eight hours, they'll have different expectations.

Finally, I want to ask for your help. As you use this method and find ways to improve it, I'd like you to share your innovations with me so I can update and refine the template (again, the template is freely available at ).

The template as it stands now incorporates insights from dozens of people. I hope to continually improve this approach to design research. By soliciting ongoing feedback, incorporating the best ideas, and sharing the conceptual design template widely, I believe we can increase the quality, efficiency, and impact of our work as innovators and designers.