



THE MOBILE FRONTIER

A Guide For Designing Mobile Experiences

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One of my favorite television programs of all times is the reality cooking show *Top Chef* (see Figures 6.1 and 6.2). Food, creativity, competition, drama—it’s a show that’s got everything. My favorite part of the program is the elimination segment referred to as “Judges’ Table.” It’s the suspenseful finale of each show where the three chefs who performed the worst that week are called before a panel of judges to defend their dish. Time and again, regardless of circumstance, most of them repeat a similar phrase, “. . . I would have made different choices.”

FIGURES 6.1 AND 6.2
Top Chef is an American television show in which chefs compete for the title of Top Chef. Each week a panel of judges (known as the judges’ table) must eliminate a contestant.



The act of design, like cooking, is all about choices. Whether designing a meal, a dress, or a mobile Web site, the end product is the result of a million and one design decisions. UX designers are called on to make decisions about interaction, form, function, and style, and these choices are driven by a host of internal and external drivers such as time, personal goals and motivation, client/organizational needs, and social pressure. The ability to make good design decisions in the face of constraints and pressure is perhaps the most valuable skill any designer can possess.

Designers interested in getting into mobile UX often ask these questions:

“What makes mobile design and development different?”

“What modifications to my existing design processes do I need to make to create good mobile experiences?”

“When the rubber hits the road, what do I need to do differently?”

My answer: decision-making. The primary skill that designers new to mobile UX must learn is to calibrate their design decision-making skills to a new medium.

And that's what this chapter is about. It's designed to help you get in tune with your design decision-making so that you can:

- Be confident about your mobile design choices.
- Know how to identify and recover from bad choices and failures.
- Know when you've made good design choices.

The Design Process

Different designers manage their design processes in a myriad of ways. However, a process blueprint I find myself turning to time and again for most mobile design projects is the double-diamond model, as shown in Figure 6.3. Even if you've never heard of this model, it will likely feel familiar because it's a model that many designers intuitively follow during a typical design project cycle. Divided into four distinct phases—discover, define, develop, and deliver—this model maps the divergent and convergent stages of the design process, showing the different modes of thinking that designers use in each phase.

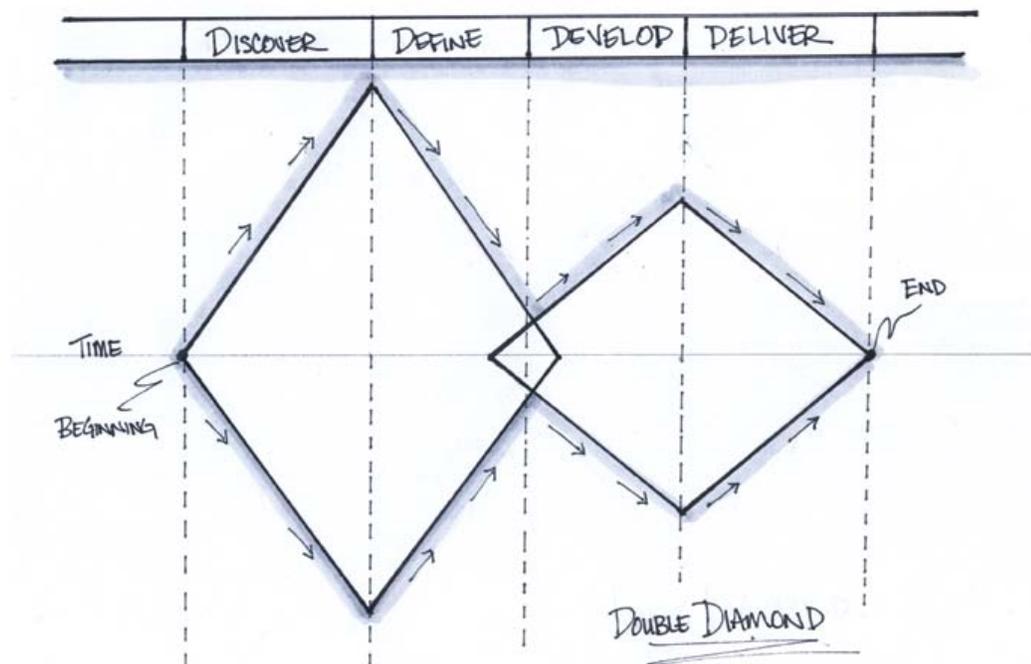


FIGURE 6.3
The double-diamond project model.

Discover

The first quarter of the double-diamond model represents the set of activities conducted at the beginning of a design project. This phase starts with a single point—an initial idea or inspiration—followed by exploratory design activities that fan out and diverge, such as the following:

- Contextual user research
- Secondary research
- Competitive research—data analysis

Define

The second quarter of the model—the definition stage—is the phase of a project that is all about filtering. Unlike the discovery phase, which is divergent, design activities in the define phase are convergent in nature and focus on editing ideas and information on what’s most relevant to the given project. Key activities during the define stage are:

- Data synthesis and design principles
- Brainstorming and concept development
- Business alignment

Develop

The third quarter of the double-diamond process is the phase of a project where design solutions are developed, tested, and iterated. Similar to the discover phase, the design activities in the develop phase are divergent and generative in nature. Key activities and objectives during the develop stage are:

- Sketching and diagramming flows
- Interaction and visual design language development
- Prototype development, testing, and interaction
- Prototype testing and iteration

Deliver

The last quarter of the double-diamond model represents the final stage of a design process. This is the key “decision-making” phase of any design project. In this phase, any fine-tuning of the final concept of a product or service occurs before it’s launched into the world. The key activities and objectives during this stage are:

- Interaction and visual design language finalized and applied to screen layouts and flow diagrams

- Technical implementation, testing, and fine-tuning design
- Scalability testing

Where Things Usually Go Wrong

The two diamonds of this model are not different sizes by accident. The first diamond—the discover and define phase—is bigger because it requires more divergent thinking. While some convergent thought is required in this phase, it's generally regarded as the blue sky/green field part of a project where anything seems possible. The second diamond—the develop and deliver phase—is where you start to see the results of your decisions take form and become concrete.

Fate has a funny way of revealing bad choices at inopportune moments, and the second diamond is no exception. Unfortunately, this phase (the phase where your project's precious time and resources are dwindling) is where most mobile UX projects go sideways or entirely off the rails.

The biggest reason involves bad decision-making. The second diamond is where all the ideas that once seemed brilliant in your mind start to take form—and all their imperfections come to light. It's the place where a series of small assumptions and well-intentioned but poor decisions can accumulate and rear their ugly head, resulting in a bad design.

The second diamond of almost any mobile UX project is where good design decisions matter most. Unfortunately, it's the place that designers new to mobile have the least skill and confidence because they are largely unfamiliar with the subtle nuances of the mobile medium. However, there is something that can alleviate the impact of this common problem. It's a design activity that will help designers new to mobile improve their decision-making skills, build their confidence, and up their chances of success. That activity is prototyping.

Prototyping

We've heard it all before... prototype, prototype, prototype. It's a standard step we've all been encouraged to include in our design processes, but often it's the first step skipped in time- and budget-constrained projects. Although prototyping is considered a luxury for many PC-based experiences, it is an absolutely *essential* part of creating compelling tablet and mobile experiences. The reason is simple. Chances are if you are new to mobile, your design experience and instincts aren't very well tuned to mobile. This often results in bad decision-making. Bad design decision-making will make that last diamond—the develop and deliver phase of your project—feel like a death march. And it doesn't have to be that way if you plan and engage in a lot of prototyping.

Prototypes are like decision-making aids. They are a way of working through a design idea with tangible means, giving other people a chance to experience your idea and provide feedback. Like a list of “if/then” statements of a geometric proof, prototypes are the design equivalent of “showing your work.” Unfortunately, they are often sidestepped.

The reason that prototypes are often side-stepped in other design domains is that designers tend to marshal the decision-making skills they’ve acquired from previous design projects and apply them to the project at hand. Whether it’s leaning on already established heuristics, expertise, or instinct, it’s not always necessary when designing PC experiences to “show your work”—you can simply make the call.

Mobile is a different animal, though. Designers and UX professionals new to mobile don’t have the skills and the confidence to intuitively make consistently good design decisions. Those intuitive design and decision-making skills for mobile take time and experience to develop. Additionally, unlike the PC, the mobile design space is relatively new, and design patterns have yet to be formally codified. In lieu of experience and heuristics, the best way to develop these skills is to practice turning the brilliant ideas in your head into tangible experiences you and other people can engage with. In short, if you want to develop your mobile design decision-making skills, you’ve got to get into the practice of showing your work. You’ve gotta prototype.

Aside from accruing mobile UX experience and skills, prototypes can perform important roles in your project and serve a variety of purposes. I’ve identified four basic reasons I turn to prototyping when designing mobile experiences. There are probably more or variants on these... but these are my four “whys”:

1. Communicate a design idea or experience.
2. Gather user feedback.
3. Explore the unknowns.
4. Fine-tune an idea.

Communicate a Design Idea or Experience

While humans are highly verbal, words can be a tricky way to communicate an idea because words can mean different things to different people. Prototypes serve as a powerful communication tool because they are often more precise than words. Whether you’re pitching a start-up idea to investors or trying to explain your team’s idea to internal stakeholders, prototypes provide people with something more tangible than an elevator pitch or a marketing statement, as shown in Figure 6.4.



FIGURE 6.4
 Research scientists at the Nokia Research Center created a concept video that communicated Morph, a product that demonstrated some of the possibilities nanotechnologies might enable in future communication devices.

Gather User Feedback

Most designers are blessed with a solid gut sense of what users will like, tolerate, or reject outright. However, even the most skilled designers know there is a time and place when it's important to gut-check their instincts with users (see Figure 6.5). Prototypes provide you with a tangible artifact in which to gather feedback with people outside of yourself and your team. They are the perfect tools for gut-testing your design assumptions.



FIGURE 6.5
 Paper prototypes are an easy way to gut-check design decisions with users early in your design process.

Exploring the Unknowns

When designing user experiences, there are two types of unknowns: the known and unknown unknowns. Often, designers arrive at a point in the design process when they intuitively sense there's a particular design decision that is crucial to the success of their product or service, yet they're not quite sure about the solution. Or sometimes designers find themselves working on a very future-facing project that requires thinking outside of typical products and contexts. Prototyping is a great way to explore these "unknowns." It allows designers to explore their ideas in the physical world through the creation of artifacts or experiences. Instead of ruminating about a design issue, or laboring through all the possible solutions and "it could be..." in your head, prototypes provide the means to explore tangible solutions. The physicality of prototyping also helps designers see flaws or the unexpected—otherwise known as the *unknown unknowns*—at a better rate than simply "thinking" about the design. Figure 6.6 is a perfect example of this physicality.



FIGURE 6.6 Before starting development of the early Palm Pilot, inventor Jeff Hawkins carried a block of wood, the size of the potential Pilot, in his pocket for a week to explore how the idea felt.

Fine-Tune an Idea

One of the biggest challenges when creating mobile experiences is the discrepancy between the tools used and the static context that exists for most designers during the design process—not to mention the dynamic contexts of use in which most mobile design work is experienced in once it finds its way into the hands of users. There is often a disconnect between creating a design on a large computer screen in a static context

and experiencing that design on a handheld device in a dynamic context. Layouts can become too information dense, type may feel too small, or an interaction may not feel intuitive. There is no substitute for getting your work on a mobile device early and often (see Figure 6.7). The devil is often in the details, and prototyping is a great way to fine-tune your work.



FIGURE 6.7
On-device prototypes are a great way to fine-tune important interactions and details of your design.

Genres of Mobile Prototyping

Regardless of the “why” for your particular prototype, selecting the right prototyping method for your mobile UX project is a lot like selecting a good book. There are countless options to choose from, so how do you pick the right one? Similar to asking yourself, “What type of book am I in the mood for?” the first step in identifying the right prototyping method involves asking, “What type of design exploration am I about to embark on?” Unlike selecting the right reading material from countless book genres, mobile prototyping methods tend to fall into two basic genres: “tactical” and “experiential” prototyping.

While I’ve categorized mobile prototyping into the two genres—tactical and experiential—there’s nothing to stop you from “crossing the streams.” For example, it’s perfectly fine to use an experiential prototyping method, such as storyboarding, in a more tactical-type project and vice-versa. However, identifying the nature of the project you are taking on is the first point in your mobile UX decision-making process. It will help you identify the design prototyping methods that are best suited for your project and will likely prove most valuable to you as you embark on designing for the mobile medium.