

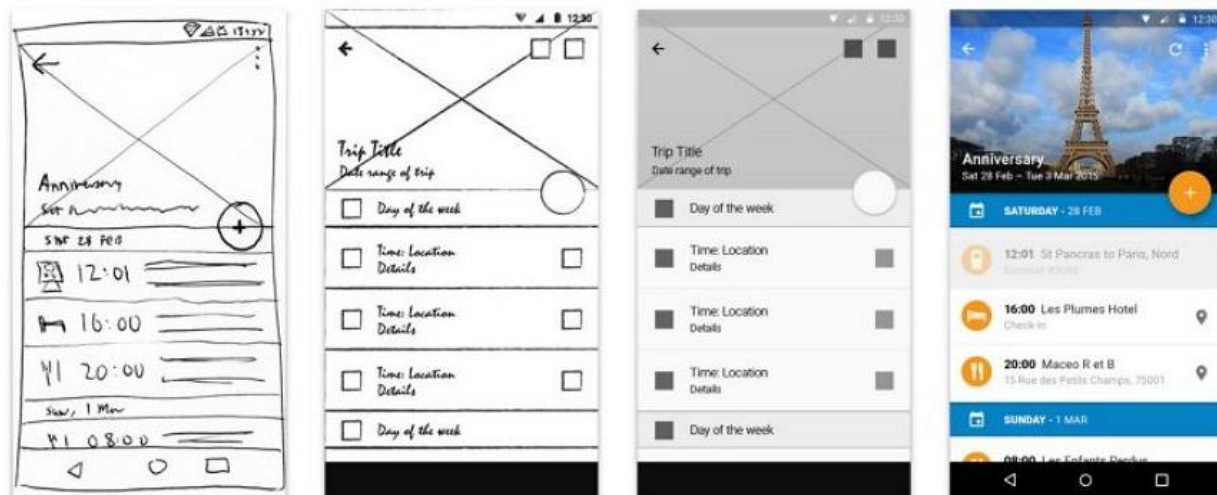
## Prototyping basics

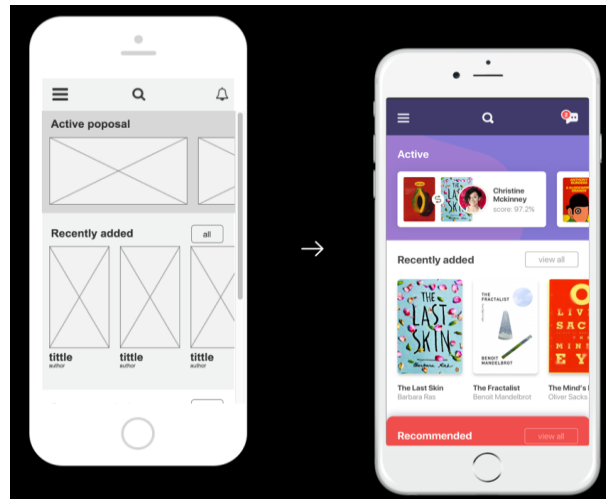
Prototype is used to define user experience design is that users use interfaces to accomplish a task. The premise is that the best interface can only be designed if we understand the user and the task they want to accomplish.

The **goal of the novel design** we create is to do a better job of meeting the needs of the user than the existing design. Here, the goal of design is not novelty for its own sake. **It is novelty in the service of improving the user experience.**

A **prototype can be defined as an early model of a novel design**. We can classify prototyping in two ways. **Low fidelity prototypes bare little similarity to the final design in either form or function, while high fidelity prototypes are very similar to the final design.** We prototype to evaluate aspects of our new design and to check if the design is meeting the desired outcomes.

Prototyping is important for a variety of reasons. First, it allow us to **manage precious resources such as time and money**. This is because they are just models of our designs so they don't require for us to engage other highly trained professionals, such as software engineers or graphic designers. Second, because we can **build these models quickly**, it allows us to **iterate on the design** and **move closer to desired goal** of meeting the user's needs.





## Low fidelity prototypes

We always want to start with low fidelity prototypes first. This is the case even if **resources are not a problem**. We do this because it is **quick and easy**. It's a way to verify our design objectives. We do this for ourselves because **putting our thoughts on paper** may lead us to quite literally see things in a different light. Once we have gone through a couple of iterations, we can then share these prototypes with **colleagues & get their feedback**. We can **even engage stakeholders** in the process.

With low fidelity prototyping, we are **not going for perfection**. We are **looking for sequential iterations to check some aspects of our design**. This is why paper prototyping is a great way to start. It only requires a paper and a pencil. We will discuss three techniques. These include **sketching, storyboarding, & card-based prototypes**.

**1) Sketching** is a freehand depiction of images related to our design. main point here is that this does not require being an artist or even having any talent that requires drawing skills. It is ymerely an exercise to get you to conceptualize an idea. You can easily represent people with **stick figures** & devices with squares.



**2) Storyboards** are common way to provide a narrative in a static fashion. Think about your favorite newspaper comic strip, in 4 to 8 sequences you get an **entire storyline**.

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technique of storyboarding does the same for designers. It **allows us to put our design in context**. It provides an opportunity to consider how the user would engage in new design with given scenario.

In storyboard, I wanted to show that using below-exemplified app would lead to meeting up with others that want to study and ultimately for a better grade for these students that used so-called study-up app. In the first storyboard, you see that people are so worried that they have an upcoming math quiz. Then in the second storyboard they find the study app, and they say, great, because it can limit this to three people to study with. In the third step, it was able to get these three students to study. You show that they got an A. And then in the final one, there is solitary student that didn't study with a group of students, and that ended up with a C.



## Story boarding

One of the biggest worries about creating storyboards is that “Ugh, I can’t draw!” However, storyboarding isn’t about beautiful drawing; it’s about **communicating ideas**.



These are some images from the storyboarding guide. One of the very first things a storyboard should do is to **illustrate a goal**. Like in this storyboard, it’s “Let’s check out places in SF!” Here you can see some “star people”, and they’re explaining what they’re doing, so here they’re saying “Here we’re in San Francisco.” And **by the end of the**

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storyboard you'll want to show how they accomplished what their goal was, or, in some other way, have a **satisfactory outcome at the end of the storyboard**.



Storyboards should **accomplish three things**:

First, it should accomplish the **setting**: Who are the people involved, what is the environment? And what tasks are they trying to do?

Next, it should show the **sequence**: What are the steps that they do to accomplish the task? Not necessarily what user interface's exactly where the buttons and widgets are, but what role the UI plays in helping them get their goal achieved.

And one the first steps is going to be: What leads somebody to use the app?

At the end, you've got **satisfaction**: How does what motivated them to use the app in the first place, how does that connect to their achieving that in the end of the sequence?

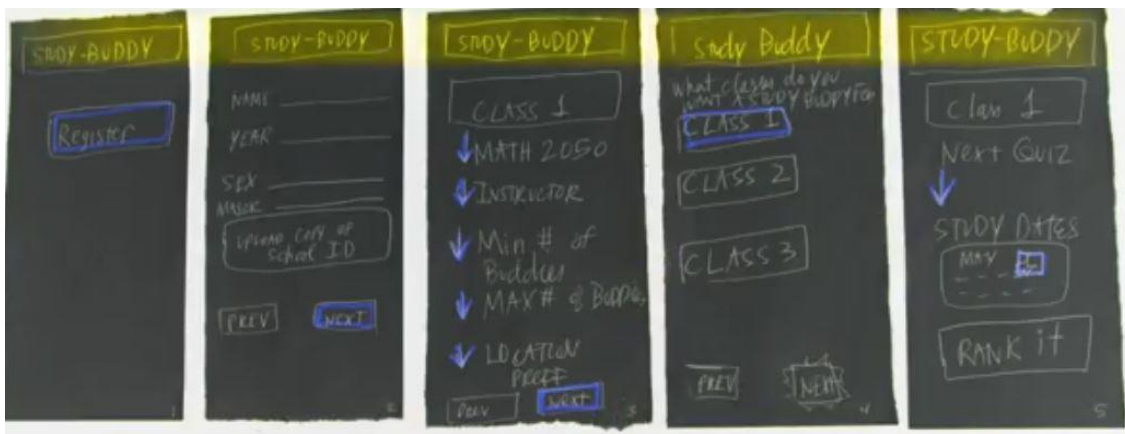
## Benefits of Storyboarding

It enables you to think through how you might **support a task without committing to a particular user interface**. Moreover, this is especially important when you're designing as a team, because the idea that's in your head may or may not be the same as the idea that's in somebody else's head. On the other hand, you may have this great idea, but people don't know what you're talking about yet. Once you've got it out on paper

and concrete, it makes it much easier for people to have common ground, and agree on how to move forward.

**3) Card-based prototyping** will allow us to **look at the sequences of interactions** we might have with the actual interface. You can take a **set of three by five index cards** and have each **represent a sequence of a screen** that the user would encounter as she tries to accomplish a task.

Study-Buddy App. It tried to incorporate the five features that were mentioned earlier. As you can see, the first card is just registration. In the second card, it show that I get to verify the student's identity. In the third card, you can see that the student can actually register for multiple classes that they want to study for, even enter their preferred study location in the fourth one. Then in the fifth one, they can even enter what time they prefer to study. This concludes our lesson on low fidelity prototyping.



### High fidelity prototypes

We're ready to build **high fidelity prototypes** when **low fidelity prototyping no longer supports our design objectives**. In other words, once we have run through a series of low fidelity prototypes and we have learned all we can, then we need to build a model that is **closer to the final version of our design**. There are many options for building high fidelity prototypes.

What you use is largely related to the resources you have at hand. It may be that you're in a company that has many resources. If so, then you may be able to work with other professionals, such as software engineers, that are able to build the technical



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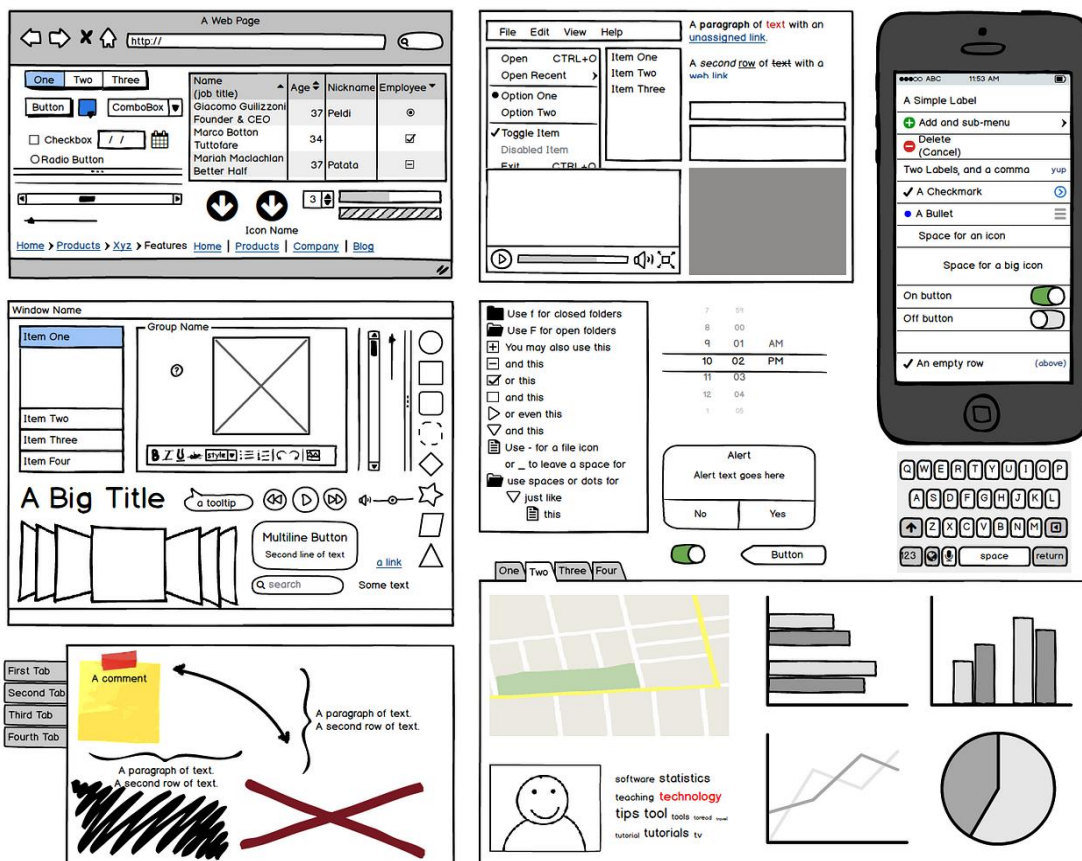
functionality of your design, or graphic designers, who make sure that the **new design fits in with the brand's visual specification, such as layout and color scheme.**

As designers, we may be interested in **getting feedback about our design before we actually build it.** We can do **so by producing a video that shows the various features, functionalities of the system,** in a variety of scenarios.

## Balsamiq

It is a user interface design tool for creating wireframes (sometimes called mockups or low-fidelity prototypes). You can use it to generate digital sketches of your idea or concept for an application or website, to facilitate discussion and understanding before any code is written.

This rapid wireframing tool creates mockups and wireframes for websites, web apps, and desktop software. It allows you to picture ideas and concepts through a simple drag-and-drop interface. Wireframes created using Balsamiq have a hand-drawn style.



## Paper/video prototyping

For figuring out the UI at early stage, best technique that is to use paper prototyping.

You're going to **make a mockup of the user interface**, and, instead of doing it on the computer, which can take a lot of time & encourage you to try to get it beautiful & exact, you're going to use paper, Post-It notes, & markers, to sketch things really quickly.

Just like the storyboards, it is **important to work quickly**. And if you had a widget that you're going to use a lot of, like radio buttons or sliders or something like that, sometimes it can be faster to photocopy them on a photocopier, so you can make one version and then photocopy it to have a whole bunch.

It can be helpful to **have a frame to put your interface widgets in**. Here we have a mobile frame. You can also stick things right on the device itself, So, if you want to make a mobile screen shot here, mobile user interface! Or, if you have a desktop user interface, you can take, like, an 11-by-14 sheet of poster board and put all of your elements on that.

Good paper prototyping is also like collage, you can mix and match fidelities. So you can use printouts of actual screen shots; draw and explain on top of that, anything that you want that can get your point quickly.

## Get Creative with Materials

Paper prototyping is not only **fast and efficient**, it's also really fun, and you can get really creative in **figuring out different ways to convey interactions**. If you have popup menus, you can make the back sticky, so that can stay on the right place on top of the main interface. You [can] use any kind of marker or pen you want; you can have things be colored, [or] just black-and-white.

Here you can see a wonderful widget from the "Lifealyfics" team, where they've created a sliding window inside a mobile phone mockup as a way of conveying how something would change over time and in response to user input.

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