UI/UX Best Practices

Mobile Form Design

Forms are the linchpin of all mobile interactions; they stand between the user and what the user is looking for.

What Makes For An Effective Form?

The primary goal with every form is completion. Two factors have a major impact on completion rate:

- **Perception of complexity**

The first thing users do when they see a new form is estimate how much time is required to complete it. Users do this by scanning the form. Perception plays a crucial role in the process of estimation. The more complex a form looks, the more likely users will abandon the process.

- **Interaction Cost**

Interaction cost is the sum of efforts — both cognitive and physical — that the users put into interacting with an interface in order to reach their goal. Interaction cost has a direct connection with form usability. The more effort users have to make to complete a form, the less usable the form is. A high interaction cost could be the result of data that is difficult to input, an inability to understand the meaning of some questions, or confusion about error messages.

What are the components of forms?

A typical form has the following five components:

- **Input fields**
  These include text fields, password fields, checkboxes, radio buttons, sliders and any other fields designed for user input.

- **Field labels**
  These tell users what the corresponding input fields mean.

- **Structure**
  This includes the order of fields, the form's appearance on the page, and the logical connections between different fields.

- **Action buttons**
  The form will have at least one call to action (the button that triggers data submission).

- **Feedback**
  Feedback notifies the user about the result of an operation. Feedback can be positive (for example, indicating that the form was submitted successfully) or negative (saying something like, "The number you've provided is incorrect").

Let’s look at some of the ways that as developers and designers, we can make our forms as simple and intuitive to use as possible.

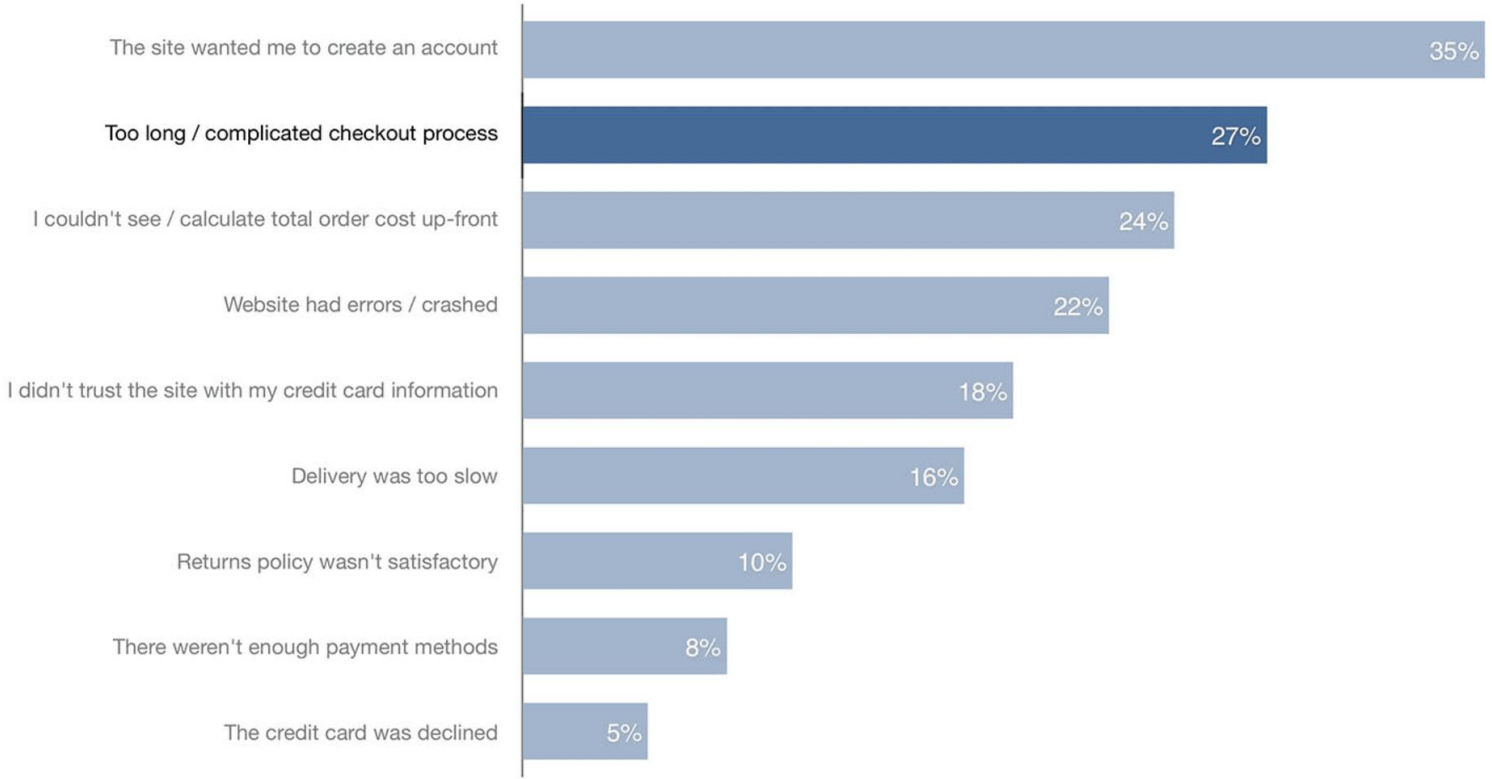
MINIMIZE THE TOTAL NUMBER OF FIELDS

Every field you ask users to fill out requires some effort. The more effort is needed to fill out a form, the less likely users will complete the form. That’s why the foundational rule of form design is **shorter is better** — get rid of all inessential fields.

Reasons for abandonments during checkout

1,044 responses · US adults · 2016 · © baymard.com/checkout-usability

"Have you abandoned any online purchases during the checkout process in the past 3 months? If so, for what reasons?"
Answers normalized without the *'I was just browsing'* option, and with *'Extra Costs'* removed.



CLEARLY DISTINGUISH ALL OPTIONAL FIELDS

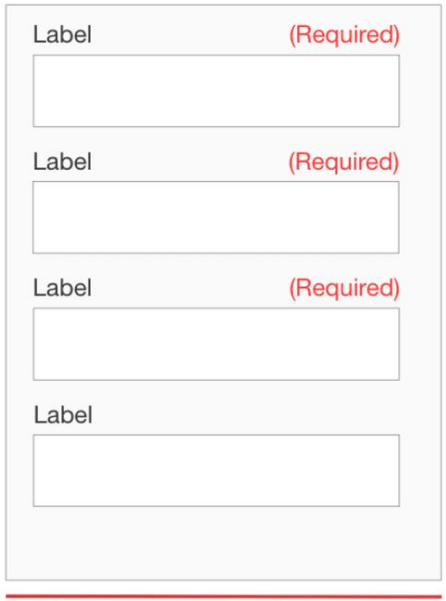
Before optimizing optional fields, ask yourself whether you really need to include them in your form. Think about what information you really need, not what you want. Ideally, the number of optional fields in your form should be zero.

- Mark optional fields instead of mandatory ones

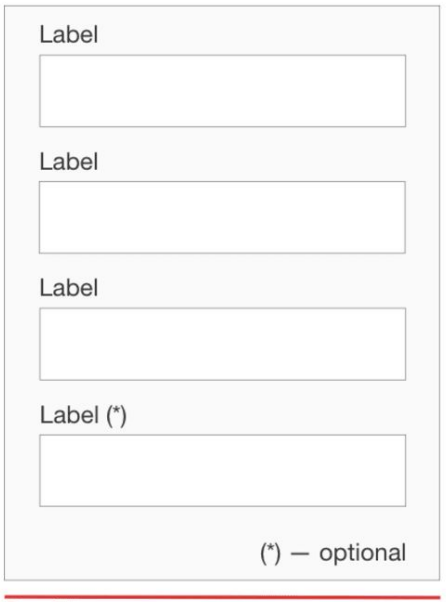
If you ask as little as possible, then the vast majority of fields in your form will be mandatory. Therefore, mark only those fields in the minority. For instance, if five out of six fields are mandatory, then it makes sense to mark only one field as optional.

- Use the “Optional” label to denote optional fields

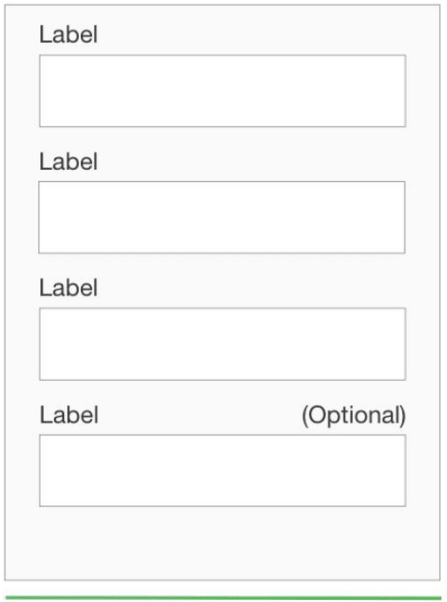
Avoid using the asterisk (`*`) to mean “optional.” Not all users will associate the asterisk with optional information, and some users will be confused by the meaning (an asterisk is often used to denote mandatory fields).


Label (Required)
Label (Required)
Label (Required)
Label

Don't


Label
Label
Label
Label (*)
(*) — optional

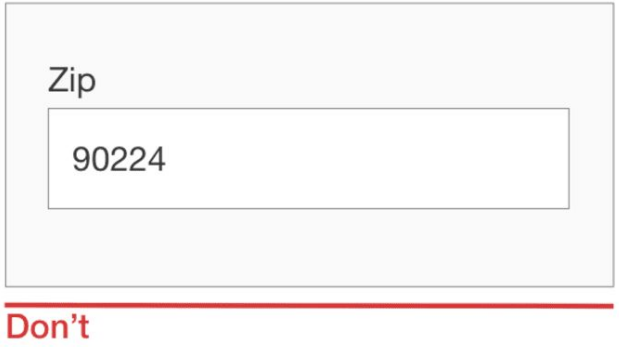
Don't


Label
Label
Label
Label (Optional)

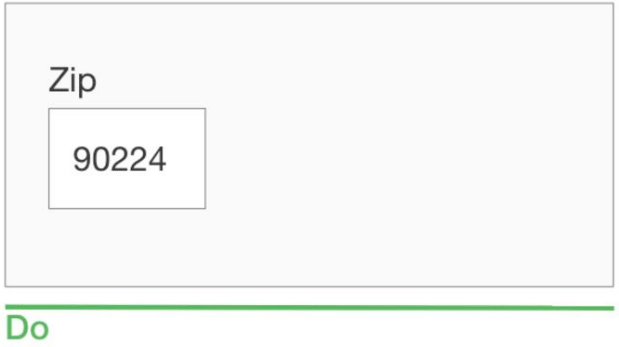
Do

SIZE FIELDS ACCORDINGLY

When possible, use field length as an affordance. The length of an input field should be in proportion to the amount of information expected in the field. The size of the field will act as a visual constraint — the user will know how much text is expected to be entered just by looking at the field. Generally, fields such as ones for area codes and house numbers should be shorter than ones for street addresses.



Don't



Do

OFFER FIELD FOCUS

Auto-focus the first input field in your form. Auto-focusing a field gives the user an indication and a starting point, so that they are able to quickly start filling out the form. By doing that, you reduce the interaction cost — saving the user one unnecessary tap.

Make the active input field prominent and focused. The field focus itself should be crystal clear — users should be able to understand at a glance where the focus is. It could be an accented border color or a fade-in of the box.

amazon

Sign in

Email (phone for mobile accounts)

Continue

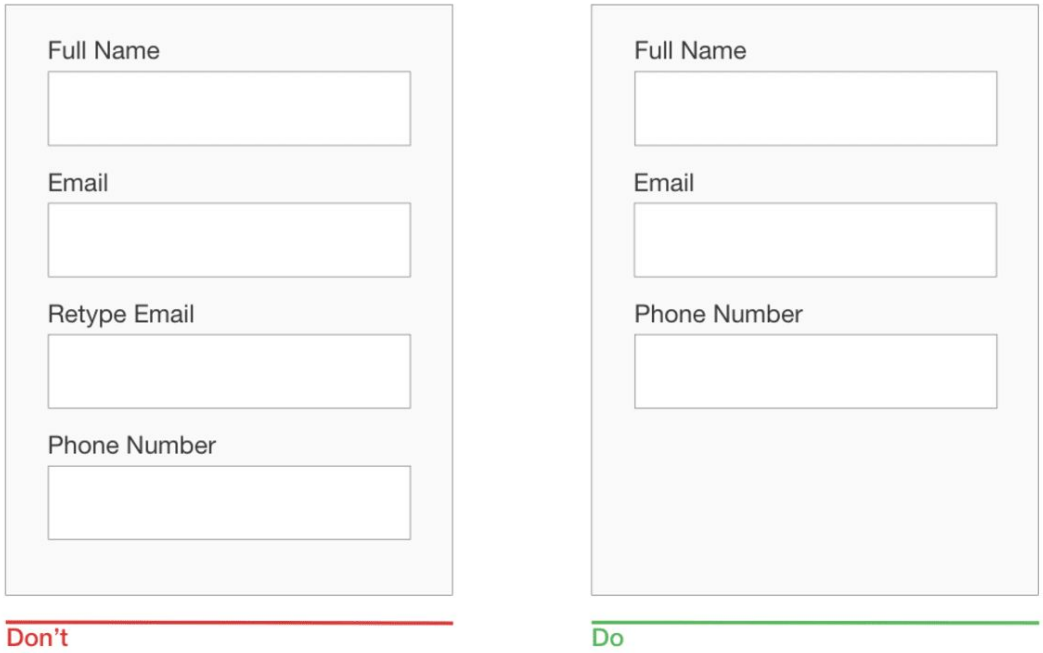
Need help?

New to Amazon?

Create your Amazon account

DON’T ASK USERS TO REPEAT THEIR EMAIL ADDRESS

The reason why an extra field for the email address is so popular among product developers is apparent: Every company wants to minimize the risk of hard bounces (non-deliverables caused by invalid email addresses). Unfortunately, following this approach doesn’t guarantee that you’ll get a valid address. Users often copy and paste their address from one field to another.

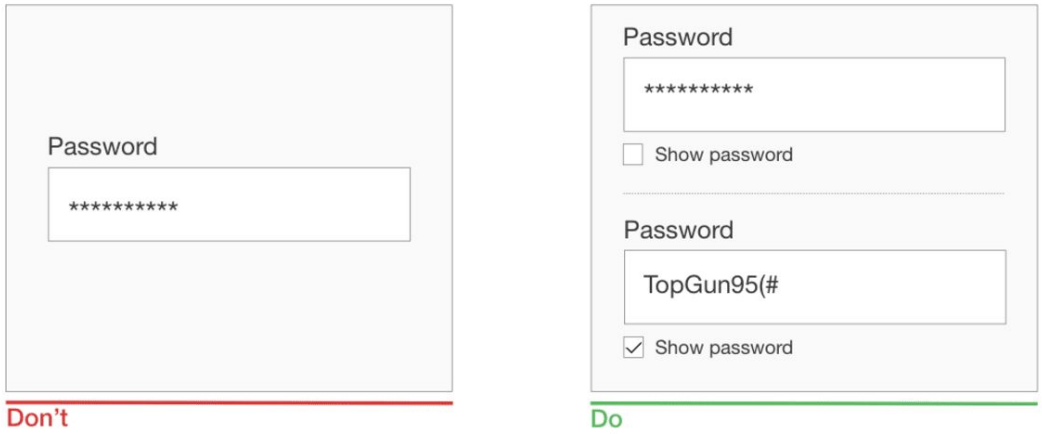

Full Name
Email
Retype Email
Phone Number
Full Name
Email
Phone Number

Don't

Do

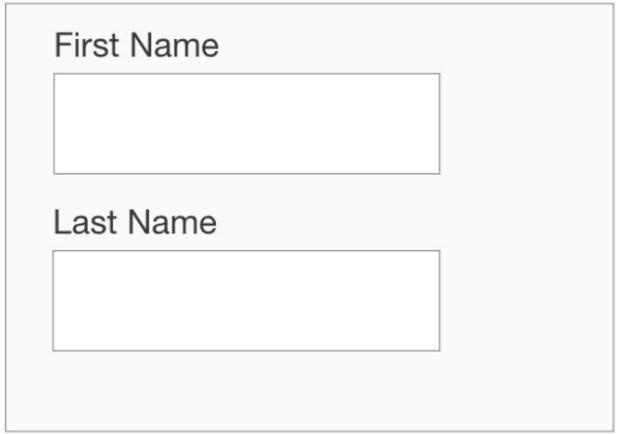
PROVIDE “SHOW PASSWORD” OPTION

Duplicating the password input field is another common mistake among product designers. Designers follow this approach because they believe it will prevent users from mistyping a password. In reality, a second field for a password not only increases interaction cost, but also doesn't guarantee that users will proceed without mistakes. Because users don’t see what they’ve entered in the field, they can make the same mistake twice (in both fields) and will face a problem when they try to log in using a password.


Password
****
Don't
Password
****
Show password
Password
TopGun95(#
Show password
Do

DON’T SLICE DATA FIELDS

Do not slice fields when asking for a full name, phone number or date of birth. Sliced fields force the user to make additional taps to move to the next field. For fields that require some formatting (such as phone numbers or a date of birth), it’s also better to have a single field paired with clear formatting rules as its placeholder.



Don't

Do

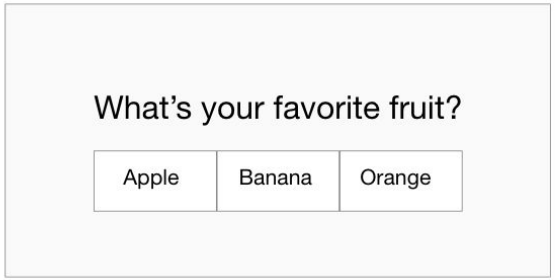
AVOID DROPDOWN MENUS

Dropdowns are especially bad for mobile because collapsed elements make the process of data input harder on a small screen: Placing options in a dropdown requires two taps and hides the options.

If you’re using a dropdown for selection of options, consider replacing it with radio buttons. They will make all options glanceable and also reduce the interaction cost — users can tap on the item and select at once.


What's your favorite fruit?
Select

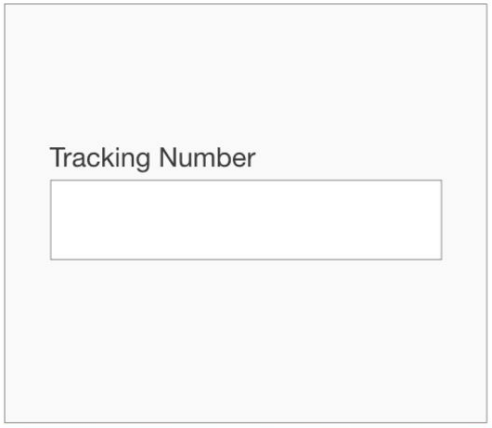
Don't


What's your favorite fruit?
Apple
Banana
Orange

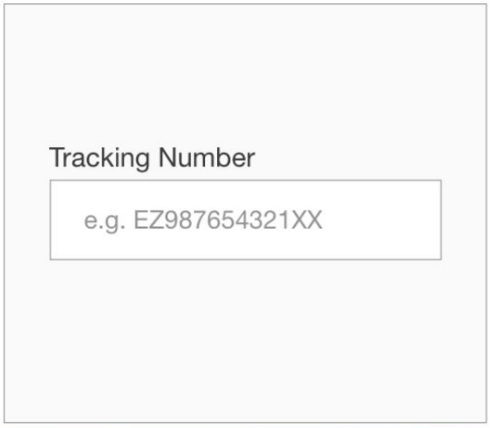
Do

USE PLACEHOLDER TEXT

The text in an input field can tell users what content is expected. Placeholder text is not required for simple fields such as “Full name”, but it can be extremely valuable for fields that require data in a specific format. For example, if you design search functionality for tracking a parcel, it would be good to provide a sample tracking number as a placeholder for the tracking-number field.



Don't



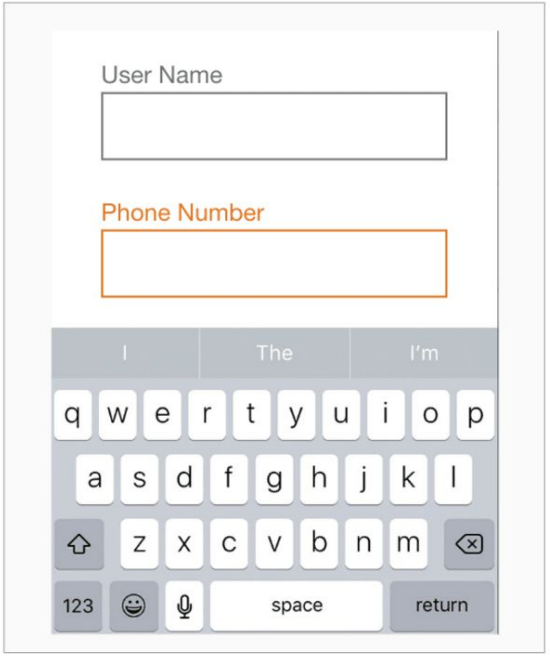
Do

PROVIDE MATCHING KEYBOARD

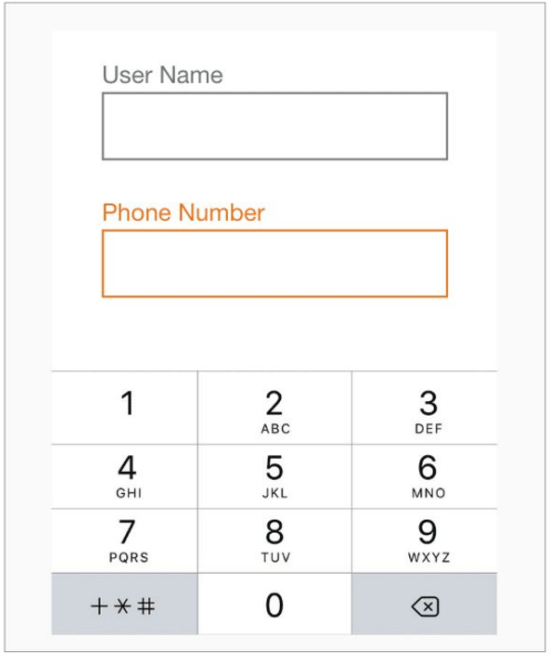
Mobile users appreciate apps and websites that provide an appropriate keyboard for the field. This feature prevents them from doing additional actions. For example, when users need to enter a credit card number, your app should only display the dialpad. It’s essential to implement keyboard matching consistently throughout the app (all forms in your app should have this feature).

Set HTML input types to show the correct keypad. Seven input types are relevant to form design:

- `input type="text"` displays the mobile device's normal keyboard
- `input type="email"` displays the normal keyboard and '@' and '.com'
- `input type="tel"` displays the numeric 0 to 9 keypad
- `input type="number"` displays a keyboard with numbers and symbols
- `input type="date"` displays the mobile device's date selector
- `input type="datetime"` displays the mobile device's date and time selector
- `input type="month"` displays the mobile device's month and year selector


User Name
Phone Number
I
The
I'm
q w e r t y u i o p
a s d f g h j k l
z x c v b n m
123
space
return

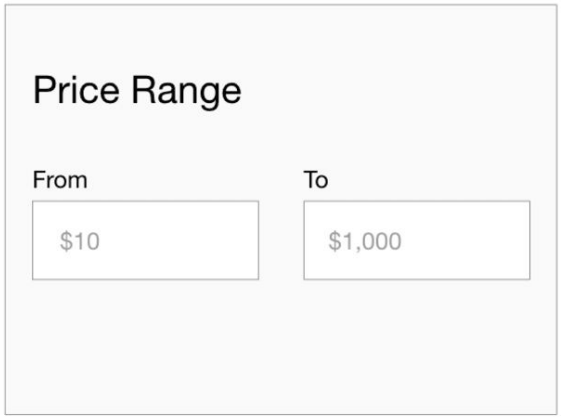
Don't


User Name
Phone Number
1
2 ABC
3 DEF
4 GHI
5 JKL
6 MNO
7 PQRS
8 TUV
9 WXYZ
+ * #
0

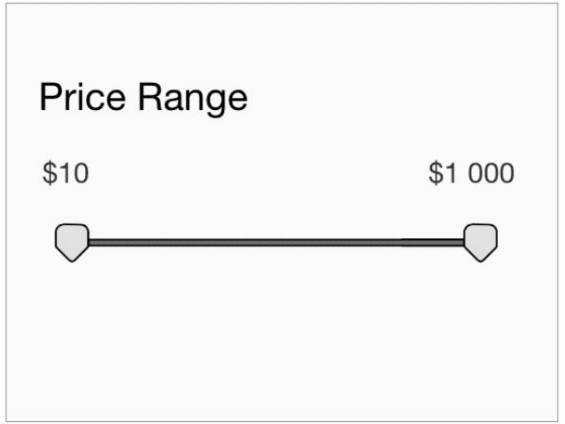
Do

USE A SLIDER WHEN ASKING FOR A SPECIFIC RANGE

Many forms ask users to provide a range of values (for example, a price range, distance range, etc.). Instead of using two separate fields, “from” and “to”, for that purpose, use a slider to allow users to specify the range with a thumb interaction.



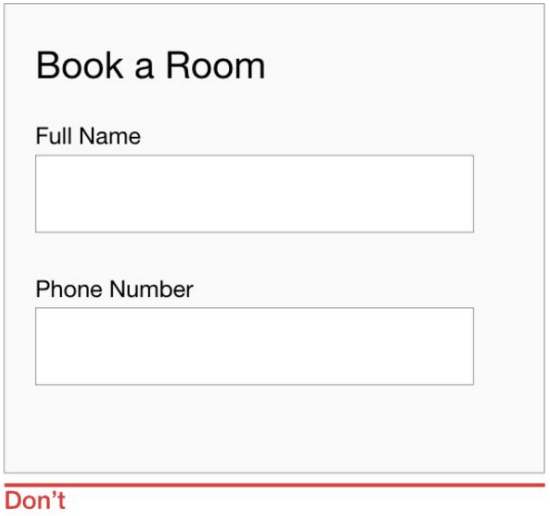
Don't



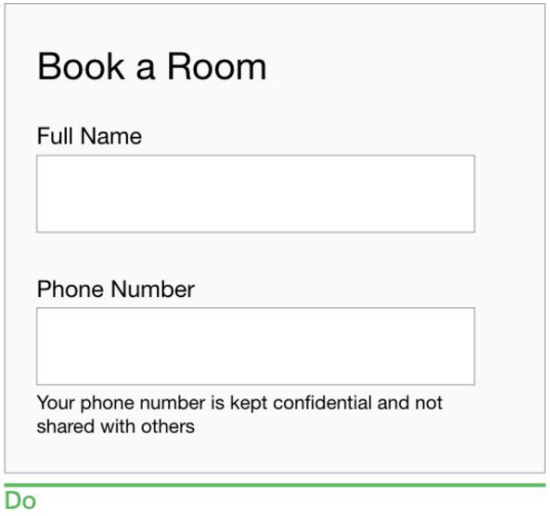
Do

CLEARLY EXPLAIN WHY YOU'RE ASKING FOR SENSITIVE INFORMATION

People are increasingly concerned about privacy and information security. When users see a request for information they consider as private, they might think, "Hm, why do they need this?" If your form asks users for sensitive information, make sure to explain why you need it. You can do that by adding support text below relevant fields. As a rule of thumb, the explanation text shouldn't exceed 100 characters.


Book a Room
Full Name
Phone Number

Don't


Book a Room
Full Name
Phone Number
Your phone number is kept confidential and not shared with others

Do

FIELD LABELS

WRITE CLEAR AND CONCISE LABELS

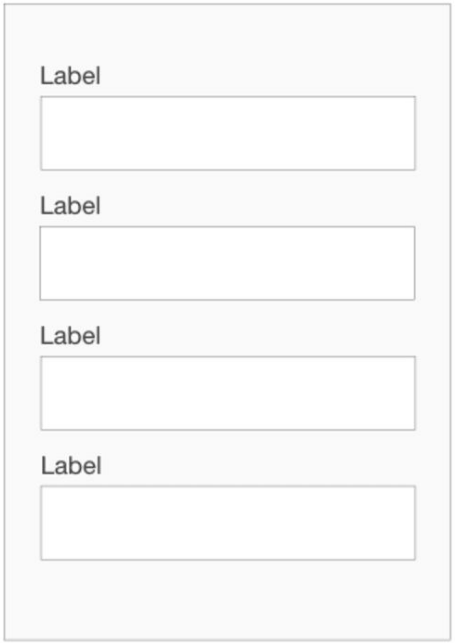
The label is the text that tells users what data is expected from them in a particular input field. Writing clear labels is one of the best ways to make a form more accessible. Labels should help the user understand what information is required at a glance.

Avoid using complete sentences to explain. A label is not help text. Write succinct and crisp labels (a word or two), so that users can quickly scan your form.

PLACE THE LABEL AND INPUT CLOSE TOGETHER

Put each label close to the input field, because the eye will visually know they’re tied together.

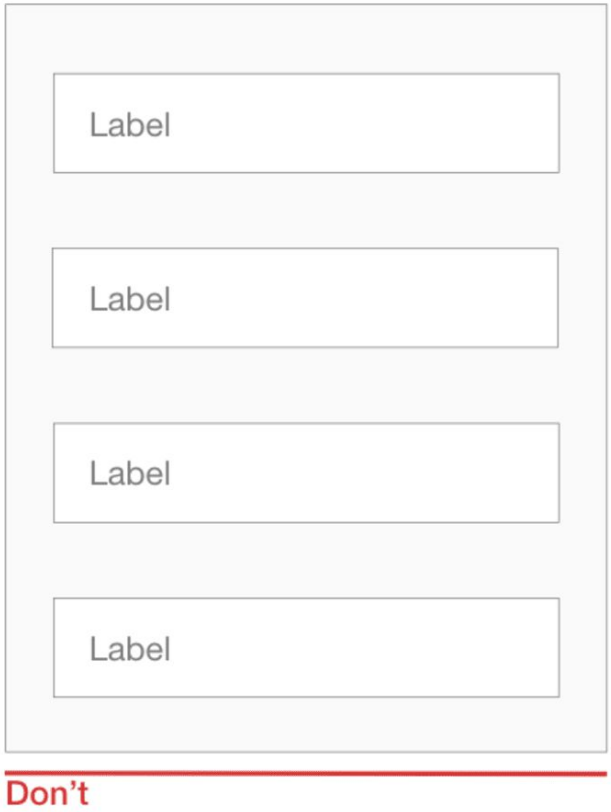
Don't



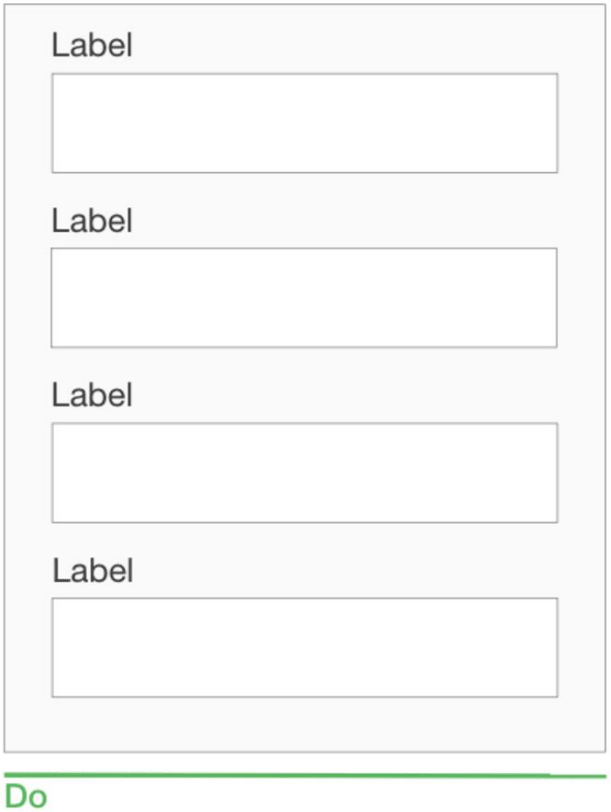
Do

DON’T USE DISAPPEARING PLACEHOLDER TEXT AS LABELS

While inline labels look good and save valuable screen estate, these benefits are far outweighed by the significant usability drawbacks, the most critical of which is the loss of context. When users start entering text in a field, the placeholder text disappears and forces people to recall this information. While it might not be a problem for simple two-field forms, it could be a big deal for forms that have a lot of fields (say, 7 to 10). It would be tough for users to recall all field labels after inputting data.



Don't

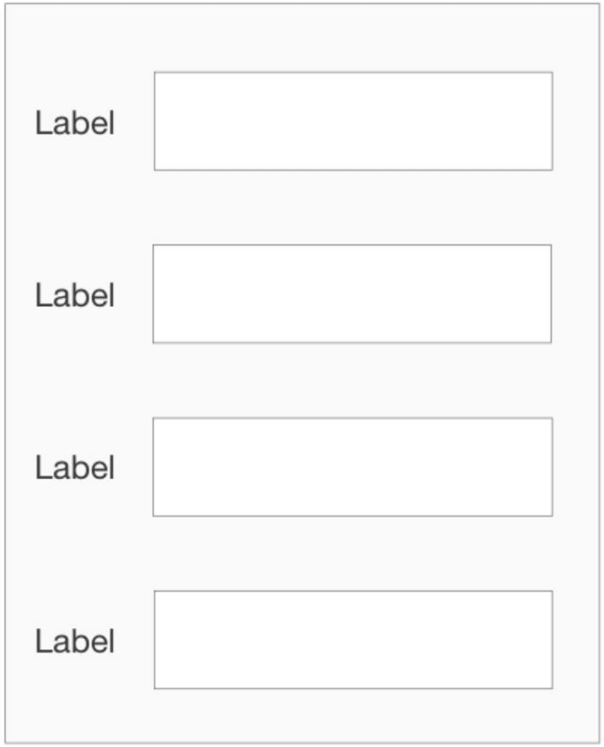


Do

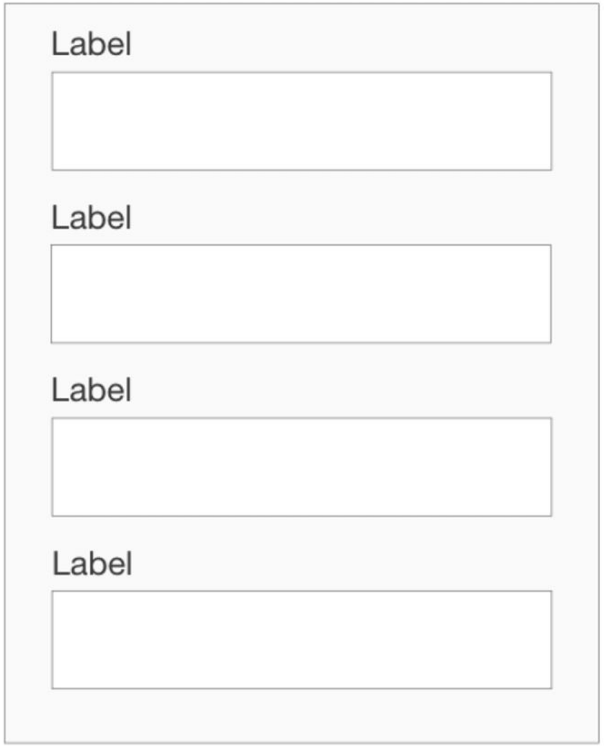
TOP - ALIGN LABELS

Putting field labels above the fields in a form improves the way users scan the form. Using eye-tracking technology for this, Google showed that users need fewer fixations, less fixation time and fewer saccades before submitting a form.

Another important advantage of top-aligned labels is that they provide more space for labels. Long labels and localized versions will fit more easily in the layout. The latter is especially suitable for small mobile screens. You can have form fields extend the full width of the screen, making them large enough to display the user’s entire input.



Don't



Do

AVOID USING CAPS FOR LABELS

All-caps text — meaning text with all of the letters capitalized — is OK in contexts that don't involve substantive reading (such as acronyms and logos), but avoid all caps otherwise. All-capital print dramatically slows the speed of scanning and reading compared to lowercase type.

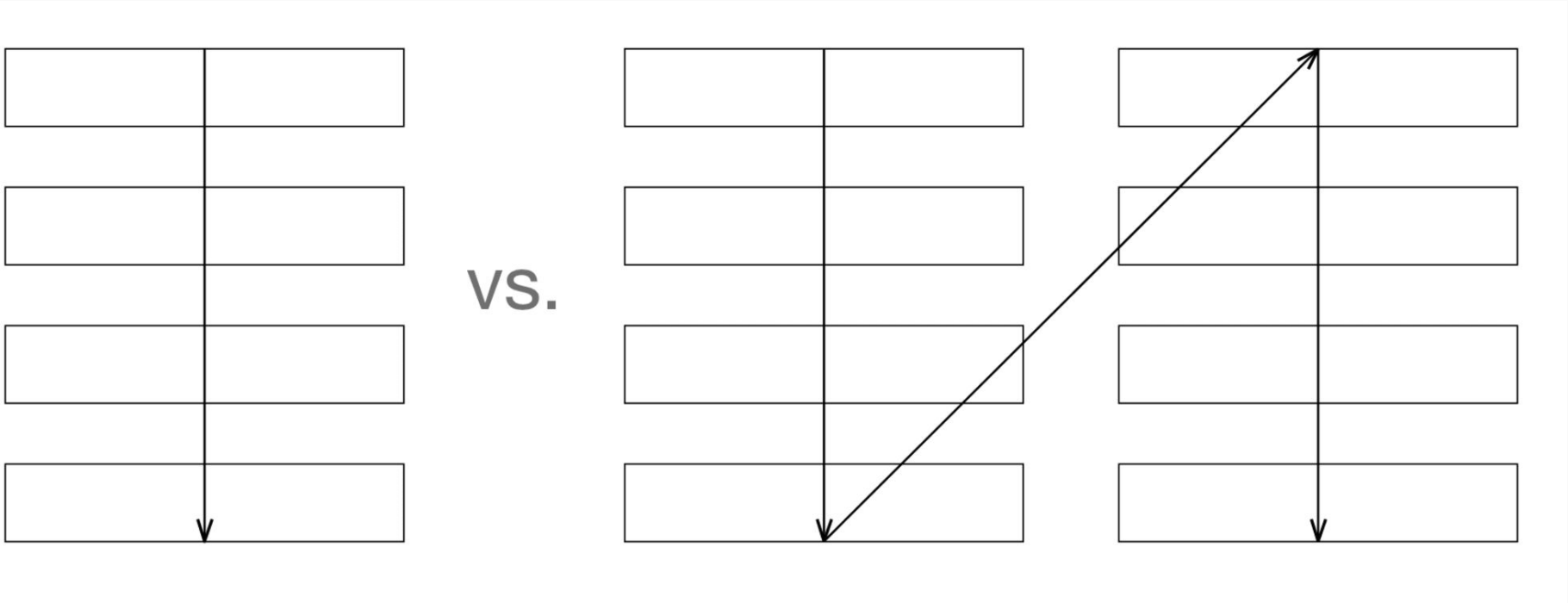
Don’t

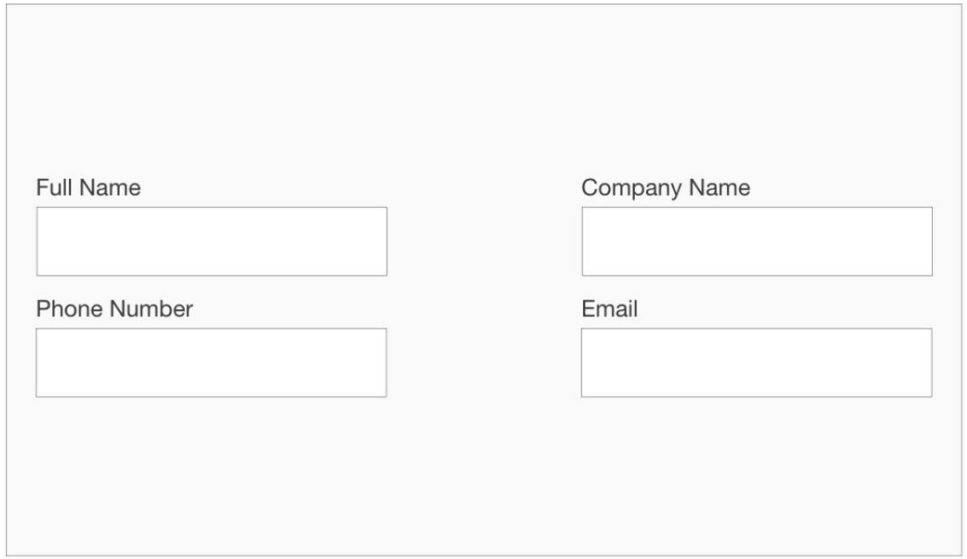
Do

LAYOUT

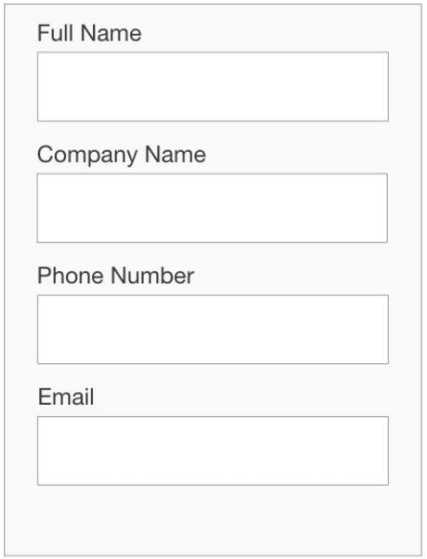
USE A SINGLE COLUMN LAYOUT

In a one-column design, the eyes move in a natural direction, from top to bottom, one line at a time. This helps to set a clear path for the user. One column is excellent for mobile because the screens are longer vertically, and vertical scrolling is a natural motion for mobile users. There are some exceptions to this rule. It’s possible to place short and logically related fields on the same row (such as for the city and area code).


vs.


Full Name
Company Name
Phone Number
Email

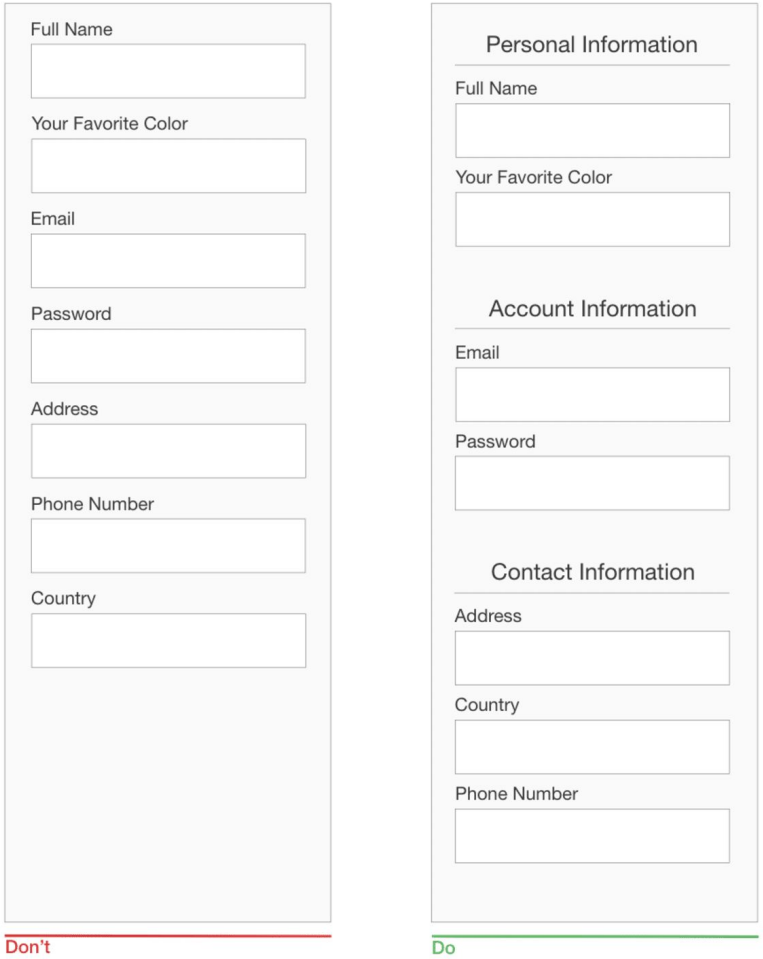
Don't


Full Name
Company Name
Phone Number
Email

Do

GROUP RELATED FIELDS TOGETHER

Designers can group related fields into sections. If your form has more than six questions, group related questions into logical sections. Don’t forget to provide a good amount of white space between sections to distinguish them visually.

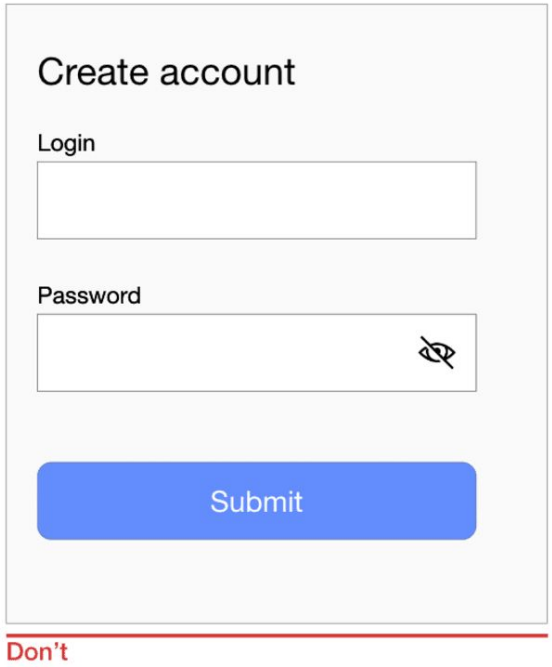

Full Name
Your Favorite Color
Email
Password
Address
Phone Number
Country
Don't
Personal Information
Full Name
Your Favorite Color
Account Information
Email
Password
Contact Information
Address
Country
Phone Number
Do

ACTION BUTTONS

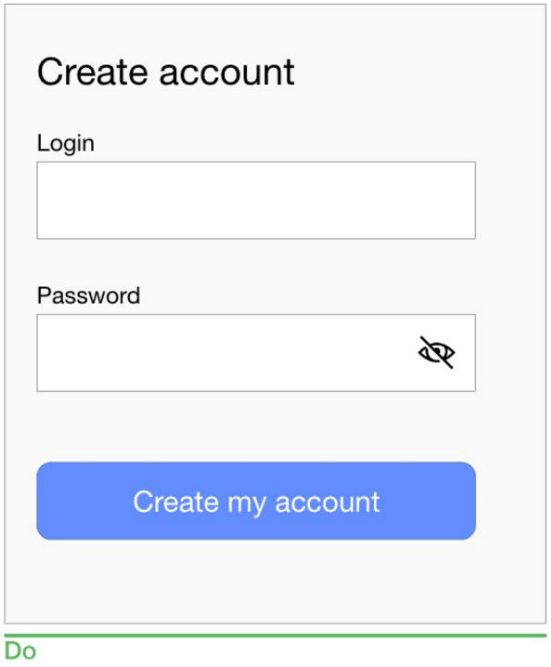
A button is an interactive element that directs users to take an action

MAKE ACTION BUTTONS DESCRIPTIVE

A button’s label should explain what the button does; users should be able to understand what happens after a tap just by looking at the button. Avoid generic labels such as “Submit” and “Send”, using instead labels that describe the action.


Create account
Login
Password
Submit

Don't


Create account
Login
Password
Create my account

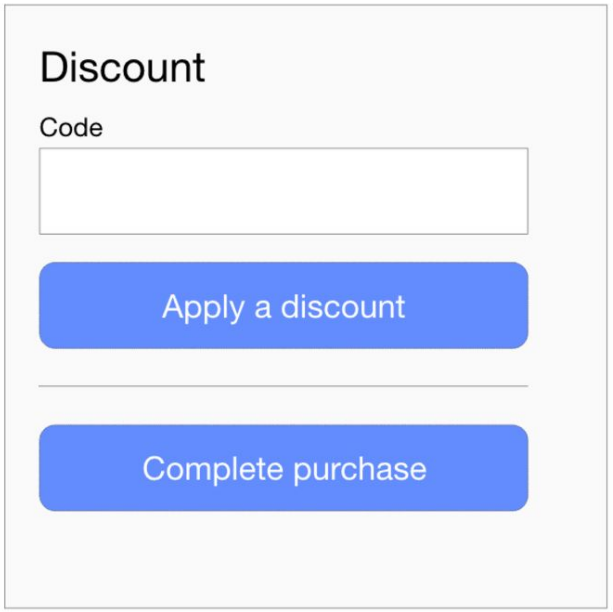
Do

DON’T USE CLEAR OR RESET BUTTONS

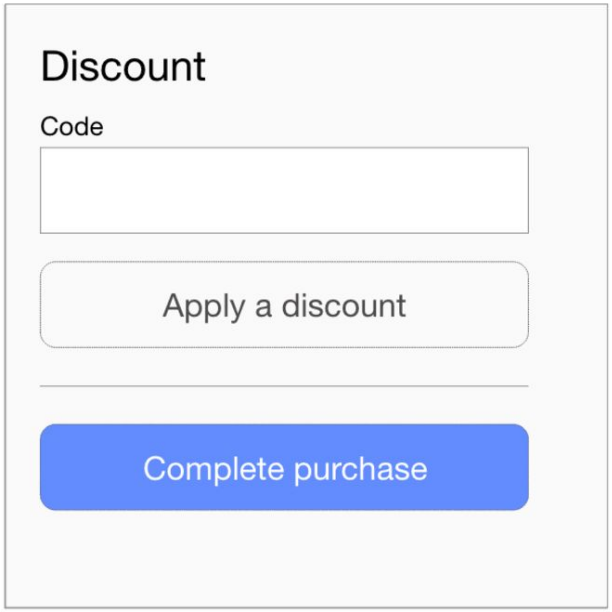
Clear or reset buttons allow users to erase their data in a form. These buttons almost never help users and often hurt them. The risk of deleting all of the information a user has entered outweighs the small benefit of having to start again. If a user fills in a form and accidentally hits the wrong button, there’s a good chance they won’t start over.

USE DIFFERENT STYLES FOR PRIMARY AND SECONDARY BUTTONS

Avoid secondary actions if possible. But if your form has two calls to action (for example, an e-commerce form that has “Apply discount” and “Submit order”) buttons, ensure a clear visual distinction between the primary and secondary actions. Visually prioritize the primary action by adding more visual weight to the button. This will prevent users from tapping on the wrong button.


Discount
Code
Apply a discount
Complete purchase

Don't


Discount
Code
Apply a discount
Complete purchase

Do

ACCESSIBILITY

Users of all abilities should be able to access and enjoy digital products

ENSURE THE FORM HAS PROPER CONTRAST

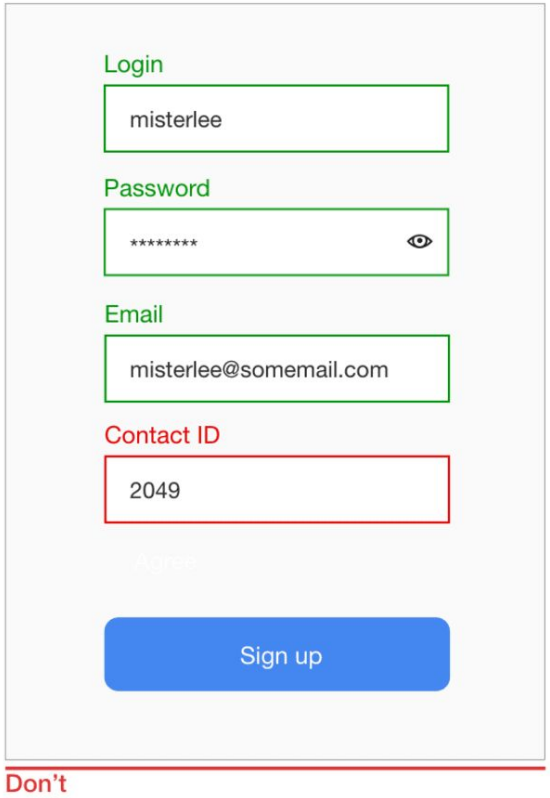
Your users will likely interact with your form outdoors. Ensure that it is easy to use both in sun glare and in low-light environments. Check the contrast ratio of fields and labels in your form.

- Small text should have a contrast ratio of at least 4.5:1 against its background.
- Large text (at 14-point bold, 18-point regular and up) should have a contrast ratio of at least 3:1 against its background.

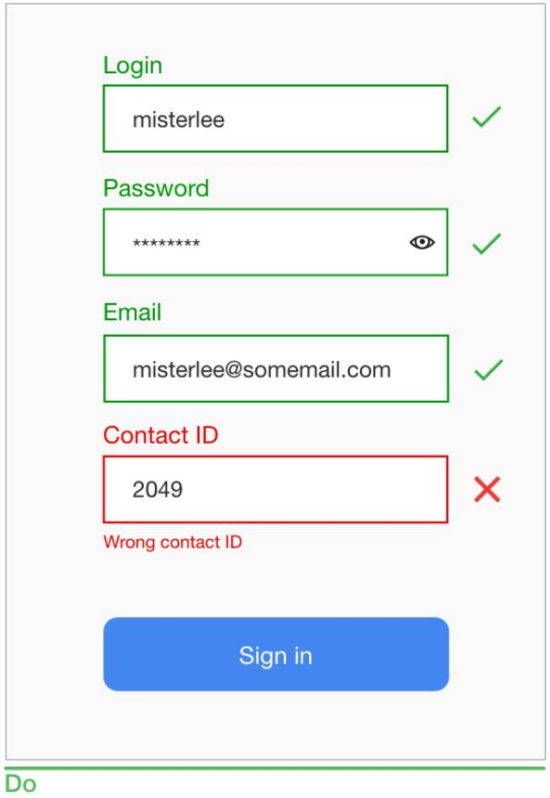
Measuring color contrast can seem overwhelming. Fortunately, some tools make the process simple. One of them is Web AIM Color Contrast Checker, which helps designers to measure contrast levels.

DO NOT RELY ON COLOR ALONE TO COMMUNICATE STATUS

Color blindness (or color vision deficiency) affects approximately 1 in 12 men (8%) and 1 in 200 women in the world. While there are many types of color blindness, the most common two are **protanomaly**, or reduced sensitivity to red light, and **deuteranomaly**, or reduced sensitivity to green light. When displaying validation errors or success messages, don't rely on color alone to communicate the status (i.e. by making input fields green or red).


Login
misterlee
Password
****
Email
misterlee@somemail.com
Contact ID
2049
Agree
Sign up

Don't


Login
misterlee
Password
****
Email
misterlee@somemail.com
Contact ID
2049
Wrong contact ID
Sign in

Do

TEST YOUR DESIGN DECISIONS

All points mentioned above can be considered as industry best practices. But just because something is called a “best practice” doesn’t mean it is always the optimal solution for your form. Apps and websites largely depend on the context in which they are used. Thus, it’s always essential to test your design decisions; make sure that the process of filling out a form is smooth, that the flow is not disrupted and that users can solve any problems they face along the way. Conduct usability testing sessions on a regular basis, collect all valuable data about user interactions, and learn from it.

THANK YOU!