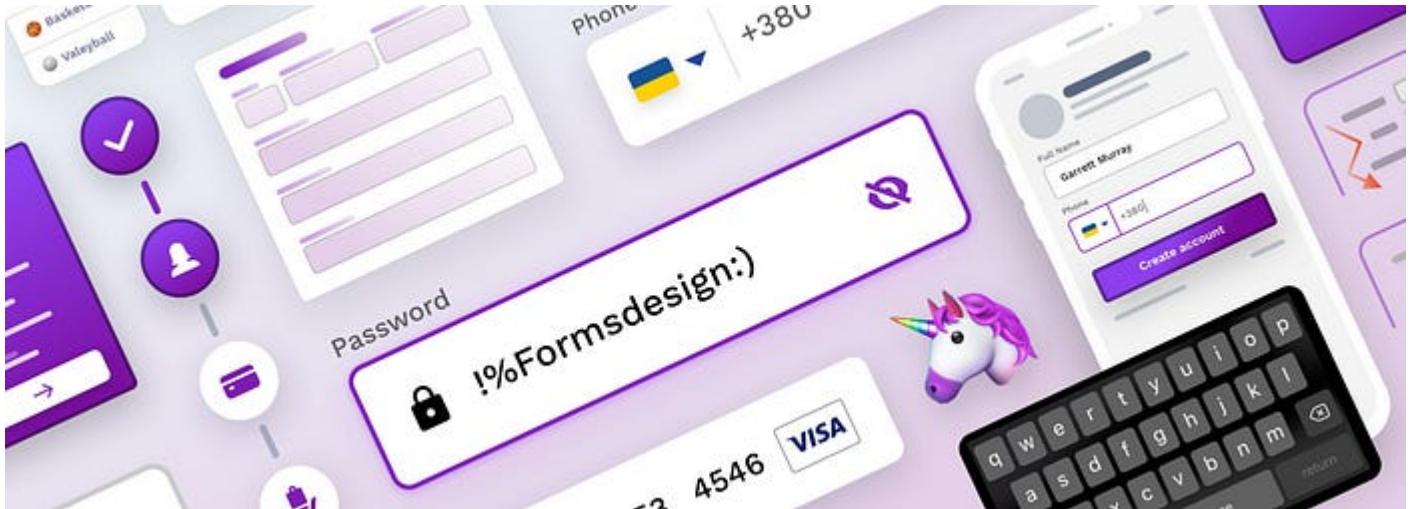


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Text fields & Forms design—UI components series

Simple rules that will help you design forms users will like to complete



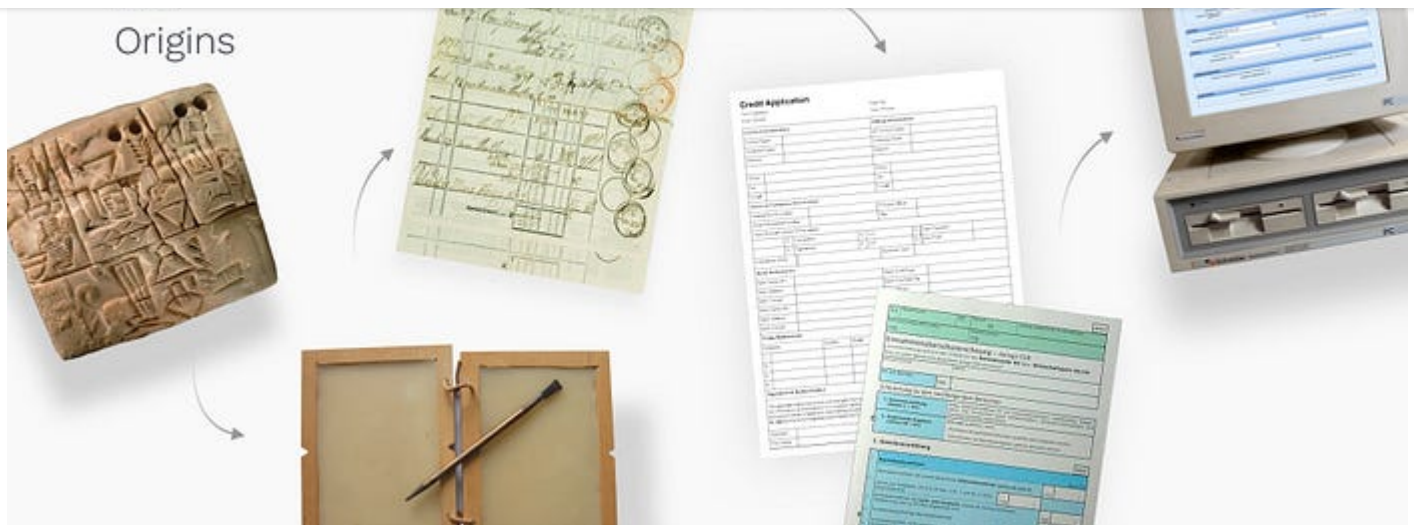
Taras Bakusevych

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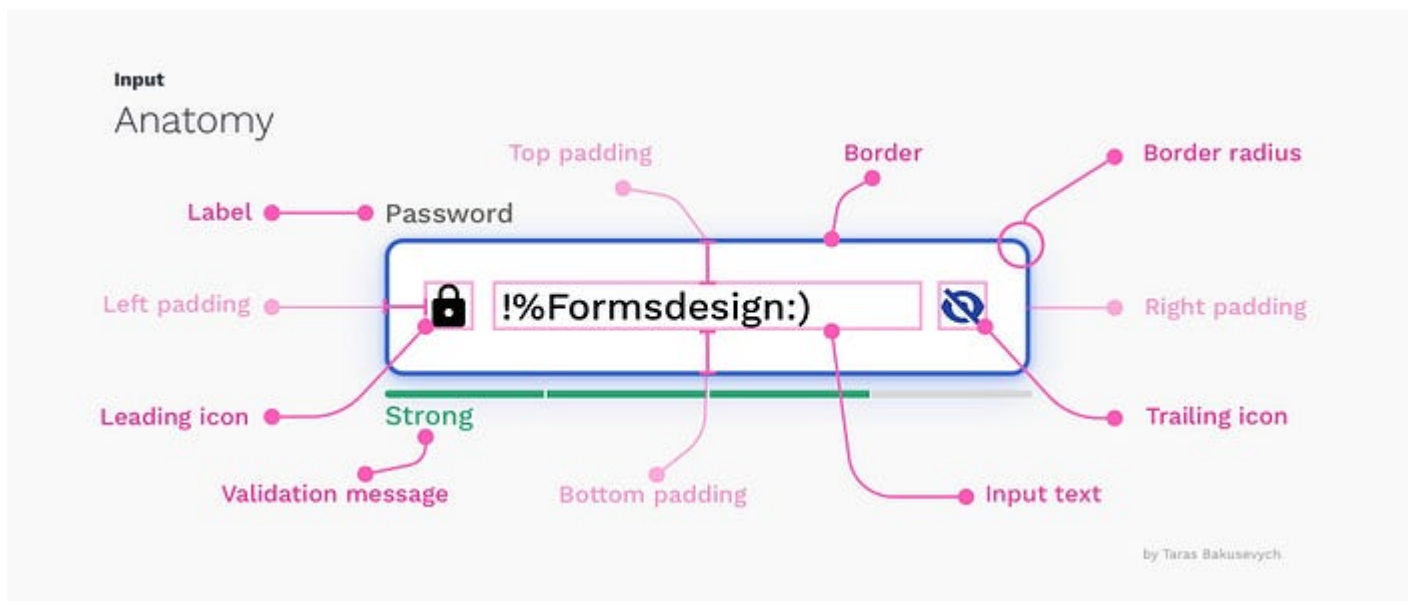
UX Collective a11y-light ~8 min read · May 25, 2020 (Updated: March 11, 2023) · Free: Yes

Forms have existed for a significant amount of time, greatly simplifying the task of drafting complaints and various other legal pleadings. With the advance of information and its processing, means to gather the data are also evolving. As printed forms were here for years we can learn a few tips from their design.



Text field anatomy

Text fields allow users to enter text into a UI. They typically appear in forms and dialogs. Text field component design should provide a clear affordance for interaction, making the fields discoverable in layouts, efficient to fill in, and accessible.



Here are key elements of the basic Text field: 1. **Container** — interactable input area 2. **Input text** — entered into the text field 3. **Label Text** — tell users what information belongs in a given form field 4. **Placeholder text** — is a description or example of the information required that is replaced with input text after users provide it 5. **Helper or Validation text(optional)** — provides additional context or validation message 6. **Leading icon(optional)** — describe the type of input a text

Text field types

Most of them are based on basic text fields that were modified to better handle specific types of information, like the credit card numbers. Here are just a few examples of input types that are most commonly used throughout UIs we creating:

The image displays a collection of 12 different input field types arranged in a 4x3 grid. Each type is shown with a label, a visual representation of the field, and a descriptive caption below it.


- Text input:** A simple text box with the label "Full Name" and the value "Taras Bakusevych".
- Search field:** A text box with a magnifying glass icon and the placeholder text "Search".
- Date:** A text box with the placeholder "mm/dd/yyyy" and a calendar icon.
- Selection input:** A dropdown menu with the label "Nationality" and the selected value "Ukraine".
- Text area input:** A multi-line text box with the placeholder "Type here..." and a character count "0 / 320".
- Phone Number:** A text box with a country code selector (showing "UK") and the value "+380".
- Multi-select input:** A button-like input with the label "Send to" and two selectable options: "Edwin S. X" and "Alberta M. X".
- Input with stepper:** A numeric input box with the value "4" and up/down arrow buttons.
- Password:** A text box with masked characters (dots) and a "Strong" indicator.
- Number only input:** A text box with the value "9888 1212 3453 4546" and a "VISA" logo.
- Color selector:** A color picker with a blue selection bar and a "Label Color" label.


By Taras Bakusevych

(We specifically are not talking about few input types like checkboxes and radio buttons as we will cover them later in the series)

Use appropriate input type for data you collecting

and efficient as possible.

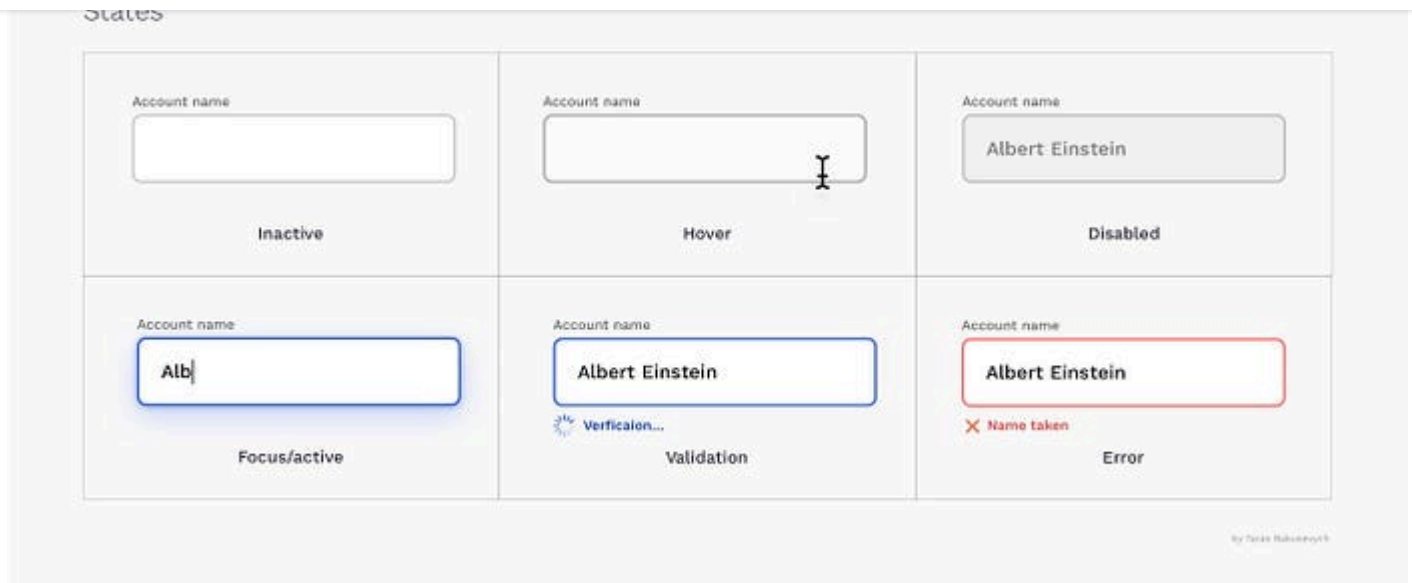
 Useful tip
Use appropriate input type for data you collecting

Don't	Do
<p>Full Name</p> <input type="text" value="Albert Einstein"/>	<p>Full Name</p> <input type="text" value="Albert Einstein"/>
<p>Phone</p> <input type="text" value="380-622-8862"/>	<p>Phone</p> <div><div></div><div>+380-622-8862</div></div>
<p>Credit Card Number</p> <input type="text" value="9888121234534546"/>	<p>Credit Card Number</p> <div><div>9888 1212 3453 4546</div><div>VISA</div></div>
<p>Comment</p> <input type="text"/>	<p>Comment</p> <div><input type="text"/><div>0 / 320</div></div>

by Tarek Boukacem

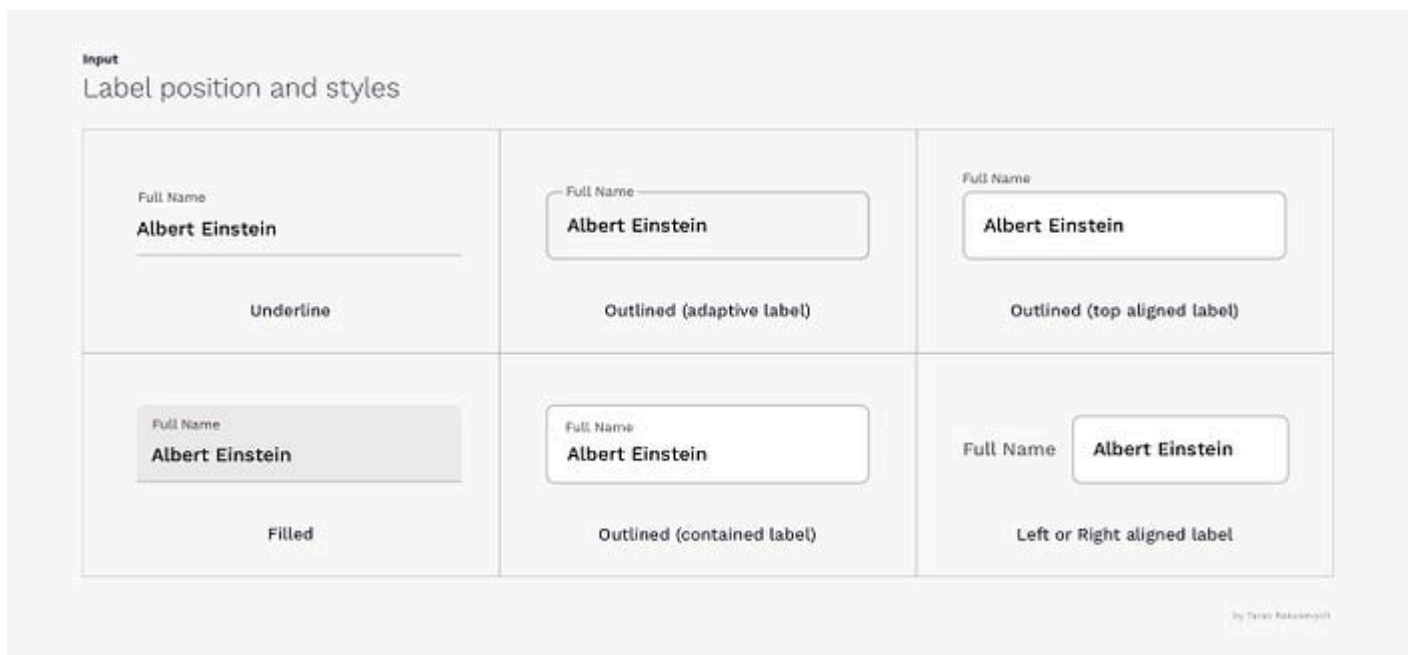
Text fields have to change their appearance based on state and user interactions

This can be done by providing visual cues that will communicate the state of the text field. Input text fields can have one of the following states: inactive, hover, disabled, focused, validation, error. All states should be clearly differentiated from one another, and consistent throughout the whole form and application. Better to follow best practices to not challenge formed user mental models.



Choosing the best text field style

Usually, you will have three main options for label positioning: top, left, and right-aligned. The best style for you will depend on key goals and sizes of the form, components library, and platform you design for. All of them have some advantages and disadvantages.



Underline input popularized with original Material design guidelines are not the best option. There were already revised based on the large [Evolution of Material Design's study](#) that I recommend you to check out. Interestingly enough the same study showed that users prefer inputs with rounded corners.

Left-aligned labels

A good choice when the data requested is unfamiliar for users

- **Advantages:** Easily scalable labels, good use of vertical space
- **Disadvantages:** Excessive and variable distance between labels and corresponding inputs increase completion time

Forms

Left-aligned labels

Full Name

Email

User role

Valid to

Password

An eye-tracking study by Matteo Penzo

✓ Advantages
Easily scannable input forms.

✗ Disadvantages
Excessive and variable distances between labels and inputs

By Doron Bakkeneych

Right-aligned labels

Have nearly twice faster completion time vs left-aligned labels

- **Advantages:** Text field labels and input are closely positioned that limits number of eye movements resulting in fast completion time
- **Disadvantages:** Harder to quickly scan the form and understand what all information is required

Right-aligned labels

Full Name

Email

User role

Admin

Valid to

24 Jan 2021

Password

Create

Cancel

An eye-tracking study by Matteo Penzo

✓ Advantages

Input label and input are closely positioned, quick completion

✗ Disadvantages

Harder to quickly scan what all info is required, less visually appealing

By Tamas Babcsenyi

Top aligned labels

Fastest completion time and all-around best choice for the majority of the cases. Work well on mobile as they don't require a lot of horizontal space

- **Advantages:** Allow users to capture input label and input text with one single eye movement, fastest completion time
- **Disadvantages:** Require more vertical space

Forms

Top aligned labels

Full Name

Email

User role

Admin

Valid to

24 Jan 2021

Password

An eye-tracking study by Matteo Penzo

✓ Advantages

Study shows this layout to support the fastest completion of forms


✗ Disadvantages



Forms use more vertical space of the page

By Tamas Babcsenyi

Length of text field should be proportional to the expected user input

Using identical input length for all text fields in your forms will make them visually pleasing but will be harder to complete.

 **Useful tip**
The size of the input communicates the length of the content needed

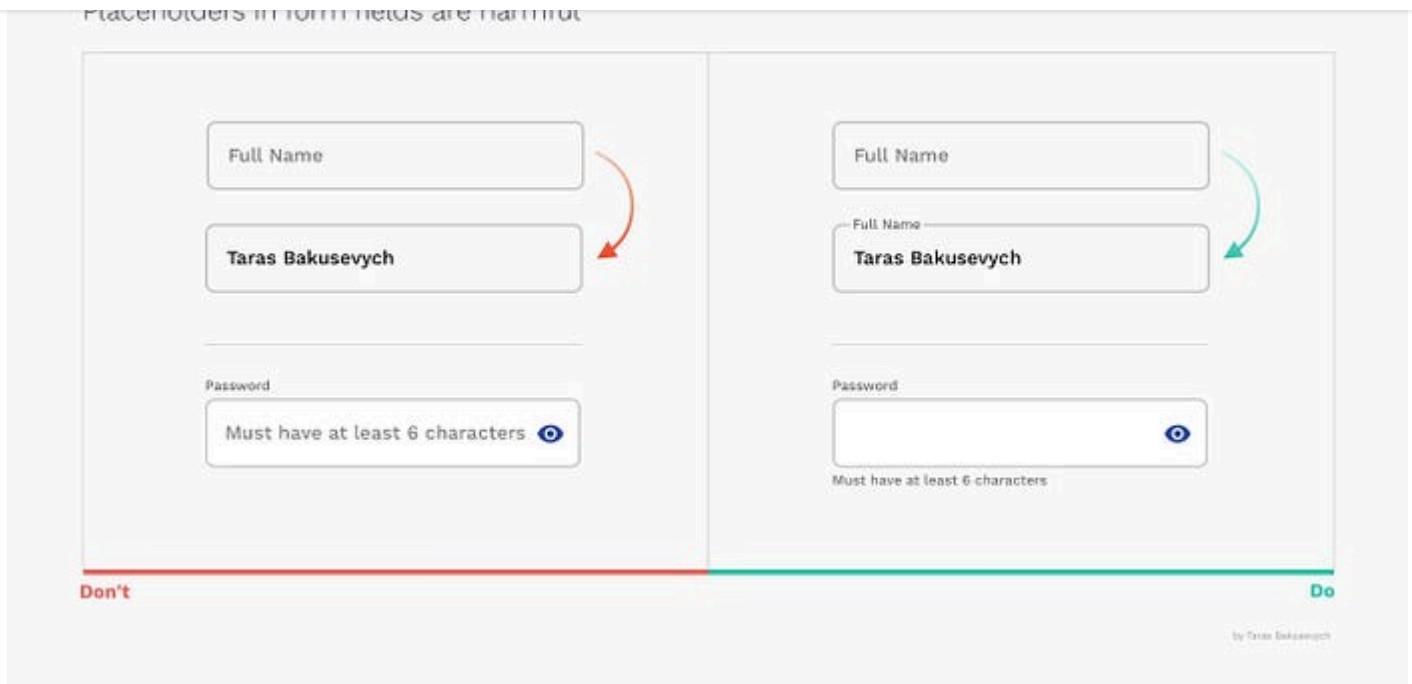
Don't		Do		
<div>Title</div> <div>Mr ▾</div>	<div>First Name</div> <div>Albert</div>	<div>Title</div> <div>Mr ▾</div>	<div>First Name</div> <div>Albert</div>	<div>Last Name</div> <div>Einstein</div>
<div>Last Name</div> <div>Einstein</div>	<div>Address</div> <div>Zurich, 34 Nobel Flats</div>	<div>Address</div> <div>Zurich, 34 Nobel Flats</div>		
<div>Country</div> <div> Switzerland ▾</div>	<div>Zip Code</div> <div>83 021</div>	<div>Country</div> <div> Switzerland ▾</div>	<div>Zip Code</div> <div>94300</div>	

by David Belbin

Placeholders are not replacements for labels

Disappearing placeholder text strains users' short-term memory. Without labels, users cannot check all information they provided before submitting a form. If you want a very minimalist form design you can use the Material design floating labels approach.

Placeholder text inside the form can sometimes confuse users, better to use hint text outside the field.



Help users fill in forms

- Help resolve partial queries with **Auto-Complete**. This happens within the input box where you type and you can press either enter or "right-arrow-key" to accept it.
- Search a virtually unbounded list for related keywords and phrases with **Auto-Suggest**. This list appears as a multiple suggestion list in the form of the drop-down.
- **Pre-fill fields and use smart defaults**. Often you can easily detect a user's country and the city by IP or geolocation. And based on most common scenarios and analytics you can define what should be selected by default. E-Commerce is an exception, don't preselect any preferences related to purchasing like size or color.

Assist users during the completion process

The image shows two examples of user interface assistance:

- Autocomplete and Autosuggest:** A dropdown menu for "Assigned to" with a list of names: Jennifer Evans, Jeff Lambert, Jennifer Evans, Nell Hughes, Keith Jert, Arthur Jernett, and Rosetta Jerien. A red dot labeled "Autocomplete" points to the first name, and a red dot labeled "Autosuggest" points to the rest of the list. A green checkmark at the bottom indicates "Autocomplete and Autosuggest".
- Find flights:** A form with "From" and "To" fields. The "From" field has "Geneva (GVA)" as a smart default value. The "To" field has a placeholder "Country, city, airport". A red dot labeled "Closest airport to current user location" points to the "From" field. A green checkmark at the bottom indicates "Smart default values".

Below the flight form, there is a "Transfer amount" field with "\$ 1,563" and an "Account balance" field with "\$ 2,093". A green checkmark at the bottom indicates "Contextual help and validation".

by Tamas Bekes

- **Provide contextual information.** If you know that in order to make the right decision or avoid mistakes users will need some additional information like an account balance when making a transfer, don't hesitate to present it.

Use inline validation

"Live inline validation" is where the validity of the user's inputs are checked live as the user progresses through the form, as opposed to checking the inputs in a lump sum when the user submits the form. Implement it correctly to not do more harm:

- **Display validation messages** close to the input and all together
- **Don't shout on users**, error messages should tell users how to fix the problem instead of blaming them
- Avoid "**premature validation**" when the field is marked as invalid before they have finished typing
- Consider using "**positive validation**" it can add a sense of delight and progression

Use inline validation after the user hits out the field instead of checking whole form

The image compares two form validation approaches. On the left, labeled 'Don't', a form with fields for Email, Password, and Valid to (date) shows a large red error box at the bottom listing three issues: 'Not valid email', 'Password is too weak', and 'Date you specified is in the past'. On the right, labeled 'Do', the same form shows inline validation: a red border around the email field with the text 'Not valid email' below it, and a red border around the password field with the text 'Must contain at least 8 characters, and special symbol' below it. The 'Valid to' field has a red border and the text 'mm/dd/yy' below it. Both forms have 'Cancel' and 'Create' buttons at the bottom.

Reduce the number of fields

It will remove the visual and cognitive load, and look much simpler.

- Don't break text like Full name and Date into multiple fields
- Don't ask for the same info multiple times
- Work with labels and hints copy to shorten it as much as possible

Useful tip

Limit the number of fields and label text

The image compares two form layouts. On the left, labeled 'Don't', a form has five fields: 'First Name' (Albert), 'Last Name' (Einstein), 'Date of Birth' (12 Jan 1988), 'Password' (masked), and 'Confirm password' (masked). On the right, labeled 'Do', the form is simplified to three fields: 'Full Name' (Albert Einstein), 'Date of Birth' (24 Jan 2021), and 'Password' (masked). Both forms have a red line at the bottom.

Hide irrelevant fields

By disclosing information progressively, we reveal only the essentials and help users manage the complexity only when they need to.

Forms

Hide irrelevant fields with progressive disclosure

Email: albert_einstein@gmail.com

Password: ••••••••

2 Step verification: ☐

Method: Mobile device

Phone Number: 075-650-0745

by Tarek Bekasengon

Use conditional logic

Conditional logic allows automatically show or hide fields and skip pages in a form, based on visitor answers. This approach not only will reduce the number of fields but also make the fill-in process more personalized and conversation-like.

Forms

Conditional forms

What would you like to do?

☒ Play sports ☐ Have a snack ☐ Get a ride

What sport would you like to play?

Football

Q: What would you like to do?

A: Play sports

A: Have a snack

A: Get a ride

Football, Baseball, Basketball


Pizza, Croissant, Burger

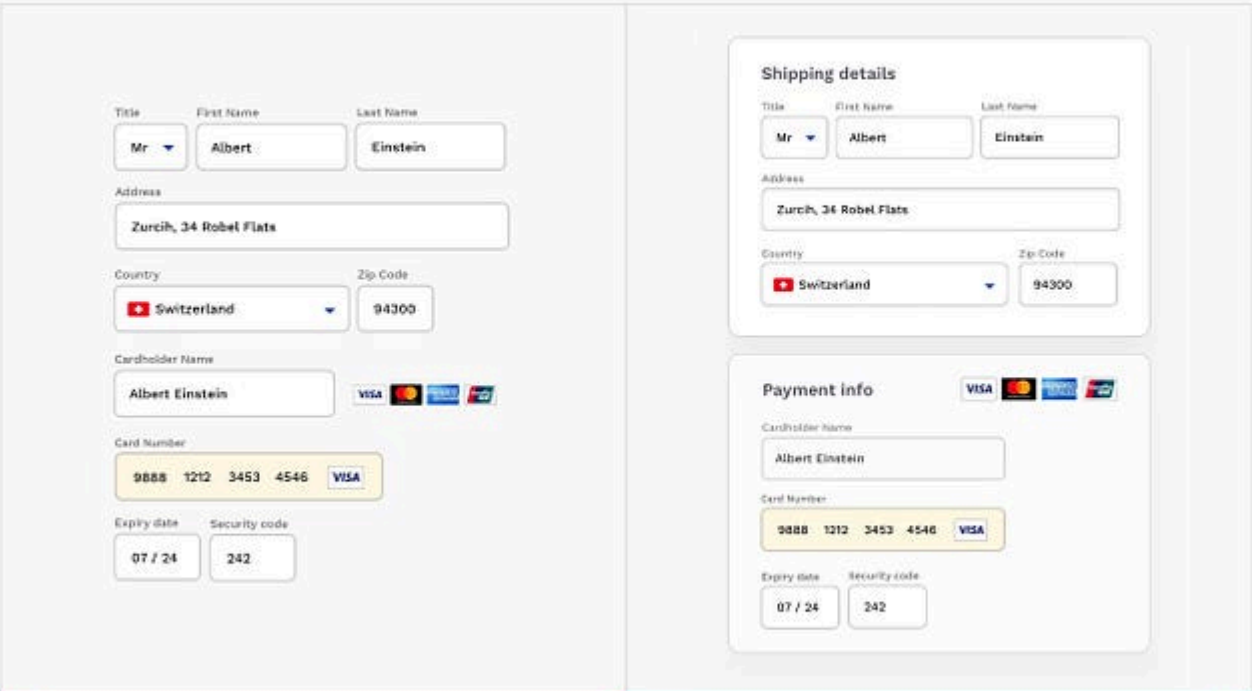
Car, Train, Plane

by Tarek Bekasengon

Group related fields

One of the easiest ways to simplify complex forms is to start grouping related fields. There are multiple principles of grouping in Gestalt psychology that help items feel related: Proximity, Similarity, Continuity, Closure, and Connectedness. Grouping dozens of unstructured fields into few manageable sets will significantly increase form usability.

 Useful tip
Group related fields



The image compares two form layouts. The left layout, labeled 'Don't', is a flat form with fields for Title, First Name, Last Name, Address, Country, Zip Code, Cardholder Name, Card Number, Expiry date, and Security code. The right layout, labeled 'Do', groups these fields into two sections: 'Shipping details' and 'Payment info'. The 'Shipping details' section contains Title, First Name, Last Name, Address, Country, and Zip Code. The 'Payment info' section contains Cardholder Name, Card Number, Expiry date, and Security code. The 'Do' layout is visually more organized and easier to navigate.

Don't **Do**

by Tamas Bekesovszky

Avoid using multiple column layouts

One column layout creates a clear path to completion for the user. Consequences of using a multi-column form layout include users skipping fields where they actually have data to input, inputting data into the wrong fields, or simply coming to a halt that can lead to abandonment.

Avoid using multiple column layouts for forms



Break complex forms into a few simple steps

Sometimes even after removing everything unnecessary, some forms can get huge. Breaking up the huge tasks into a series of smaller looks much easier and motivates them to carry out the process to the end.

- **Display the steps and visually communicate progress** user makes, this gives more satisfaction and motivates to move forward
- **Don't granulate the form**, too many steps will not help, just annoy users
- **Carry on a summary of key information provide** to reduce anxiety and need to have review step in the end

Break chunky forms into a series of simple steps.



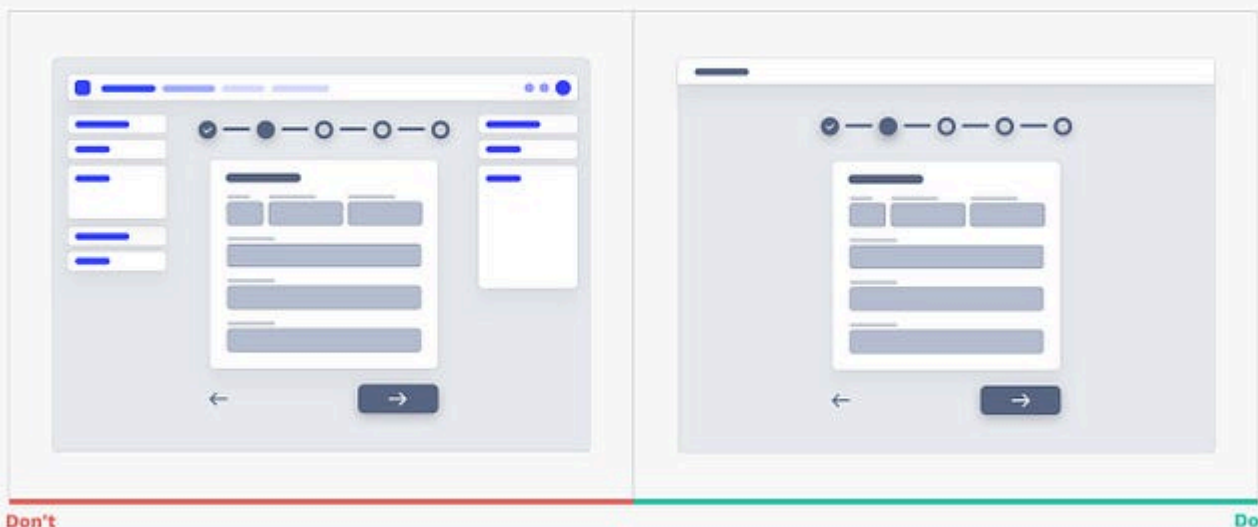
by Tamas Bekesmegy

Minimize the ability to navigate outside of the wizard

If the form is large enough to break into multiple steps, it deserves a separate clearly focused space to work with it. Exposing general navigation or any links that will disrupt the process will just create confusion. I would also advise against multi-step forms in small Pop-Ups.

Useful tip

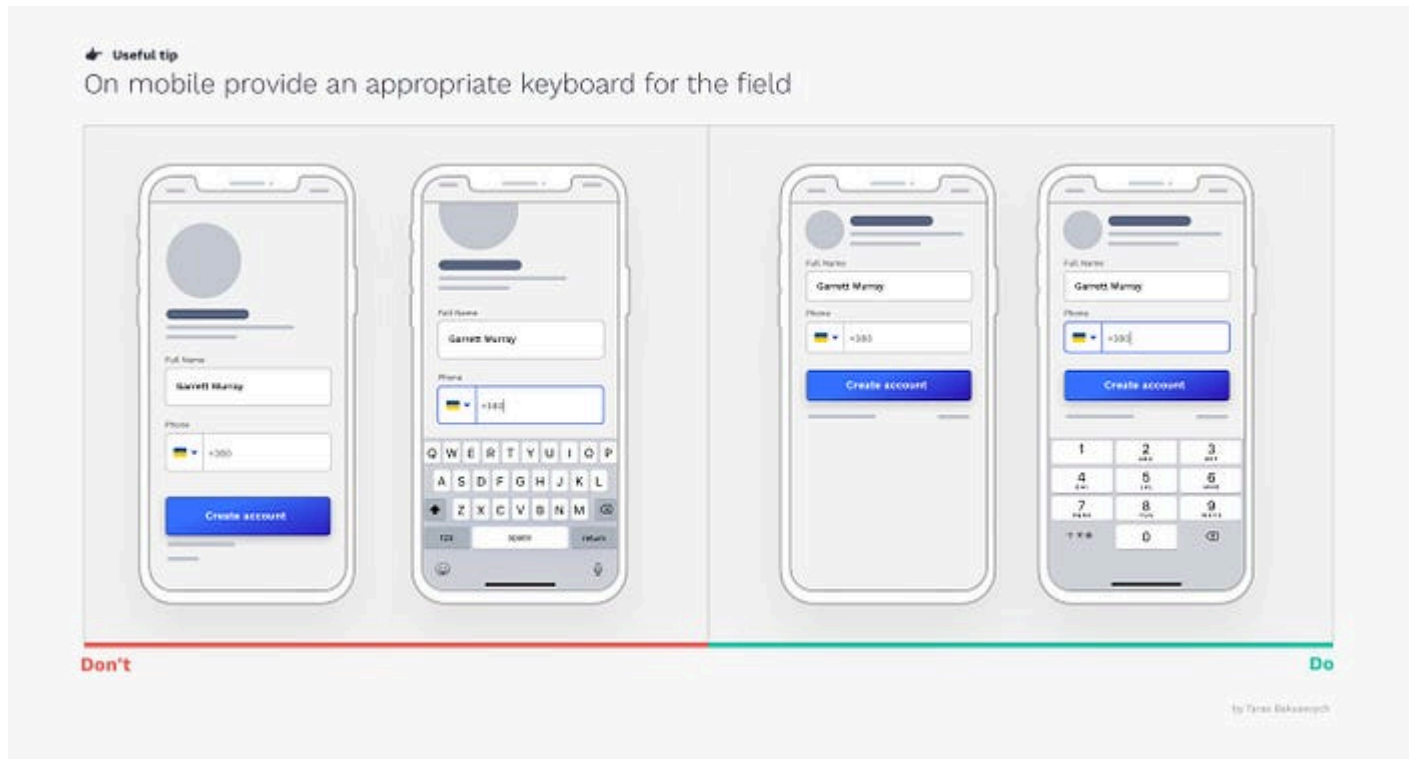
Minimize the ability to navigate outside of the wizard.



by Tamas Bekesmegy

Show the appropriate keyboard type

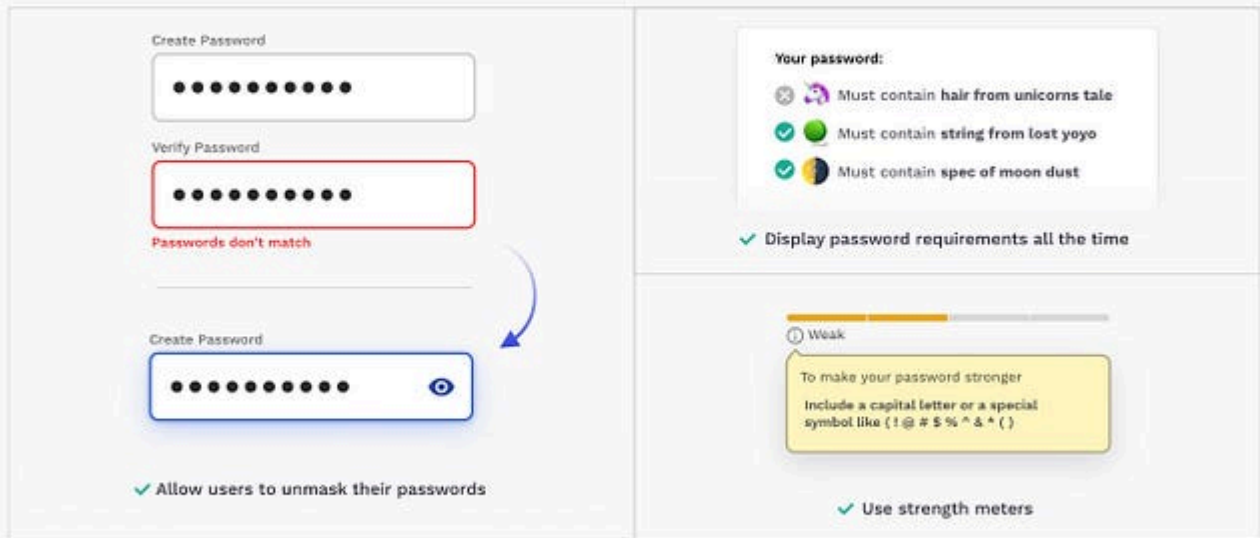
displayed when editing a text field should be appropriate to the type of content in the field. Be conscious of where the keyboard will appear. To not introduce scroll needlessly, position your text fields in the upper area.



Stop ridiculous password creation designs

- Allow users to **unmask their password** instead of asking them to enter it 2 times, It will also work better for password generating apps
- **Display password requirements** all the time, and indicate users' progress towards meeting all the criteria. Try to simplify requirements for the user.
- Use **strength meters** encourage users to create stronger passwords

Stop ridiculous password creation designs



by Tamas Rakosy

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