

Better Looking Forms

Efficient styling, behaviors & UI/UX rules



Ivica Puljić

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Web forms

Why should we care?

- Why should we care?

- Forms remain one of the most important types of interactions for users on the web and in apps.

● Why should we care?

- 74% of companies use web forms for lead generation
- 45% of form data is submitted on a mobile device
- Average web form length is 5 form fields (best conversion)

Source: <https://wpforms.com/online-form-statistics-facts/>

Why should we care?

First Name:

Last Name:

Email:
(Your email address will be your username)

Re-type Email:

Password:
(Min. 8 characters, 1 number, case-sensitive)

Re-type Password:

Address:

City:

State:

Zip Code:

Phone:

No spaces or dashes

Date of Birth:

Gender:

Security Question:

Security Answer:
(Not case-sensitive)

amazon [Your Account](#)

Sign In

What is your e-mail address?

My e-mail address is:

Do you have an Amazon.com password?

☐ No, I am a new customer.

☒ Yes, I have a password:

[Forgot your password?](#)

[Sign in using our secure server](#)

Sign In Help

Forgot your password? [Get password help.](#)

Has your e-mail address changed? [Update it here.](#)

[Conditions of Use](#) [Privacy Notice](#)

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American Airlines

Find Flights

Step 1 of 6

☐ Round-Trip ☐ One-Way

From: [Find Code](#)

To: [Find Code](#)

Show Results By:

☒ Price ☐ Schedule

Departure Date

Month Day

Early Morning

Return Date

Month Day

Early Morning

Passengers:

1 Adult (16-64)

(Maximum of 6 passengers per reservation)

[Information Regarding Lap Infants](#)

Cabin Preference:

Economy - With Restrictions

Country of Residence:

United States

[Start Over](#) [Continue](#)

[Home](#) | [My Account](#) | [Contact AA](#) | [Full HTML Version](#)



Web forms

What are the problems?

● What are the problems?

- Forms can be big and complex
- Source of frustration for your users
- Styling the forms is a lot of work
- Making forms that are great for user experience is a difficult task

● What do we want?

- Great looking forms with very little or no work
- Improve usability of forms
- Have a set of easily understandable UI/UX rules that helps you

● Our background

- We identified that forms are complexity and a cost driver
- The research lead us also to Bootstrap components and later to Material Design
- Miro and me needed a lot of iterations to achieve this (multiple people, hundreds of hours)

Floating label initial version

https://www.drupal.org/project/bs_base/issues/3008285
from 11.2018 to 07.2021.

● Our background

- On the end we got rid of most forms customizations and achieved greater form usability and conversion
- Bonus achievement - Designers trying to improve form design, usually made stuff worst (high complexity). With a framework we built, designers now also have guidelines.

- Our background

- Further Information

<https://www.digital-storytelling.ch/en/features/forms/embedding-forms-correctly>

Conception of complex forms

<https://www.digital-storytelling.ch/en/features/forms/konzeption-von-komplexen-formularen>



Our Tools

For reaching this goals

● Architecture

Drupal

Bootstrap

SASS

npm
Gulp

bs_lib

bs_base

client_theme

● Bootstrap

- Bootstrap 4.6.x
- SASS framework
- SASS variables
- Utility CSS classes
- Custom forms

- bs_lib contrib module

- Does few things including:
 - Bootstrap 4 component library definitions
 - Drush generator for theme creation and updating.
 - Supports update hooks.

Check more on https://www.drupal.org/project/bs_lib.

- bs_base contrib base theme

- Research into efficient base themes.
 - Includes bs_bootstrap base theme.
 - Many options in admin UI including forms related like: Bootstrap Custom forms, Floating labels.

Check more on

https://www.drupal.org/project/bs_base

- client_theme

- Holds only custom SASS/JS/Theme code specific for a given client.

For simpler projects just a bunch of SASS variable and configuration overrides.



How all this actually works

Some examples

● Theme options

○ Form styling/behavior options are on theme admin screen:

- Custom forms: On/Off
- Floating labels: On/Off
- Floating label type:
Default/Filled/Outlined

Inline SVG logo

On ▾

If logo is SVG image then inline it content in the page instead of using image tag to render it. This is useful when you need to control SVG logo with theme CSS.

Custom Bootstrap forms support

On ▾

Use custom Bootstrap forms support. Check Bootstrap documentation for [custom forms](#).

Floating labels in forms

On ▾

Enable floating labels for forms. Check Bootstrap example for [floating labels](#).

Floating labels type

Default ▾

Floating label type. *Default* - as a combination of filled and outlined types it has a border outline and active label stays inside an input field. *Filled* - has background color and bottom border, active label stays inside an input field. *Outlined* - has border outline and active label moves on top of a top border.

Save configuration

Floating labels: Off

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?



Phone

() -

▼ Travel info

When you are arriving? *

dd/mm/yyyy

Floating labels: Default

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

Phone

() -

▼ Travel info

When you are arriving? *

dd/mm/yyyy

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

Phone

▼ Travel info

When you are arriving? *

dd/mm/yyyy

Days of staying *

How many days you are planning to stay.

Floating labels: Filled

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

◀ ▶

Phone

() -

▼ Travel info

When you are arriving? *

dd / mm / yyyy

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

Phone

▼ Travel info

When you are arriving? *

dd / mm / yyyy

Days of staying *

How many days you are planning to stay.

Floating labels: Outlined

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

▾

Phone

() -

▼ Travel info

When you are arriving? *

dd/mm/yyyy

▼ Personal info

Your Name *

Ivica Puljic

First and last name.

Nickname

pivica

Your Email *

|

How old are you?

Phone

▼ Travel info

When you are arriving? *

dd/mm/yyyy

Days of staying *

How many days you are planning to stay.

Days

● SASS variables

- Override CSS that is coming from base themes
- Bootstrap it self has 209 variables related to forms
- Sure we added our own vars

Custom SASS variables for floating labels

web/themes/contrib/bs_base/themes/bs_bootstrap/sass/components/partials/_floating-labels-vars.scss

```
// Floating labels variables and overrides.
// ...

// Improve contrast of placeholder.
$input-placeholder-color: lighten($body-color, 20%) !default;

$custom-select-indicator-color: $gray-600 !default;
$custom-select-bg-size: 1rem 1rem !default;
//...
$custom-select-indicator-padding: 1.25rem !default;

// Floating labels.
// Label.
$floating-label-font-size: $input-font-size !default;
$floating-label-active-padding-y: $spacer-y / 4 !default;
$floating-label-active-padding-x: $spacer-x / 2 !default;
$floating-label-active-line-height: 7/6 !default;
$floating-label-active-font-size: .75*$input-font-size !default;
//...
```

And in your client theme

```
../design/sass/components/floating-labels-outlined.scss
```

```
@import "init";  
@import "bs_bootstrap/sass/components/partials/floating-labels-vars";  
@import "bs_bootstrap/sass/components/partials/floating-labels-outlined";
```

```
../design/design.info.yml
```

```
libraries-override:  
  bs_bootstrap/floating-labels:  
    css:  
      component:  
        /profiles/primer/themes/primer_theme/css/components/floating-labels.css:  
css/components/floating-labels.css
```

Quick peak at a drush theme generator

Terminal

```
# Create new theme.
```

```
drush bs-tc bs_bootstrap blf_theme 'Better Looking Forms' 'Better looking forms  
demo theme for DMC2022.'
```

```
# Update existing theme.
```

```
drush bs-tu design
```

```
# Compile CSS with dev symbols.
```

```
npx gulp sass:dev
```

```
# Compile production ready CSS version.
```

```
npx gulp sass
```



Important UI/UX rules

Follow them to reach the forms that users will enjoy filling

● Components of the form

- Structure
- Input Fields
- Field labels
- Action button
- Feedback

- Ask only what is required
- - Every extra field you add will hurt conversion rate
 - Common practice is five to seven input fields (2019 average was 5 fields)
 - Removing one field can result in 26% conversion boost!

Source: <https://wpforms.com/online-form-statistics-facts/>

"This is going to be painful."



American Airlines

Find Flights Step 1 of 6

Round-Trip One-Way

From: Find Code

To: Find Code

Show Results By: ☒ Price ☐ Schedule

Departure Date

Month Day

Early Morning

Return Date

Month Day

Early Morning

Passengers: Adult (16-64)

(Maximum of 6 passengers per reservation)

[Information Regarding Lap Infants](#)

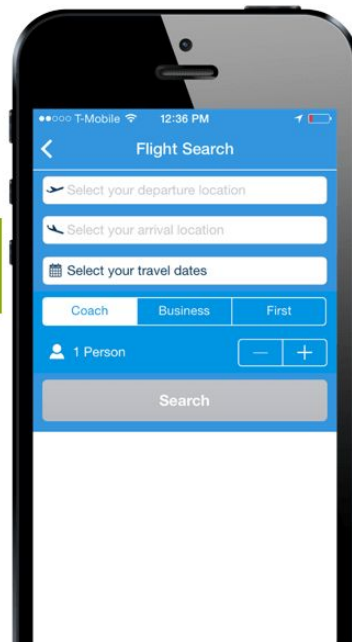
Cabin Preference: Economy - With Restrictions

Country of Residence: United States

Start Over Continue

Home | My Account | Contact AA | Full HTML Version

"This will be a breeze."



T-Mobile 12:36 PM

Flight Search

Select your departure location

Select your arrival location

Select your travel dates

Coach Business First

1 Person

Search

Image: Luke Wroblewski

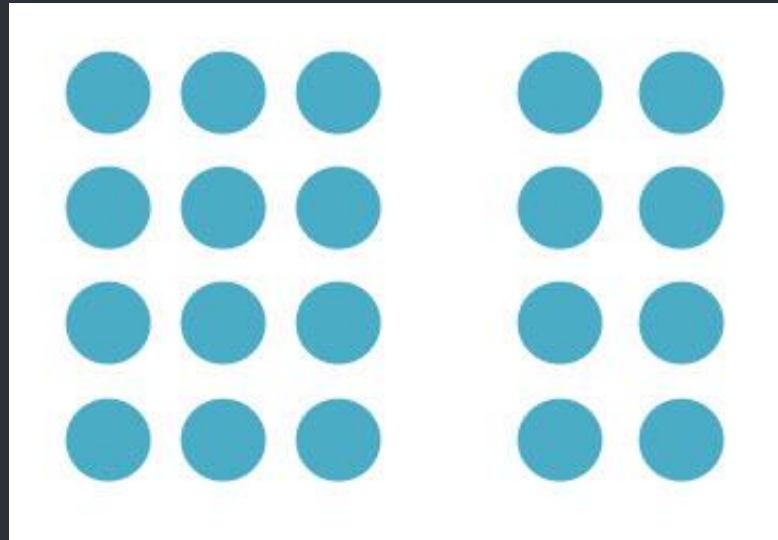
- Logical ordering and related grouping

- - Order the fields logically
 - Group related information

This rules helps form feel more like a conversation.

- Grouping: Law of Proximity

○ How many groups you see?



Source: <https://www.nngroup.com/articles/form-design-white-space/>

- Grouping - applied to labels

Place the label closer to the associated field:

Sign up

Name

Date of birth

Email

Password

Sign up

Name

Date of birth

Email

Password

First Name:

Last Name:

Email:
(Your email address will be your username)

Re-type Email:

Password:
(Min. 8 characters, 1 number, case-sensitive)

Re-type Password:

Address:

City:

State:

Zip Code:

Phone:
No spaces or dashes

Date of Birth:

Gender:

Security Question:

Security Answer:
(Not case-sensitive)

Personal Information

First Name:

Last Name:

Date of Birth:

Gender:

Account Information

Email:
(Your email address will be your username)

Re-type Email:

Password:
(Min. 8 characters, 1 number, case-sensitive)

Re-type Password:

Security Question:

Security Answer:
(Not case-sensitive)

Contact Information

Address:

One column or Multiple columns?

The image compares two registration form layouts. The left layout is a two-column form with a red header bar. It has input fields for Name, Country, Email, City, Phone number, Address, Password, and Zip code, arranged in two columns. A blue 'Register' button is at the bottom right. The right layout is a single-column form with a green header bar. It has input fields for Name, Phone Number, Email, Password, Country, City, Address, and Zip code, arranged in a single column. A blue 'Register' button is at the bottom right.

Two Column Layout (Left)	Single Column Layout (Right)
Name	Name
Country	Phone Number
Email	Email
City	Password
Phone number	Country
Address	City
Password	Address
Zip code	Zip code
Register	Register

Image: user-interface.io

<https://baymard.com/blog/avoid-multi-column-forms>

- Default values

- Avoid setting defaults unless you believe a large portion of your users will select that value. Particularly avoid it for required fields.

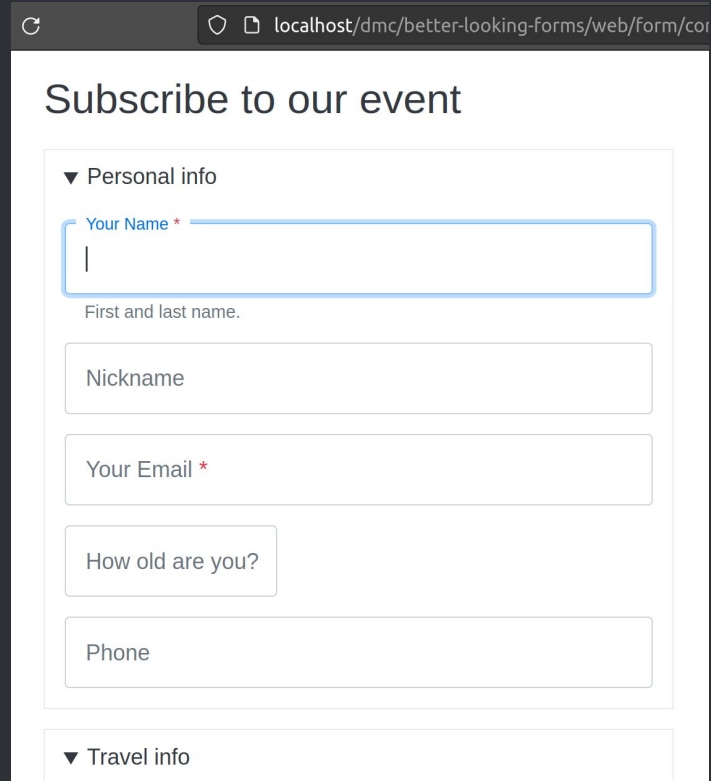
Smart defaults are fine.

- Accessibility

- Always test keyboard navigation.

Clearly state focused/selected field.

Consider autofocus option



A screenshot of a web browser displaying a form titled "Subscribe to our event". The browser's address bar shows the URL "localhost/dmc/better-looking-forms/web/form/cor". The form is divided into two sections: "Personal info" and "Travel info". The "Personal info" section contains five input fields: "Your Name *" (which is highlighted with a blue border and a vertical cursor), "Nickname", "Your Email *" (with a red asterisk), "How old are you?", and "Phone". The "Travel info" section is partially visible at the bottom.

Subscribe to our event

▼ Personal info

Your Name * |

First and last name.

Nickname

Your Email *

How old are you?

Phone

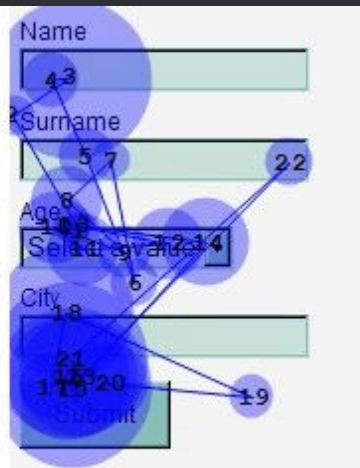
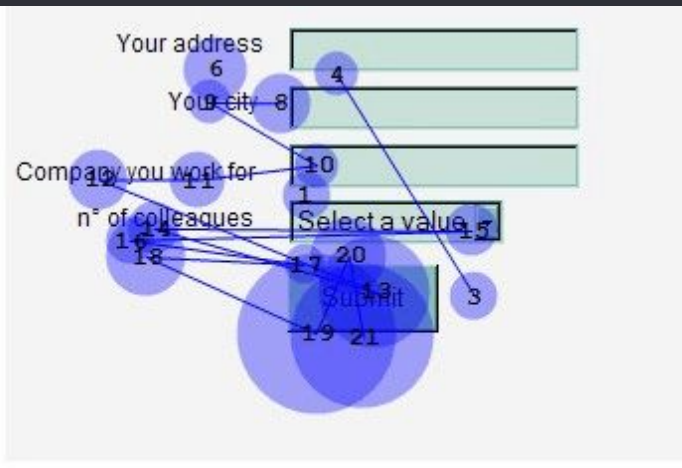
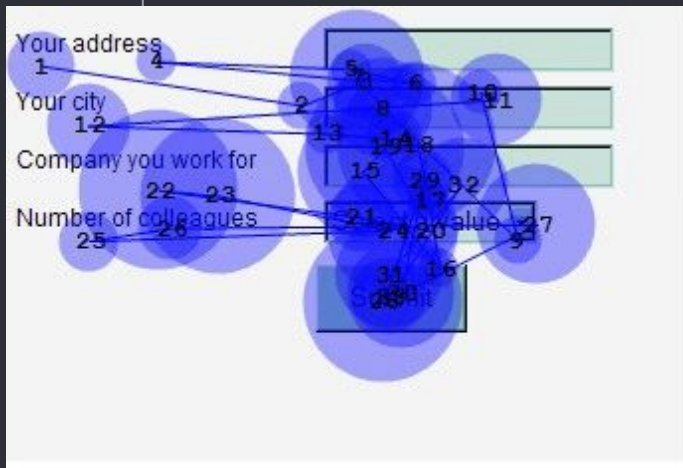
▼ Travel info

● Labels

- Write clear, short labels
- Sentence case are slightly easier to read than title case
- Never use all caps

Alignment of labels

Left vs Right vs Top



● Left alignment



Name	<input type="text"/> First	<input type="text"/> Last	LEFT ALIGNED - REQUIRE LESS VERTICAL SPACE - REQUIRES MORE ATTENTION FROM USERS - REQUIRES MORE HORIZONTAL SPACE - SLOWEST COMPLETION RATES - POOR MULTI-LANGUAGE SUPPORT	
Date	<input type="text"/> MM	/ <input type="text"/> DD		/ <input type="text"/> YYYY 
Phone	<input type="text"/> (###)	- <input type="text"/> ###		- <input type="text"/> ####
Web Site	<input type="text"/>			

Image: CSS Tricks

Right alignment

RIGHT ALIGNED

Name
First Last

Date / / 
MM DD YYYY

Phone - -
(###) ### ####

Web Site

Email

- BEST VISUAL CONNECTION BETWEEN LABELS AND FORMS
- GOOD COMPLETION RATES ON SHORT FAMILIAR FORMS
- REQUIRES LESS VERTICAL SPACE
- HARDEST TO READ AND SCAN
- POOR MULTI-LANGUAGE SUPPORT

Image: CSS Tricks

Top alignment

Name

First Last

Date

/ /

MM DD YYYY

Phone

- -

(###) ### ####

Web Site

Email

TOP ALIGNED

- BEST COMPLETION RATES
- EASIEST FOR USERS TO "PROCESS"
- BEST FOR MULTI-LANGUAGE SUPPORT
- REQUIRE THE MOST VERTICAL SPACE
- NOT IDEAL FOR VERY LONG FORMS

Image: CSS Tricks

- Alignment of labels

- So which one should you use?

For most cases stick to the top alignment approach and consider left or right alignment when you have specific needs.

- Top alignment - improvements

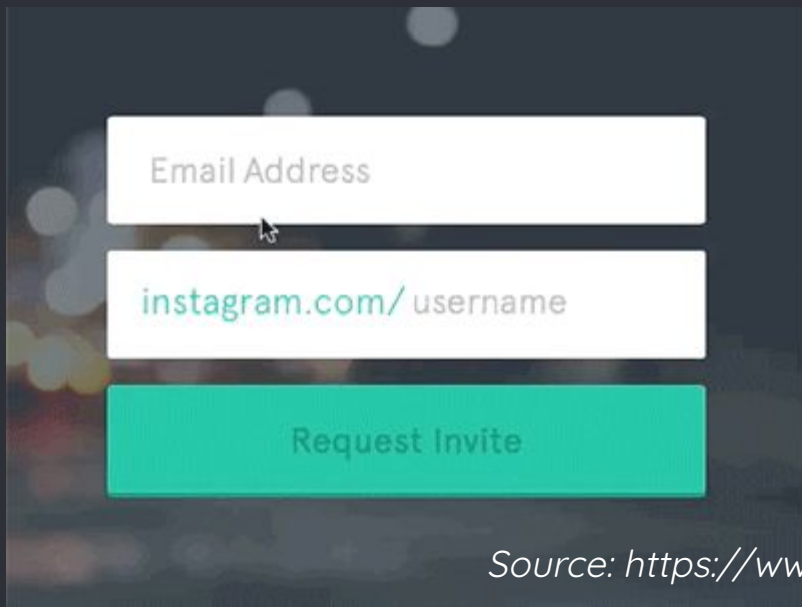
- Can we improve top alignment and eliminate its weaknesses?

Yes we can use placeholders or floating labels.

- Placeholders (inline labels)

○ Placeholder text typically suggest what kind of input is valid. They could replace labels:

Be careful
with this!



Email Address

instagram.com/username

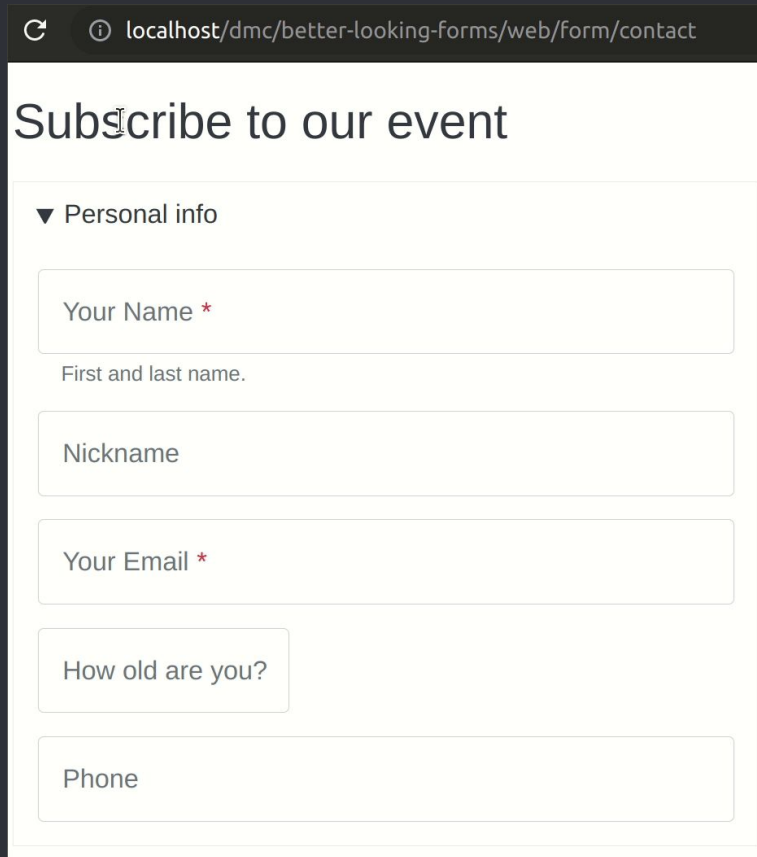
Request Invite

● Placeholders problems

- Contrast problem
- Windows high contrast mode
- Disappearing problem
- Not all screen readers will read it
- Not a label replacement

Floating labels

This is a modified pattern approach to placeholders that mitigates most/all placeholders problems.



The screenshot shows a web browser window with the address bar displaying 'localhost/dmc/better-looking-forms/web/form/contact'. The page title is 'Subscribe to our event'. Below the title is a section titled '▼ Personal info' containing five input fields with floating labels:

- Your Name ***: The label 'Your Name' is positioned above the input field. Below the field is the placeholder text 'First and last name.'.
- Nickname**: The label 'Nickname' is positioned above the input field.
- Your Email ***: The label 'Your Email' is positioned above the input field.
- How old are you?**: The label 'How old are you?' is positioned above the input field.
- Phone**: The label 'Phone' is positioned above the input field.

● Are floating labels bad design?

○ Some critics:

- First version of Material forms was really bad
- Some people still like more boxed fields look
- Long labels cannot be used as they'll get cropped by the input

● Action buttons

- Primary vs Secondary actions
- Button location
- Naming convention - use “Click Here,” “Go,” “Download,” and “Register.”
- Avoid multiple action buttons
- Do not use reset button

● Use one primary action

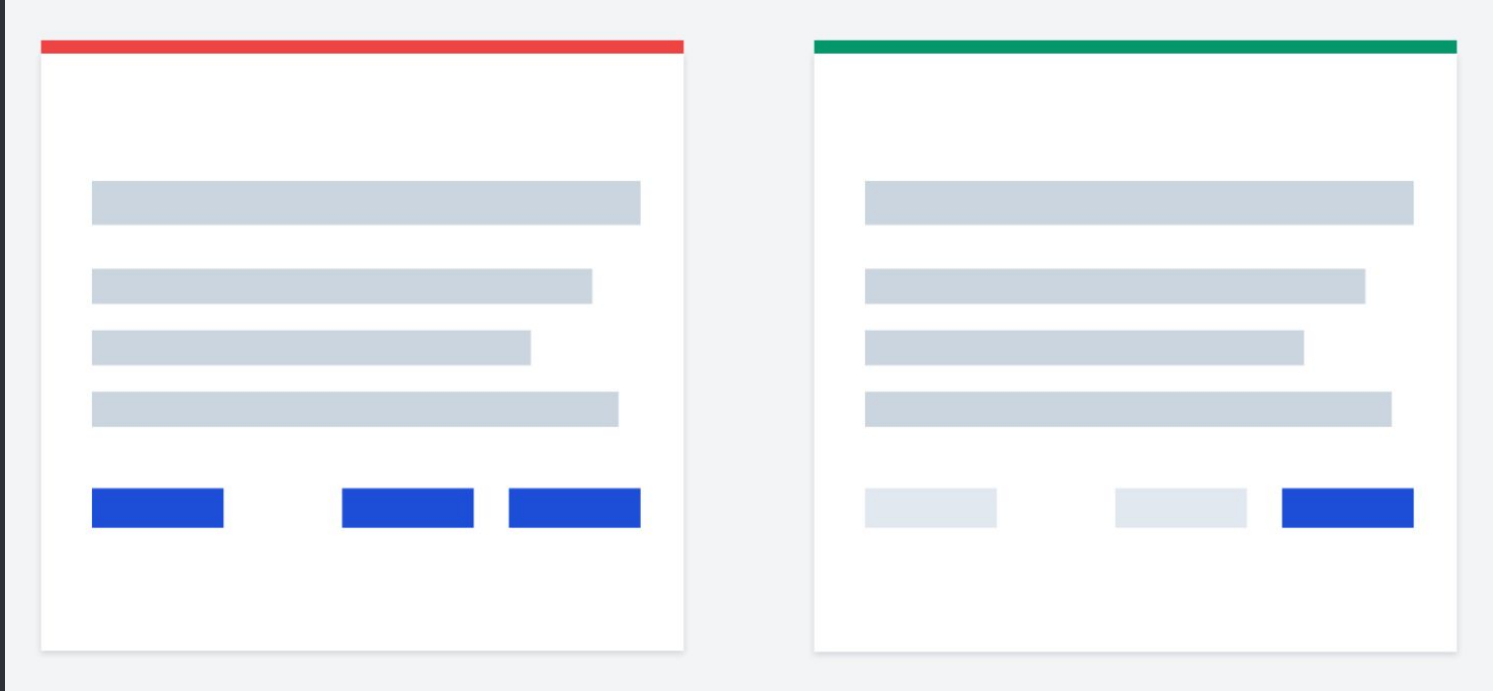


Image: user-interface.io

● Actions location

Label

Label

Label

Label

Label

Label

Label

Label

Back

Proceed

Label

Label

Label

Label

Label

Label

Label

Label

Back

Proceed

Don't

Do

● Visual feedback

- Use client browser validation
- Use inline error messages
- Provide feedback message to user after submission

Visual feedback

1 error has been found: ×

[Your Name](#)

Subscribe to our event

▼ Personal info

Your Name *

Ivica !

The value *Ivica* has already been submitted once for the *Your Name* element. You may have already submitted this webform, or you need to use a different value.

First and last name.

Nickname

Your Email *

|

How old are you?

Phone

(381) 637-3099

! Please fill out this field.

- Protecting data

- The system should treat all user input as sacred.

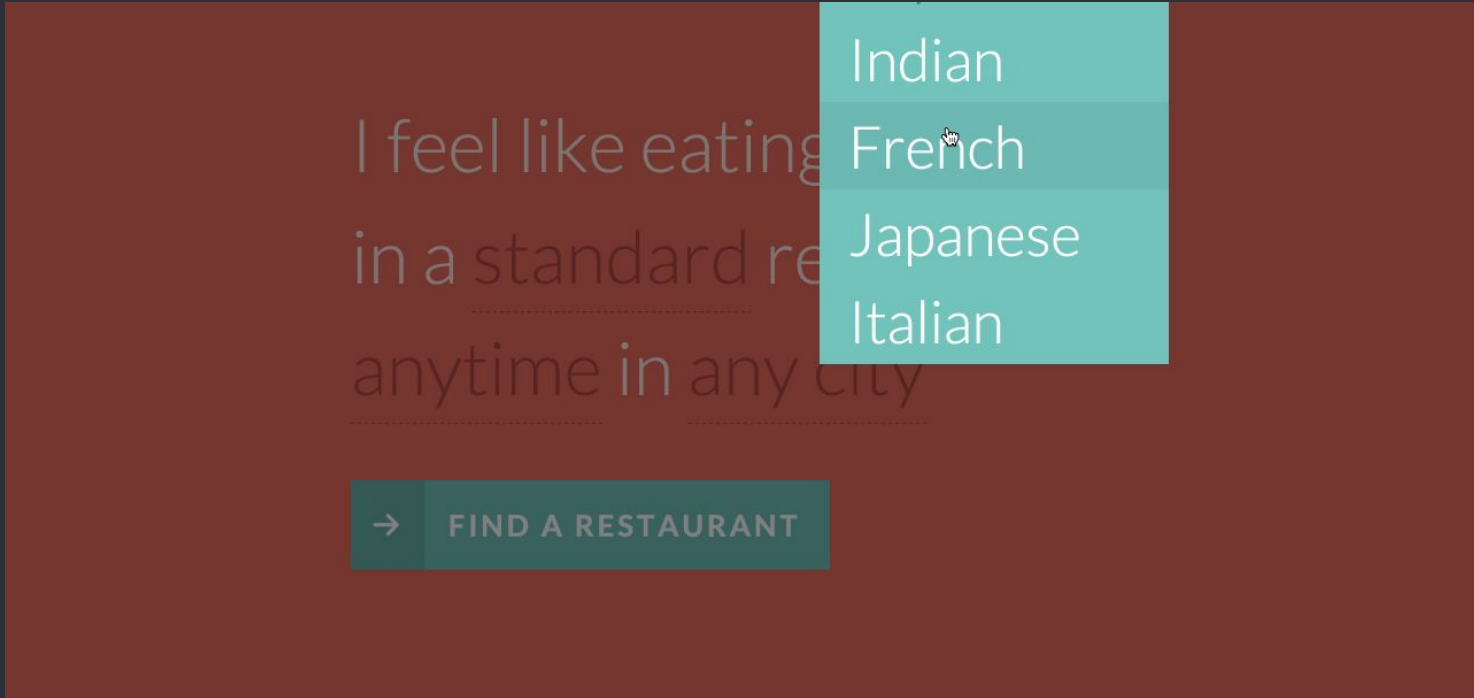
Jef Raskin

- Quite hard with Drupal
- At least try to use JS close prevention

● UI/UX Trends

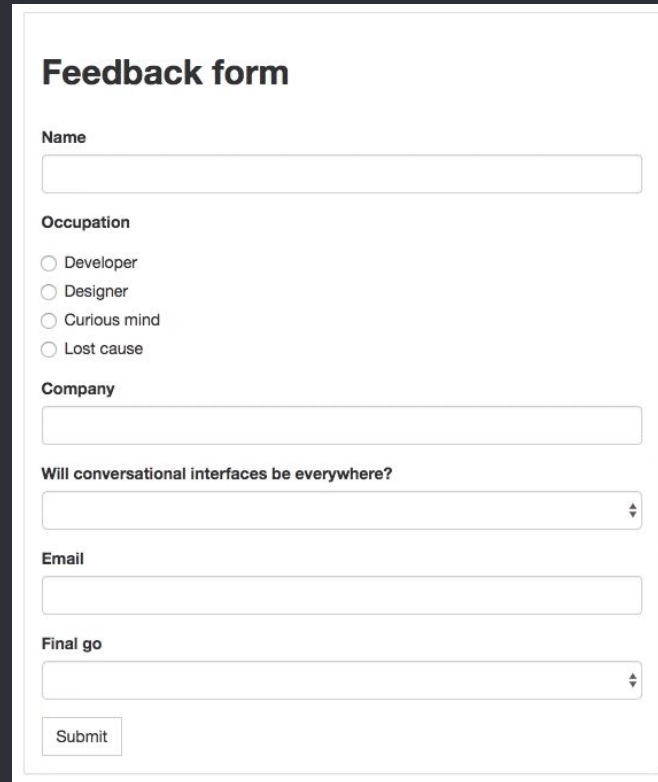
- Many design trends each years but they are avoiding forms
- Material Forms with floating labels is the only real push to improve UI/UX
- Some other failed attempts...

● UI/UX Trends - Natural Language Interface



Source: <https://tympanus.net/Tutorials/NaturalLanguageForm/>

● UI/UX Trends - Conversational Forms



Feedback form

Name

Occupation

☐ Developer

☐ Designer

☐ Curious mind

☐ Lost cause

Company

Will conversational interfaces be everywhere?

Email

Final go

Source: <https://github.com/space10-community/conversational-form>

Quick Exercise

Let's practice a bit

First Name:

Last Name:

Email:
(Your email address will be your username)

Re-type Email:

Password:
(Min. 8 characters, 1 number, case-sensitive)

Re-type Password:

Address:

City:

State:

Zip Code:

Phone:
No spaces or dashes

Date of Birth:

Gender:

Security Question:

Security Answer:
(Not case-sensitive)

Personal Information

First Name:

Last Name:

Date of Birth:

Gender:

Account Information

Email:
(Your email address will be your username)

Re-type Email:

Password:
(Min. 8 characters, 1 number, case-sensitive)

Re-type Password:

Security Question:

Security Answer:
(Not case-sensitive)

Contact Information

Address:

City:

State:

Zip Code:

Phone:
No spaces or dashes

Conclusions

We almost reached the end

● Recap

- Forms are vital, make the process of filling them as easy as possible
- Optimize your tooling
- Floating labels
- Learn UI/UX rules related to forms to increase conversions

● Future tooling improvements

- Bootstrap 5
- Use built in Bootstrap 5 floating labels
- There are even more UI/UX rules - create a good docs covering this?

More on https://www.drupal.org/project/bs_base/issues/3130247

Resources

- <https://baymard.com/blog>
- <https://www.digital-storytelling.ch/en/features/forms>
- https://www.drupal.org/project/bs_lib
- https://www.drupal.org/project/bs_base
- <https://getbootstrap.com/docs/5.2/forms/overview/>
- <https://material.io/components/text-fields>
- <https://www.nngroup.com/topic/human-computer-interaction/>
- <https://www.smashingmagazine.com/2017/06/designing-efficient-web-forms/>
- <https://www.smashingmagazine.com/2021/02/material-design-text-fields/>
- <https://user-interface.io>
- <https://wpforms.com/online-form-statistics-facts/>

- Questions