

VIDEO: ABOUT POLYFILLS

LIVE CODING VIDEO: POLYFILLS

How to add retro-compatibility: an example

INTRODUCTION

A polyfill is a piece of JavaScript code you include in your HTML page, that will emulate HTML5 features not yet implemented in browsers. Usually a polyfill starts emulating a feature only when native support is not detected.

Do you know where the “polyfill” term is coming from? It was coined by Remy Sharp, a British Web programmer who had been using a brand of resin to fill holes in masonry.



You will find a list of polyfills on these Web sites:<http://caniuse.com/> or <http://html5please.com/>. Or just do a search using the keyword 'polyfill' with the name of the feature.

Some libraries, such as <http://modernizr.com/>, are packed with many polyfills that will be loaded on demand only when the browser is not supporting a native feature.

EXAMPLE WITH <DETAILS> AND <SUMMARY>

<details> and <summary> are still not supported by all browsers. How can we use them in a Web site? The answer is: use a polyfill!

Version 1: no polyfill

We wrote a small contact manager application (just the layout - it does not really work), composed of a form and a table for displaying contacts. The form is in a <details>...<summary>elements.


Online version: <http://jsbin.com/tupuxo/1/edit>

Result on Google Chrome (which does support summary/details):

Contact manager

[Welcome](#) / [Contacts](#)

Add / Modify a contact

► Click to show the form.  **Summary/details here, folded**

Contact list

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2
Johnny	Halliday	0656453434	johnny.halliday@rocker.fr	17/08/1952	3
Eddy	Mitchell	0656453423	eddy.mitchell@rocker.fr	17/08/1956	2

New contact

Contact manager

Welcome / Contacts

Unfolded (we clicked on "show the form")

Add / Modify a contact

▼ Click to show the form.

New contact

Last name:

First name:

Telephone :

Email:

Birthdate:

Children:

Contact list

OK

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2

On Firefox or Internet Explorer the form is always visible, as<summary> and <details> are not supported yet:

Contact manager

Welcome / Contacts

Add / Modify a contact

Click to show the form.

New contact

Last name:

First name:

Telephone :

Email:

Birthdate:

Children:

Contact list

OK


First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2

The form is always visible, the <summary> and <details> elements are not implemented !

Version 2: with a light polyfill

Online version (try it now on Internet Explorer and Firefox. It works as expected as summary/details are at this time emulated by JavaScript code): <http://jsbin.com/tupuxo/7/edit>

Explanations: we used a light polyfill as indicated by caniuse.com (<https://gist.github.com/remy/370590>):

Details & Summary elements  - LS Global 67.43

The <details> element generates a simple no-JavaScript widget to show/hide element contents, optionally by clicking on its child <summary> element.

Current aligned Usage relative Show all

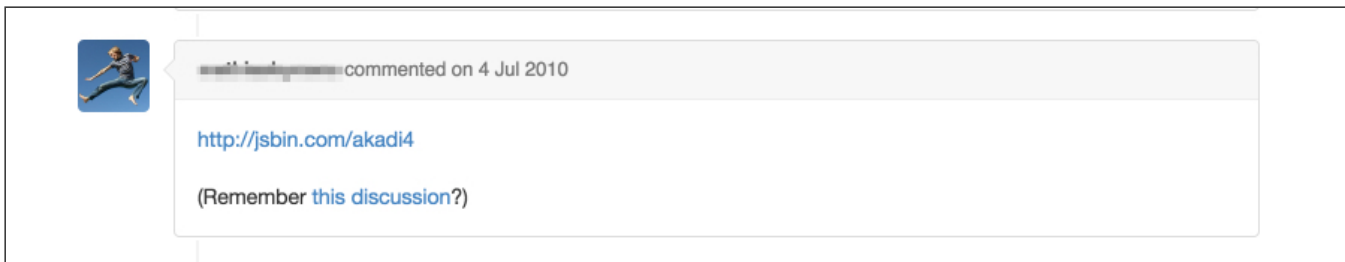
IE	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Chrome for Android
		31						
		36						
		37						
		39						
8	31	40					4.1	
9	36	41					4.3	
10	37	42	7	28	7.1		4.4	
11	38	43	8	29	8.3	8	4.4.4	42
Edge	39	44		30				
	40	45		31				
	41	46						

Notes Known issues (1) Resources (9) Feedback

- Specification [html.spec.whatwg.org] ref
- WebPlatform Docs [docs.webplatform.org] ref
- HTML5 Doctor article [html5doctor.com] info
- Bug on Firefox support [bugzilla.mozilla.org] info
- Fallback script [gist.github.com] polyfill
- jQuery fallback script [mathiasbynens.be] info polyfill
- has.js test [raw.github.com] info
- IE platform status: Under Consideration [status.modern.ie] official status
- Chrome platform status: Enabled by default [chromestatus.com] official status

We tried this one. We clicked on the link and found a piece of code we can use...

The link points to the JavaScript code you must include in your Web page. But in the comments of the polyfill page, you will find an online example at jsbin.com:



You can follow the link to see a running example, or directly copy and paste the code from the main page, then include it in your Web page using the `<script>` element:

Either use `<script src="mypolyfill.js">` (in this case put the polyfill in a file `mypolyfill.js`) or if you want to try it on jsbin.com, just copy it into the jsBin script tab, or include it directly between `<script>...</script>`. This is what we did:

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Contact manager</title>
  <script>
    (function(e,t){function r(e){var t=null;... // POLYFILL
CODE HERE!
    ...
  </script>
10. </head>
  ...
```

Now the example works on FireFox and Internet Explorer! This is a screenshot taken with FireFox:

Firefox Fichier Édition Affichage Historique Marque-pages Outils Fenêtre

JS Bin - Collaborative Java... Video DownloadHelper 5.3.0 Up...

jsbin.com/tupuxo/5/edit?output

Les plus visités Result | The Box M... Débuter avec Firefox How do I enrich m... Ne

File Add library Share HTML

Output

Contact manager

Welcome / Contacts

Add / Modify a contact

► Click to show the form.

The polyfill works and the example runs like if <summary> and <details> were supported natively

Contact list

First name	Last name	Phone	Email	Birthdate	Children
Jean	Marais	0613243443	jeanmarais@acteur.fr	17/08/1945	2
Johnny	Halliday	0656453434	johnny.halliday@rocker.fr	17/08/1952	3
Eddy	Mitchell	0656453423	eddy.mitchell@rocker.fr	17/08/1956	2

New contact

Here is another example with a more complicated case (nested summary/details), that shows that this polyfill does not handle 100% perfectly nested elements.

Version 3: with a polyfill that is 100% accessible

The summary / details elements have also been designed to be accessible, thus usable with a keyboard only. This example sent to me by Steve Faulkner is 99% correct in terms of functionality (small problem of alignment with nested summary/details) and accessibility! **It's the recommended choice!**

Original example of use of the polyfill:

HTML CSS Result Edit

- ▶ HTML5 detail/summary
- ▶ 2nd top-level <detail> element
- ▶ 3rd top-level <detail> element

The contact manager form with this polyfill:

HTML CSS Result Edit