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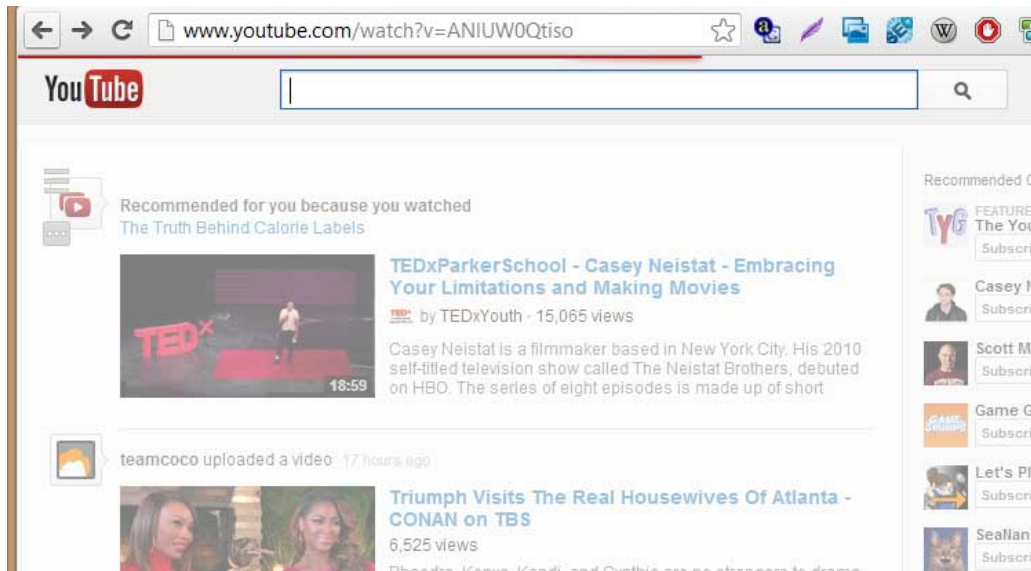Whether you're a beginner or an experienced developer, you *can* contribute.

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Curious about the new way YouTube is loading pages

I've noticed when I'm watching a video and I click on the logo or a related video that a red progress bar (above the logo) dashes across the screen. At the same time there is a slight overlay to "grey" out the content then it fades in the new page. FYI, the URL changes to the new URL before the progress bar and transition happens.

The div ID of that bar is progress. Looks like some kind of cool jQuery ajax load but changing pages. I don't know.

youtube

edited Apr 5 '13 at 2:34   asked Apr 5 '13 at 2:28

kel
920   2   11   27

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2   It's using the browser history API to make it *look* like the page reloads, but it's actually sending an AJAX
     request. – Blender Apr 5 '13 at 2:35

1   Take a look at instantclick.io – Mr. Alien Mar 18 '14 at 16:58

     @Mr.Alien I have seen that and it looks pretty good. There are also others out there that didn't exist at the
     time of this post. – kel Mar 19 '14 at 21:46

1   They use: github.com/youtube/spfjs here: here: youtube.github.io/spfjs – mayankcpdixit Jan 12 at 6:17

3 Answers

YouTube is using the HTML5 History API to add and remove page URLs to the history stack.
This results in the URL changing in the address bar, and the back/forward buttons working, while
still actually loading the page via JS (ajax).

The easiest way to implement the API with backwards compatibility at this point is by using
History.js. By backwards compatibility I mean falling back to the hash tag method for older
browsers that do not support the HTML5 History API yet.

Check out the History.js demo!

I think Twitter is probably the best known example of a website using hashed URLs. For example `twitter.com/#!/username` has been a common sight for years. The problem with this method is that hash tags are client side, thus you need JS to read them and serve the proper content. Any non-JS user clicking a hashed URL will just land on Twitter's homepage.

Beatport was one of the first major websites using the HTML5 History technique by the way. SoundCloud has recently implemented it too. Both sites needed HTML5 History badly, to ensure audio playback while visitors browse through pages.

answered Jun 15 '13 at 22:37

Robbert
2,409   1   20   32

What is the user enters the url into the address bar manually, I don't think they will be able to intercept the url change then and will load the page normally, is this right? – Timo Huovinen Oct 8 '13 at 19:25

1   Correct - being able to intercept manual URL changes, or history states from other websites for that matter, would cause major security issues. Your website should always assume the user has JS disabled and is visiting the URL manually. Once JS is loaded you can hijack any in-page clicks (or history state changes) and load the appropriate content via JS/ajax. Make sure the ajax'd page has the exact same content as the page would have for a direct non-JS visitor. – Robbert Oct 13 '13 at 13:01

1   and.. how does the red loading bar work? – iguider Dec 21 '13 at 20:59

2   @IderAghbal XMLHttpRequest2 supports progress events (see this blog post for an example: dave-bond.com/blog/2010/01/JQuery-ajax-progress-HMTL5). So all YouTube does is something like `...addEventListener("progress", function(e) {bar.style.width = (e.loaded / e.total)+"%"}` along with a CSS transition: `#bar {transition:all 200ms}` . – Robbert Dec 22 '13 at 10:26

1   They use: github.com/youtube/spfjs here: youtube.github.io/spfjs – mayankcpdixit Jan 12 at 6:18

looking at this demo, maybe could help you, and look at the comments, some say nice while some say too complicate to achieve it

html:

```
<div>
  <dt></dt>
  <dd></dd>
</div>
```

`css`:

```
#progress {
    position: fixed;
    z-index: 2147483647;
    top: 0;
    left: -6px;
    width: 1%;
    height: 2px;
    background: #0088CC;
    -moz-border-radius: 1px;
    -webkit-border-radius: 1px;
    border-radius: 1px;
    -moz-transition: width 500ms ease-out,opacity 400ms linear;
    -ms-transition: width 500ms ease-out,opacity 400ms linear;
    -o-transition: width 500ms ease-out,opacity 400ms linear;
    -webkit-transition: width 500ms ease-out,opacity 400ms linear;
    transition: width 500ms ease-out,opacity 400ms linear;
}


#progress dd, #progress dt {
    position: absolute;
    top: 0;
    height: 2px;
    -moz-box-shadow: #0088CC 1px 0 6px 1px;
    -ms-box-shadow: #0088CC 1px 0 6px 1px;
    -webkit-box-shadow: #0088CC 1px 0 6px 1px;
    box-shadow: #0088CC 1px 0 6px 1px;
    -moz-border-radius: 100%;
    -webkit-border-radius: 100%;
    border-radius: 100%;
}

#progress dt {
```

```
    opacity: .6;
    width: 180px;
    right: -80px;
    clip: rect(-6px,90px,14px,-6px);
}

#progress dd {
    opacity: .6;
    width: 20px;
    right: 0;
    clip: rect(-6px,22px,14px,10px);
}
```

js:

```
$(document).ajaxStart(function() {
//only add progress bar if added yet.
  if ($("#progress").length === 0) {
    $("body").append($("<div><dt/><dd/></div>").attr("id", "progress"));
    $("#progress").width((50 + Math.random() * 30) + "%");
  }
});

$(document).ajaxComplete(function() {
//End loading animation
    $("#progress").width("101%").delay(200).fadeOut(400, function() {
      $(this).remove();
    });
});
```

answered Jan 7 '14 at 13:35

xguox
316   4   9

They have announce a library they used for dynamic navigation called stfjs.

> Structured Page Fragments — or SPF for short — is a lightweight framework that handles
> navigation and updates of page sections. Using progressive enhancement and HTML5, SPF
> seamlessly updates pages with server-side rendering. Only document fragments are sent,
> and corresponding page sections are asynchronously updated when received.

answered Aug 16 '14 at 13:15

Olim Saidov
968   7   17

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protected by Community ♦ Aug 30 '13 at 5:01

Thank you for your interest in this question. Because it has attracted low-quality or spam answers that had to be removed, posting an answer now requires 10 reputation on this site (the association bonus does not count).

Would you like to answer one of these unanswered questions instead?