

TOP 7 MOBILE APPLICATION HTML5 FRAMEWORKS

By Dragan Gaić 29 July, 2013



Last week I wrote an article where I discussed the difference between jQuery Mobile and Sencha Touch. While my previously mentioned article stands on its own I have neglected other available frameworks. Before I continue let me give you a warning. This article will discuss HTML5 frameworks use for hybrid mobile applications. I am not going to talk about front-end frameworks like Bootstrap, this is not the point of this article.

Back to topic, admit it or not, jQuery Mobile and Sencha Touch are not center of the mobile world, the truth is far far from it. Mobile market is huge and so is the need for adequate HTML5 frameworks. The main reason for this article is that every single framework I am going to discuss has a

completely different approach to architecture and development. Even more, some of them are created for a specific purpose and some are made to be all around Jack of all trades. Few of them don't require special native wrapper software but most of them do.

Intro

For those who don't know, **Hybrid App** is a combination of native app and mobile web app concepts. Typically the native code is provided by a wrapper framework (like Phonegap) which bridges a gap between native side and a JavaScript API so that the app's JavaScript code can perform native functions such as taking a picture with the camera. Unlike a classic mobile web app's, which store source files on a server, hybrid mobile apps store HTML, JavaScript, and CSS files locally (while in some cases it can still be used from a server side) so no Internet access is required.

I will try to be as much objective as I can. Let me be transparent first, I am a jQuery Mobile and Sencha Touch developer. I have spent a lot of time playing with available frameworks before I chose those two. This doesn't mean other frameworks are bad or inadequate, as you will see, my decision was hard and it took time. All of them are great but as Rolling Stones sang "You can't always get what you want".

Before I start take a look at a list of my chosen 7 in alphabetical order:

- **Intel App Framework - ex jQMoby**
- **jQuery Mobile**
- **jQT - jQuery Touch**
- **Kendo UI**
- **Sencha Touch**
- **Titanium Appcelerator**
- **Zepto.js**

1. Intel App Framework - ex jQMoby



This framework is a sleepy beauty. Extremely fast, just like Sencha Touch, this framework is optimized for Android and iOS platform.

Pro

- Fast and reliable, probably one of a fastest frameworks of this kind along, outperformed only by Sencha Touch
- Small and light
- HTML based, javascript is used to enhance HTML
- Excellent native wrapper solution, there's no need to use Phonegap
- Has MVC support, external MVC framework that can be also used stand alone.

Con

- Horrible documentation, mostly compared to other frameworks
- Limited browser support, which is not that bad, but limits desktop usage.
- Not made on classic jQuery what ever it old name states. Personally I don't like misinformation usage to attract developers. This framework is a

rewrite Of the JQuery Framework. This may sound good until you find out that some things are missing or not done as expected.

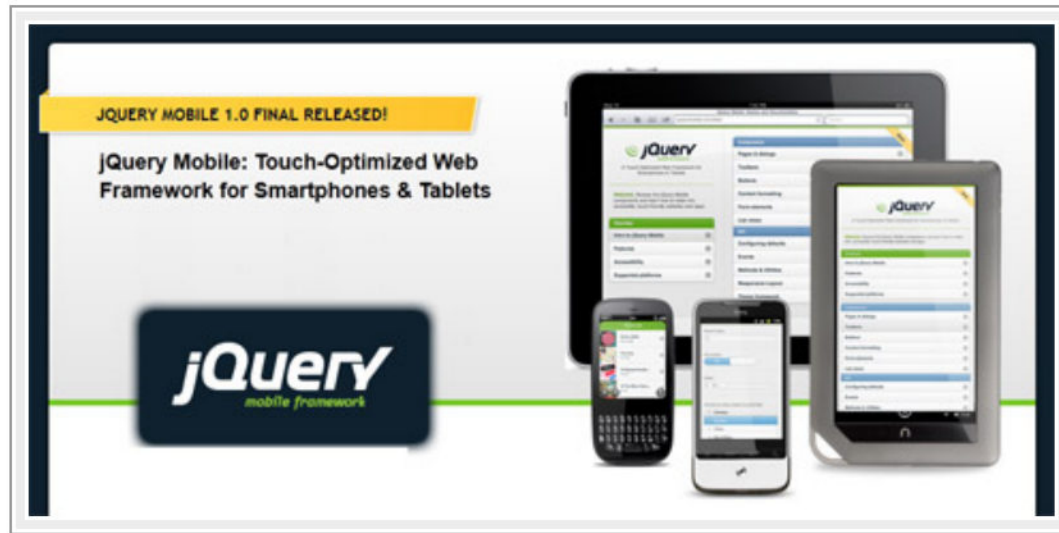
- It could use better UI, but nothing prevents you from customization. Redesigned in version 2.0 with native themes.

Author notes

If they ever improved its documentation I would probably switch to this framework. I have already discuss this topic in my other [ARTICLE](#). All in all this is a framework worth of a consideration.

Additional info

2. jQuery Mobile



This is most commonly used mobile application HTML5 framework. But don't let this fool you. It doesn't mean it is the best solution, most of its publicity comes from its older brother jQuery.

Pro

- Most commonly used, which means a lot of 3rd party information
- Extremely easy to use, HTML based, just like App Framework
- Good official documentation, it could be better, according to some information jQM developers are working on making it better.
- Support every HTML5 browser you can think of which makes it good for both desktop and mobile use
- Excellent theme support
- Large number of 3rd party plugins

Con

- Sluggish on mobile devices, it is not optimized like App Framework or Sencha Touch
- Average UI, as time passes I hate it more and more, but it can be easily fixed with custom CSS. Without customization every app looks like an clone. iOS GUI look which don't look good on non iOS platforms.
- Official documentation is lacking some information, mainly how jQuery Mobile architecture works. While every single component is described in details you will need to brake you head to understood how all of that works together.
- No out of box MVC support. At the same time is supports Backbone.js and Knockout.js, with some limitations.
- Sluggish even more when combined with a Phonegap, you really need to have a good understanding of [jQuery Mobile architecture](#) to make it work correctly and fast. But if developers don't change anything soon it will never be fast as App Framework or Sencha Touch.

Author notes

Currently my favorite framework, mostly because I am a sucker for a jQuery.

Additional info

3. jQuery Touch



A Zepto/jQuery plugin for mobile web development on the iPhone, Android, iPod Touch, and other forward-thinking devices. Basically it can be used with Zepto.js or jQuery Mobile. Also, it is important to mention, this is not a framework, it was built as a jQuery plugin, and while not it also supports

Zepto it is still considered a plugin.

Pro

- Fast and easy
- Excellent theme support
- HTML based

Con

- Supports only web-kit browsers
- Not that much buzz around it
- Still in beta after 4 years of development, this does not sound good
- It is lacking content in compare to other frameworks

Author notes

While it's indeed fast I don't see it in the future.

Additional info

4. Kendo UI



I already wrote a detail Kendo UI review + examples, it can be found here: <http://www.gajotres.net/html5-frameworks-kendo-ui-from-a-jquery-mobile-perspective/>

Another jQuery based framework. Unlike previous 3 this one is beautiful, supports MVC and has its own support for server side communication (.NET, PHP and JAVA). Unfortunately Kendo UI will cost you a few hundred dollars to buy.

Pro

- Complete package, framework, UI and MVC all in one.
- Fast with SVG support, plus fallback support for older browsers
- HTML based
- Great documentation (there's room for the improvement)
- Native look depending on mobile platform

Con

- Commercial license and support
- Lack of 3rd party support, mainly due commercial license, but you would still be surprised how many developers use this framework

Author notes

Money is the only reason why I am not using this framework. It is not that I am not willing to pay for it, I just don't want to use 2 commercial frameworks. What ever happen this is going to be my third framework of choice.

Additional info

5. Sencha Touch

Sencha

WEB APPLICATION AND NATIVE APPLICATION



This framework is almost an alien in this jQuery based frameworks sea. It is fast, good looking, supports MVC and has probably best documentation among frameworks mentioned here. Again, like Kendo UI, it has a commercial license + commercial IDE.

Pro

- Complete package, framework, UI and MVC all in one.
- Subjectively fastest mobile application framework there is
- Best SVG support you can find, usable for game development
- Perfect documentation
- Native look depending on mobile platform
- Excellent in-house native app wrapping / packaging system

Con

- Commercial license and support
- Commercial IDE, you can't believe how bad it feels to develop in anything else then its IDE
- Hard to master, unlike previously mentioned frameworks this one is purely javascript based
- Lack of 3rd party support, mainly due commercial license

Author notes

My second framework of choice. It is complex but that is why I like it. It requires a lot of time to master, it has a steep learning curve. I wrote a much comprehensive ARTICLE on an topic: jQuery Mobile or Sencha Touch so feel free and take a look if you need more information.

Additional info

6. Titanium Appcelerator



Another alien here, also this one is not HTML5 framework. It uses similar pure javascript approach like Sencha Touch, but unlike Sencha Touch this one converts javascript to native code.

Pro

- Final native code makes it natively fast
- Can be used for fast prototyping
- Cross-platform, one code can be used to create iOS, Android and other mobile platform applications

Con

- Not that good documentation, can be confusing sometimes
- Not that much flexible
- It requires knowledge of native Android / iOS development if you want to get most of it
- Cross-platform is also has a negative side, complex GUI will require different code for Android, iOS ...

Author notes

Excellent framework made for fast application prototyping. It can become problematic if you need to create a complex cross-platform application. Not to mention it require some knowledge of native Android / iOS development.

Additional info

7. Zepto.js



One of a first pioneers in this field. Designed to be smaller and faster than jQuery but still similar in its architecture. Unfortunately it is not that much faster than jQuery, I would even go further to say that their performances are similar. Don't confuse this with jQuery Mobile, while it is not faster than jQuery it is faster than jQuery combined with jQuery Mobile.

Pro

- One of a first so let's give it a point for that

- Lightweight
- Smoother and faster then jQuery Mobile but still not fast as other jQuery derivative frameworks
- If you know jQuery you will know Zepto

Con

- Just like App Framework this one lacks some jQuery functionality
- Slower in a DOM manipulation
- Doesn't have a large support for HTML5 browsers like jQuery Mobile, this changed with time but it still don't support IE

Author notes

Ok'ish framework but personally it don't have anything that would give me a reason to switch from jQuery Mobile. It was one of inspirations from App Framework (jqMoby at that point).

8. Seven more frameworks

Click on the image, it will lead you to the second part of this article, or find it [here](#).



Framework usage statistic

Currently official usage statistic data that will compare these frameworks don't exist and I don't think it will ever exist.

There's one indirect way this data can be gathered. As many of you probably know, Stackoverflow (my account) is the flagship site of the Stack Exchange Network, made to be a more open alternative to a forum question sites. Every mentioned framework has a group dedicated to it, each group has a list of question, and each list can be calculated. Idea is to use that data to represent framework usage data.

Of course, we need to take this with a grain of salt, a lot of questions can also indicate a complex or buggy framework. All in all this will give as best available statistic of framework usage.

- 1. jQuery Mobile - 13,705
- 2. Kendo UI - 3024
- 3. Titanium - 2,397
- 4. Sencha Touch - 2235 *
- 5. Zepto - 232
- 6. jQTouch - 465
- 7. App Framework - 68 **

* - This calculation is based on a sum of two groups: Sencha Touch and Sencha Touch 2. It is only fair to calculate everything. This number would be higher if extjs is included but then we would also need to add a jQuery to jQuery Mobile which brakes the point of this statistic. ** - App Framework statistic is calculated as a sum of a group App Framework and its predecessor jqMoby.

Final words

There are several more mobile application HTML5 frameworks worth mentioning but this article came to its end, there was simply no more time to mention them all. Leave me a comment if you think I have forgot to mention something, you don't agree with something (or strongly agree) or would like to hear about some other framework.

Related

Article found below is a conclusion to article you just read. It discusses 7 less known mobile HTML5 frameworks so take a look:



Top 7 notable less known mobile HTML5 frameworks

Posted: 26/09/2013

12 COMMENTS ON THIS POST To “Top 7 Mobile application HTML5 frameworks”



Fabian Rodriguez August 8, 2013 at 10:40

Excellent article.

I have a question only if it develops a 100% phonegap mobile application and java script.

It is faster than jquery mobile?

It's just as fast with sencha touch?

What do you recommend for managing data in a disconnected Sqlite for a hybrid application



Gajotres September 9, 2013 at 14:18

Sorry for a late response, I was having a rather long vacation.

If you are willing to develop your own Phonegap app, creating your own custom GUI then you will do it much faster with jQuery Mobile or any other HTML5 framework. But if you create Phonegap app using vanilla java script and your own GUI then that app will be much much faster then app created with Phonegap + jQuery Mobile.

It will be even faster then Sencha touch app.

Regarding your offline date it all depends on how much data are we talking about. If you don't need that much data I would advice you to use a lawnchair framework. In case of a lot of dynamic data you should use sqllite.



Anthony Tietjen September 20, 2013 at 03:05

Thank you for this article. I have looked at Sencha Touch and jQuery Mobile. I will take a look at Kendo UI.

Thank You!



Gajotres September 20, 2013 at 09:05

Currently my advise would be to choose between Kendo UI or Sencha Touch. If jQuery is your strong side then choose Kendo UI, in any other case choose Sencha UI. But be advises, both of them are commercial products.



huny September 23, 2013 at 10:24

Hi, I found your article really interesting. I am new to mobile app development. Keeping in mind an open source framework, What framework would you suggest other than jquery?



Gajotres September 23, 2013 at 10:45

1. Kendo UI – Easy like jQuery Mobile, built on jQuery, don't suffer from jQuery Mobile problems
 2. Sencha Touch – Fast as Kendo UI, maybe even faster, much more complex syntax then Kendo UI
 3. Intel App Framework – Almost fast as Kendo UI and Sencha touch, unfortunately bad documentation
-



huny September 23, 2013 at 12:32

i asked about open source framework. There is the M Project framework, Davinci studio and wink that are open source.

i want to develop a mobile app and i want to go for a framework that can provide extensive controls , Good performance and requires a fine effort. For beginners which open source framework you would suggest??



Gajotres September 23, 2013 at 12:47

Give me some time to take a look at M Project framework, Davinci studio and wink. In a mean time Intel App Framework is open source and fast like hell.



mj October 4, 2013 at 16:22

Nice article comparing some of the top JavaScript frameworks. Based on your article and further discussions, I am going to give Kendo UI a try. It looks promising, although you need to pay the license fee. (Will try that with their Icenium product)

I have been doing some research and did a proof-of-concept app using Appcelerator Titanium and another one using Xamarin/iFactr. Like you said, Titanium is good for building prototype apps, but beyond that, you need to be careful. The framework seems to be less stable especially when it comes to their “Mobile Web” builds. Also, you would need special coding for iOS and Android in some cases. Since I have a .Net background, I like Xamarin and iFactr since it allows you to build cross-platform apps using .Net and C#. But, I think, iFactr is a bit limiting at this point, but if they can expand upon the concept, it has great potential in the future. (With Xamarin alone, you don’t get 100% reusability across all the platforms – the UI will need to be coded separately for each target platform. This is what iFactr tries to address, but in my opinion, they don’t go far enough, yet)



Jean Vence October 11, 2013 at 13:28

Thanks for a very helpful article. How about <http://www.chocolatechip-ui.com> – came across it recently and it looks promising albeit not well supported yet.



Dragan Gaic October 11, 2013 at 14:25

Thanks you on your kind words, regarding ChocolateChip UI, I will review it for my next article.



Antonios Liakakis October 15, 2013 at 12:58

Great article. I come from a jQuery background and would like to utilize this knowledge but with a framework that uses custom packaging for native apps. Any suggestions?

Moreover, have you seen these <http://ionicframework.com/> and <http://www.icenium.com>

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