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HTML5 QR Code scanning with javascript - Support for scanning the local file and using default camera added (v1.0.5)

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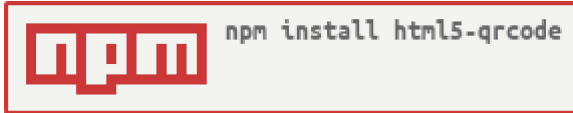
[html5-qrcode](#) helps developer to integrate QR code scanning in HTML5 based applications. It abstracts camera access and usage on different browsers and simplify QR Code scanning for developers. The primary goal of the library is cross-platform support across different OS versions and Browsers. One of the key problems with cross-platform support was some browsers in Android and many browsers in iOS (almost all other than Safari which are based on WebKit for iOS) did not support camera access. This prevents users from doing inline QR Code scanning which is the primary feature of the library. To mitigate this I have added support for scanning local media on the device and it implicitly adds support for capturing QR Code using default camera on the device and scanning it. This is an upgrade to the existing library - you can read more about it [here](#). In this article I have explained now file-based scanning works and how to use it.

Changelog

- › Added support for scanning local images on the device.
- › Added support for capturing an image using the camera on the phone and scanning it.

- › Added API to clear existing canvas.

The library has been updated to npm and a [v1.0.5](#) is released in Github.



Great thing is - this extends the library to work on almost all OS types and browsers.

Demo

A demo for this project is hosted at blog.minhazav.dev/research/html5-qrcode.html

Issue with inline scanning

If you look at the [issue 14](#) on the [Github project](#)

Compatibility - [ios] [All Browser] - [Query Camera]

Query camera is not working for Opera, Edge, Firefox and Chrome. OS: iOS in Iphone 7 and iPad 9.7

The root cause for this was an issue in Webkit for IOS which is used by almost all these browsers in IOS. The issue was - it doesn't permit browsers other than Safari to access Camera on the device. Check this [StackOverflow question](#) for more info. This is very sly and has been there for many years with no progress. To make sure this library can be used cross-platform I have added a fallback type approach which allows users to either capture the QR Code using default camera or load a media from disk. This solution is not perfect but can be used to have good support for QR Scanning in the app.

You can use it something like this:

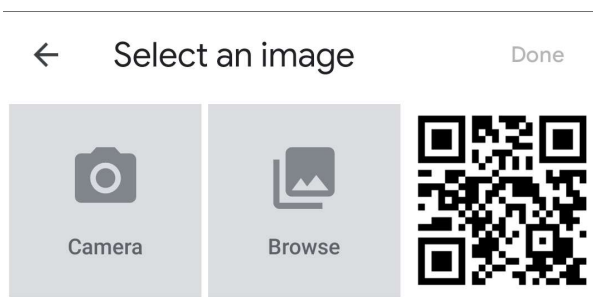


Figure: QR Code scanning with both the inline viewfinder and file scanning option.

How this works

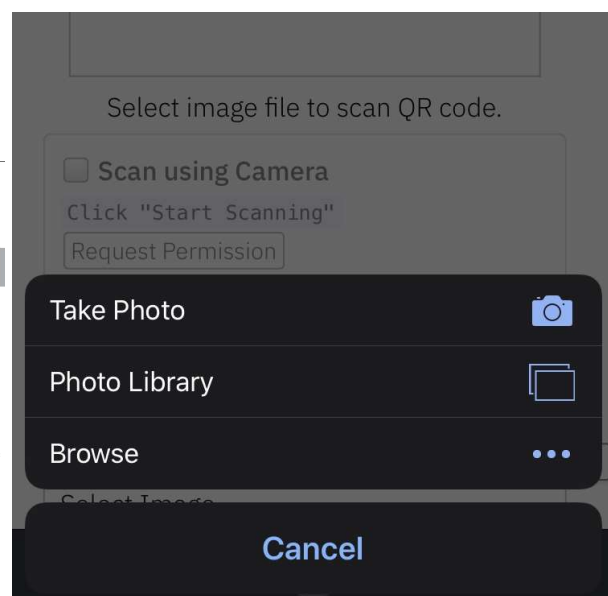
HTML5 supports `input type file` which allow accessing files locally using javascript with user consent. Adding `capture` tag can be used to restrict the option to capture using a camera alone for Android and IOS while it is ignored in PC browsers. When a user clicks on the file input following types of dialogs are shows in different OS:

Selector in Android



Taken on Pixel 3, Google Chrome

Selector in IOS



Taken on iPhone 7, Google Chrome

How to use

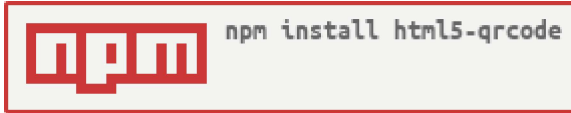
Apart from the standard steps described [here](#) like:

Include the library

```
js://raw.githubusercontent.com/mebjas/html5-qrcode/master/minified/html5-qrcode.min.js">
```



Or download it using `npm`



Add placeholder element

```
<div id="reader"></div>
```

Add input of type file

```
<input type="file" id="qr-input-file" accept="image/*">
```

```
<!--
```

```
    Or add captured if you only want to enable smartphone camera, PC browsers will ignor
-->
```

```
<input type="file" id="qr-input-file" accept="image/*" capture>
```



Find more information about input tags at developers.google.com.

Use `Html5Qrcode#scanFile()` API to scan an image File .

The new API looks like this:

```
/**
 * Scans an Image File for QR Code.
 *
 * This feature is mutually exclusive to camera based scanning, you should call
 * stop() if the camera based scanning was ongoing.
 *
 * @param {File} imageFile a local file with Image content.
 * @param {boolean} showImage if true the Image will be rendered on given element.
 *
 * @returns Promise with decoded QR code string on success and error message on failur
 *          Failure could happen due to different reasons:
 *          1. QR Code decode failed because enough patterns not found in image.
 *          2. Input file was not image or unable to load the image or other image l
 *          errors.
```

```
*/
scanFile(imageFile, showImage /* default = true */) {}
```

- › `imageFile` is of type `File`. It's the argument which you get from `change` listener on the `<input type='file' />`.
- › `showImage` is an optional boolean argument, with default value = `true`. If this is `true` the library will render the user image on `<div id="reader"></div>`, otherwise not.

This is a `Promise` based API which returns the decoded QR Code message on success and error message on failure. The error could happen at different levels like image loading or QR Code scanning.

And in javascript code initialize the object and attach listener like this:

```
const html5QrCode = new Html5Qrcode(/* element id */ "reader");

// File based scanning
const fileinput = document.getElementById('qr-input-file');
fileinput.addEventListener('change', e => {
  if (e.target.files.length == 0) {
    // No file selected, ignore
    return;
  }

  // Use the first item in the list
  const imageFile = e.target.files[0];
  html5QrCode.scanFile(imageFile, /* showImage= */true)
    .then(qrCodeMessage => {
      // success, use qrCodeMessage
      console.log(qrCodeMessage);
    })
    .catch(err => {
      // failure, handle it.
      console.log(`Error scanning file. Reason: ${err}`)
    });
});
```

Important

Note that inline scanning and file-based scanning are mutually exclusive at the moment. This means, you can only use one of them at a time. I'll soon be adding support for the option to have both if the requirement comes in. If you want to use both, use `html5QrCode#clear()` method to clear the canvas.

Clearing the canvas after use

Since unlike the inline scanning this API doesn't support `start()` and `stop()` you can use:

```
html5QrCode.clear();
```

API to clear the canvas after use.

My recommendation

Add support for both inline scanning and file-based approach in your app like shown in the [demo](#). This will allow users to use which ever works for them irrespective of the browser they are on.

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[← HTML5 QR Code scanning with javascript - launched v1.0.1](#)

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ziobit commented on Apr 19, 2020

Found the reason WHY it was not working on my setup! Using a (crappy) browser on my phone, I finally got a detailed error. And the reason was on my test server, the page was NOT on https, so most browsers were NOT ALLOWING enumerating the cameras! Edge let me do it, and my vivo browser too. Both chrome and ff didn't, but didn't provide an error either!

So maybe put it in the faq... if it's not working, be sure to use a https connection otherwise the browser will not let enumerate the cameras! This is the link my (crappy) browser gave:

<https://www.chromium.org/Home/chromium-security/prefer-secure-origins-for-powerful-new-features>



mebjas commented on Apr 19, 2020

Owner

Ah that is a great point, I'll update the README . Can you verify if file based approach also don't work in http version?

OneDivZero commented on Apr 26, 2020

great work! I'll try to integrate it in an app right now (social context) ... maybe you wanna support me (currently rails-based frontend cause of rapid prototyping)

mebjas commented on Apr 27, 2020

Owner

@OneDivZero Are you facing issues in integration?

OneDivZero commented on Apr 29, 2020

@mebjas yes, there seems to be a problem with the recognized scan-region for small viewports. I printed a qr-code in the size of a hand and I'm trying it to scan with an iPhone 7 using a qr-box with 350x350px (and boxsize in code is not set, thus it should use full dimension). You have to hold your phone about 0,5m far away only for having a chance to get a match. And then it only succeeds in round about one out of ten trials. It works great with macbook-cam, when using more than a qr-box with 600+ px. But reducing step by step the size also works bad on desktop browser.



OneDivZero commented on Apr 30, 2020

I'll create an issue ;-)



mebjas commented on May 3, 2020

Owner

@OneDivZero Fixed :)

cfcoderatcodefactory commented on May 6, 2020

This looks amazing – do you have a working version (without buttons to ask for permission to use camera, selection of camera etc.) somewhere?



mebjas commented on May 7, 2020

Owner

Camera permissions are required so the demo with buttons are at

<https://blog.minhazav.dev/research/html5-qr-code.html>

<https://blog.minhazav.dev/research/html5-qr-code.html>

Don't have a demo without button but would be easy to create, just request permission on page load. But based on research I read, requesting permission on page startup without context has higher chance of rejection by users.



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cfcoderatcodefactory commented on May 7, 2020

Thanks!

sandifajariadi commented on May 10, 2020

Hi Minhaz, Im developing android app using App Inventor, it's an online drag n drop developer tools. I want to use your method using webview, but not work, because webview restrict file input. Can I use your method just by sending the file string data (maybe in base64 or blob). Is there any method in the qr javascript that can take string as input?

sandifajariadi commented on May 11, 2020

Hi Minhaz, just update, i made some modif on your js, so there is a checking if the variable is an instance of file or not. I make it always true and give blob data from conversion of a base64 string, and it worked!



1

mebjas commented on May 11, 2020

Owner

@sandifajariadi That's pretty cool. Please let me know if you write about it somewhere so others can benefit from it too!

sandifajariadi commented on May 11, 2020

Hi Minhaz, i made this article, hope can help others

https://medium.com/@sandi.fajariadi_79986/detect-qr-code-from-an-image-using-javascript-ba30b0aa7d59



1

emilajar-soup commented on May 15, 2020

hi. Minhaz.

I made some web page, use your js. everything's OK. but one issue I have. Some tiny qr didn't read. I can zoom camera in your script?"

mebjas commented on May 15, 2020

Owner

@emilajar-soup Sounds interesting, can you put a feature request here - <https://github.com/mebjas/html5-qrcode/issues> and I'll take it up from there.

If possible also add a sample of how small are you trying to scan.

Samruddhi2001 commented on Jun 6, 2020

@mebjas, I have very little experience working with HTML, CSS, and js. All I want to ask is, would simply copy-pasting this code work or I've to do some changes/additions to this code. If there are any additions/changes could you please describe them?

mebjas commented on Jun 6, 2020

Owner

@Samruddhi2001- for now I'd recommend copying code in <https://blog.minhazav.dev/research/html5-qrcode>

Meanwhile I have an action item on me to try to make a fully self-contained QR Code scanner which will make it easier to integrate - [mebjas/html5-qrcode#46](#)

If you are interested, watch that issue and I'll try to implement that asap.

Samruddhi2001 commented on Jun 6, 2020

@mebjas Thank You..!!



mebjas commented on Jun 7, 2020

Owner

@Samruddhi2001 @emilajar-soup and others I have just implemented a full scanner on top of Htm15Qrcode called Htm15QrcodeScanner - it comes with default UI so you don't have to implement the user interface. You can use it like this:

[1] Create a container in HTML

```
<div id="qr-reader" style="width:500px"></div>
```

[2] Include the javascript

```
<script src="https://raw.githubusercontent.com/mebjas/html5-qrcode/master/minified/html5-qrcode.min.js">
```

[3] Initialise the script

```
<script>
```



ccrstudio commented on Aug 19, 2020

Hi! Great job mebjas! I had not permitted the camera's use in android mobile Chrome. Now, everytime I try to use QrCode Scan on it, it gave the message: "NotAllowedError: Permission denied".

I tried to give permission through android, but the site address where app is installed not appears on site list.

Is there any way to reset this denial via code so that forces the site to use camera? Thnaks in advantage!!

joshyro commented on Aug 26, 2020

Hello and Thank you for this awesome project. My code is already working (Django over https). Is there a way to hide "Scan Image File" option?

sonesay commented on Dec 4, 2020

Hi all. Can anyone help me out here? I want to stop scanning once a successful scan is completed. Code examples please as I've having issues trying to call stop().

MTrykar commented on Mar 13, 2021

Hi all,

I am trying to use this in my web app on Android (hosted on Google App Engine), but I always see the error the the Html5Qrcode is not defined. You can find the app here:

<https://lebensmitteldatenbank-305221.ue.r.appspot.com/food/add>

I would simply like to achieve to scan a QR code and enter the value into the first text box. Any help is much appreciated! :)

Best regards,
Manuel

Makintoshawesome commented on Jul 31, 2021

hello can I ask on how to integrate beep scan sound when scanning qr code?thank you

marcodocker commented on Oct 3, 2021

Sorry for the newbie question but i have it working. Just like your

<https://blog.minhazav.dev/research/html5-qr-code>

The QR code will always contain a link to a certain webpage.

How can i get it to scan/recognize=jump to URL.

As soon as it opens the URL the scanner should have the permission to use the camera but for the rest it should be "empty", ready for the next qr-code-scan.

mebjas commented on Oct 5, 2021

Owner

[@marcodocker](#)

You can go to the URL if the url is detected in callback

```
function onScanSuccess(decodedText, decodedResult) {  
  // check if decodedText is a url  
  location.href = decodedText;  
}  
  
var html5QrcodeScanner = new Html5QrcodeScanner(  
  "reader", { fps: 10, qrbox: 250 });  
html5QrcodeScanner.render(onScanSuccess);
```

tomurphy-78 commented 3 months ago

Hi, great library!! On my android and early iPhones 1D and 2D barcodes are easily read. However on newer iPhones I have found 1D barcodes are not read, or maybe 1 off. 2D barcodes are a little better.

Have you or anyone else seen problems with scanning 1D barcodes on iPhone's and were able to fix it?

Cheers
Tom

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