Dynamsoft™

10 RULES

FOR EVALUATING WEB TWAIN COMPONENTS

Introduction

TWAIN is a software protocol developed by member companies of TWAIN Working Group to provide what is today the most universal standard for communicating between applications and image acquisition devices, such as scanners and digital cameras. Over the years, TWAIN has dominated local or network software to device communication for image capture purposes. Today, the TWAIN standard is also playing a star role in web application communication with devices. Developers of web applications requiring use of the TWAIN standard have a variety of things to consider.

This white paper is suited for software developers building web applications that acquire images from TWAIN-compatible devices through web browsers. In some rare cases an organization might attempt to build their own TWAIN-based web scanning component. However, most companies opt to find an off-the-shelf solution to save themselves from the cost and risks of attempting such a big effort. Regardless if you are buying or building, there are some rules to live by when evaluating a TWAIN component. By following these rules you'll find a solution that will save you time and improve your productivity.

What to Look for When Evaluating Web Scanning Components

RULE 1

A web scanning component should make web development easier.

The TWAIN 2.1 specification is a painful 664 pages long. It can take weeks just to read through the document, let alone to fully understand the specification. Additionally, after understanding TWAIN there is still an overwhelming amount of work to enable features like image compression, image uploading, and image downloading. Developing a web scanning solution from the scratch is almost impossible.

RULE 2

A web scanning component must be small for lightning-fast rendering.

When a user for the first time visits a web page requiring a component, the control must be downloaded from the web server to the user's browser and then installed. The larger the control size, the longer it takes to download. A users' patience for slow downloads is thin. One well- known analyst research firm study found that waiting more than 3 seconds for a page load will cause a large share of users to abandon a site. So every second counts.

RULE 3

A web scanning component must support multiple compression formats.

When a scanned image makes for a large file size, the upload time increases. As a result, the chance for an upload failure also increases. Here's an example: it's common that an image size of a color A4 document scanned at 200 DPI is 10.41 megabytes. This can take minutes to upload. A three-page document can take three times longer to load.

You can counter potential upload and storage problems by using image compression technologies, like JPEG and PNG. They significantly reduce the size of the image and, in turn, the time for uploading files. Thus, they also reduce the risk of upload failure.

Different compression methods have distinct features. For example, JPEG has a high compression rate but is lossy. This lossy characteristic makes the JPEG format unsuitable for document images that require high precision. On the other hand, the PNG format is lossless, which means it retains all the information during the compression process. But, file sizes are usually larger than with JPEG.

RULE 4

A web scanning component must allow you to build rich user interface applications.

User interaction or user interface (UI) is an important part of every application. The importance of a highly engaging UI is no longer debatable. In many cases, a good UI is the key to a web application's success. Your web scanning application might use the scanner's built-in UI or your own custom-developed interface to control the scanner. The choice is highly dependent on the scenario but, it must ensure a good UI regardless.

Additionally, users may need to preview scanned images or edit them before uploading them to a web server. A scanning control that allows a rich user experience can differentiate your applications from competitors' products. It can also elevate productivity and efficiency to new heights.

RULE 5

A TWAIN component must support a multi-page format, such as TIFF and PDF.

Many documents have multiple pages. If each page is stored as a separate scanned image, retrieving and viewing the document becomes highly cumbersome and counter-productive. Being able to store all pages of a document in a single file makes it much easier to manage multiple-page documents.

RULE 6

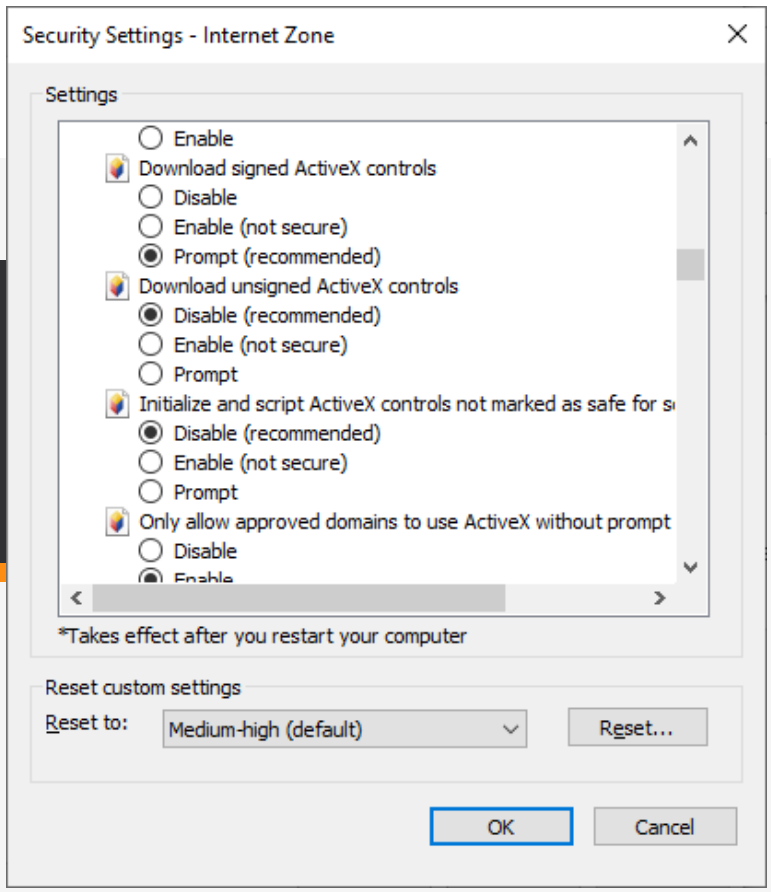
The TWAIN component must be marked as "safe for scripting" and should be digitally signed.

Security is an ever-growing concern for end users. If a user downloads and installs a control on their computer, it's possible that the control can maliciously exploit that computer. So, you must be able to build end users' confidence about security issues with verifiable security measures.

When a publisher marks a control as 'safe for scripting', they promise that the control will not intentionally harm the end users' computer system. If the control intentionally damages the system, the publisher assumes legal responsibility.

If the component is digitally signed, a dialog box with the publisher's legal name will appear when a customer uses the scanning component for the first time. The user can choose whether they want to install the component during the download and install process. If the control is altered after the publisher has signed it, the digital signature will be broken and the user will be informed. This makes it impossible for the signed control to be infected by a virus or maliciously changed by hackers.

If a control is not marked as safe for scripting, or is not digitally signed, the default setting of popular browsers like Internet Explorer and Firefox will simply prevent the control from downloading or initializing.



RULE 7

The scanning control must support all major web browsers.

In many cases, you won't know which browser and operating system your end users will use. This could include Microsoft Internet Explorer 32-bit/64-bit, Firefox, Chrome or other browsers on Windows/Mac/Linux/Mobile. If you only support one or two browsers, you significantly limit your ability to reach a broad range of customers or users. Even if you know which web browser your customers are using now, it's highly likely you will need to expand your web scanning application to other browsers/operating systems in the future.

RULE 8

The scanning control must use standard technology protocols and support all major web servers.

HTTP and FTP are standard Internet protocols. A component that uses any nonstandard protocol increases deployment costs for your web application. It's possible your existing infrastructure or team's expertise may require you to use a specific web server. A component that uses an upload and download protocol, that's not compatible with your chosen web server, can cause serious headaches for your team.

RULE 9

It helps if the component vendor is a contributor to the TWAIN specification.

As a member of the TWAIN Working Group, a scanning component vendor has a close relationship with the TWAIN protocol maintainers and easier access to the latest trends and developments. And, the vendor can make contributions to the TWAIN specification by proposing and voting for changes. There are inherent advantages to working with a vendor at the leading edge of such technologies.

RULE 10

The web scanning component vendor must provide great technical support.

TWAIN technology can require special expertise and experience. Without prompt and accurate support from your vendor, you won't be able to get the most out of your TWAIN component. Poor technical support can result in hours spent struggling with technical issues, or even unsatisfied customers. Furthermore, it can add to your bottom-line development costs.

Dynamsoft's Solution – Dynamic Web TWAIN

Dynamic Web TWAIN is a software development kit offering comprehensive TWAIN control. It enables you to acquire images from any TWAIN-compatible device as well as built-in mobile camera. It includes a variety of features specifically designed for a web environment. It's been developed with four core objectives in mind:

User Experience

1

To provide applied functionality and powerful interactions for users

Security

2

To offer a safe component for use over the web

Compatibility

3

To support different browsers, web servers and protocols

Development

4

To save an abundance of time and energy for developerst

Technical Support

5

Dynamic Web TWAIN is also backed by unrivalled industry technical support

User Experience

Powerful Interaction for Users

Reduced web page load time

The Dynamic Web TWAIN distribution files are small in size. It takes but a few seconds to download and install to the users' web browser.

Reduced image upload time, enhanced productivity

Dynamic Web TWAIN supports major compression methods, including JPEG, TIFF and PNG. It also supports multi-page TIFF and PDF formats.

Solid user interaction

Dynamic Web TWAIN lets you use a scanner's built-in user interface or easily build your own UI to control the scanner. Additionally, Dynamic Web TWAIN includes a built-in image editor to enable your end users to edit captured images in their browser.

Marked as safe for scripting

Dynamsoft has taken all required procedures to ensure Dynamic Web TWAIN is marked as 'safe for scripting'. Thus, Dynamic Web TWAIN will not cause intentional damage to your users' computer.

Digitally signed

Dynamic Web TWAIN is signed by VeriSign.

Security

Safe Component Over the Web

Compatibility

Support Different Browsers, Operating Systems, Servers and Protocols

Browsers and operating systems

Dynamic Web TWAIN runs on desktop and mobile platforms. It supports Internet Explorer 32-bit and 64-bit, Firefox, Chrome, Opera, and Safari on Windows, mac OS, Linux, iOS, Android, and iPadOS.

Servers

Dynamic Web TWAIN is compatible with TWAIN specification V2.1 or earlier. It also has built-in TIFF, JPEG and PNG encoders and decoders, and upload/download technology. Dynamsoft's solution is so robust, it allows your team to not be concerned at all about developing the scanning component for your web application. Thus, you can stay focused on meeting your core business requirement.

Protocols

Dynamic Web TWAIN is compatible with Hyper Text Transfer Protocol (HTTP) and File Transfer Protocol (FTP). It also supports Secure Sockets Layer (SSL) encryption.

Reduced development time

Dynamic Web TWAIN is compatible with TWAIN specification V2.1 or earlier. It also has built-in TIFF, JPEG and PNG encoders and decoders, and upload/download and ActiveX/Plug-in technology. Dynamsoft's solution is so robust, it allows your team to not be concerned at all about developing the scanning component for your web application. Thus, you can stay focused on meeting your core business requirement.

Development

Give Your Team a Competitive Advantage

Technical Support

Unrivalled support

Dynamsoft provides unrivalled technical support in the TWAIN component industry. Technical support options include email support, phone support, and LiveHelp support. Email and LiveHelp are available 16 hours per day Monday through Friday. In addition, Dynamsoft provides scheduled desktop sharing support for complex issues.

Virtual developer service

Dynamsoft offers a Virtual Developer Service. With this service, our developers participate in the implementation of your web scanning module as an active team member. This process starts from requirements analysis and continues through design, coding, testing and deployment to maintenance.

About Dynamsoft Corporation

Dynamsoft Corp. provides enterprise-class TWAIN™ software development kits (SDK), a Barcode Reader SDK, and a Camera SDK to help developers meet imaging requirements when developing web, desktop, or mobile document management applications. The imaging SDKs help today's businesses seeking to migrate from wasteful paper-based workflows to efficient paperless electronic document and records management. Thousands of customers use Dynamsoft's solutions. Customers include 3M®; EMC®; Fujitsu®; GE®; HP®; IBM®, Intel®; Infosys®; Lockheed Martin®; Olympus®; Philips®; Samsung®; Siemens®; Symantec®; Verizon®; and more.

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Associate Member

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For more information about Dynamic Web TWAIN, please visit:
https://www.dynamsoft.com/Products/WebTWAIN_Overview.aspx

For a demo of how Dynamic Web TWAIN can help you build a rich interactive application, please visit:
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