



UWP



Annotate on images



WINDOWS &gt; GUIDES &gt; ANNOTATIONS &gt; ANNOTATE ON IMAGES

# Streamlined image annotation for diverse formats

Here at Nutrient, we want to provide users with an enhanced experience when annotating images. We believe users should be able to open their images at any time and have no problem editing the annotations that were created in the past, just like with a PDF document.

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We've built a standard leveraging the open [ISO 16684-1:2012](#) extensible metadata platform (XMP) specification to save various kinds of information, which can be drawn upon when opening images via Nutrient. To add to that, in this guide, we'll be opening up our XMP format so that anybody can parse the metadata and create an editable PDF that can be saved and opened at later date.

See our [announcement blog post](#) to learn how you can use Image Documents to annotate PNG, JPEG, and TIFF files just like PDF files, or read the detailed [image documents](#) guide.

## XMP format

The XMP data within an image file holds all the information necessary to be able to compile an editable PDF. This PDF represents the original image with overlaid annotations. To compile the editable PDF, we hold four important pieces of information. This information is held in the `pspdf` namespace, and as such, all attributes will have a prefix of `pspdf:`.

## Image document version



ASK AI

To ensure that we can update the Image Documents standard in the future, we have included a version number. That way, if we do make changes to the XMP format, we can identify the required parser:

ATTRIBUTE	VALUE
imageDocumentVersion	<u>Semantic versi</u>

```
pspdf:imageDocumentVersion="1.0.0"
```

## Document

The document tag holds a full copy of the PDF document, but it omits one important piece of information: the original image. To retain the quality and size of the input image, it was decided that the original image shouldn't be stored within the PDF data and instead appended upon opening. Additionally, by holding the entire PDF document, the standard has the ability to build upon the many features of the PDF specification.

The PDF document is encoded in Base64, which will mitigate any ASCII representation issues in XMP:

ATTRIBUTE	VALUE
document	A Base64-encoded PDF document

```
pspdf:document="3fkWTefn33..."
```

## Original image

As we've decided not to hold the original image in the PDF document, and since the image displayed in the main image file will be a rendering of the current representation with annotations, we have to hold the original image in the metadata for recall at a later date. This data will be held in Base64 and will be a direct copy of the original image data. With this data, along with PDF data, we can compile an up-to-date PDF representation of the annotated image.

ATTRIBUTE	VALUE
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originalImage	A Base64-encoded image file
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```
originalImage="3fknefn33..."
```



## Rendered image checksum

We needed a way of checking if the image has changed in any way without us knowing, because it's still possible to edit images externally with an image editor. For this reason, we added a CRC32 checksum of the image shown in a standard image viewer. The checksum data can be checked when reopening the file to ensure no edits have been made. At this point, the developer can then decide to either disregard the XMP data and create a new image document or show an error to the user and advise them of what to do.

ATTRIBUTE	VALUE
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fileImageChecksum	CRC32 checksum
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```
pspdf:fileImageChecksum="3fknefn33..."
```



## Example file

```
1 0PNG
2 ^Z
3 ^@^@^@
4 IHDR^@^@^@Ah^@^@^@0^D^C^@^@^@4vd'^@^@.^RiTXTXML:com.adobe.xmp^@^@^@^@^@
5 <?xpacket begin=" " id="W5M0MpCehiHzreSzNTczkc9d"?>
6 <x:xmpmeta xmlns:x="adobe:ns:meta/" x:xmptk="XMP Core 5.6.0">
7   <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#">
8     <rdf:Description rdf:about=""
9       xmlns:pspdf="http://pspdfkit.com/pdf/xmp/1.0/"
10     pspdf:imageDocumentVersion"1.0.0"
11     pspdf:document="JVBERi0xLj....."
12     pspdf:originalImage="iVBORw0KG....."
13     pspdf:fileImageChecksum="234097520">
14   </rdf:Description>
```



```
15 </rdf:RDF>
16 </x:xmpmeta>
17 <?xpacket end="r"?>
18 ${PNG_IMAGE_DATA}
```

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Was this helpful?

☒ YES

☐ NO

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Questions? [Contact us](#)

