

The Other Life Of The Camera

trigger



the initial trigger for the project has been that, during the classes trip to helsinki, tim's camera got stolen. it was a canon 450d with the serial number 1180354223.

```
</exif>
- <exif tag="XMP-xmp" tag="ModifyDate" label="Date and Time (Modified)">
  <raw>2009:04:02 15:36:49.02+02:00</raw>
</exif>
- <exif tag="XMP-xmp" tag="CreateDate" label="CreateDate">
  <raw>2009:04:02 15:36:49.02+02:00</raw>
</exif>
- <exif tag="XMP-xmp" tag="Rating" label="Rating">
  <raw>0</raw>
</exif>
- <exif tag="XMP-xmp" tag="MetadataDate" label="Metadata Date">
  <raw>2009:04:02 15:36:49.02+02:00</raw>
</exif>
- <exif tag="XMP-aux" tag="SerialNumber" label="SerialNumber">
  <raw>1180354223</raw>
</exif>
- <exif tag="XMP-aux" tag="LensInfo" label="LensInfo">
  <raw>18/1 50/1 0/0 0/0</raw>
</exif>
- <exif tag="XMP-aux" tag="Lens" label="Lens">
  <raw>18-50mm</raw>
</exif>
- <exif tag="XMP-aux" tag="ImageNumber" label="Image Number">
  <raw>0</raw>
</exif>
- <exif tag="XMP-aux" tag="FlashCompensation" label="Flash Compensation">
  <raw>0</raw>
</exif>
```

like all digital cameras, it stores in the image files a lot of other information as EXIF-data. among those data in the image file can eventually also be stored the camera type and serial number.

concept

out of that fact came the idea that it should be possible to identify photos which have been made with a certain camera and have been uploaded to the internet.

situations

this concept can be extended to different situations where cameras have a changing user or owner:

- D80, serial number 3068332
- D90, serial number 3047702
- D90, serial number 6051570
- D90, serial number 2126525
- E995, serial number 4056520

stolen cameras

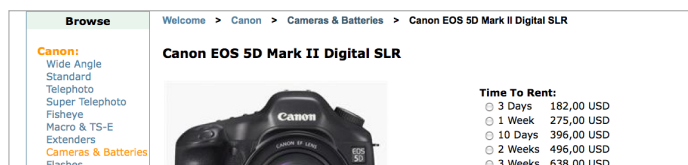
(example: <http://photo.net>)



Nikon D 80 mit MB D 80
Artikelzustand: **Gebraucht**
Restzeit: 6T 05Std (18. Apr. 2010 19:06:56 MESZ)
Gebotsübersicht: **1 Gebot**
Aktuelles Gebot: **EUR 1,00**

second hand cameras

(example: <http://www.ebay.de>)



Canon EOS 5D Mark II Digital SLR

Time To Rent:	
3 Days	182,00 USD
1 Week	275,00 USD
10 Days	396,00 USD
2 Weeks	496,00 USD
3 Weeks	638,00 USD

rental cameras

(example: <http://www.borrowlenses.com>)

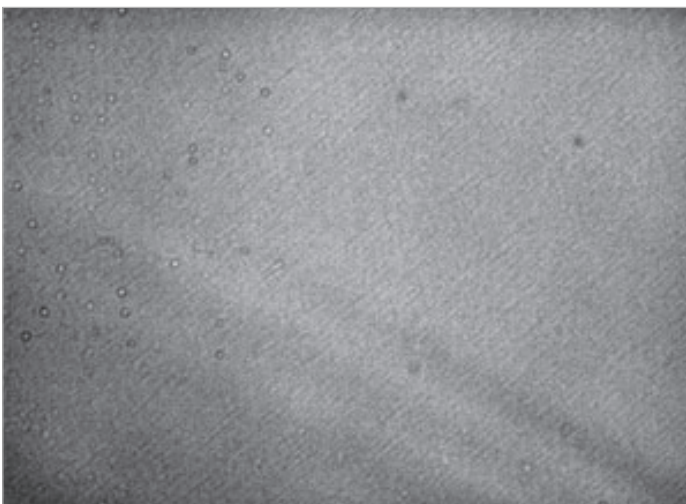
method 1

```
Mozilla Firefox
<raw>00 2890 1944</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="FlashExposureBracketValue" label="Flash Exposure Bracket Value">
  <raw>0.0</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="ExposureBracketValue" label="Exposure Bracket Value">
  <raw>0</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="CropHiSpeed" label="Crop Hi Speed">
  <raw>Off (3904x2616 cropped to 3904x2616 at pixel 0,0)</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="SerialNumber" label="Serial Number">
  <raw>4088676</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="ColorSpace" label="Color Space">
  <raw>sRGB</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="VRInfoVersion" label="VRInfo Version">
  <raw>0100</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="VibrationReduction" label="Vibration Reduction">
  <raw>Off</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="ToneComp" label="Tone Comp">
  <raw>Auto</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="LensType" label="Lens Type">
  <raw>G</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="Lens" label="Lens">
  <raw>55-200mm f/4-5.6</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="FlashMode" label="Flash Mode">
  <raw>Did Not Fire</raw>
</exif>
- <exif tagSpace="Nikon" tagSpaceId="0" tag="AFAreaMode" label="AFArea Mode">
```

one method is to access the EXIF-data from photos that have been uploaded, extract the serial number and compare it with the one that is looked for. if they match, the photo and the web-address where it was found can be saved.

EXIF-data have to be intact and accessible with the uploaded photo, though.

method 2



another method is to generate the fingerprint of a camera's CCD-chip out of several photos of that camera. this fingerprint can be compared with the fingerprint of a downloaded photo, and the photo and the web-address where it was found can be saved.

the photo has to be of acceptable re-resolution and quality, though.

changes

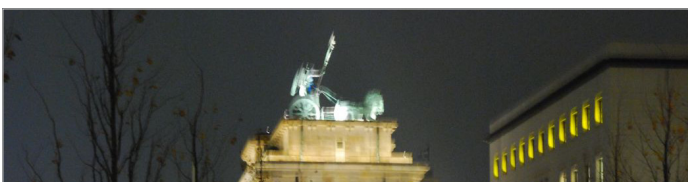
a change of the user or owner of a camera will change also mostly every aspect of the resulting photographs:



the photographer behind the camera



the photographic style



the photographed subjects in front of the camera

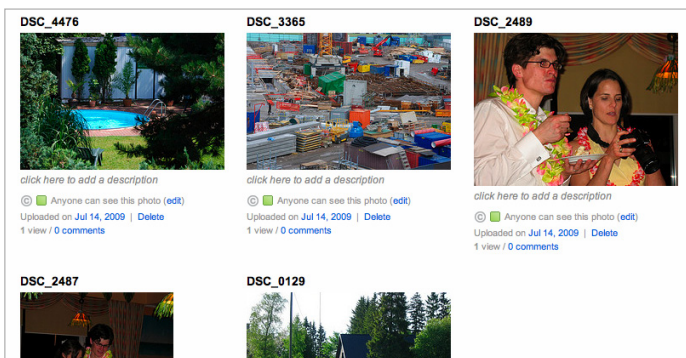


result



the result can be a physical photoalbum, showing a collection of the old and the new user's photographs.

this example is tim's photoalbum.



the result can also be an automated online photoalbum, integrated with an online service.

