

PictureReporter User Guide

v2.0

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PictureReporter is a program that will produce a simple HTML report from a set of directories containing images. It is intended for use by the digital forensics community as a way to produce nicely formatted reports by those using document cameras to take screen shots that do not have their own integrated reporting capabilities. By judiciously storing screen shots in well-chosen named subdirectories, the report can display the screen shots by category.

1. System and User Requirements

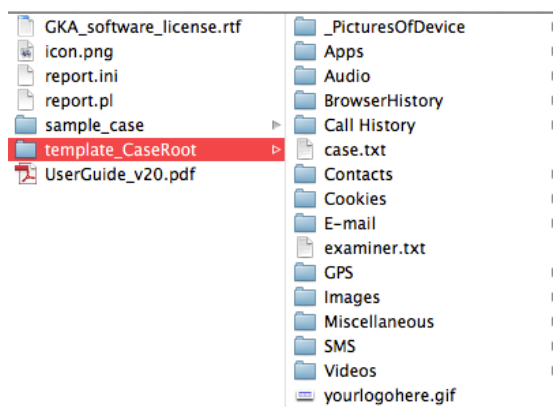
PictureReporter is a Perl program run from the command line. A Perl interpreter is part of any Unix or Linux environment, including MacOS X.

There are several Perl interpreters available for Windows, including Strawberry Perl (<http://strawberryperl.com/>) and ActivePerl (<http://www.activestate.com/activeperl/>). Be sure that the *perl* command is placed in your command line path.¹

The user should be comfortable using the command line and with the directory structure of the forensic workstation.

2. Camera and Source Images

This program has no interaction with a camera system (or any external device), so is camera-agnostic. Users are advised to use a camera that makes it easy to place pictures into the user's choice of directory.



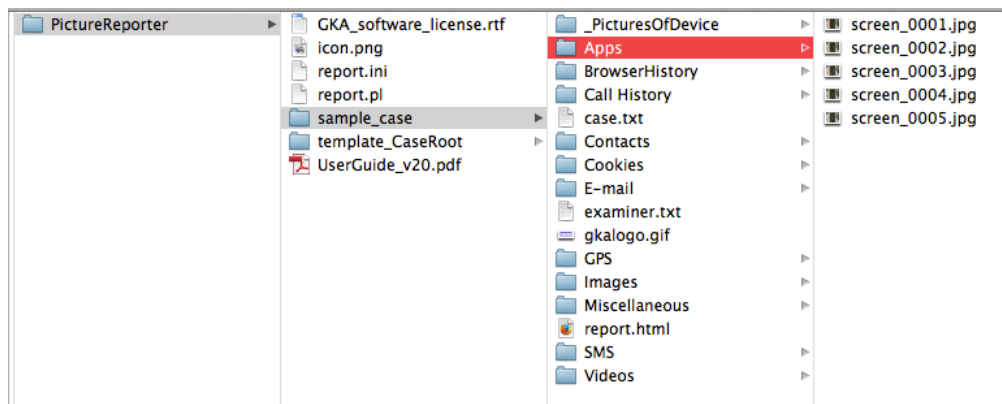
¹ As an example, to add the Strawberry Perl interpreter to your existing path, type
`PATH=%PATH%;c:\strawberry\perl\bin` at the command line.

By way of example, the CaseRoot template includes a number of default subdirectories, as shown above. It is recommended that pictures be placed into an appropriate directory by category. The program merely reads the case root directory and looks in all of the non-empty directories to find files to display. Users are encouraged to create additional subdirectories and categories that they find useful.

3. Program Use

All screen shot pictures should be placed into appropriate subdirectories within a *CaseRoot* directory. These subdirectories should only contain image files that can be displayed by a Web browser.

The general directory structure is shown below. The program and all ancillary files can be placed into a directory called, for example, *PictureReporter*. Individual case files can be placed in subdirectories of *PictureReporter*, such as *sample_case*; the directory with the case files is the "CaseRoot directory." The photographs are placed into appropriately named subdirectories of the CaseRoot.



The program can be run by entering:

```
perl report.pl
```

The program prompts for three categories of information. First, the user is asked for the name of the CaseRoot directory. This is the directory where the subdirectories with the images -- and your agency logo -- will be found. For example, in the sample directory structure shown above, the CaseRoot directory would be *template_CaseRoot*.

The CaseRoot directory can also be supplied on the command line using the `-r` switch (the following example assumes that *report.pl* is in the parent directory to the CaseRoot):

```
perl report.pl -r template_CaseRoot
```

NOTE: If the CaseRoot directory is not specified, it is assumed to be the current directory. If supplied, this **must** be the first parameter specified.

NOTE: If the CaseRoot directory path has multiple directories, it is necessary to use forward slashes (i.e., "/") as you would on a Unix system rather than backward slashes (i.e., "\") as you would on a Windows system. As an example, the string `c:/gck/pr/case001` is a valid CaseRoot directory path whereas the string `c:\gck\pr\case001` will cause the program to fail.

The second item of requested information is identifying information about the examiner. The program will ask for the examiner's name, agency, phone number, and e-mail address, as well as the name of the file containing the agency's logo. All of this information is optional and the program assumes that the logo is in the CaseRoot directory. Once this information is gathered, it is written to a file in CaseRoot named *examiner.txt*.

Alternatively, the user can create a file containing this information and place it in the CaseRoot directory. The file should have five lines with the following information:

Examiner's name
Examiner's agency
Examiner's phone number
Examiner's e-mail address
Agency logo

The name of this file can be supplied to the program using the `-e` switch:

```
perl report.pl -r template_CaseRoot -e gck.txt
```

NOTE: The agency logo file should be located in the CaseRoot directory.

Finally, the program will request information about the case itself. The program will ask for the case number, evidence number, investigator's name and agency, and any additional comments or notes (e.g., the type of device). All of this information is optional. Once this information is gathered, it is written to a file in CaseRoot named *case.txt*.

Alternatively, the user can create a file containing this information and place it in the CaseRoot directory. The file should have five lines with the following information:

Case number
Evidence identifier
Investigator's name
Investigator's agency
Comments/notes

The name of this file can also be supplied to the program, using the -c switch:

```
perl report.pl -r template_CaseRoot -e gck.txt -c 12GCK0502.txt
```

NOTE: *If the CaseRoot directory is specified using the -r switch, it should be the first switch used. In this way, the examiner (-e) and/or case (-c) files can be properly found.*

There is one additional switch that can be used with the program. The -v (verbose) switch turns on additional reporting while the program runs, listing all of the directories and image files as they are processed. This switch is merely added to the command line as follows:

```
perl report.pl -r template_CaseRoot -e gck.txt -c 12GCK0502.txt -v
```

The program's output is a file named *report.html* that can be found in the CaseRoot directory. This file can be opened with any browser.

One additional switch is -h, which will display the help file:

```
perl report.pl -h
```

One last note about the program's operation is in order. The program defaults to displaying four thumbnail images per row, where each thumbnail has a width of 200 pixels and a height of 200 pixels. These values can be changed in one of two ways.

The first way is to create a *report.ini* file in the same directory as the *report.pl* file, with the following information:

```
images_per_row,height,width
```

The second way is to edit the program itself by modifying the following lines:

```
$picsPerRow = 4;  
$height = 200;  
$width = 200;
```

Finally, note that there is a file named *icon.png* in the Picture Reporter program directory. This is an icon that will display when any non-image file is found in the case subdirectories. The *icon.png* file will automatically be copied into the CaseRoot directory by the program.

4. Sample Data Files

This is a sample examiner information file:

```
Gary C. Kessler  
Gary Kessler Associates
```

```
802-238-8913
gck@garykessler.net
gkalogo.gif
```

This is a sample case information file:

```
2012GKA0507
001-MD
Hanley A. Strappman
Univ. of Arizona P.D.
Motorola Droid Global (2010)
```

This is a sample *report.ini* file:

```
4,210,210
```

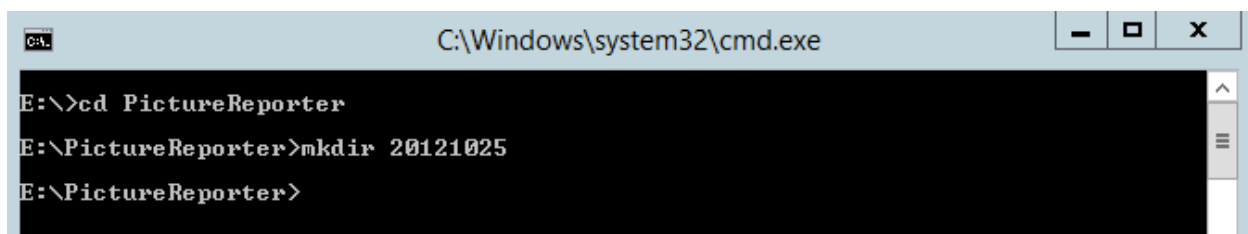
5. Step-By-Step Guide

In this detailed example, cell phone pictures will be copied into a directory named *E:\PictureReporter\20121025*. This example presumes that *report.pl* is in the parent directory, namely *E:\PictureReporter*.

Although the example here is for a Windows system, the program works equally well on a MacOS X or Linux system. To start the program, start a terminal session on a Linux or Mac OS X system or get to the DOS prompt on a Windows system.

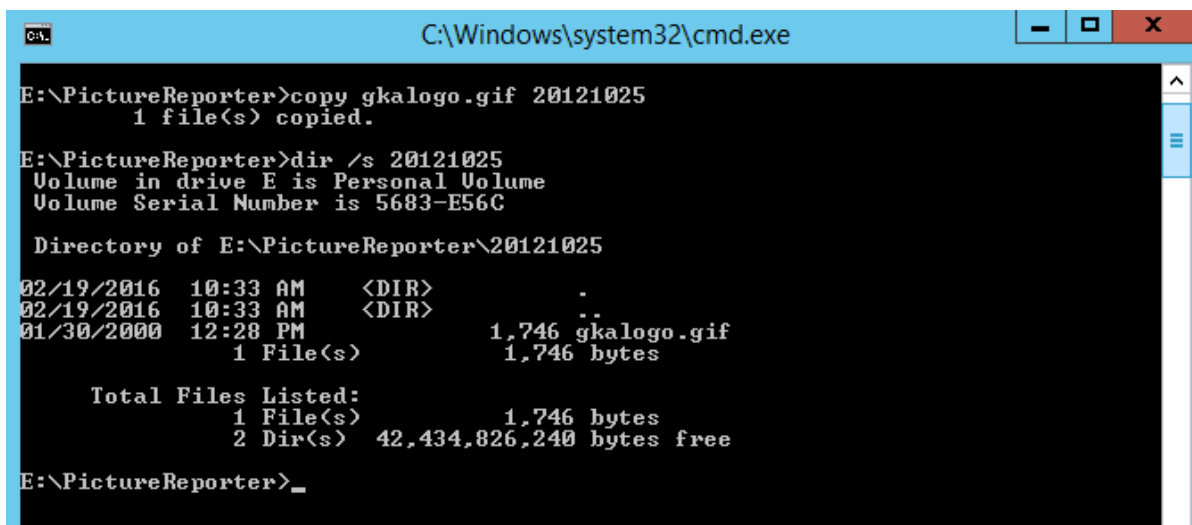
1. Create the target directory

Navigate to the *PictureReporter* directory and create the target root subdirectory where the photos will be stored. Photos can be organized in this directory as a series of descriptively-named subdirectories. In this case, the parent directory is *E:\PictureReporter* and the target root directory is *20121025*.



2. Copy logo file into target root directory

If you have a logo file for your report, copy it into the new target root directory. The purpose for doing this is so that the target root directory is fully self-contained for later use.



```

C:\Windows\system32\cmd.exe

E:\PictureReporter>copy gkalogo.gif 20121025
1 file(s) copied.

E:\PictureReporter>dir /s 20121025
Volume in drive E is Personal Volume
Volume Serial Number is 5683-E56C

Directory of E:\PictureReporter\20121025

02/19/2016  10:33 AM    <DIR>          .
02/19/2016  10:33 AM    <DIR>          ..
01/30/2000  12:28 PM             1,746 gkalogo.gif
                                1,746 bytes
1 File(s)
Total Files Listed:
1 File(s)          1,746 bytes
2 Dir(s)  42,434,826,240 bytes free

E:\PictureReporter>_

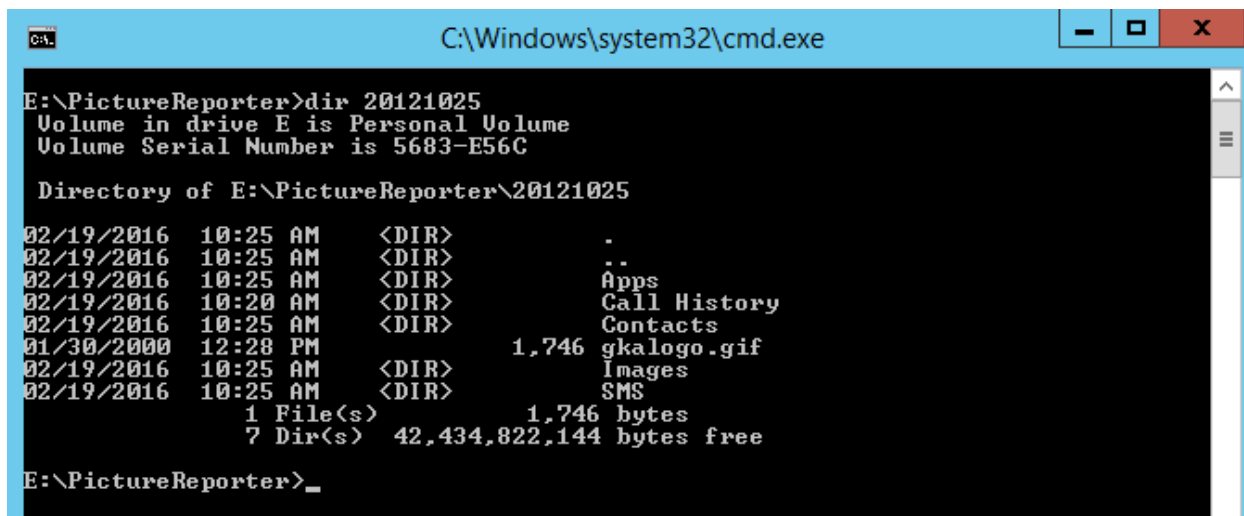
```

At this point, the only contents of the new target directory are the logo file.

NOTE: If you have a standard *examiner.txt* file that you wish to use, it should also be moved into the new target directory.

3. Take pictures and move into target root directory

Take screen shots and other pictures using whatever camera you have and place into directories that have descriptive names. Once that task is completed, copy (or move) the directories with the pictures into the target root directory. This can be done via the DOS command prompt or with Windows Explorer. When this task is completed, the target root directory should contain the logo file and your picture directories.



```

C:\Windows\system32\cmd.exe

E:\PictureReporter>dir 20121025
Volume in drive E is Personal Volume
Volume Serial Number is 5683-E56C

Directory of E:\PictureReporter\20121025

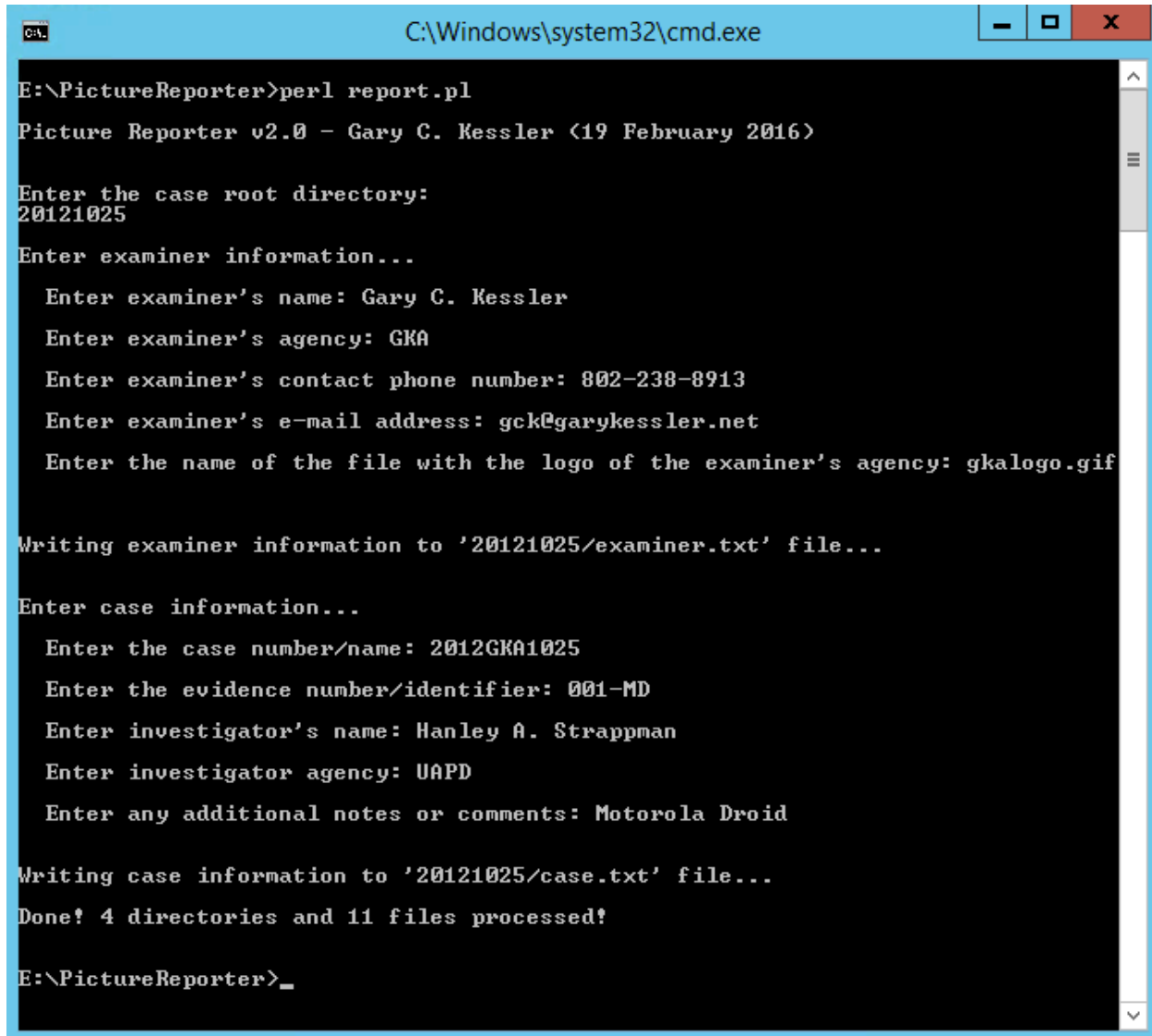
02/19/2016  10:25 AM    <DIR>          .
02/19/2016  10:25 AM    <DIR>          ..
02/19/2016  10:25 AM    <DIR>          Apps
02/19/2016  10:20 AM    <DIR>          Call History
02/19/2016  10:25 AM    <DIR>          Contacts
01/30/2000  12:28 PM             1,746 gkalogo.gif
02/19/2016  10:25 AM    <DIR>          Images
02/19/2016  10:25 AM    <DIR>          SMS
1 File(s)          1,746 bytes
7 Dir(s)  42,434,822,144 bytes free

E:\PictureReporter>_

```

4. Run the program (initial report)

Run *report.pl* for the initial report without any parameters, unless you have already created a *case.txt* and/or *examiner.txt* data file.



```
C:\Windows\system32\cmd.exe

E:\PictureReporter>perl report.pl
Picture Reporter v2.0 - Gary C. Kessler <19 February 2016>

Enter the case root directory:
20121025

Enter examiner information...
  Enter examiner's name: Gary C. Kessler
  Enter examiner's agency: GKA
  Enter examiner's contact phone number: 802-238-8913
  Enter examiner's e-mail address: gck@garykessler.net
  Enter the name of the file with the logo of the examiner's agency: gkalogo.gif

Writing examiner information to '20121025/examiner.txt' file...

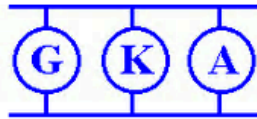
Enter case information...
  Enter the case number/name: 2012GKA1025
  Enter the evidence number/identifier: 001-MD
  Enter investigator's name: Hanley A. Strappman
  Enter investigator agency: UAPD
  Enter any additional notes or comments: Motorola Droid

Writing case information to '20121025/case.txt' file...
Done! 4 directories and 11 files processed!

E:\PictureReporter>_
```

5. Open the HTML file

The report can be found in an HTML file named *report.html* in the target root directory.



CASE FILE REPORT

Examiner's Name: Gary C. Kessler
Examiner's Agency: GKA
Phone Number: 802-238-8913
E-mail: gck@garykessler.net

Case Number: 2012GKA1025
Evidence Number: 001-MD
Investigator's Name: Hanley A. Strappman
Investigator's Agency: UAPD

Report Date: 02/19/2016

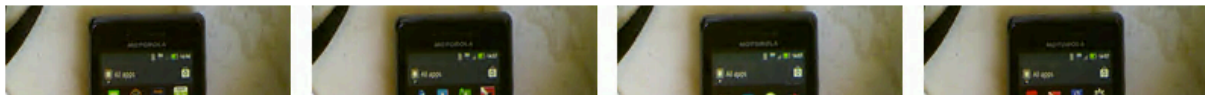
Report Time: 10:38

Notes: Motorola Droid

List of Directories

- [Apps](#)
- [Contacts](#)
- [Images](#)
- [SMS](#)

Directory: Apps



6. Rerunning the program

If any changes are made to files or you need to rerun the program for any reason, you can reuse the *case.txt* and/or *examiner.txt* files merely by naming them in the command line:

```
C:\Windows\system32\cmd.exe

E:\PictureReporter>perl report.pl -r 20121025 -e examiner.txt -c case.txt
Picture Reporter v2.0 - Gary C. Kessler <19 February 2016>

Done! 5 directories and 15 files processed!

E:\PictureReporter>_
```

NOTE: Remember that the *-r* parameter needs to be listed first!

Acknowledgements

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