Captcha Intruder

http://cintruder.sf.net

THSF – 2012

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OCR (Optical Character Recognition)

“mechanical or electronic conversion of scanned images of handwritten, typewritten or printed text into machine-encoded text”

OCR is a field of research in:

- *pattern recognition*
- *artificial intelligence*
- *computer vision*

Ray Kurzweil (1974): "best application of this technology would be to create a reading machine for the blind"

OCR (Optical Character Recognition)

List of OCR software (not security pentesting oriented):
http://en.wikipedia.org/wiki/List_of_optical_character_recognition_software

By licenses:

- *Proprietary: 18*
- *Apache: 3*
- *BSD: 2*
- *GPL: 3*

Some code/ideas for captcha 'crackers':

- *PWNtcha*
- *Captcha Killer 2.0*
- *Captcha Sniper*
- *Tesseract OCR engine*

CIntruder: The Captcha Intruder

Semi-automatic pentesting tool to bypass captchas.

- *Python (2.x)*
- *Semi-automatic tasks*
- *Free Software → GPLv3.0*
- *Start-up: 1st April, 2012*

- *Current version: v0.2 (27/04/2012)*
- *Changelog: review*
- *Source: download it!*

- *Code repository:*

hg clone http://hg.code.sf.net/p/cintruder/code cintruder-code

Installation

Code runs on many platforms. It requires:

- *python-pycurl* — *Python bindings to libcurl*
- *python-libxml2* — *Python bindings for the GNOME XML library*
- *python-imaging* — *Python Imaging Library*

On Debian-based systems (ex: Ubuntu), run:

```
sudo apt-get install python-pycurl python-libxml2 python-imaging
```

Usage

```
--version             show program's version number and exit
-h, --help            show this help message and exit
-v, --verbose         active verbose mode output results
--proxy=PROXY         use proxy server (tor: http://localhost:8118)
--track=TRACK         download a number of captchas from url (to: 'inputs/')
--train=TRAIN         apply common OCR techniques to captcha
--crack=CRACK         brute force using local dictionary (from: 'iconset/')
--xml=XML             export result to xml format

Advanced OCR (training):
  --set-id=SETIDS     set colour's id manually (use -v for details)
  --editor            launch an editor to apply image filters

Modules (training):
  --list              list available modules (from: 'core/mods/')
  --mod=NAME          train using a specific OCR exploiting module
```

Usage

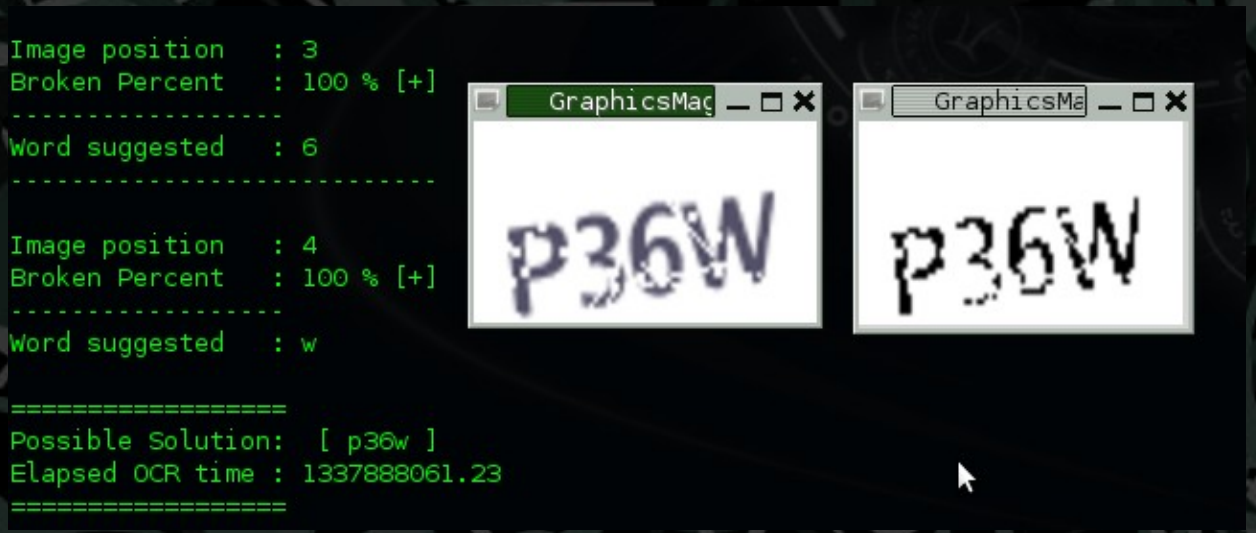
Handlering (cracking):

--tool=COMMAND replace suggested word on commands of another tool. use 'CINT' marker like flag (ex: 'txtCaptcha=CINT')

CIntruderNet ('http://cintruder.sf.net/cinet'):

--send-net send resolved captcha to CIntruderNet

--view-net visit distributed online dictionary website



Example of “cracking”, with unix editor results

Usage

Tracking retrieve captchas directly from url, is usefull for:

$ python cintruder –track “http://host/path/captcha.gif” 100

- session captchas
- limited dictionary (download all!)

Training apply common OCR techniques to captcha ('train' dictionary):

generate a dictionary to launch brute force attacks:

$ python cintruder –train “http://host/path/captcha.gif|file.gif”

- train specific modules (ex: easycaptcha, reCaptcha...):

$ python cintruder –train “http://host/path/captcha.gif|file.gif” --mod “easy”

Usage

Cracking compare captchas with an iconset dictionary:

$ python cintruder –crack “http://host/path/captcha.gif”

- local dictionary
- distributed dictionary (on the way!)

Sharing send valid “broken” captchas to a common results place:

$ python cintruder –crack “http://host/path/captcha.gif|file.gif” --send-net

Main idea is to create a good database of broken captchas. We will 'crack' more faster, sharing them.

https://identi.ca/cintrudernet - https://twitter.com/cintrudernet

Captcha Intruder Distributed Online Dictionary

- #cintruder v0.2 - Distributed Online Dictionary - info: http://t.co/PKHZLBF5 about 19 hours ago
- #cintruder 69d1172c39a15867cbd5b5b762bb0987 - target: http://t.co/l8QyvDvm | word: ygre 27 days ago
- #cintruder dae6a7fb3e1fdf4a09609298280e1b08 - target: http://t.co/187e39GB | word: yeye 28 days ago
- #CIntruder v0.2 - Distributed Online Dictionary - info: http://t.co/PKI4jbFZ 28 days ago

Ninja scenarios

Security profesionals:

- possibility to perform pentesting tests on forms with captchas
- with –tool is possible to use cintruder like “proxy”

Example:

Replace suggested word by CIntruder after cracking, on input commands of another tool (ex: XSSer)

python cintruder --crack "http://host.com/path/captcha.gif" --tool "xsser -u http://host.com/path/param1=foo&param2=bar&txtCaptcha=CINT"

Hacktivists:

- perform massive campaings of web mailing (just spam!)

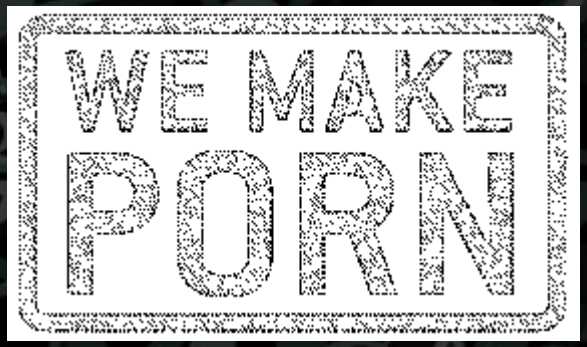
Present → Future

Open tasks:

- research more specific OCR algorythm modules (reCaptcha!?)
- recognize unities after training processes as words
- move that unities to correct folder on dictionary (/iconset/)
- “crack” captchas using distributed online dictionary (Cinet)
- build a GUI and add “drag and drop” options
- still dreaming more ideas ;-)

Mailing list:

cintruder-users@lists.sourceforge.net




```
OCR processing...
================
Training Results:
================
Number of 'words' extracted:  10
Output folder               :  outputs/words/

2088997d1b4bb6d88a282732ff273eb4.gif  3ca10691389f923acee969dd115c6b96.gif
2a60ce512973d456261ccb353d67d24c.gif  3ca64d561c6c3a2bb9af663ebf00e2ca.gif
34abd1afddca075591750d2880885c96.gif  5645d0807fa06811b94c5cef69a34cb8.gif

Now, move each image to the correct folder on your dictionary: '/iconset/'
```

```
====================
Possible Solution:   [ wemakeporn ]
====================
```

lordepsylon.net

epsylon@riseup.net
0X3CAA25B3

https://identi.ca/psy

https://twitter.com/lord_epsylon