

A Smörgåsbord of Typos: Exploring International Keyboard Layout Typosquatting

Victor Le Pochat, Tom Van Goethem, Wouter Joosen

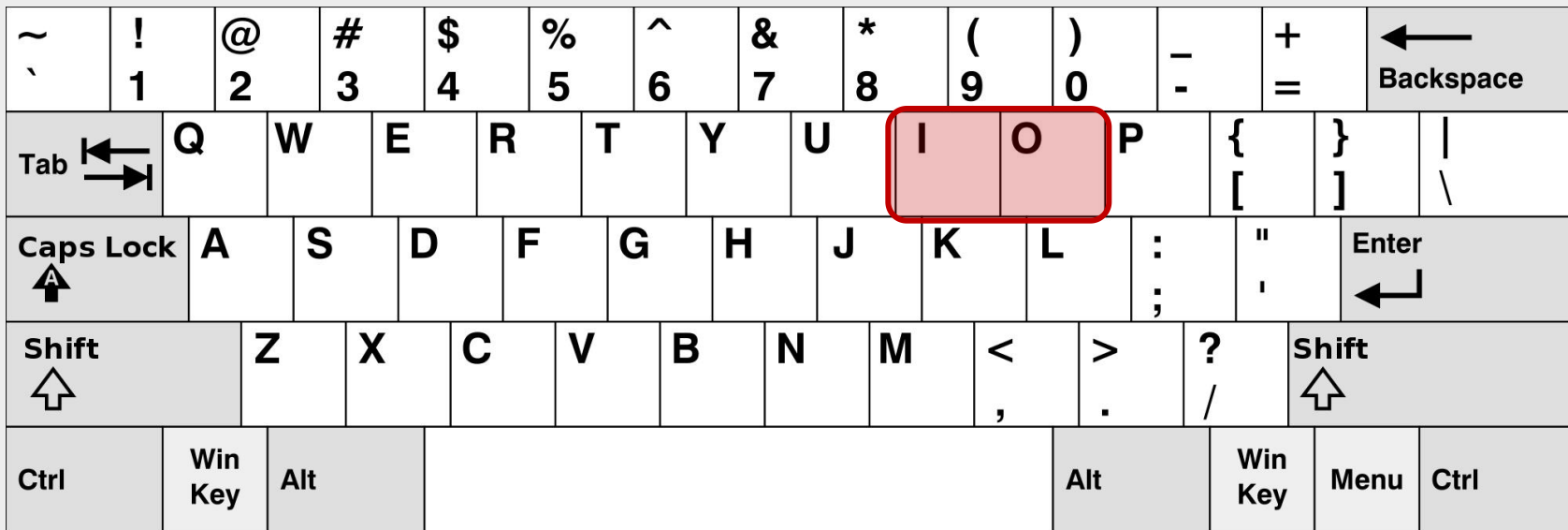
WTMC 2019, 23 May 2019

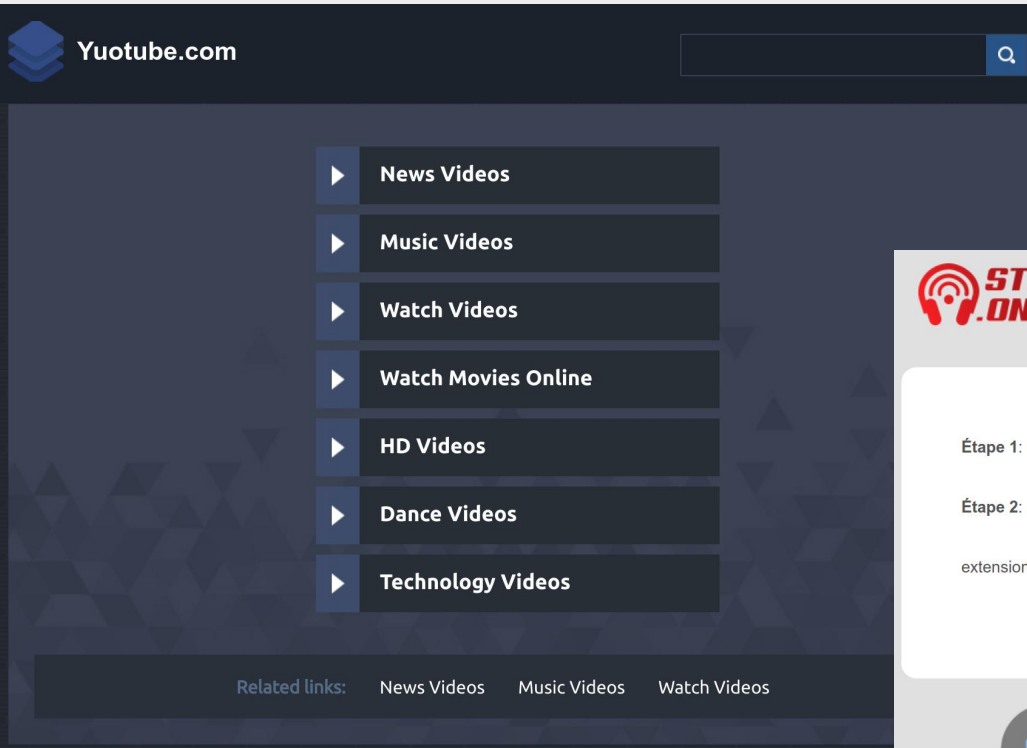
Typosquatting exploits human error in typing domains

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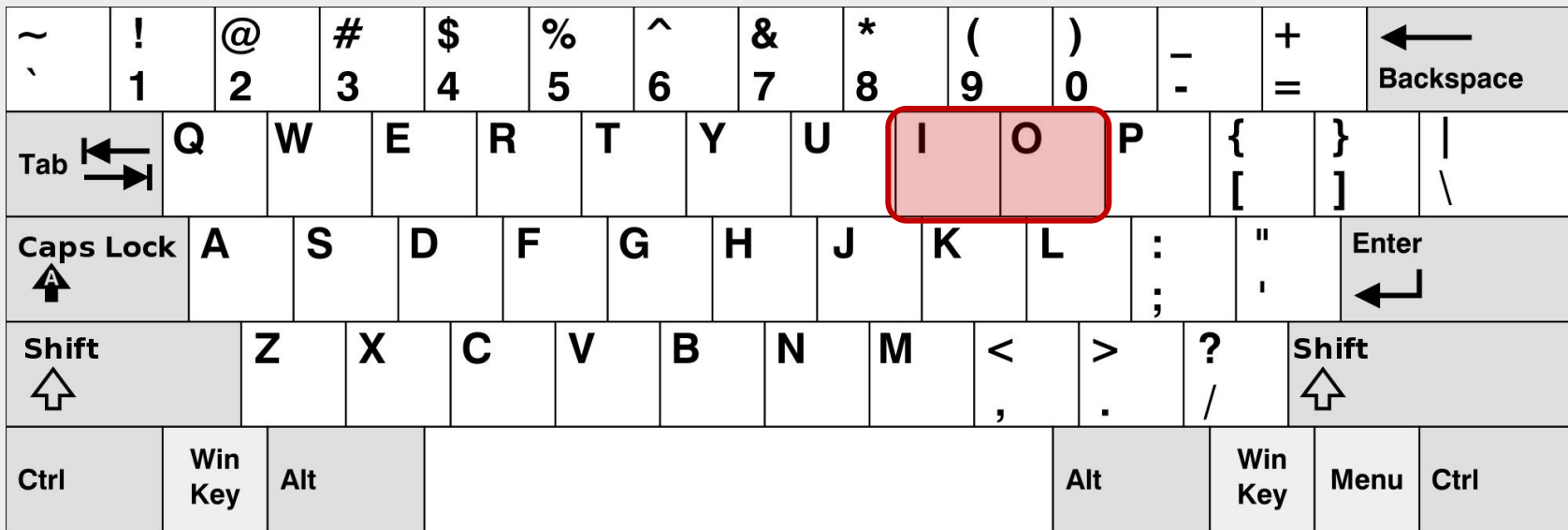
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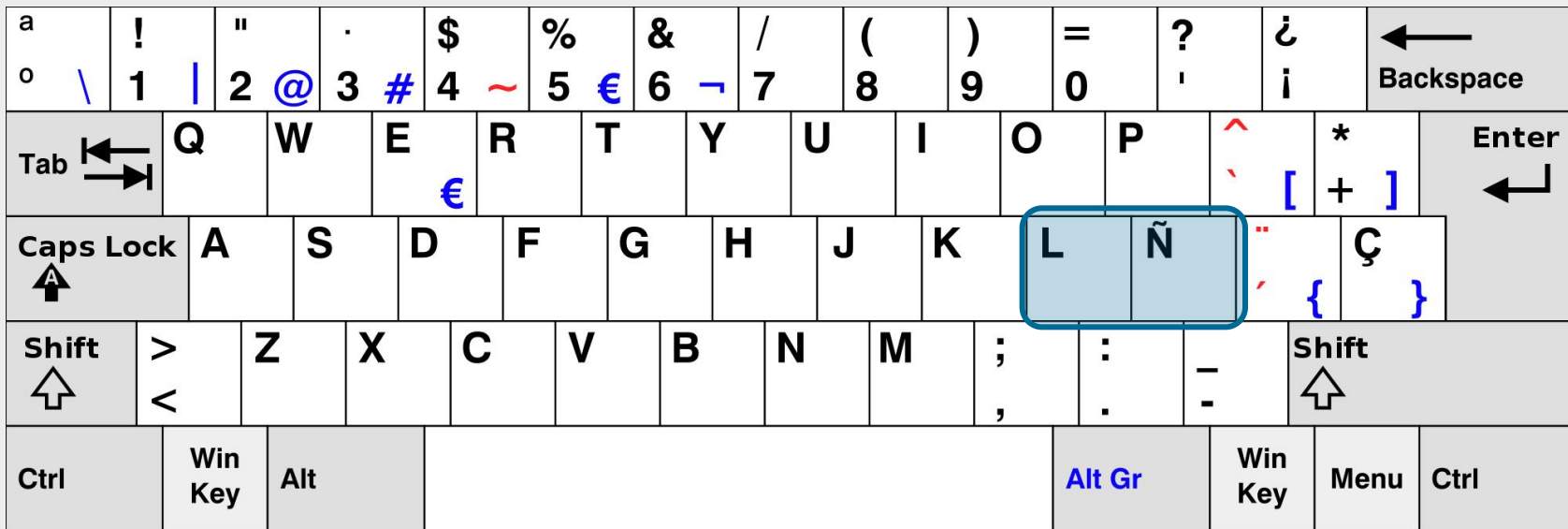


Typosquatting exploits human error in typing domains

elpais.com

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eñpais.com

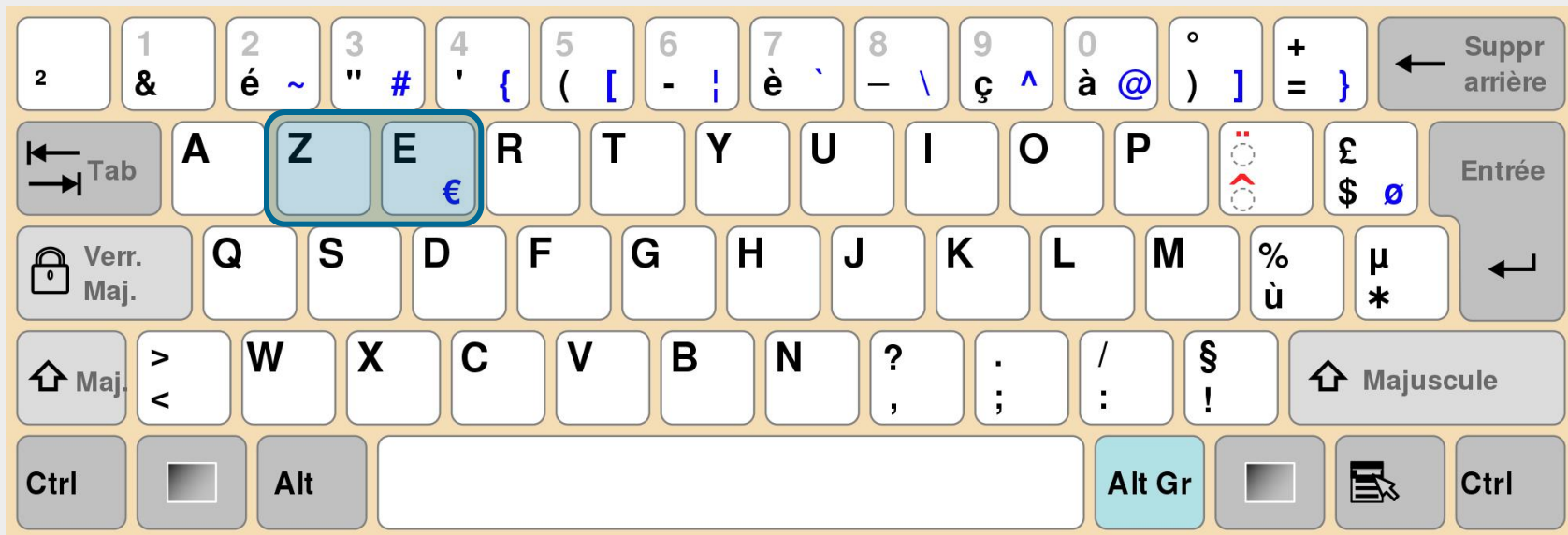


Typosquatting exploits human error in typing domains

facebook.com

≠

faczbook.com




Which users are targeted?

Which domains are targeted?

How are domains monetized?

We study typosquatting on international keyboard layouts

Tranco top 100 000 ⁽¹⁾ 23 keyboard layouts



generate candidates:
replace with or *insert* adjacent character



13 189 391 candidate typo domains

⁽¹⁾ <https://tranco-list.eu/list/M5LN/100000>

Which users are squatters targeting?

13 189 391 candidate typo domains

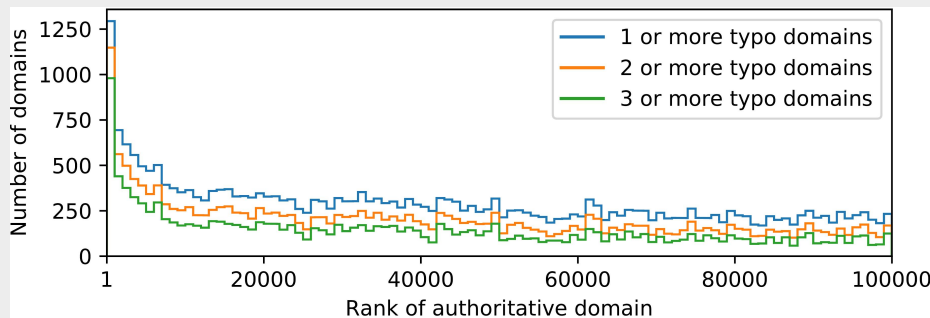
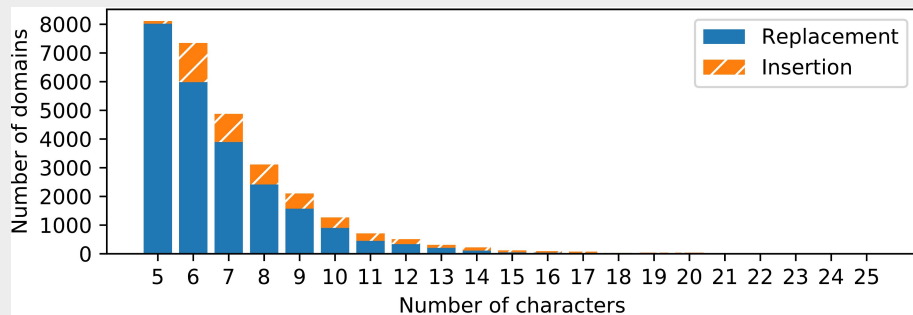


28 943 registered
(290 IDNs)

German users are most targeted

Which domains are squatters targeting?

28 943 registered



**Short and popular domains
are most targeted**

Which domains are squatters targeting?

RetailMeNot

16/16

EQUIFAX[®]
equifaxsecurity2017.com

36/37



TeamViewer

20/21

Allstate[®]
You're in good hands.

15/16

Which domains are squatters targeting?

amazon

32/60

Windows Live
Hotmail



1/17

 **Gmail**

1/12

Google



YouTube

0/30

How are squatters monetizing domains?

sedoparking.com
parkingcrew.net
cashparking.com

premium.pl -> Parking/for sale
markmonitor.com -> Brand protection

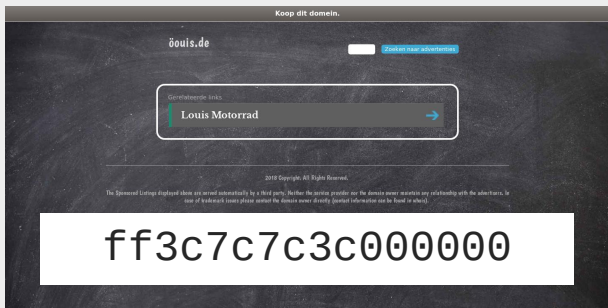
Known parking services [Vis15]

Common/same record values

Usage class

Screenshot hashes

Common phrases/keywords



Default Parallels Plesk Page
-> Empty

How are squatters monetizing domains?

39.5%

parked/for sale

3.0%

defensive

How are squatters monetizing domains?

93

**affiliate
abuse**

113

blacklisted

116

scam



NIEUWS

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Coolblue verkoopt de Apple iPhone XS voor slechts 1.50 euro

TTR | 27 december. 2018 | 12u06 | Bron: Reuters



DEEL

788



REAGEER

Coolblue sells the Apple iPhone XS for just 1.5 euro



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23u20 Twitter-vete tussen Azealia Banks en Lana Del Rey loopt uit de...

23u11 "Het politieke spel is nog nooit zo hard gespeeld"

MEEST GELEZEN OP HLN



1

Vertenten blijft aangehouden, bond wil hem en Delfiëre levenslang...

784.486 keer gelezen



2

Spectaculaire beelden: Boeing vliegt recht op wolkenkrabber af

183.506 keer gelezen



3

Vader en dochter urenlang opgesloten na vergissing aan zelfscankassa Ikea

161.744 keer gelezen

MELD EEN BUG

The localized character of typosquatting is clear

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Which users are targeted?

Which domains are targeted?

How are domains monetized?

Companies and squatters understand the **risk** and **value** of these typo domains

- › Companies: **defensive registrations** show some are aware *but* they are often **incomplete** and many **ignore** these domains altogether
- › Squatters: targeting users with clearly **localized campaigns** mainly monetizing domains through **parking** *but* also through more **malicious practices**

DistrINet

Thank you!

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@VictorLePochat

References

1. [LeP19] Le Pochat, V., Van Goethem, T., Tajalizadehkhoob, S., Korczyński, M., Joosen, W.: Tranco: a research-oriented top sites ranking hardened against manipulation. In: 26th Annual Network and Distributed System Security Symposium, February 2019. <https://doi.org/10.14722/ndss.2019.23386>
2. [Vis15] Vissers, T., Joosen, W., Nikiforakis, N.: Parking sensors: analyzing and detecting parked domains. In: 22nd Annual Network and Distributed System Security Symposium. Internet Society (2015)
3. [Agt15] P. Agten, W. Joosen, F. Piessens, and N. Nikiforakis, “Seven months’ worth of mistakes: A longitudinal study of typosquatting abuse,” in 22nd Annual Network and Distributed System Security Symposium, 2015.
4. [Szu14] J. Szurdi, B. Kocso, G. Cseh, J. Spring, M. Felegyhazi, and C. Kanich, “The long “taile” of typosquatting domain names,” in 23rd USENIX Security Symposium, 2014, pp. 191–206.