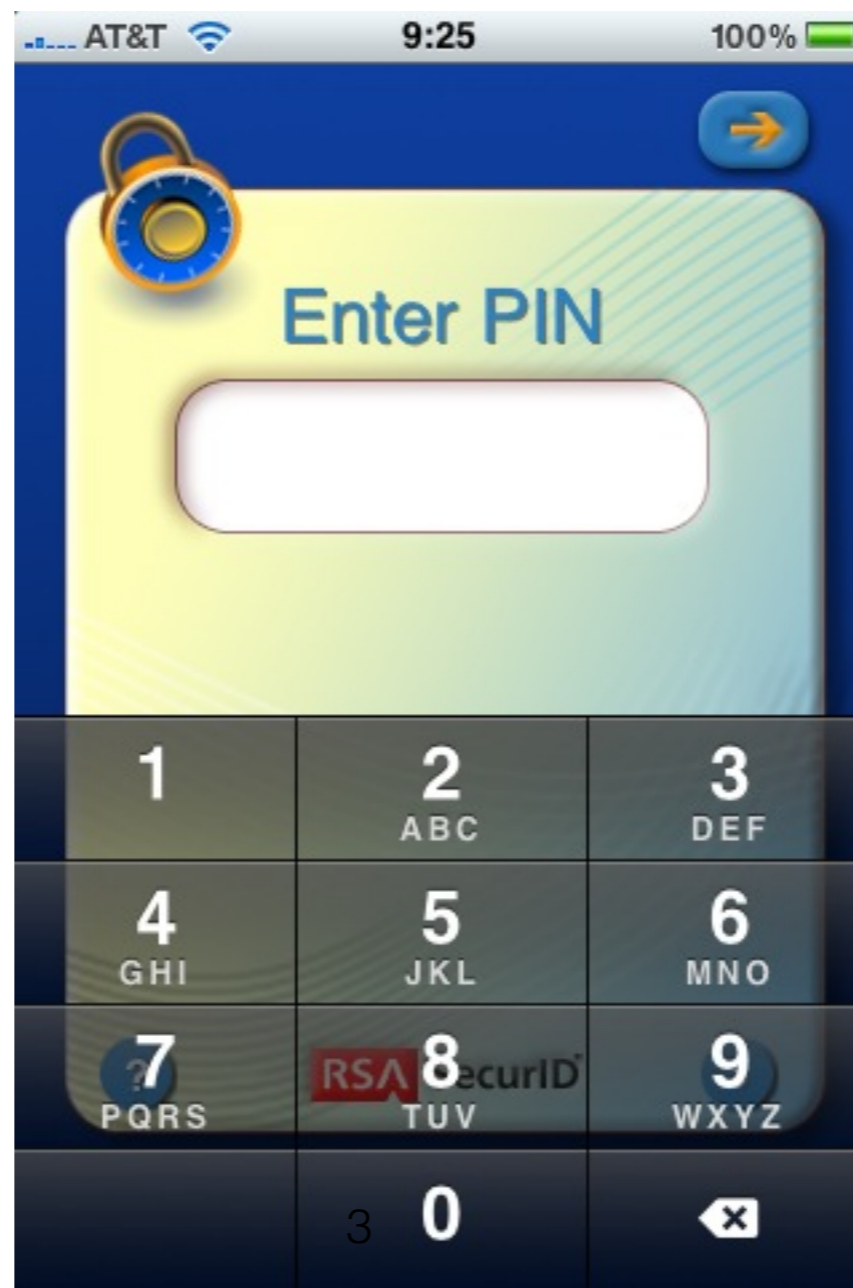


Smartphone security: a study

Bill Cheswick
ches@cheswick.com
Visiting Scholar, U Penn.





Amlogic S905 SoC: bypassing the (not so) Secure Boot to dump the BootROM

- <http://www.fredericb.info/2016/10/amlogic-s905-soc-bypassing-not-so.html>

```
// zero and free those key bytes

-(void) dealloc {
    uint8_t *keyBytes = (void *)[keyData bytes];
    // NSLog(@"zeroing key");
    memset(keyBytes, 0, KEY_BYTES);
    [keyData release];
    [super dealloc];
}
```

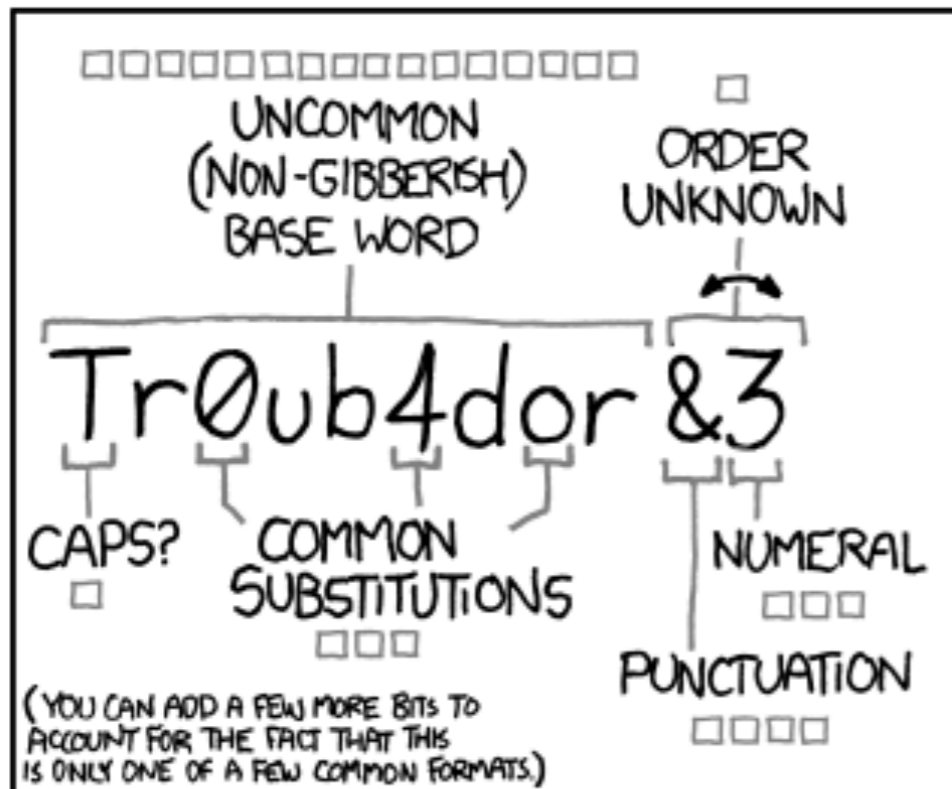
PASSWORD STRENGTH



< PREV

RANDOM

NEXT >



~28 BITS OF ENTROPY

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$2^{28} = 3 \text{ DAYS AT } 1000 \text{ GUESSES/SEC}$

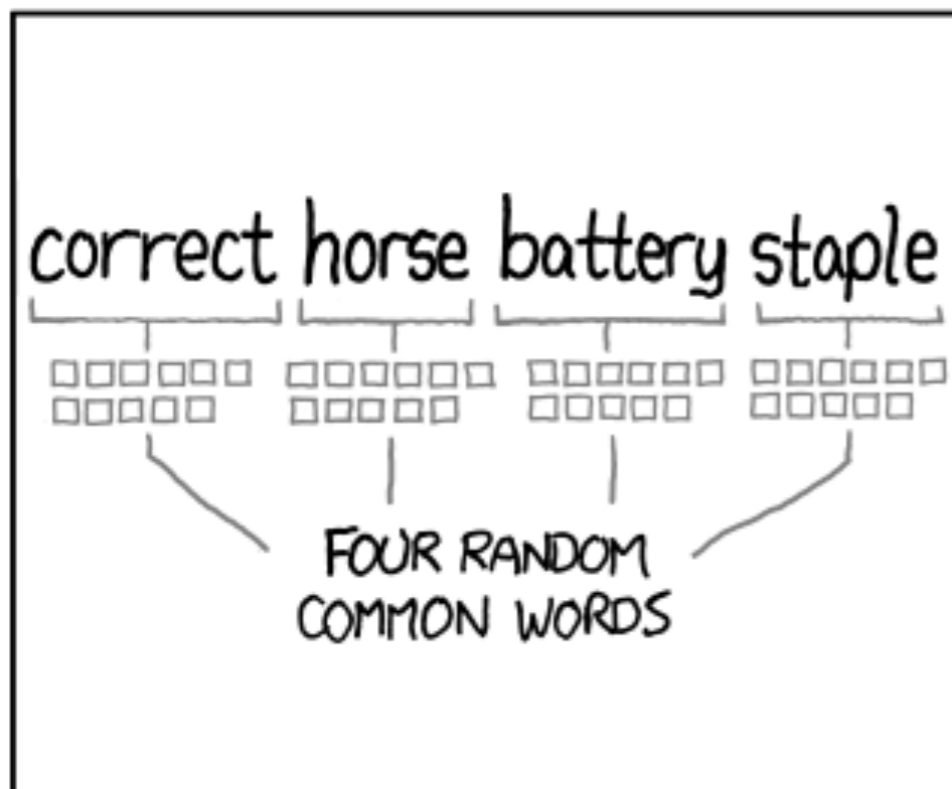
(PLAUSIBLE ATTACK ON A WEAK REMOTE WEB SERVICE. YES, CRACKING A STOLEN HASH IS FASTER, BUT IT'S NOT WHAT THE AVERAGE USER SHOULD WORRY ABOUT.)

DIFFICULTY TO GUESS:
EASY

WAS IT TROMBONE? NO, TROUBADOR. AND ONE OF THE 0s WAS A ZERO?

AND THERE WAS SOME SYMBOL...

DIFFICULTY TO REMEMBER:
HARD



~44 BITS OF ENTROPY

□□□□□□□□□□ □

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$2^{44} = 550 \text{ YEARS AT } 1000 \text{ GUESSES/SEC}$

DIFFICULTY TO GUESS:
HARD

THAT'S A BATTERY STAPLE.

CORRECT!

DIFFICULTY TO REMEMBER:
YOU'VE ALREADY MEMORIZED IT

THROUGH 20 YEARS OF EFFORT, WE'VE SUCCESSFULLY TRAINED EVERYONE TO USE PASSWORDS THAT ARE HARD FOR HUMANS TO REMEMBER, BUT EASY FOR COMPUTERS TO GUESS.

105 0
keylength 15
KeyStretchLoops 347514
KeyStretchTime 1.000
salt 911CE960669405E661FEA450563C310835BD031E1179166302343F
D5B5D7E5A8
IV 1225076E665F69B967FAFD2BFD9E7389jRDfIAes156scwqNhod+lK
5fP4oHPnMU

JLAvuFdEFIjPOnlk3gvEkuB02FunrSpDrP65q07wriL43r3y1GZGA==

wordlist 4k
wordwidth 12
words 4096

a
abandoned
ability
able
aboard
...