

# How Hackers Crack Your Passwords

- They don't go to the applications and try various combo of your passwords!
- They will commonly sniff & extract the "password hash" over the internet as you log in.
  - Normally systems uses common standard hash function
- They will write or use a password cracking program with dictionary of common passwords. They will crack Offline!
- They store password hashes in dictionaries.
- If your password hash appear in the dictionary, you are toast!

# Something You Know: Passwords

- Attackers interested in hacking into somebody's account can use **password-cracking programs** to try many common login names and concatenations of common words as passwords.
- Such password cracking programs can easily determine 10 to 20 percent of the usernames and passwords in a system.
- Of course, to **gain access to a system**, an **attacker typically needs only one valid username and password**.
- **Passwords are relatively easy to crack**, **unless** users are somehow **forced to choose passwords** that are **hard for such password-cracking programs** to guess.

# Something You Know: Passwords

- A second disadvantage of password security systems is that a user needs to reuse a password each time she logs into a system—that gives an attacker numerous opportunities to “listen in”.
  - IMAGINE ONE FINE DAY A **KEYLOGGER** WAS INSTALLED INTO YOUR PC....
- If the attacker can successfully “listen in” on a password just once, the attacker can then **log in as YOU** UNTIL U NEXT CHANGE YOUR PASSWORD!

# Something You Know: Passwords

- A **one-time password** (OTP) system, which forces the user to enter a **new password** each time she logs in, eliminates the risks of using a password multiple times.
- This basic idea to implement this naturally leads us from the topic of “**something you know**” to the topic of “**something you have.**”
- OTP is sent to your bank token in the past when u try to access your bank account.
- Now banks send OTP your handphone.
- **Don't lose your handphone!**

# Something You Have