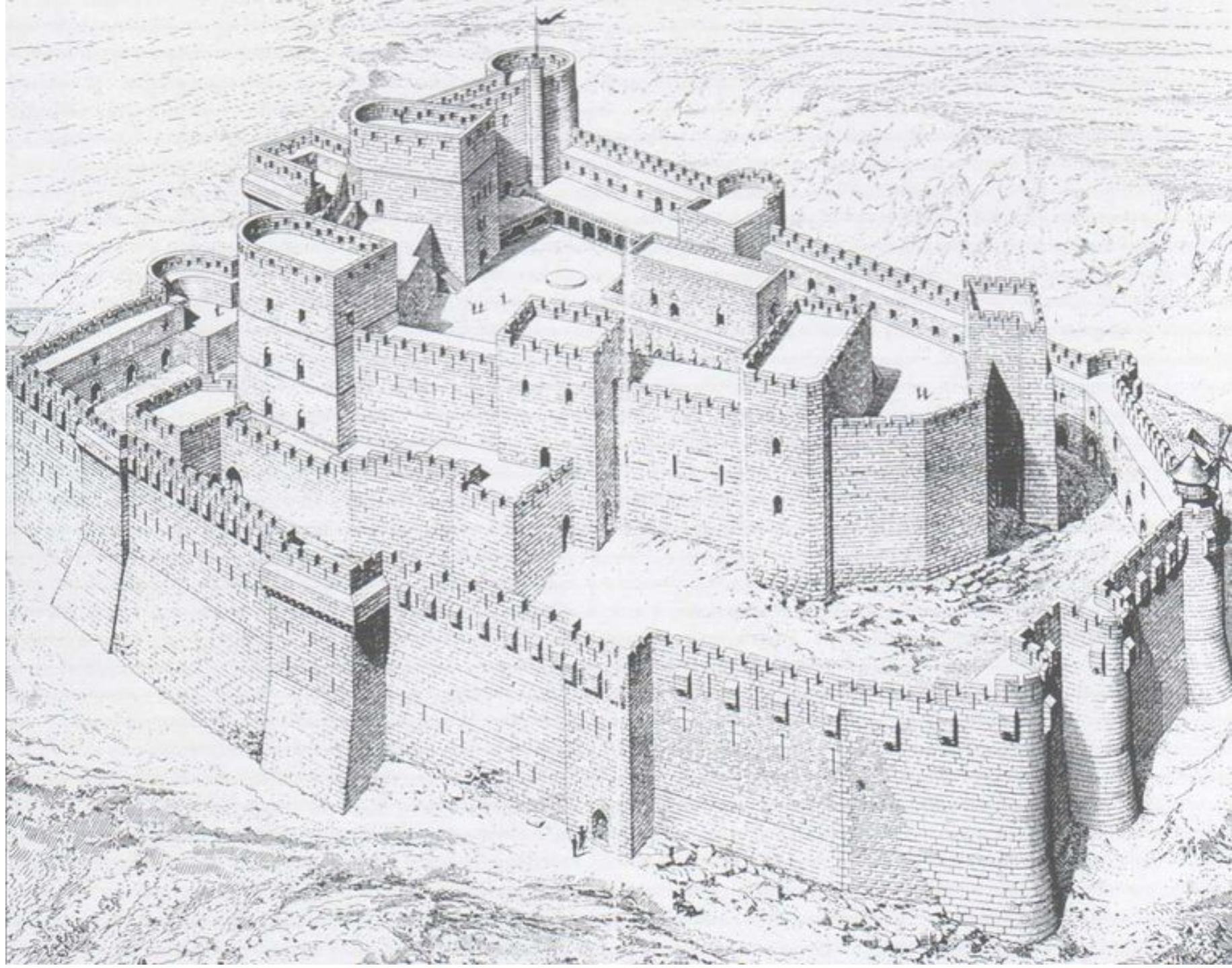# Security Principles

CS 161: Computer Security

Prof. David Wagner

February 1, 2016

"Defense in depth."

"Company policy: passwords must be at least 10 characters long, contain at least 2 digits, 1 uppercase character, 1 lowercase character, and 1 special character."

company Portal
Password: 1secret

Bank
password:
go Mets 12

e-mail:
letmein

credit card:
bowser 8

brokerage:
iniTial23

Log in

https://login.postini.c ▼ ▶ G • Google

Log in to your message center.

Invalid log in or server error. Please try again.

Forgot your password?

Log in Address zazoo@netnet.com

example: joe234@jumbowidgetsco.com

Password ‧‧‧‧‧‧‧‧

note: password is case-sensitive

☑ Remember my Address and Password (what is this?)

LOG IN

Done   login.postini.com

Last Updated: Tuesday, 20 April, 2004, 01:44 GMT 02:44 UK

✉ E-mail this to a friend   🖶 Printable version

Passwords revealed by sweet deal

More than 70% of people would reveal their computer password in exchange for a bar of chocolate, a survey has found.

It also showed that 34% of respondents volunteered their password when asked without even needing to be bribed.

Security crumbles in the face of sweet bribes

A second survey found that 79% of people unwittingly gave away information that could be used to steal their identity when questioned.

Security firms predict that the lax security practices will fuel a British boom in online identity theft.

TC-0

What a piece of work is a man! how Noble in
Reason! how infinite in faculty! in form and moving
how express and admirable! in Action, how like an Angel!
in apprehension, how like a God!
    -- *Hamlet* Act II, Scene II

"Humans are incapable of securely storing high-quality cryptographic keys, and they have unacceptable speed and accuracy when performing cryptographic operations.

-- *Network Security: Private Communication in a Public World*,
Charlie Kaufman, Radia Perlman, & Mike Speciner, 1995

"Psychological acceptability."

Internet Explorer

When you send information to the Internet, it might be possible for others to see that information. Do you want to continue?

☑ In the future, do not show this message.

[Yes]   [No]

Internet Explorer ✕

When you see a dialog box like this, click 'Yes' to make it go away. If available, click the checkbox first to avoid being bothered by it again.

☑ In the future, do not show this message.

[Yes]   [No]

Website Certified by an Unknown Authority ✕

⚠ Unable to verify the identity of svn.xiph.org as a trusted site.

Possible reasons for this error:

- Your browser does not recognise the Certificate Authority that issued the site's certificate.

- The site's certificate is incomplete due to a server misconfiguration.

- You are connected to a site pretending to be svn.xiph.org, possibly to obtain your confidential information.

Please notify the site's webmaster about this problem.

Before accepting this certificate, you should examine this site's certificate carefully. Are you willing to to accept this certificate for the purpose of identifying the Web site svn.xiph.org?

[Examine Certificate...]

○ Accept this certificate permanently

◉ Accept this certificate temporarily for this session

○ Do not accept this certificate and do not connect to this Web site

[OK]   [Cancel]

Website Certified by an Unknown Authority ✕

⚠️ Unable to verify the identity of svn.xiph.org as a trusted site.
Blah blah geekspeak geekspeak geekspeak.

Before accepting this certificate, your browser can display a second dialog full of incomprehensible information. Do you want to view this dialog?
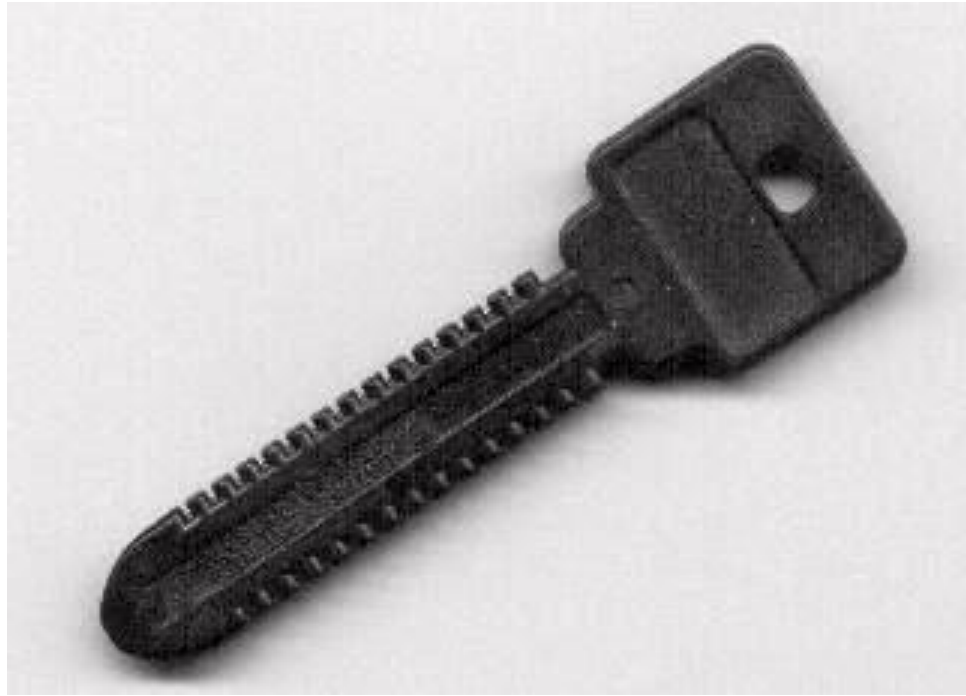
[View Incomprehensible Information]

⦿ Make this message go away permanently

◯ Make this message go away temporarily for this session

◯ Stop doing what you were trying to do
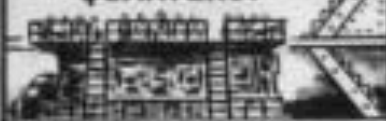
[OK]   [Cancel]

"Consider human factors."

SURFACE of EARTH.

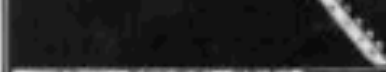OFFICERS QUARTERS.

SOLDIERS' QUARTERS.

DIESEL MOTORS for AIR and LIGHT.

← TO SLEEPING QUARTERS.

SOLDIERS' QUARTERS.

FOOD.

AMMUNITION.

CLERKS.

TELEPHONE BUREAU.

MEDICINE SUPPLIES.
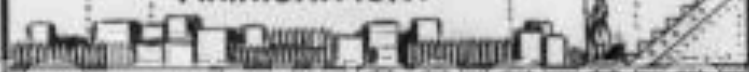
HOSPITAL.

SUBTERRANEAN R.R. CONNECTION.

AMMUNITION STORES.

325 Feet

Dover

Essen

BELGIUM

Antwerp

Brussels

Maastricht

Cologne

Lille

Liège

GERMAN

Namur

Frankfurt

LUXEMBOURG

FRANCE

Paris

Strasbourg

Basel

Weak fortifications

Strong fortifications

France

UNITED KINGDOM
English Channel
BELGIUM
GERMANY
©GeoSystems
LUXEMBOURG
Cherboug
Paris
LIECH. AUSTRIA
SWITZERLAND
Atlantic
Ocean
ITALY
Vichy
Bay
of
Biscay
MONACO
Ligurian Sea
Golfe
du Lion
Corsica
ANDORRA
Mediterranean Sea
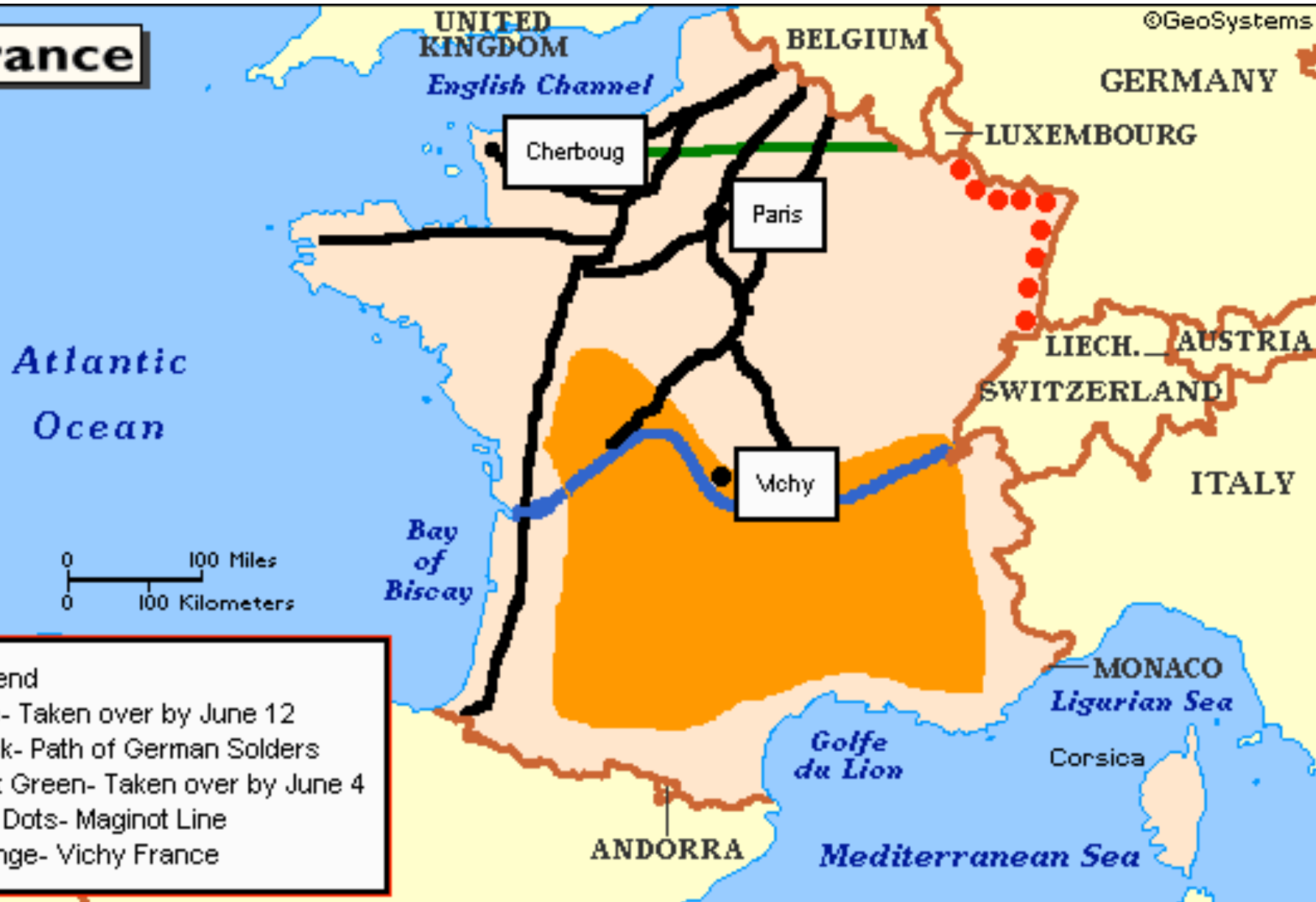
Legend
Blue- Taken over by June 12
Black- Path of German Solders
Dark Green- Taken over by June 4
Red Dots- Maginot Line
Orange- Vichy France

"Only as secure as the weakest link."

Windows Product Activation

Your Windows product must be activated within 7 days.
Do you want to activate Windows now?

Yes   No

Wells Fargo Web-enables 6,200 ATMs

The Windows-based infrastructure enables remote upgrades

By **Lucas Mearian**

March 3, 2005 12:00 PM ET ⏎ Add a comment

Twitter in g+ +1 Ju ⬤ f Like 0 ✉ T + Briefcase More

Computerworld - Wells Fargo & Co. announced this week that it has completed a five-year project to Web-enable its 6,200 ATMs in 23 states. The Windows-based infrastructure is designed to allow Wells Fargo to update and add services such as new languages and envelope-free deposits to its entire network remotely.

Wells Fargo took all "the rational steps you'd take to harden any operating system," such as closing unused ports. But, "the reality is you can't buy a new ATM that runs OS/2. This is where the industry is," he said.

"Threat models change."

"Design security in from the start."
(Beware *bolt-on security*.)

ACCIDENT
ON
MOTORWAY

TRAPPED
IN SIGN
FACTORY

SEND
HELP !

"Don't rely on security through obscurity."

Coming Up …

- Homework 1 due today
- Get started on Project 1!

"Threat models change."