Security at Different Layers of Abstractions
Application, Operating Systems, and Hardware

Bryan D. Payne Engineering Manager, Platform Security
Diamond heist baffles police

Belgian police are trying to unravel events behind a daring robbery in the diamond-cutting capital of the world.

Thieves cleared out 123 of the 160 vaults in the maximum security cellars at Antwerp's Diamond Centre at the weekend, but the raid was only discovered the next day.

The precise value of the stolen diamonds is not known, but Belgian media have speculated it could run to millions of dollars.

Diamond traders in the city have been shocked by the audacity of the robbery and fear it could be a blow to their industry.

Inside job?

The Diamond Centre building, located in the heart of Antwerp's historic diamond district, is closely guarded.

There are surveillance cameras, entry codes, 24-hour security guards, and even cameras in the vaults.

But with no signs of a break-in, police suspect the thieves could have had inside help and have been questioning staff and owners of the safes at the centre.

Antwerp's Diamond High Council, which represents the gemstone traders, has admitted the robbery could have serious implications for an industry proud of its discretion and security.
1. Combination dial
2. Keyed lock
3. Seismic sensor
4. Locked steel grate
5. Magnetic sensor
6. External security camera
7. Keypad to disarm sensors
8. Light sensor
9. Internal security camera
10. Heat / motion sensor
Computing Abstractions & Security
Hidden Process
GET /index.html

<html>
<head>...
</head>

Web Service
Attacker Skill & Exploitation Likelihood

- Intelligence Services
- Serious Organized Crime
- Highly Capable Groups
- Motivated Individuals
- Script Kiddies

Likelihood of Attack
Increasing Security Investment
Increasing Security Engineering Efficiencies
Future Directions
from cryptography.fernet import Fernet

key = Fernet.generate_key()
f = Fernet(key)
ciphertext = f.encrypt(b"A message.")
plaintext = f.decrypt(ciphertext)
A team participating in a CTF competition at DEFCON 17

Photo Credit: Nate Grigg (CC BY 2.0)
http://www.flickr.com/photos/nateone/3792232737/
Questions?
bryanp@netflix.com
http://bryanpayne.org