CSE 127 Discussion Week 9

Ariana Mirian, Zoom

This is being recorded.

Overview of Today

- PA5 overview
- User Authentication
- Malware
- Open Office hours

PA5

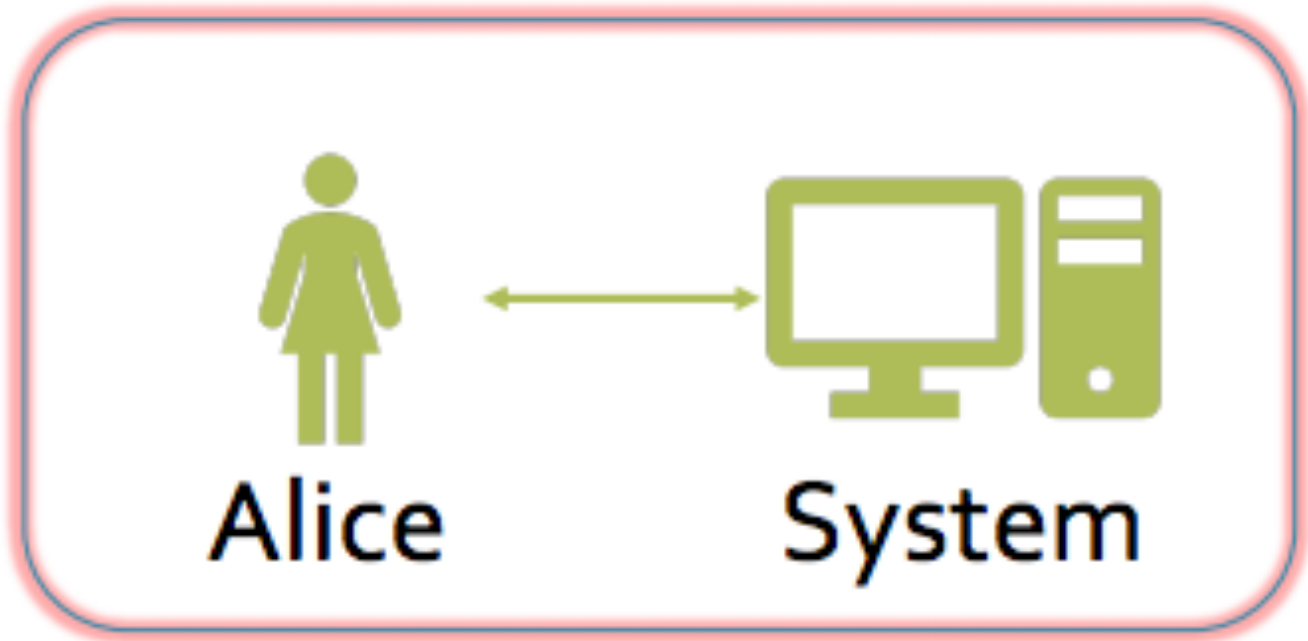
- Currently released – should have received an email tar
- Due June 4th at 12:30 PM Pacific
  - Or June 11th 12:30 PM HARD DEADLINE
- You need to get Stefan's "token"
  - Fake token; everything is constrained on the server(s)
- Linux commands that may be helpful
  - nc, nmap, tcpdump, wget
- Three assignments on Gradescope
  - "Transcript" hint while you work through the steps
  - "Token" is token
  - Writeup is list of steps that you took

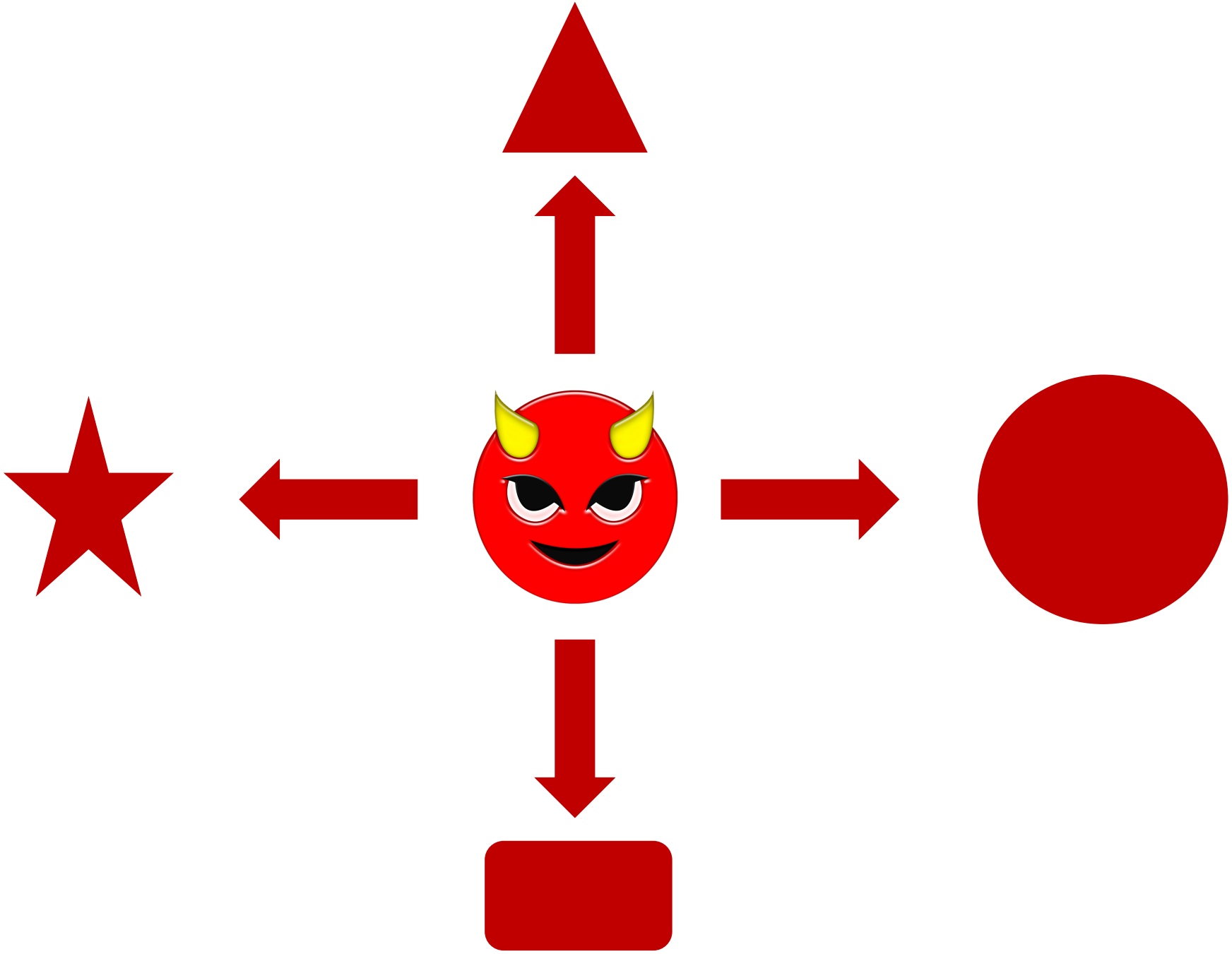
PA5

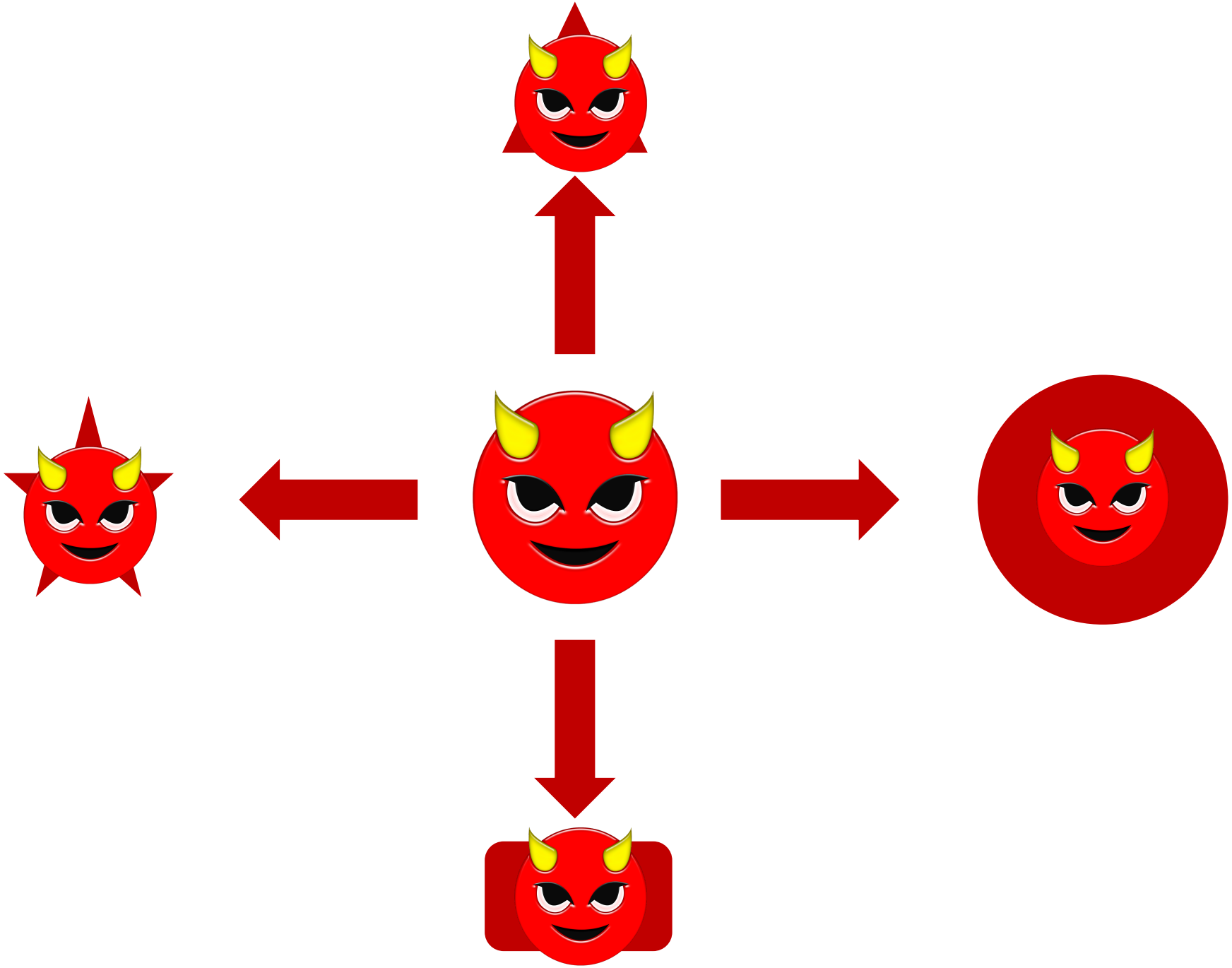
- At every point in the project ask yourself:
  - How can I find information that “hidden”?
    - Concealed, but still discoverable
- How to think like a hacker
  - Some of the steps take time
  - Might be “patterns” that are useful in your steps

User Authentication Overview


Alice
Bob


Alice
System





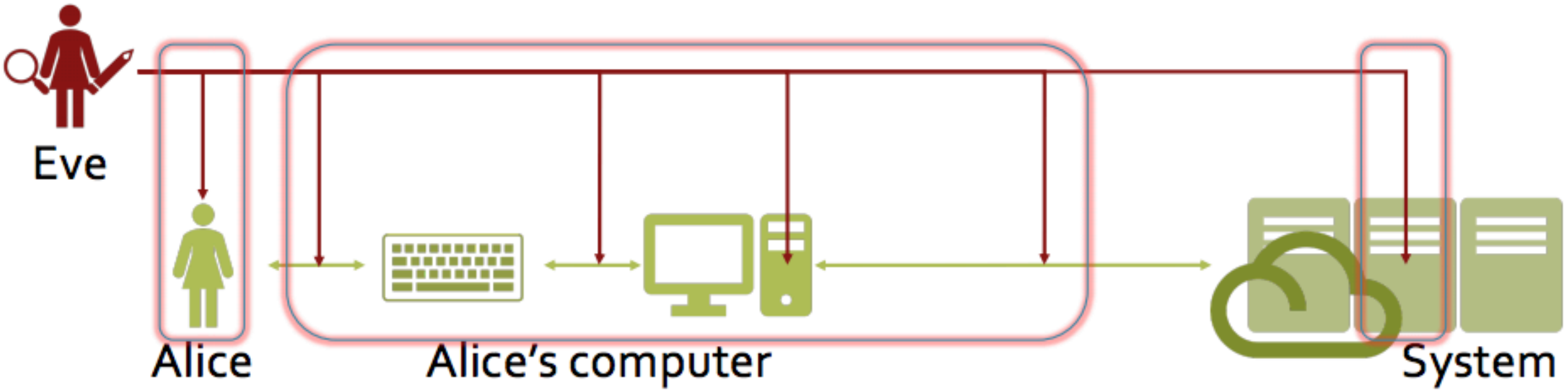
Three types of authentication factors

- Something you know
- Something you have
- Something you are

- Why do we have multiple types of authentication? How do they help?

Something you know

- Passwords!
  - Where are the points that an attacker can get the password?



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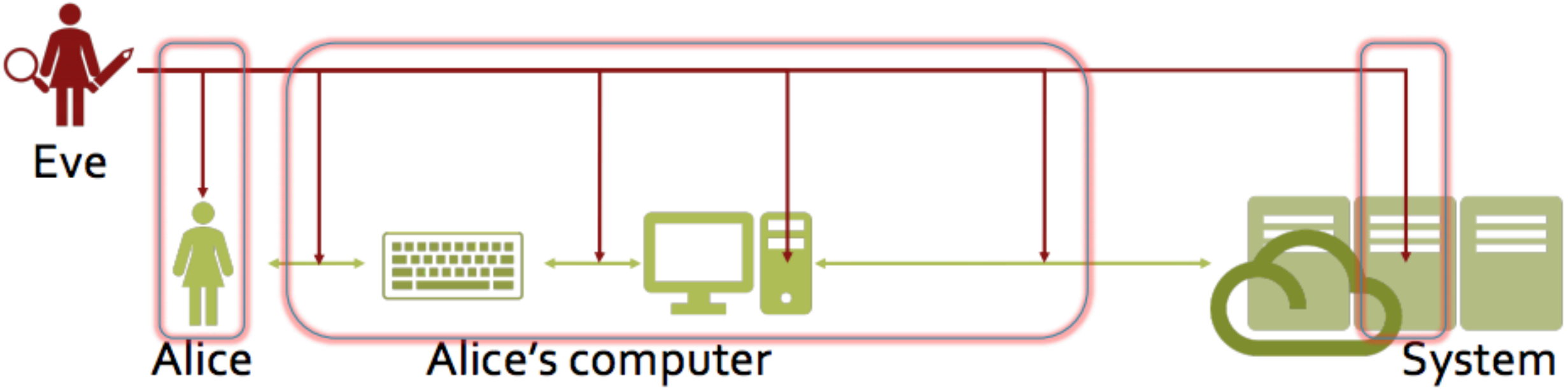

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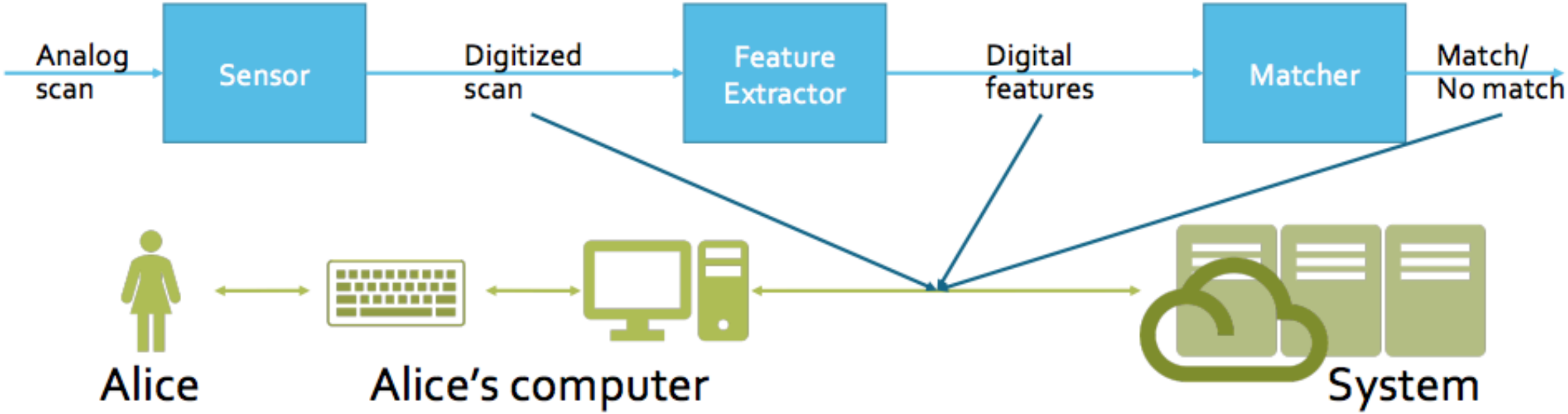
- Data leaks/dumps
  - This is where reusing passwords becomes a problem
  - Plaintext password is worse than hashed password is worse than fast salted password is worse than slow salted password

Something you have

- Cards, password tokens (one time on physical and electronics), USB/NFC tokens
- What are the strengths and weaknesses of these various approaches?

Something you are

- Biometrics!
- We're all unique enough, right?
- Problems with biometrics:
  - Spoofable (still!)
  - Perhaps not as accurate
  - Doesn't scale well



Malware Overview

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- Scanning for viruses
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- Detection mechanisms
  - Integrity check and Behavior detection

Open Office Hours