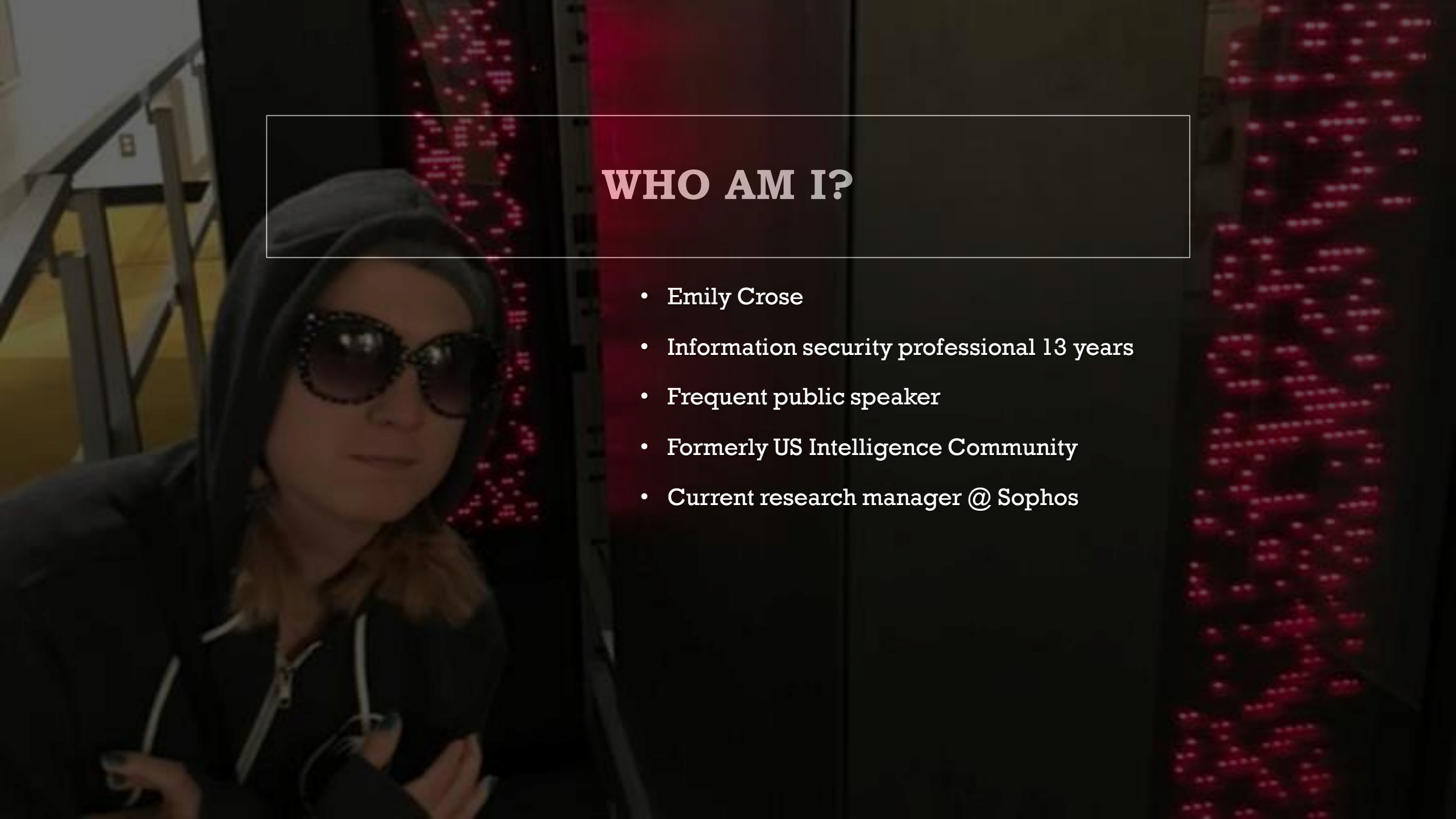
# INTRODUCTION TO SOFTWARE BUSINESS PRODUCT MANAGEMENT

Emily Crose

For

Oakland university



# WHO AM I?

- Emily Crose
- Information security professional 13 years
- Frequent public speaker
- Formerly US Intelligence Community
- Current research manager @ Sophos

# CONTACT INFO

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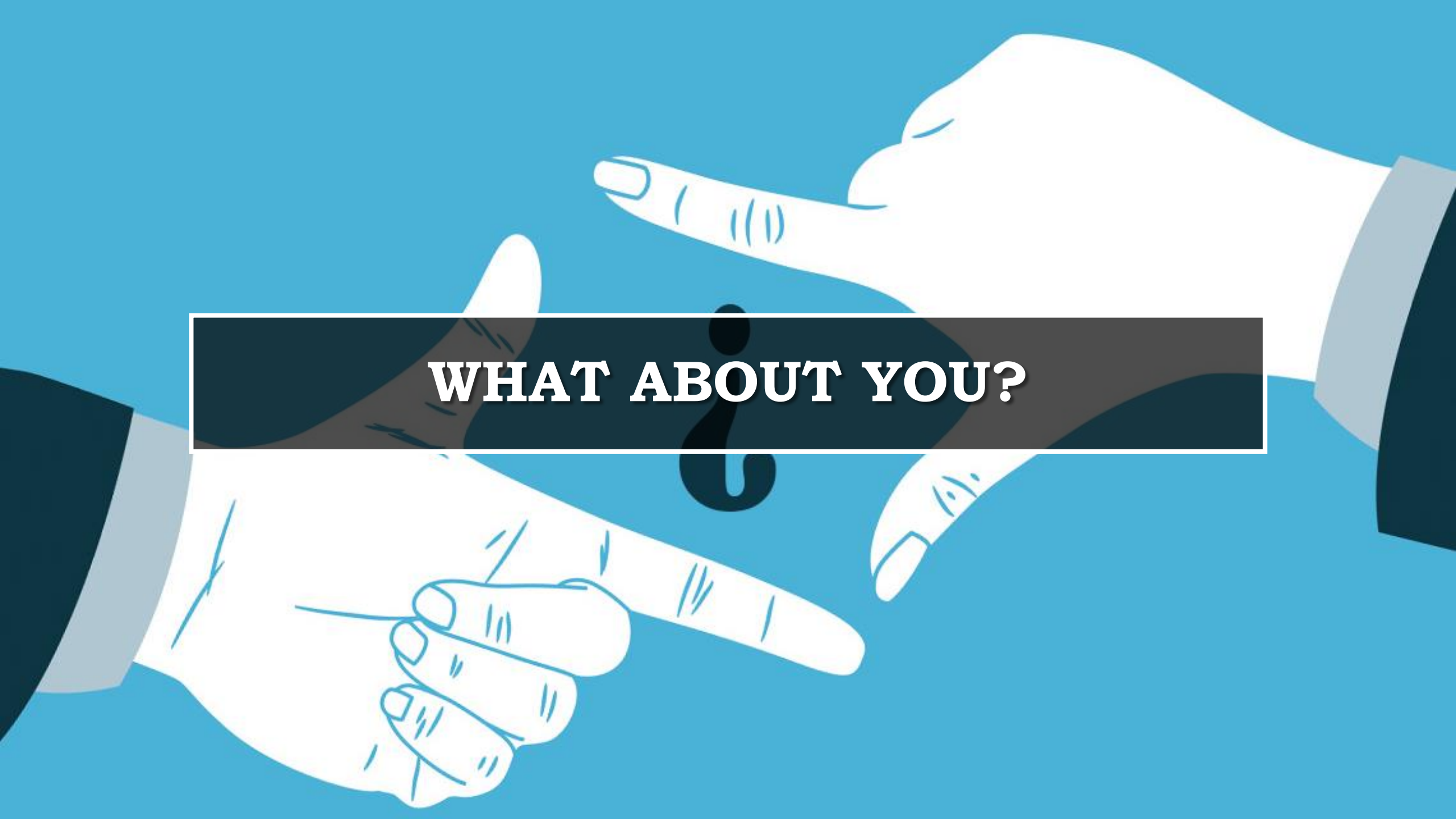

WHAT ABOUT YOU?

# WHEN WE MEET

- Meet three times/week
- 3 hours/day
- 5 weeks
- Tuesdays, Wednesdays & Thursdays
    - 7AM Eastern – 10AM Eastern

# TOOLS WE WILL USE

- Moodle
  - Class materials
- Github
  - Code repositories
  - Change management
- Jira
  - ticketing
- Confluence
  - For wikis
- More?

# COURSE OVERVIEW

What will we be talking about in this course?

What do you want to learn?

# MATERIAL OVERVIEW

**Understanding modern software**

How it works

How it is maintained

**The Software Development Life Cycle (SDLC)**

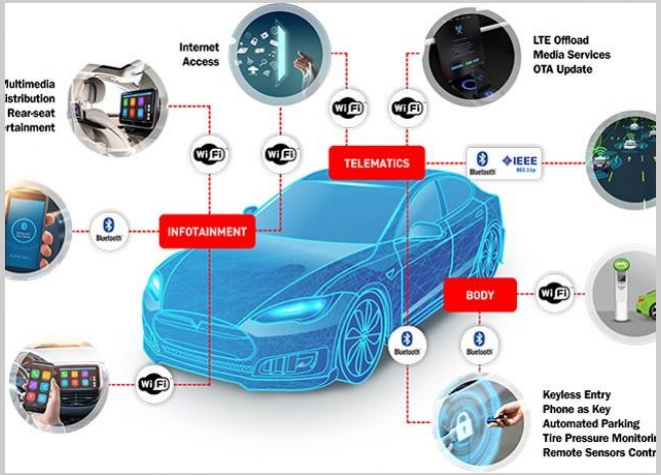
**Tools for managing software development**

**Management techniques for maintaining codebases**

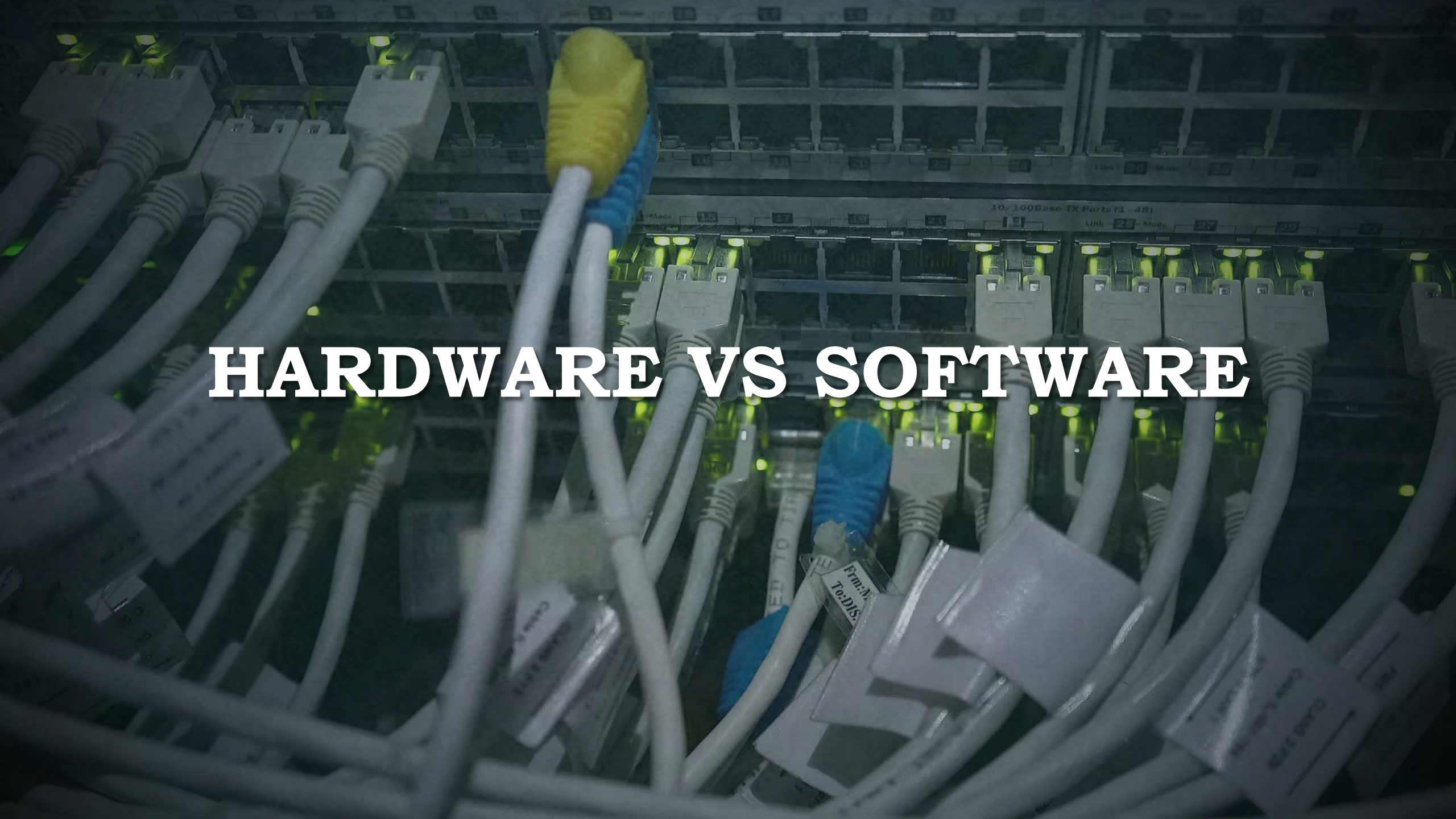
**Standards that apply to these topics**

# SOFTWARE WE CAN SEE






# HIDDEN SOFTWARE


HARDWARE VS SOFTWARE

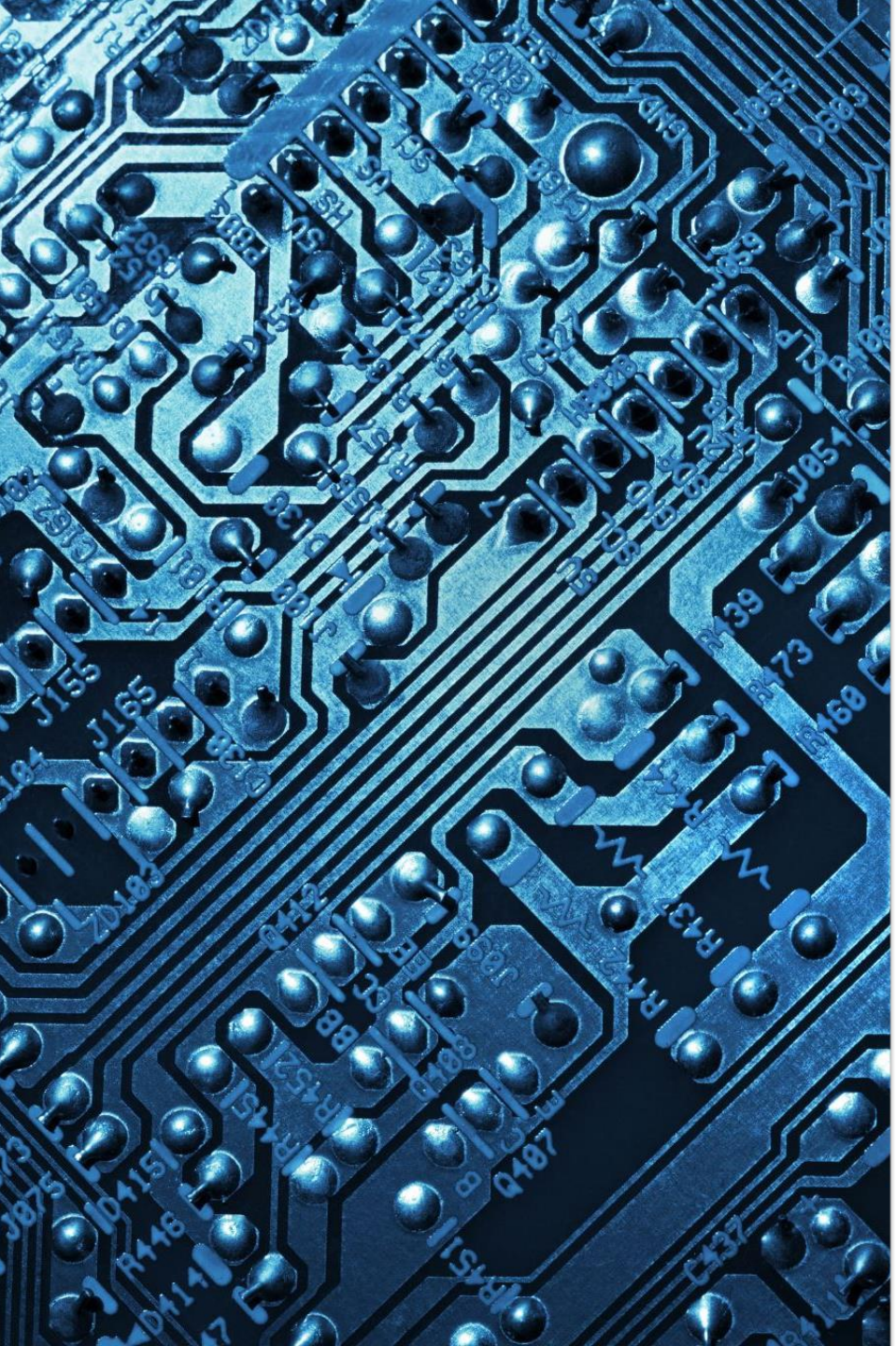
# HARDWARE COMPONENTS

- Central Processing Unit (CPU)
- Graphics Processing Unit (GPU)
- Random Access Memory (RAM)
- I/O devices
  - Keyboard
  - Mouse
  - VR Headset

# HARDWARE COMPONENTS CONT’

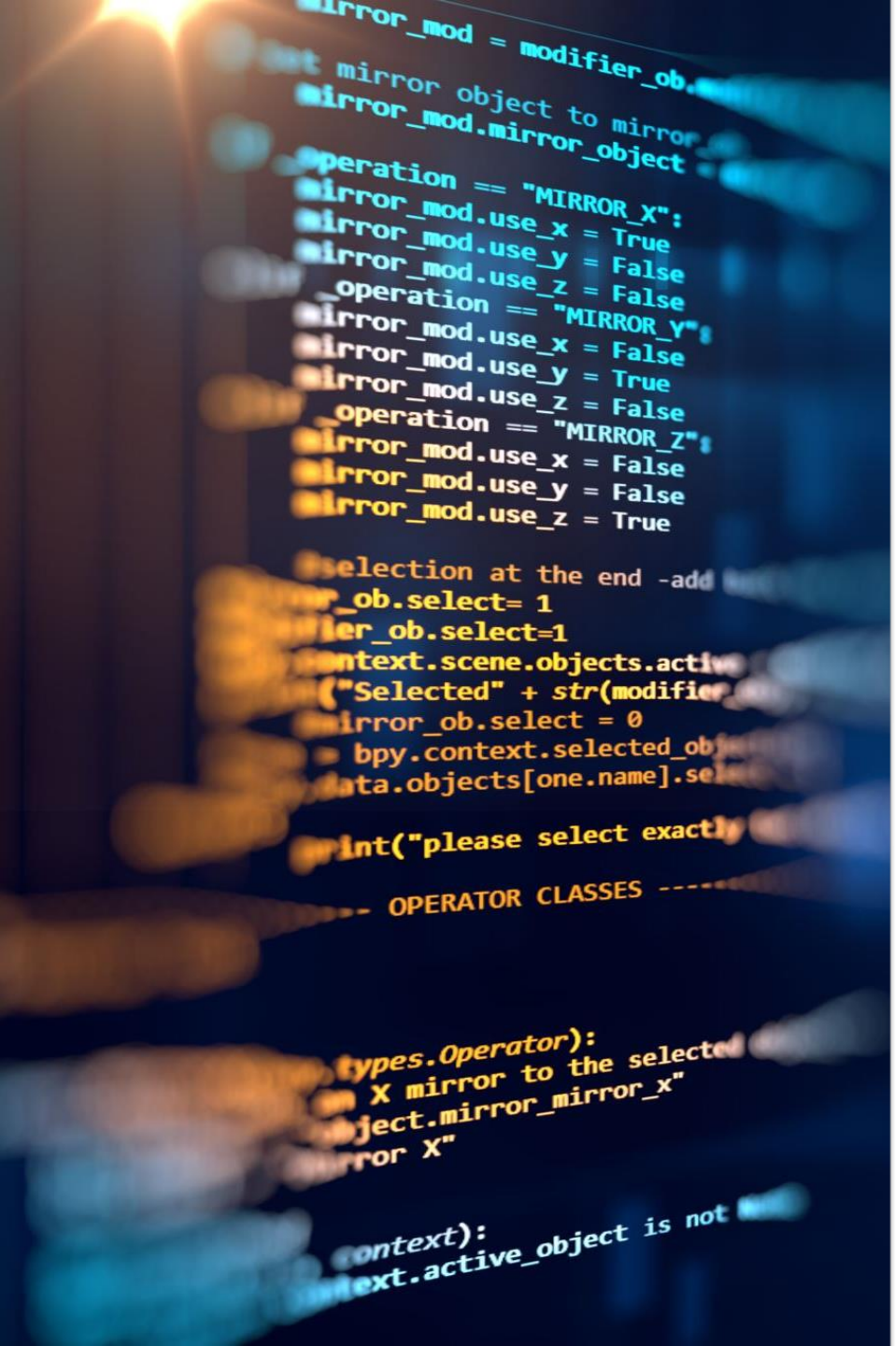
- Sensors
  - Temperature
  - Pressure
  - gyroscope


10 MINUTE BREAK!



# PURPOSE OF HARDWARE

- The physical half of computing (As opposed to logical)
- Does physical calculations
- Produces signals which are interpreted by software



# PURPOSE OF SOFTWARE

- Provides interface between hardware and the user
- Software provides a “logical” layer of interpretation


MODERN SOFTWARE

# OLD THINGS

- Old languages
  - Javascript
  - C
  - C++
  - Assembly
- Desktop software
- Mainframes?

# OPERATING SYSTEMS

## Windows

- 10
- 11
- Embedded

## Mac OS

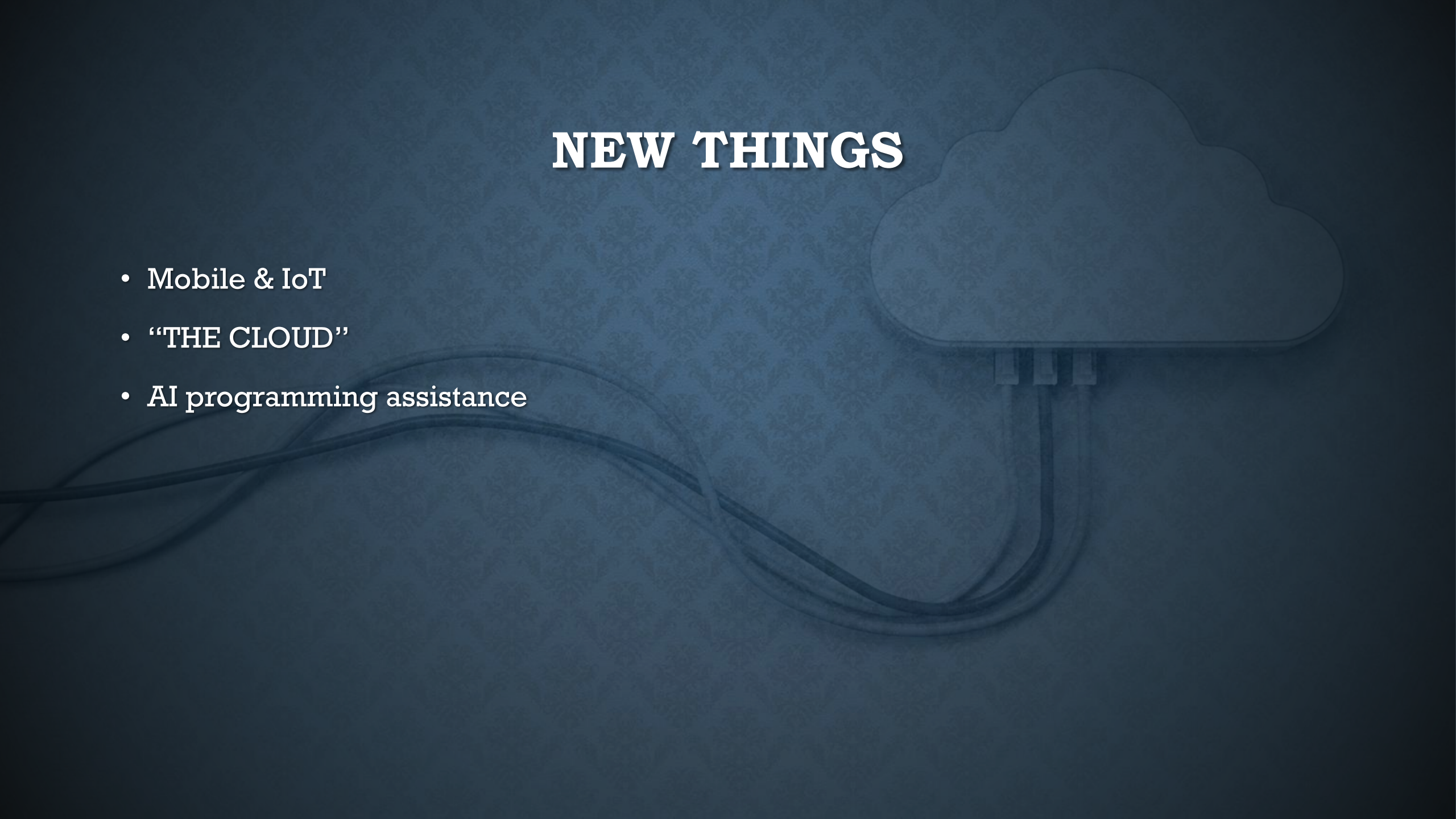
## iOS

## Linux

- Various flavors

# NEW THINGS

- Mobile & IoT
- “THE CLOUD”
- AI programming assistance





# WHAT IS MOBILE/IOT?

# FACTORY TECH

hardware + software!

# WHAT IS THE CLOUD?

- Have we seen this before?

# POPULAR CLOUD VENDORS

- Azure (Microsoft)
- Amazon Web Services (AWS)
- Google cloud computing
- Resellers


10 MINUTE BREAK!

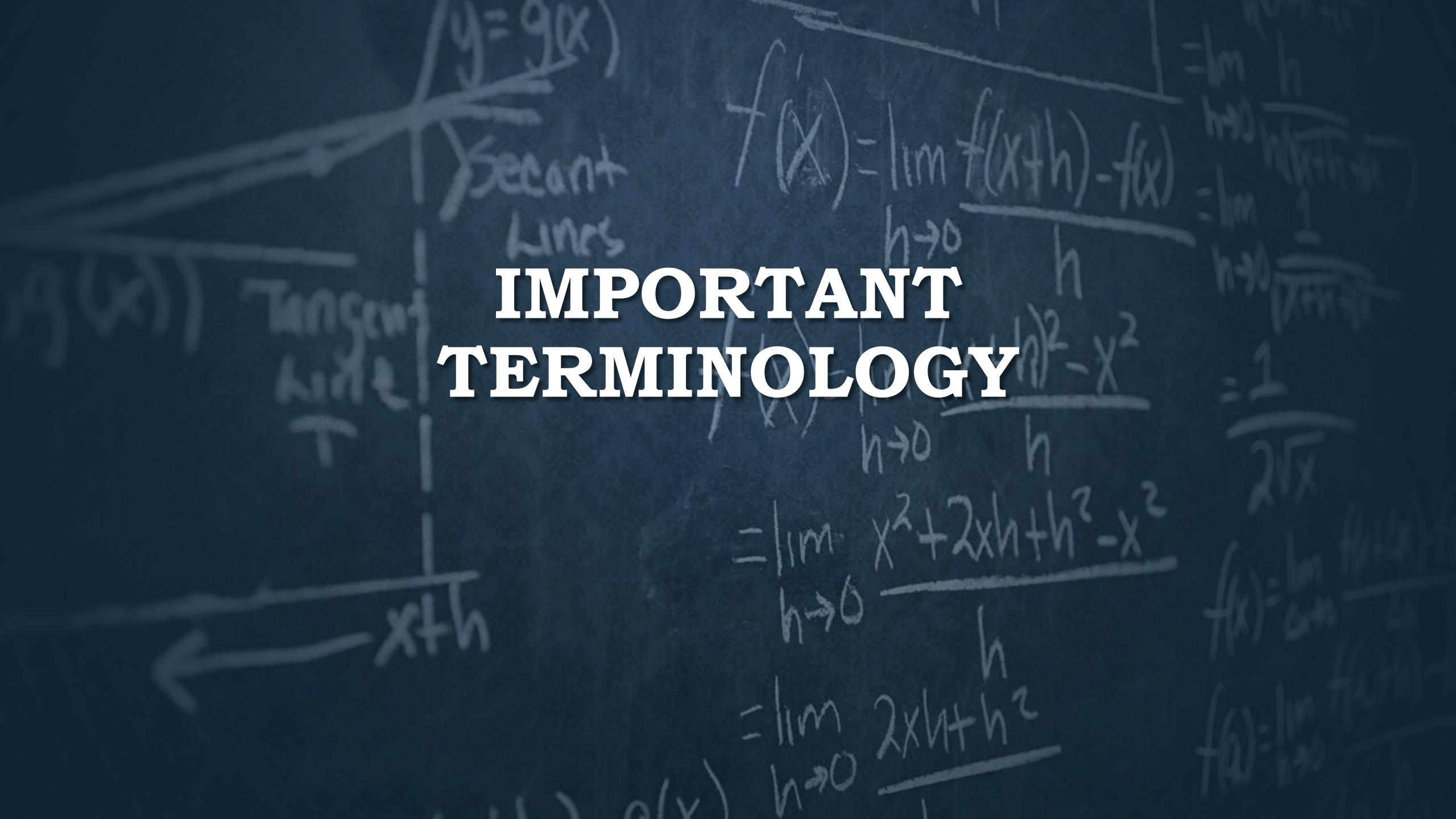
# SOFTWARE SNAFUS

- What can go wrong if we don't get software right?
  - Program crashes
  - System stability compromised
  - Exploitation
    - Network breach
    - Theft of IP/customer data
    - Loss of reputation
  - Risk of injury?


ISAT GeoStar 45

# MORE & MORE FAILS

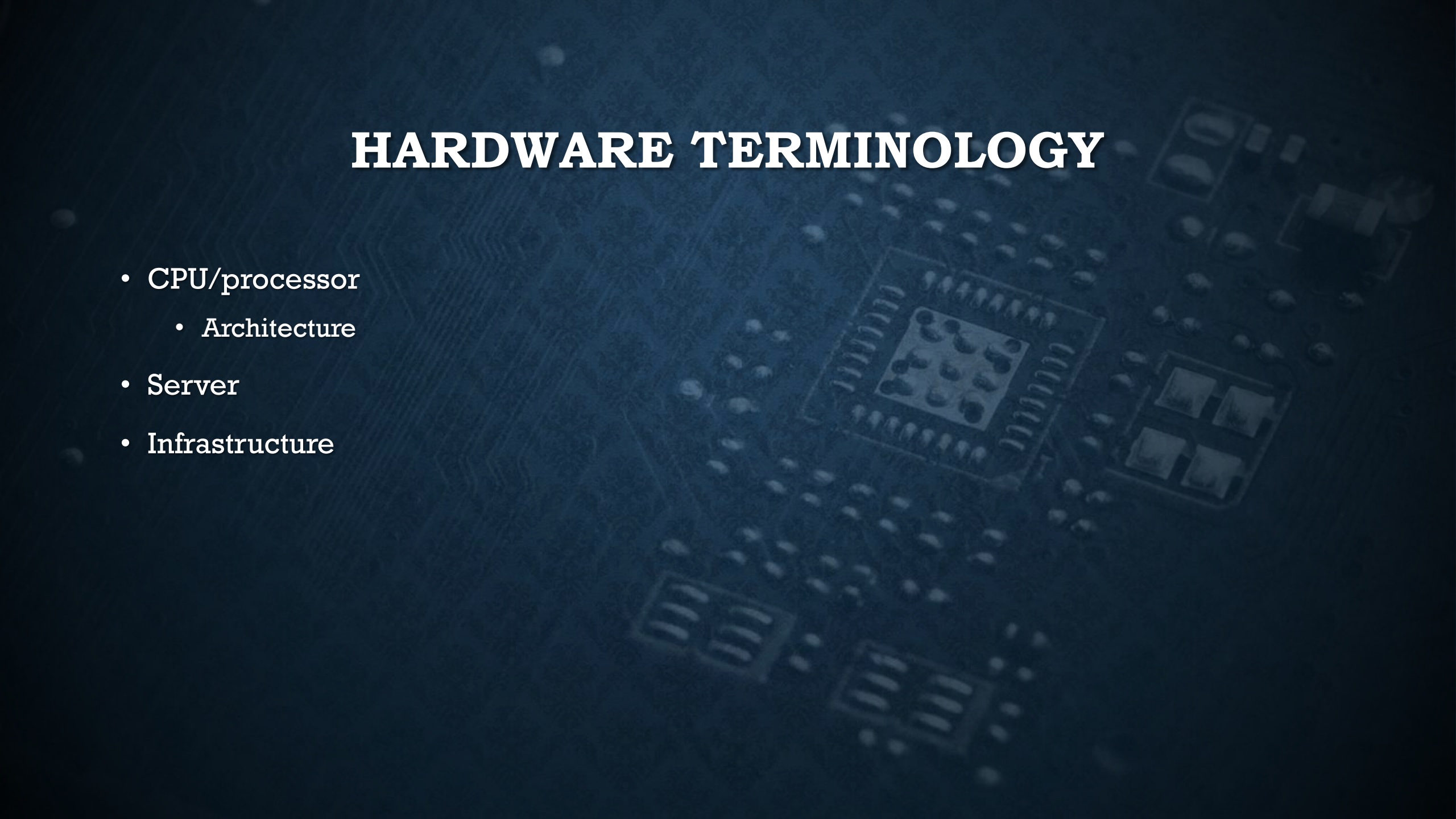
- “Spaghetti” code
  - Difficult to add new features
- Poor documentation/code commenting
  - “Legacy” code maintenance




# IMPORTANT TERMINOLOGY

# HARDWARE TERMINOLOGY

- CPU/processor
  - Architecture
- Server
- Infrastructure



# SOFTWARE TERMINOLOGY

- Programming/coding
- Updates vs. Upgrades
- Code commenting
- Parsing
- Execution
- Environment
- Application Prograamming Interface (API)

# SECURITY TERMINOLOGY

- Vulnerability
- Exploit
- Payload


QUESTIONS?

# DAY 1 REVIEW

# DAY 2 PREVIEW