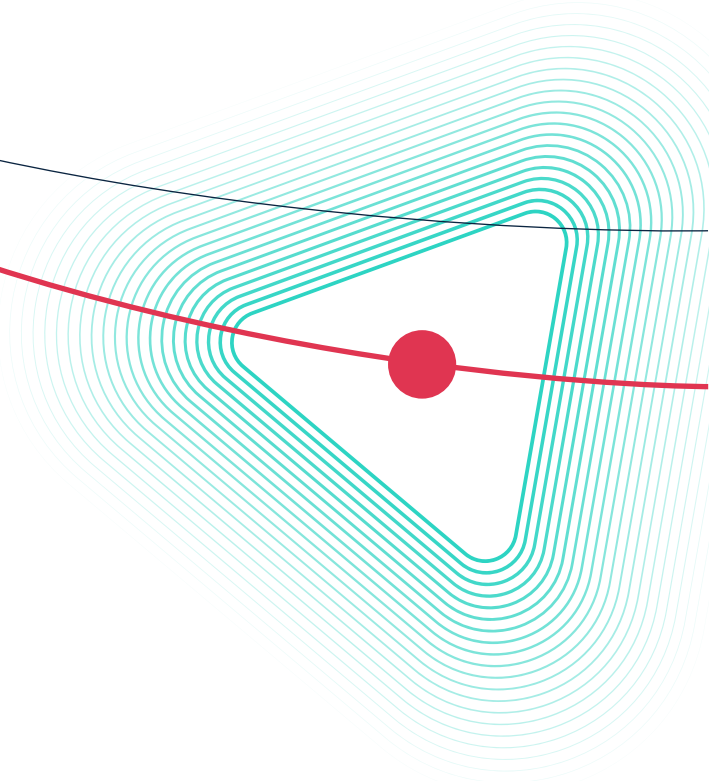
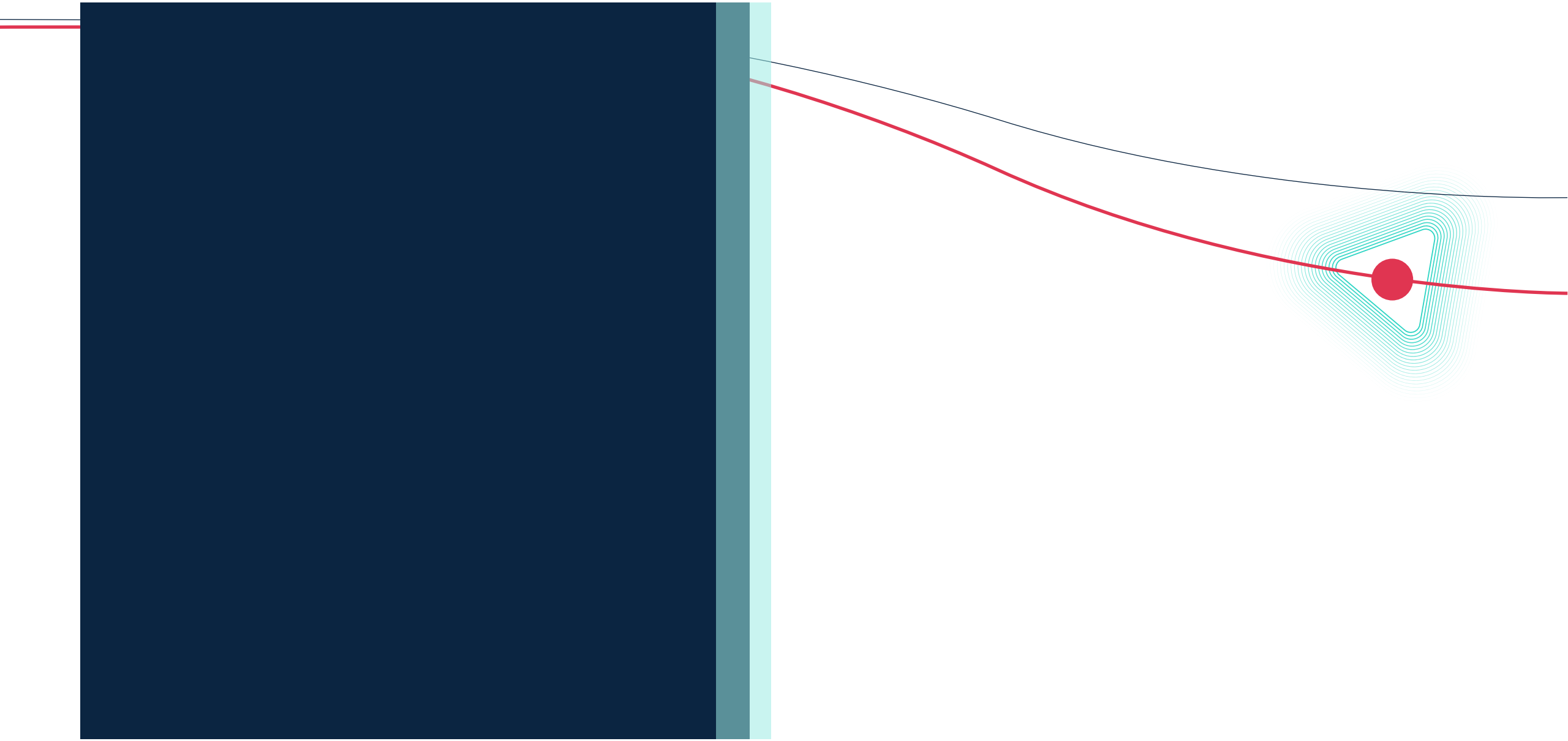
CYE

Human Security Engineering:
Stop relying on the failed human firewall



Ira Winkler, CISSP



A Highly Sophisticated Attack

17 Year Old Mastermind

- Lots of social engineering
- Determined location of admin tools
- Conducted Vishing attacks
- Accessed tools that 1,000 people had access to

”A Problem of Leadership”

CLOUDFLARE®

Old School Safety Science

- Why did the user do what they did?
- Focus on the proximity of the error
- Analysis of why user was wrong

Operational Problems

- Proximity doesn’t explain a lot

  Mechanical breakdowns?

- Medical post-mortems

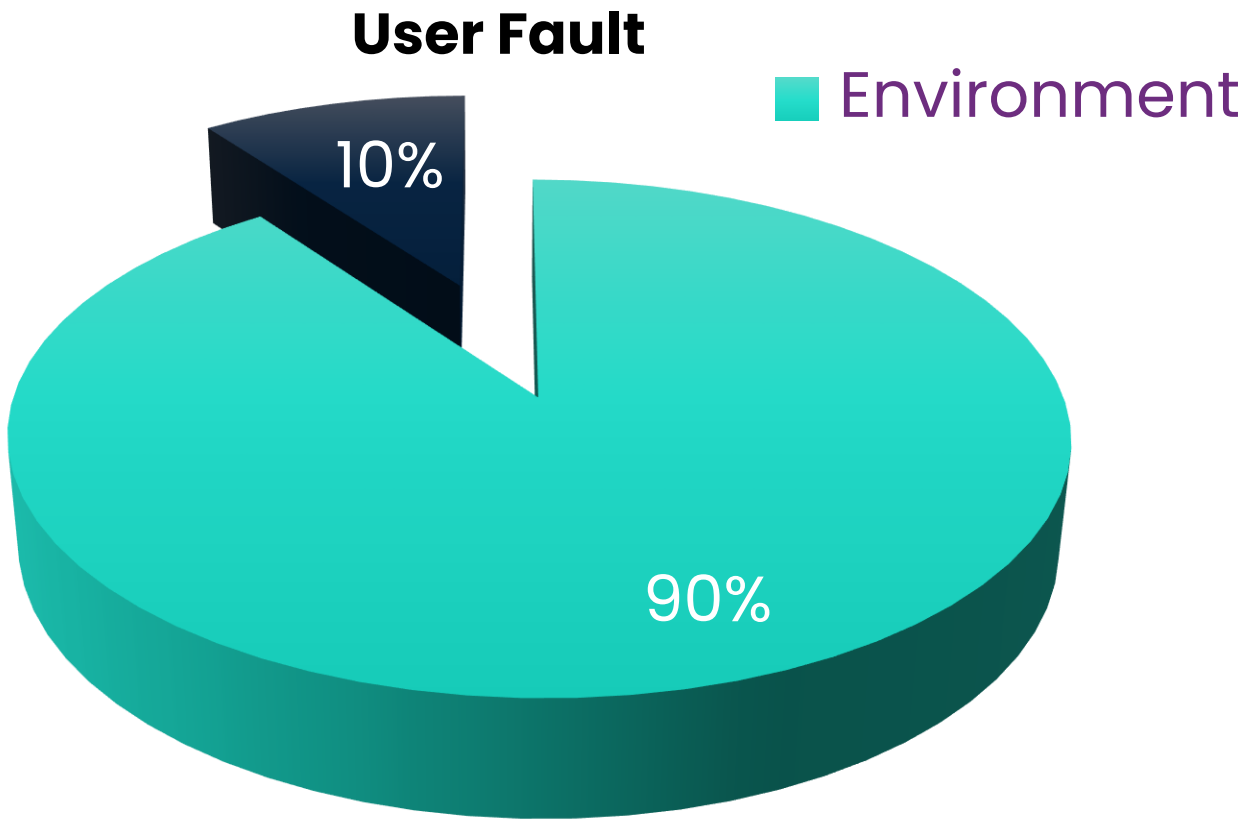
  One bad actions results from hundreds of complex decisions

New School Safety Science

- A user is as much a part of the system as a computer
- Any safety incident results from a failure of the entire system
- Review all enabling factors
- The user is just the proximity of the error
- Proximity is just a symptom
- User error is a symptom of what is wrong with the system


(c) Rich Galiano

Where Blame Falls



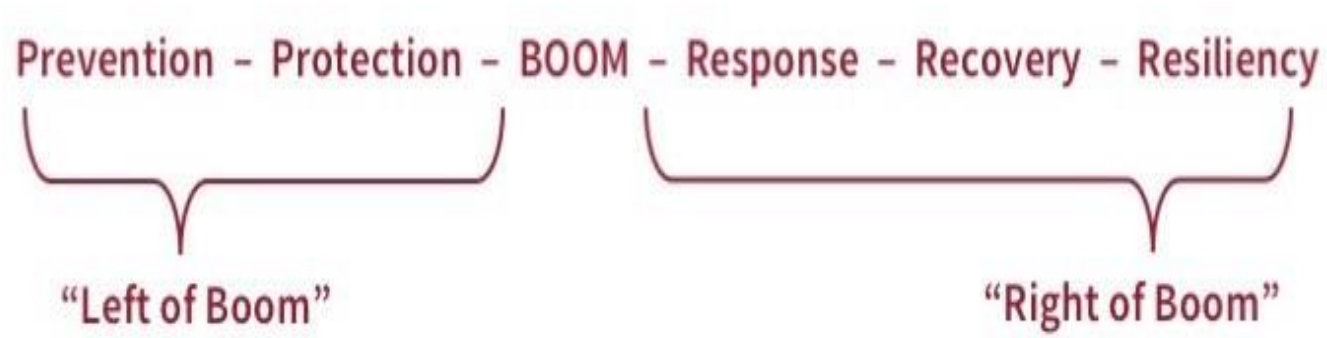
What is That 10%

- Carelessness
- Blatant ignorance
- Lack of training
- Malice
- This is where awareness and training might fit in, kind of
- Still only 10% of the problem

Let’s Talk Boom

What is Boom?

- A counterterrorism strategy
- Boom is the explosion
- “Move Left” origin



User Initiated Loss

- A user doesn’t cause damage or a loss

THE SYSTEM DOES

- A user action just initiates the loss possibility
- UIL can be ignorance, carelessness, system related, or malice
- Want to stop UIL potential
- Want to stop the actual UIL
- Want to mitigate loss after initiation

Left of Boom

- Prevent user from being in a position to initiate loss
- Take away decision or capability
- Prevent, Detect, React to attack targeting a user
- Create a Culture, aka Consequences, to assist
- Users may aid in detection

  Tailgaters for example

Governance

- Are all organizational processes clearly defined?
- Are user actions there by default, or are they an intended result of clearly defined processes?
- Think about this carefully

Boom

- The user is presented with the opportunity to initiate a loss
- Do they

  Do it?
  Detect it?
  Prevent it?
  Sound the alarm?

- Remember, it can be accidental, careless, willful, malicious, or forced

Policies and Governance

- Are user actions very specifically defined?
- Are all actions necessary?
- Are you relying on an organization filled with Elmer Fudds?

Right of Boom

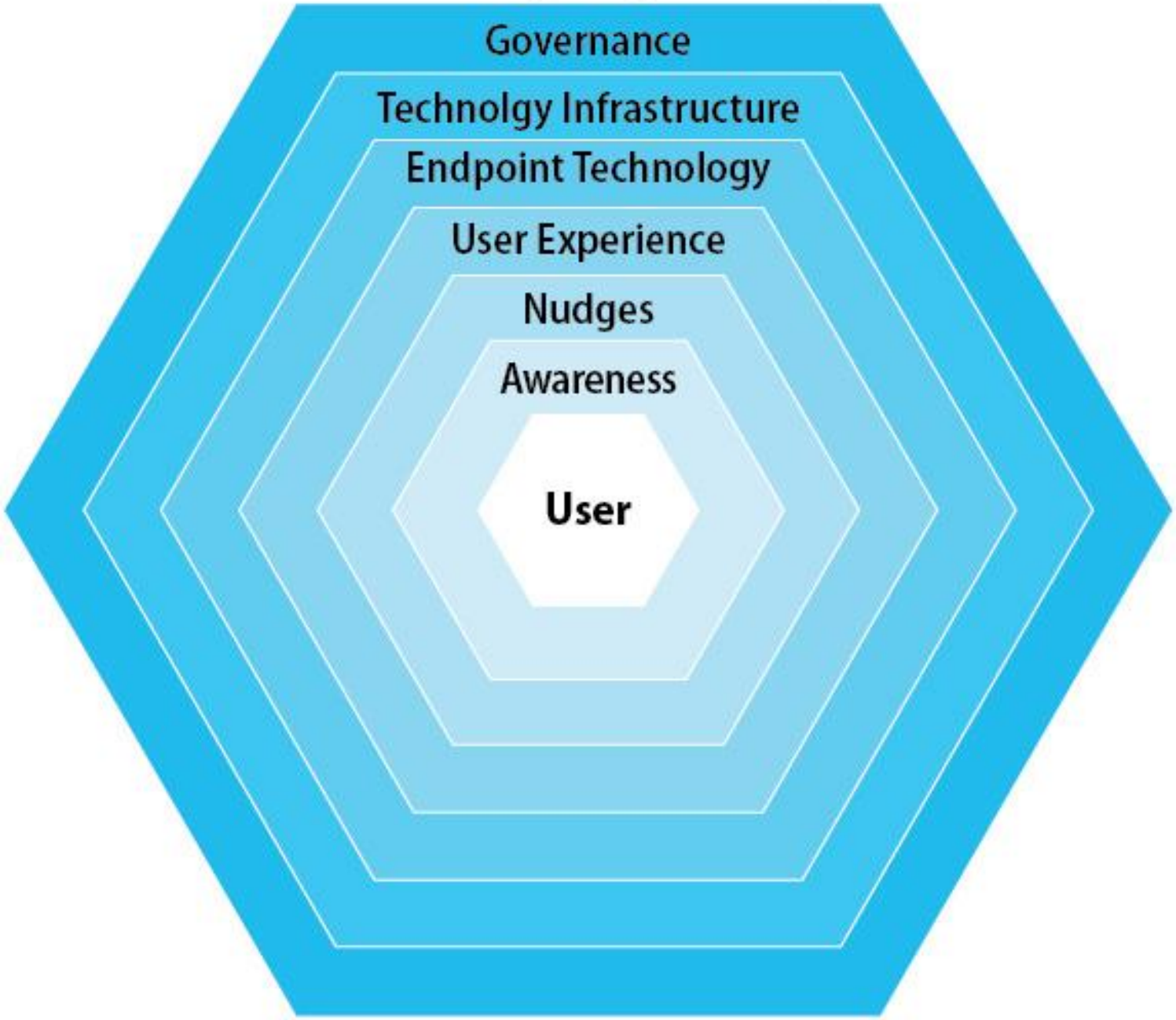
- Loss has been initiated
- Does the environment expect it?

  For example, users don’t have admin privileges

- Are there additional protections?
- Is there an analysis of UIL?

  What can users do?

Human Security Engineering Model



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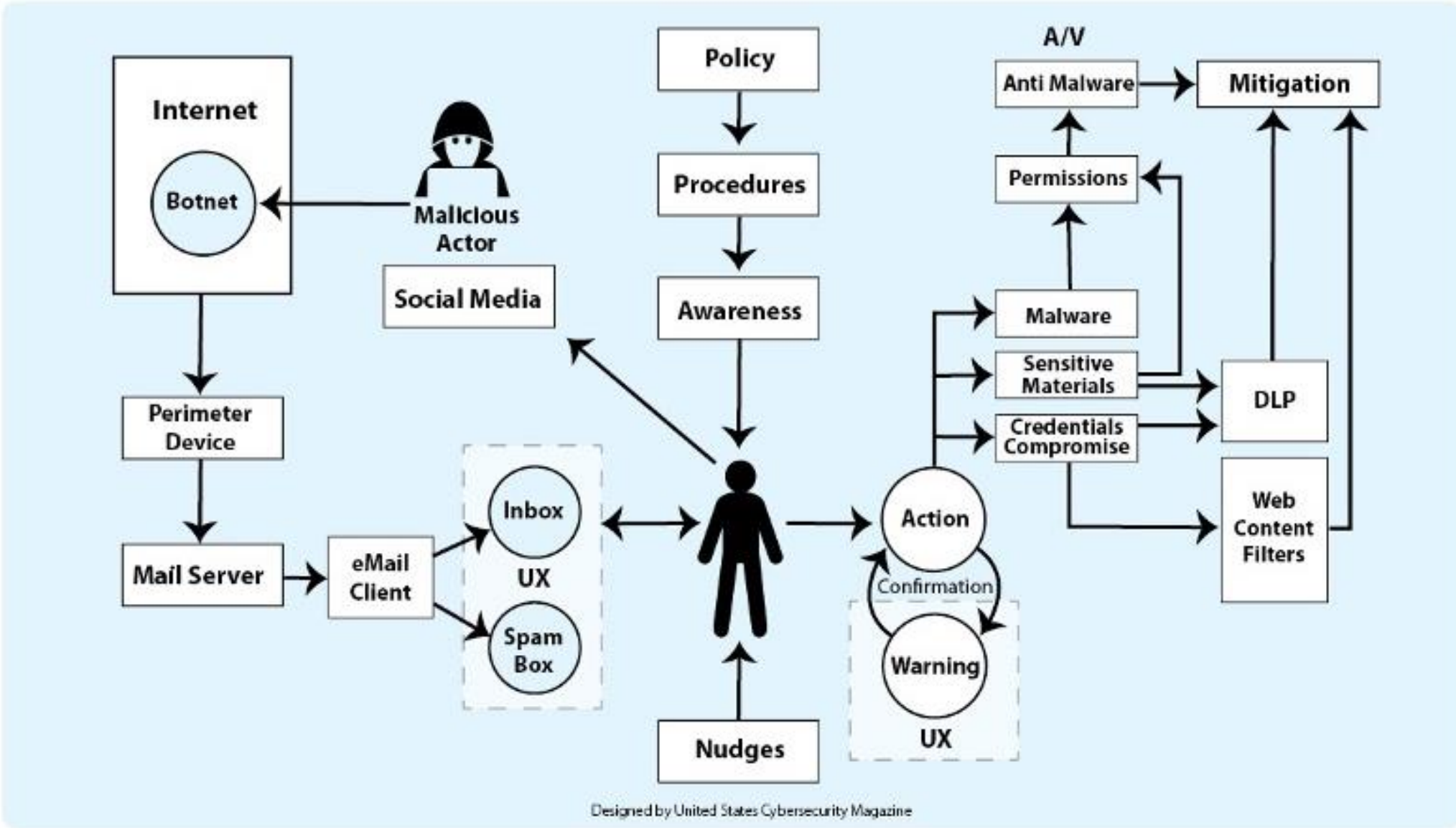
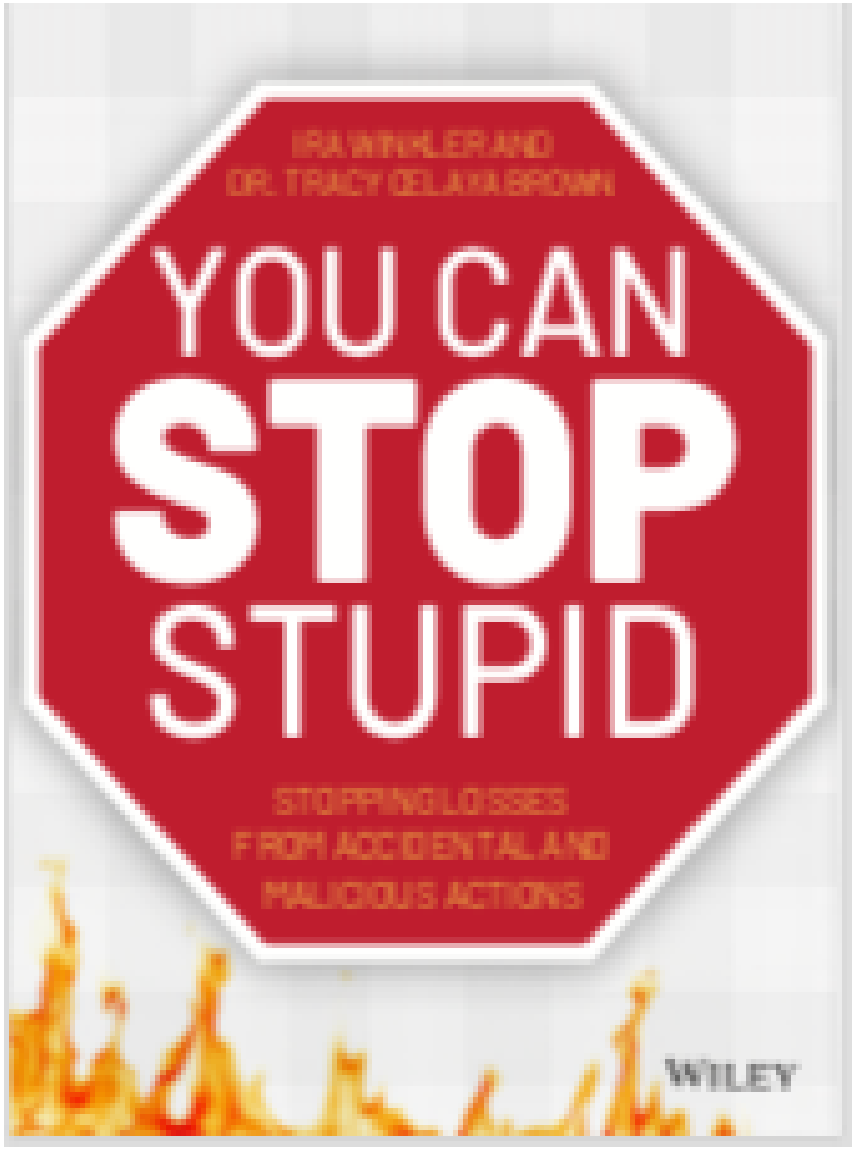
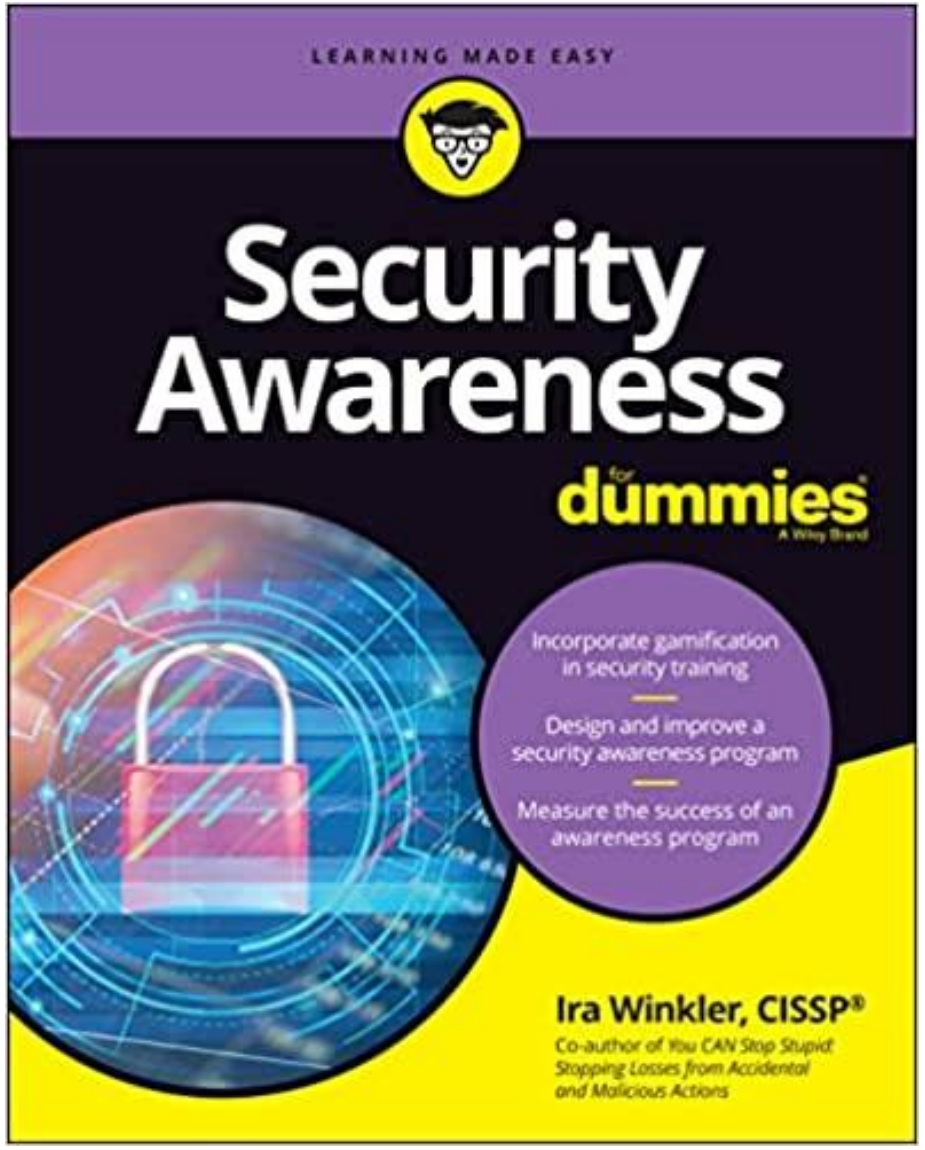
HUMAN SECURITY ENGINEERING MODEL PHISHING PREVENTION



The Most Important Takeaway


IRA WINKLER AND
DR. TRACY CELAYA BROWN
YOU CAN
STOP
STUPID
STOPPING LOSSES
FROM ACCIDENTAL AND
MALICIOUS ACTIONS
WILEY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Ira Winkler, CISSP®
Co-author of You CAN Stop Stupid
Stopping Losses from Accidental
and Malicious Actions

Reach Out

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