

NICE

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



NATIONAL INSTITUTE FOR CYBERSECURITY STUDIES (NICS)

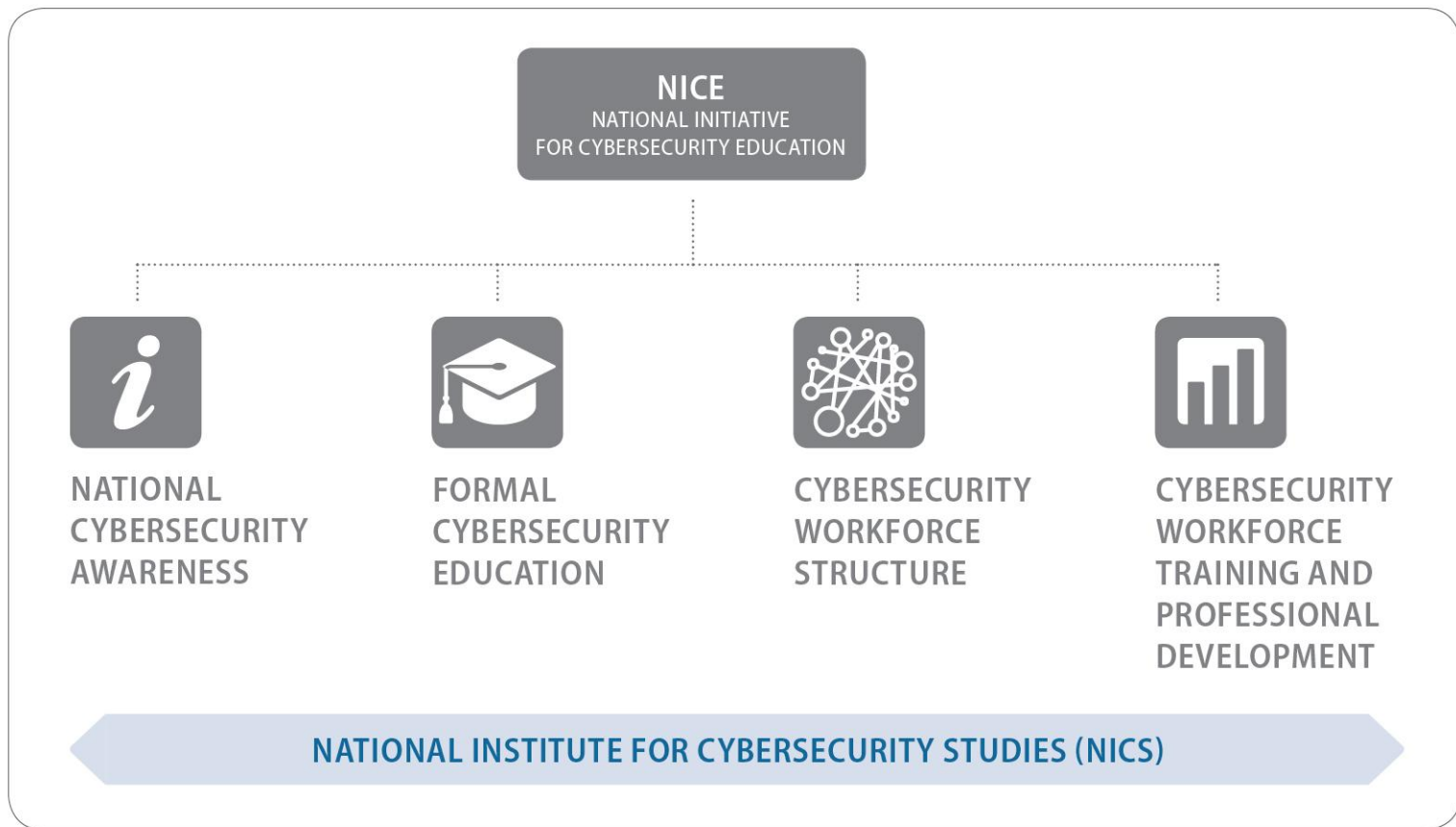
PRESENTED BY PEGGY MAXSON

A National Problem

- The Nation needs greater cybersecurity awareness
- The US work force lacks cyber security experts
- Many cybersecurity training programs exist but lack consistency among programs
- Potential employees lack information about skills and abilities for cybersecurity jobs
- Resources exist for teachers and students about cybersecurity but are difficult to find
- Cybersecurity Career development and scholarships are available but uncoordinated
- Lack of communication between government, private industry, and academia

NICE was established to create a cybersecurity education program for the nation to use sound cyber practices that will enhance the nation's security.

NICE Components



National Institute for Cybersecurity Studies (NICS)

NICS is an implementation tool for the NICE efforts.

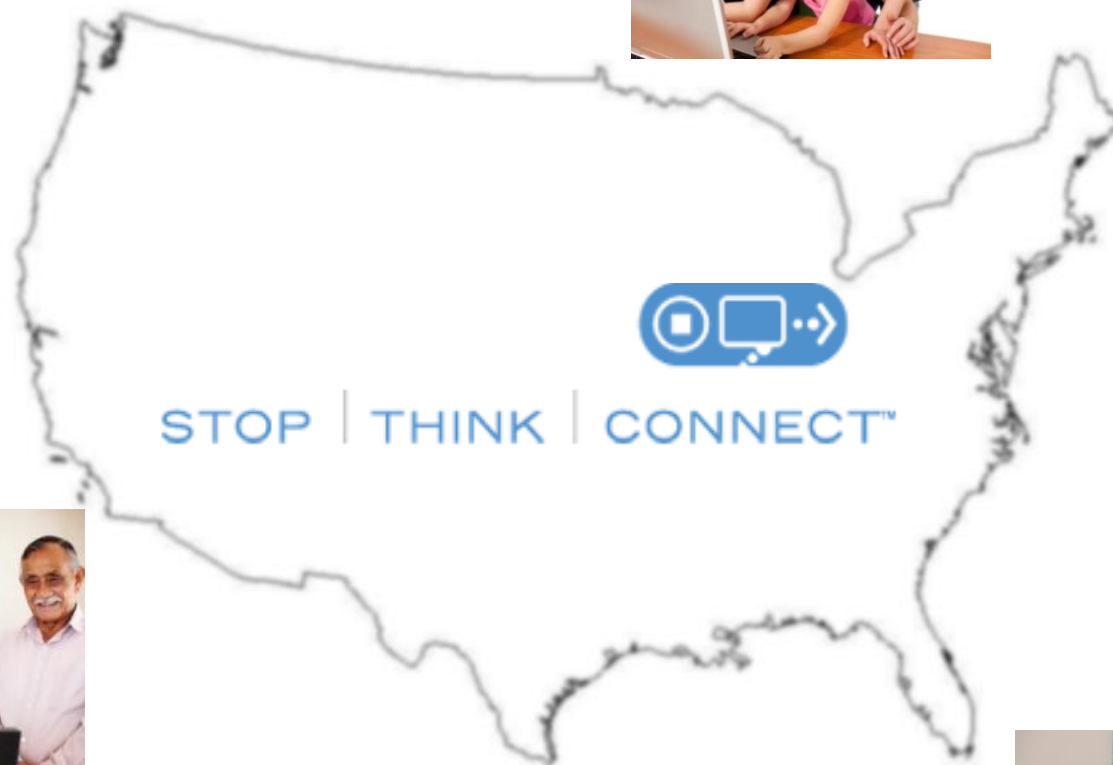
Mission

Provide a national resource for the American public for cybersecurity awareness, education and training resources

Goals

1. Build a national resource to elevate cybersecurity awareness and effect a change in the American public to adopt a culture of cyberspace security.
2. Promote cybersecurity education from kindergarten through the post graduate level to nurture the future cybersecurity workforce.
3. Guide the development of cybersecurity standards, training, and professional development to empower and advance cybersecurity personnel.
4. Manage NICS program through NICS Program Management Office (PMO).

National Outreach



Cyber Education Resources



Cybersecurity Training and Professional Development



Three Elements of the NICS Approach



ADVISORY BOARD

Comprised of representatives from government, academia and industry, the advisory board provides recommendations to NICS for the development of cybersecurity awareness, education and career training.



VIRTUAL UNIVERSITY

Enables federal, state, local and tribal government employees access online training resources that are optimized for cybersecurity workforce development.



WEB PORTAL

Makes cybersecurity information and resources more readily available to the workforce and promotes greater collaboration among cybersecurity educators and employers.

NICS Advisory Board

An advisory board composed of stakeholders with training and education focus from each of the target sectors.



Government
Federal
State
Local
Tribal



Academia
K-12
Colleges
Universities



Industry
IT
Critical
Infrastructure
Vendors

Virtual University

FedVTE FEDERAL
VIRTUAL
TRAINING
ENVIRONMENT



SLTVTE STATE LOCAL TRIBAL
VIRTUAL
TRAINING
ENVIRONMENT



FEDCITE

FEDERAL CYBERSECURITY TRAINING EXERCISE

Virtual University

Presented by: Ben Scribner

2-programs developed in parallel

To supplement role-based Federal IT security training

FedVTE FEDERAL
VIRTUAL
TRAINING
ENVIRONMENT

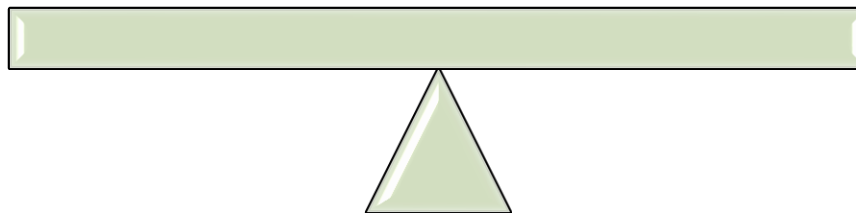
FEDCITE

Online

Collaborative

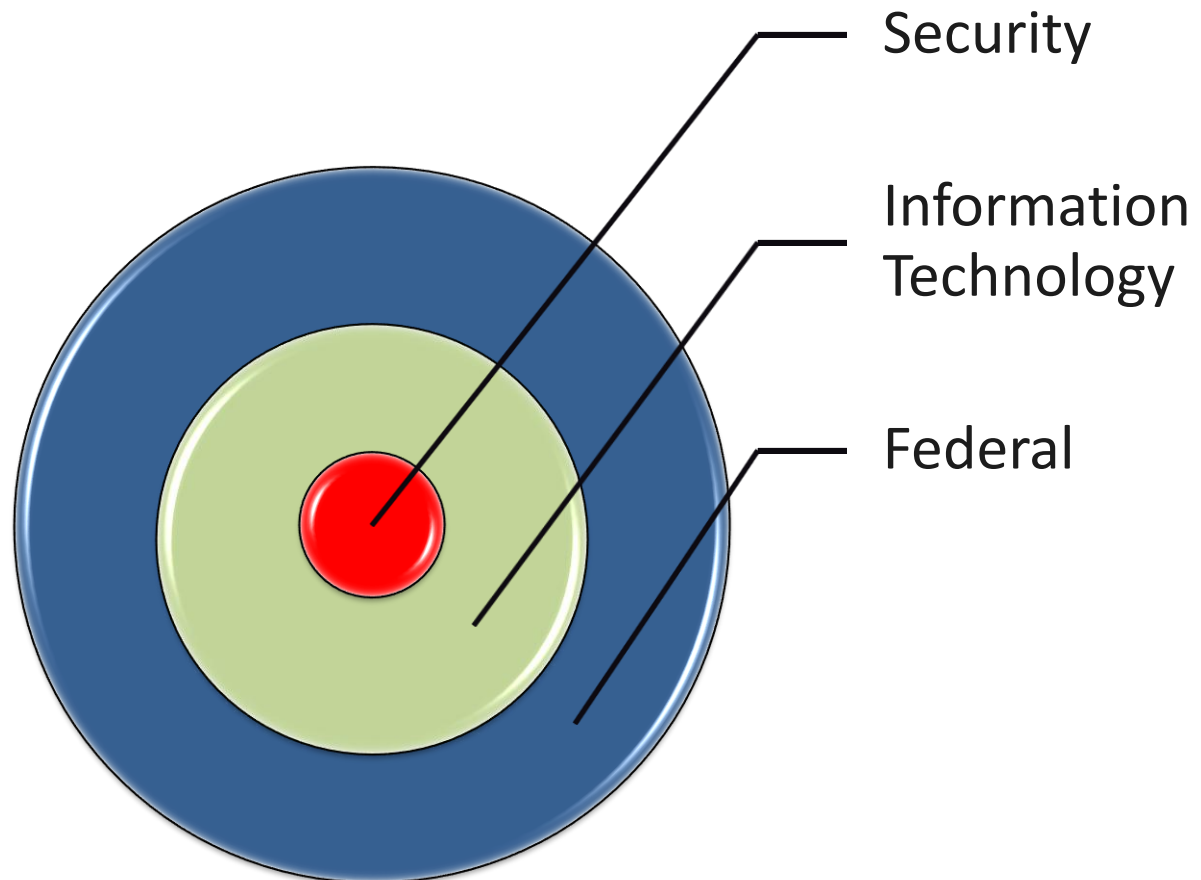
On-Demand

Rapid
Dissemination




Audience

Personnel who protect U.S. Federal information & IT systems



Virtual Training Environment

Online, on-demand IT security training



Length: 5 slides (8 minutes) [Description](#)

Takeaways Presenters Copyright

[IPv6 Capable - DoD Definition](#)

Navigation

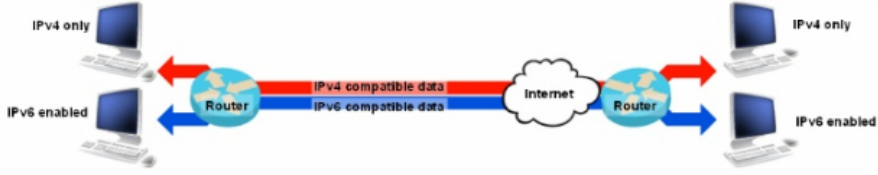
- Demo
- IPv6 Transition Options
- IPv4 to IPv6 Transition: Mechanisms
- Transition Issues

Slide (Single) Toggle Slide Navigation Create Sticky Note Print

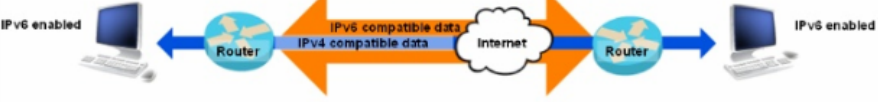
UNCLASSIFIED

IPv4 to IPv6 Transition: Mechanisms


Dual IP Stack Operating Systems and Applications



IP Tunnels




Translation Gateways



CERT Software Engineering Institute Carnegie Mellon UNCLASSIFIED 40

Video



Time Remaining: 4 minutes 27 seconds

Transcript

have IPv6 enabled workstation or node or network, that is going to hit some sort of gateway and translate that to IPv4 or IPv4 to IPv6. And that gateway mode falls in line with a few of these things, like 6to4 or Teredo, or actually 6bone which was a transition gateway or a transition technology, where we're actually configuring our system to do IPv6, like 6to4 or something of that nature, going out and

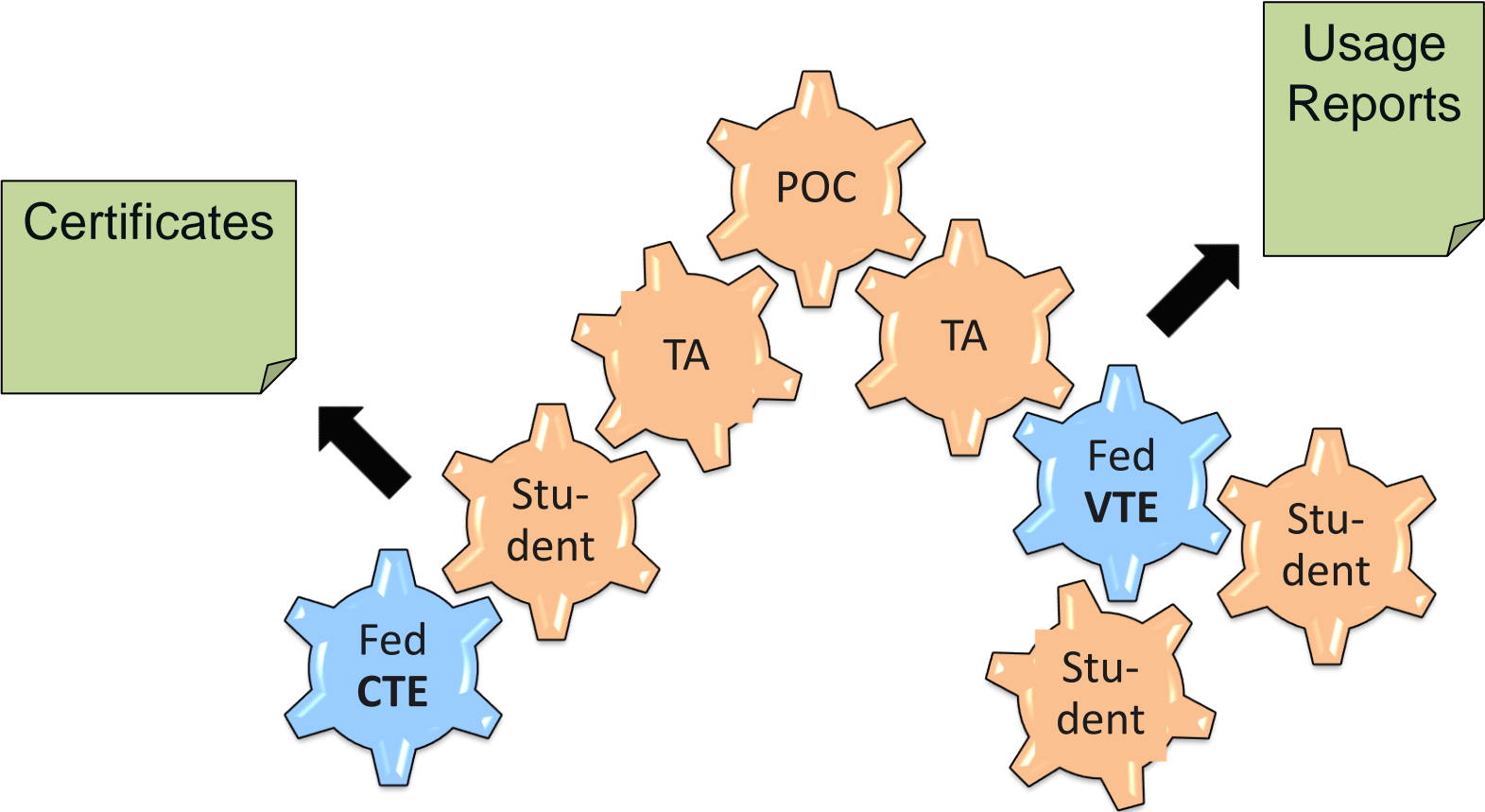
Follow Speaker

Cybersecurity Training Events

Interactive, experiential training for Federal cybersecurity workforce



Here's how it works



POC = department/agency point of contact
TA = department/agency Training Advisor

Homework

Help us establish POCs and TAs at your Department or Agency.

- CIO or CISO must nominate a POC
 - Nomination email should be sent to FedVTE@dhs.gov
 - Include POCs full name and email address
- Get organized! Establish TAs who can...
 - Identify IT security personnel
 - Authorize training for personnel
 - Run reports

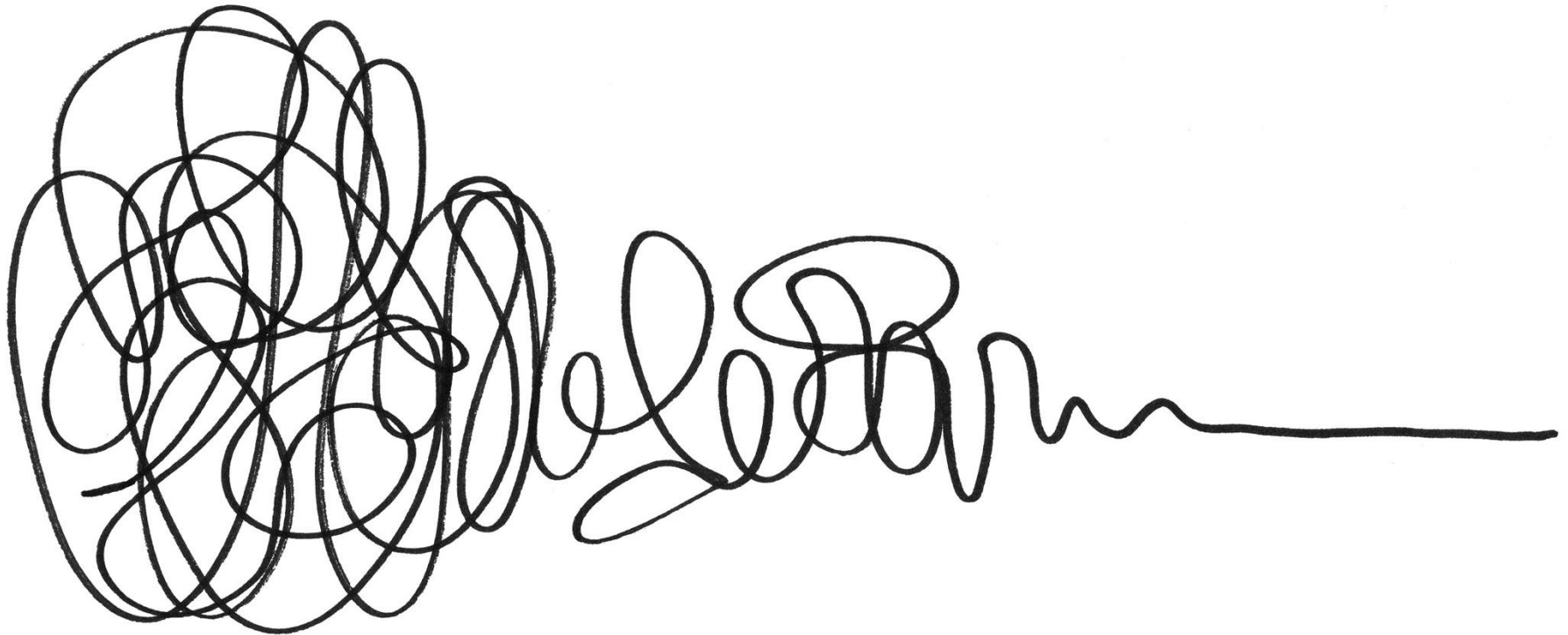
NICS Portal

Presented by: Josh Hammerstein

Human-Centered Design Process

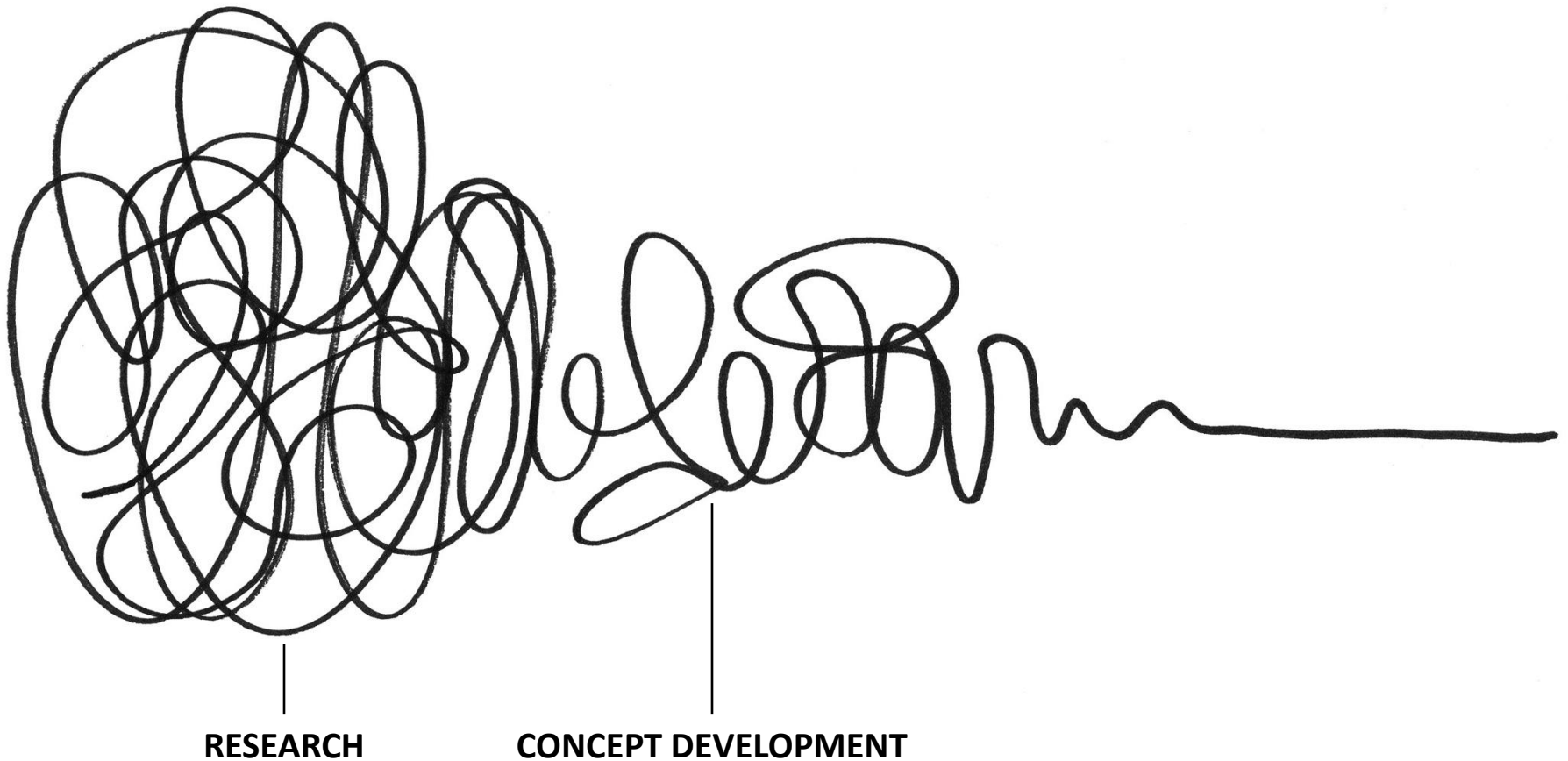


Human-Centered Design Process

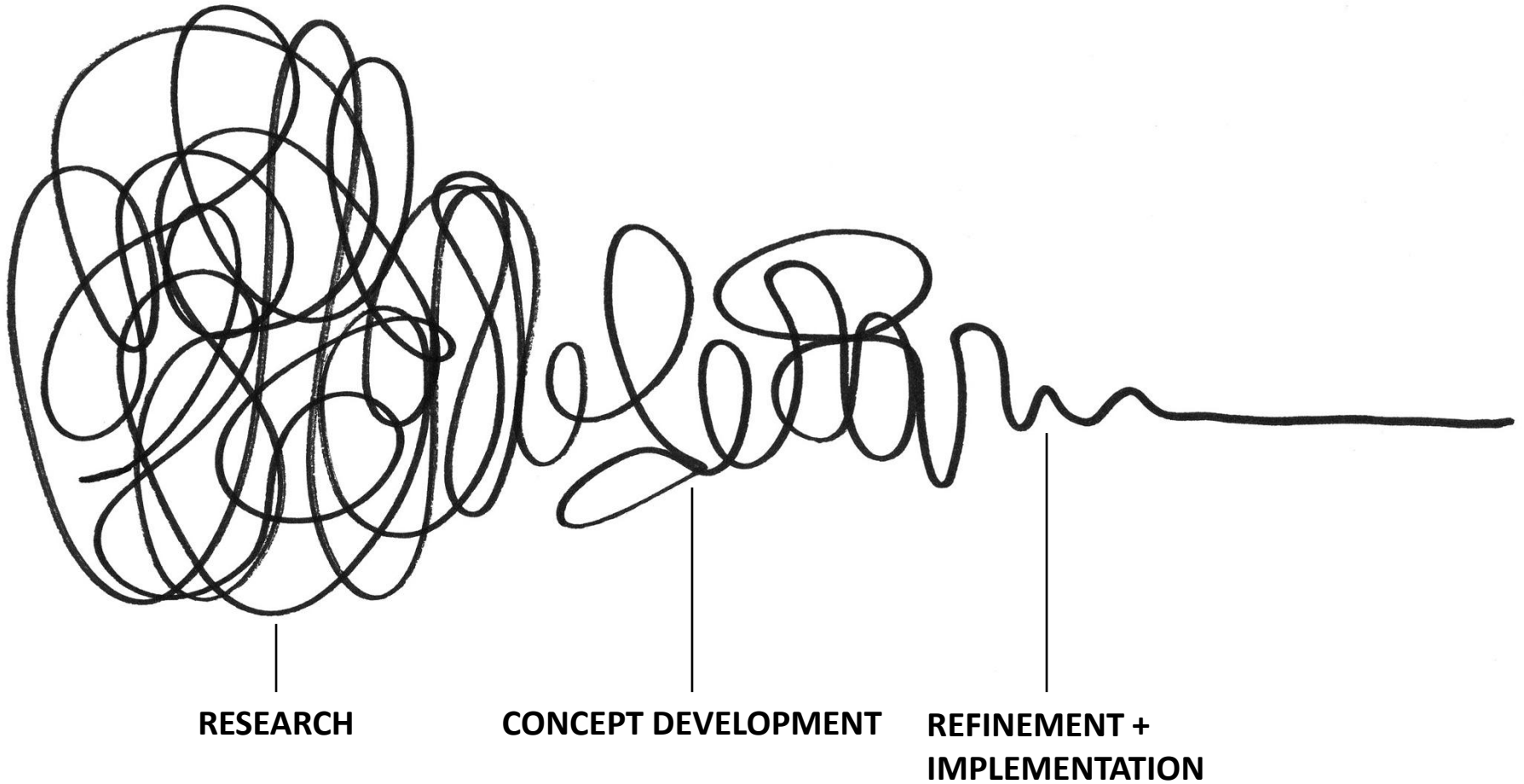


RESEARCH

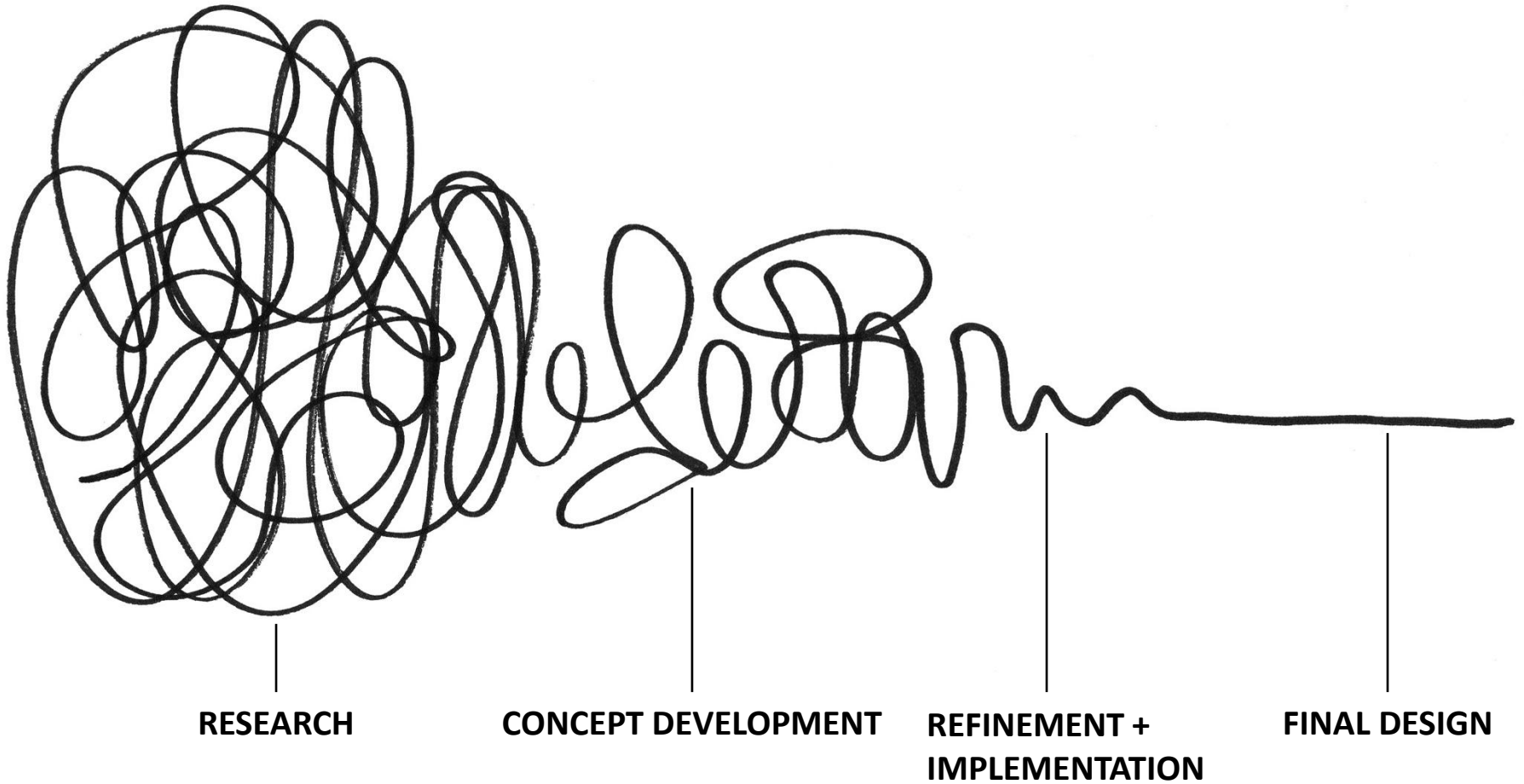
Human-Centered Design Process



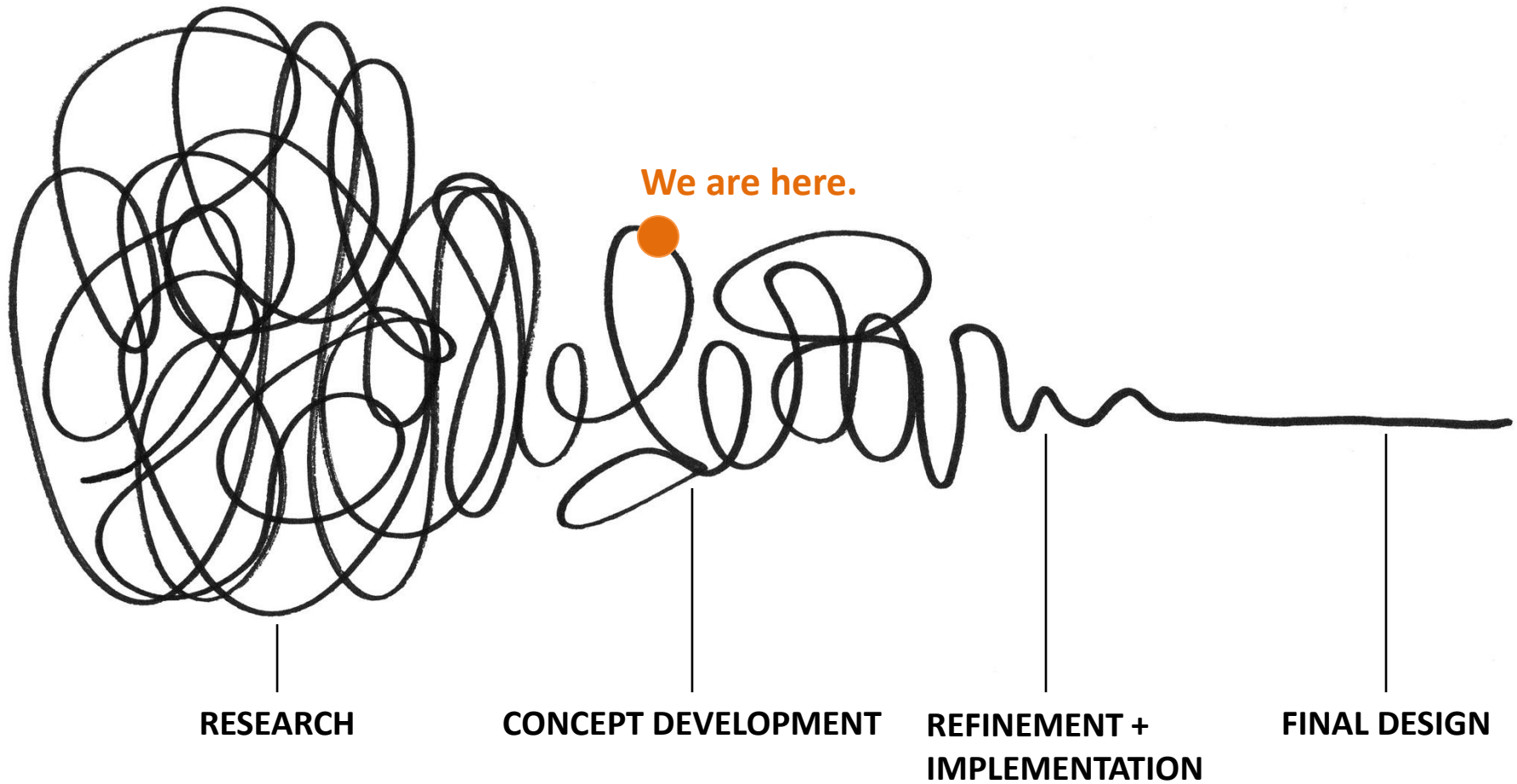
Human-Centered Design Process



Human-Centered Design Process



Human-Centered Design Process



Methods & Deliverables



RESEARCH

Market Analysis
Online Surveys
Contextual Interviews

Personas

Methods & Deliverables



RESEARCH

Market Analysis
Online Surveys
Contextual Interviews

Personas



CONCEPT DEVELOPMENT

Affinity Diagramming
Brainstorming Sessions
Content Strategy
Usability Testing

Information Architecture
Wireframes
Prototype

Methods & Deliverables



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Online Surveys
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*Information Architecture
Wireframes
Prototype*

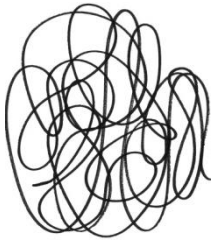


REFINEMENT + IMPLEMENTATION

Look & Feel Design
CMS Implementation
Usability Testing

*Screen Designs
Final Prototype*

Methods & Deliverables



RESEARCH

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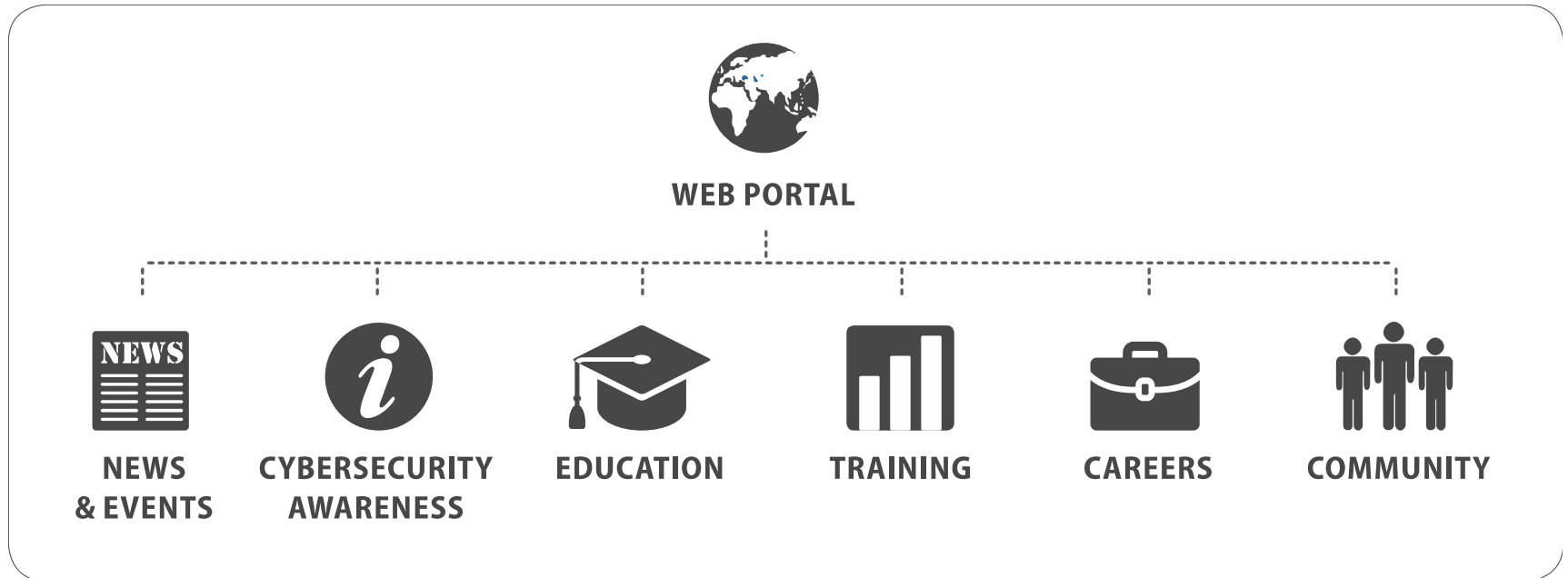


FINAL DESIGN

Deployment

Functional Website

Site Overview



Personas



Julie Benson



Mason Jones



Alicia Lippert



Peter Mitchell

- represent the intended visitors of the portal
- synthesize research into core needs
- clarify how the system might be used

Julie Benson

Cybersecurity Workforce Entrant



Age: 21

Job Title: College Student - Junior

Major Responsibilities: Completing her degree

Education: Penn State University

Family Status: Single

Quote

Julie wanted to supplement her academic career with classes in cybersecurity since her degree program did not offer this topic in the disciplinary core.

“After having my Amazon account hacked and my password compromised, I wanted to make information systems that would prevent this from happening to anyone else.”

Environment

Spending most of her time on a college campus, Julie lives in a dormitory. She has many friends and is a member of a sorority. She does her work and personal computing via the computer labs and her laptop in her room using a Dell with Firefox via wireless connection. She is technically savvy.

Key Attributes

Julie is a bright, initiative-driven person with a strong work ethic. Her belief systems and morals are not often discussed; she is rather private. She is apt and affable. Her conduct is very reasoned and she is extremely likable.

Mason Jones

Information Technology Support Specialist



Age: 28

Job Title: Information Technology Support Specialist

Major Responsibilities: Provide technical support

Education: University of Maryland, Baltimore County

Family Status: Married

Quote

Mason wanted to transition from technical support into vulnerability analysis, but could not afford graduate school. He is interested in vulnerability analysis due to the multiple times he was involved in incident response of a certain protocol.

“I believe if we were more proactive in testing software before release we could prevent more breaches.”

Environment

Mason works for Naval Academy in Annapolis, Md. He is married and has many social activities related to his church.

He does his work on a “managed” machine and personal computing via his home laptop. He is currently taking courses on IP6 via computer-based training on his laptop at home.

Key Attributes

Being a veteran, Mason is eager to receive continuing education credits and take advantage of any training in the area, in which he is interested and enjoys.

He is an active member of his church community and helps people when they have computer issues. He is well-liked and well-respected both at work and in his personal life.

Alicia Lippert

Cybersecurity Workforce Entrant



Age: 41

Job Title: Business Analyst

Major Responsibilities: Completing her degree

Education: BS, Ohio State University

Family Status: Married

Quote

Alicia wants to advance her career by going for a graduate degree in cybersecurity.

“I’m looking for a trusted source of information that will show me possible education and career options, as well as providing a place where I can post questions to knowledgeable experts.”

Environment

Alicia is a 41-year-old business analyst. She has a Bachelor’s degree in business and 9 years of professional experience in addition to a strong knowledge of computers.

She enjoys working for A1 Secure Network Systems, Inc., but she feels that there is more room for advancement in the field of cybersecurity.

Key Attributes

While doing some research online, Alicia discovered that there are many different ways she could prepare for a position in the field of cybersecurity. But which ones should she focus on?

Her biggest problem is finding one place where she can get accurate and current information.

Peter Mitchell

Member of the Government Workforce



Age: 39

Job Title: Information Technology Specialist

Major Responsibilities: Network manager for FAA

Education: BS, Civil Engineering

Family Status: Married

Quote

Witnessing many incidents from his network admin perch, Peter believes security policy and education can lead to less overall security incidents.

“Security starts with our users. Until they realize the large role they play in our network security, we will continue to suffer from attacks.”

Environment

Peter spends 8-5 in an FAA office with a large FAA datacenter down the hall. He uses his FAA-issued desktop for general office apps, along with another dedicated laptop for network troubleshooting, etc.

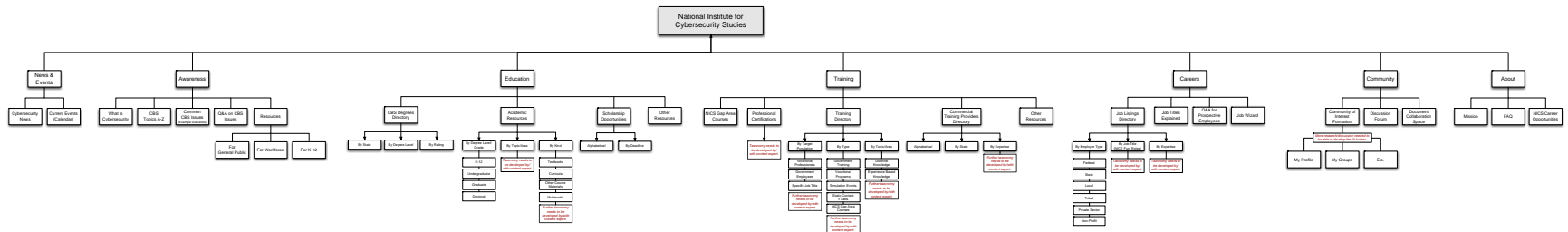
He’s competent on general IT concepts, but not from a security perspective, so he is looking to improve his skills in this area.

Key Attributes

A retired Navy pilot, Peter’s interest in complex systems has led him to the IT field. He’s working to improve his skills in the area of computer and network security.

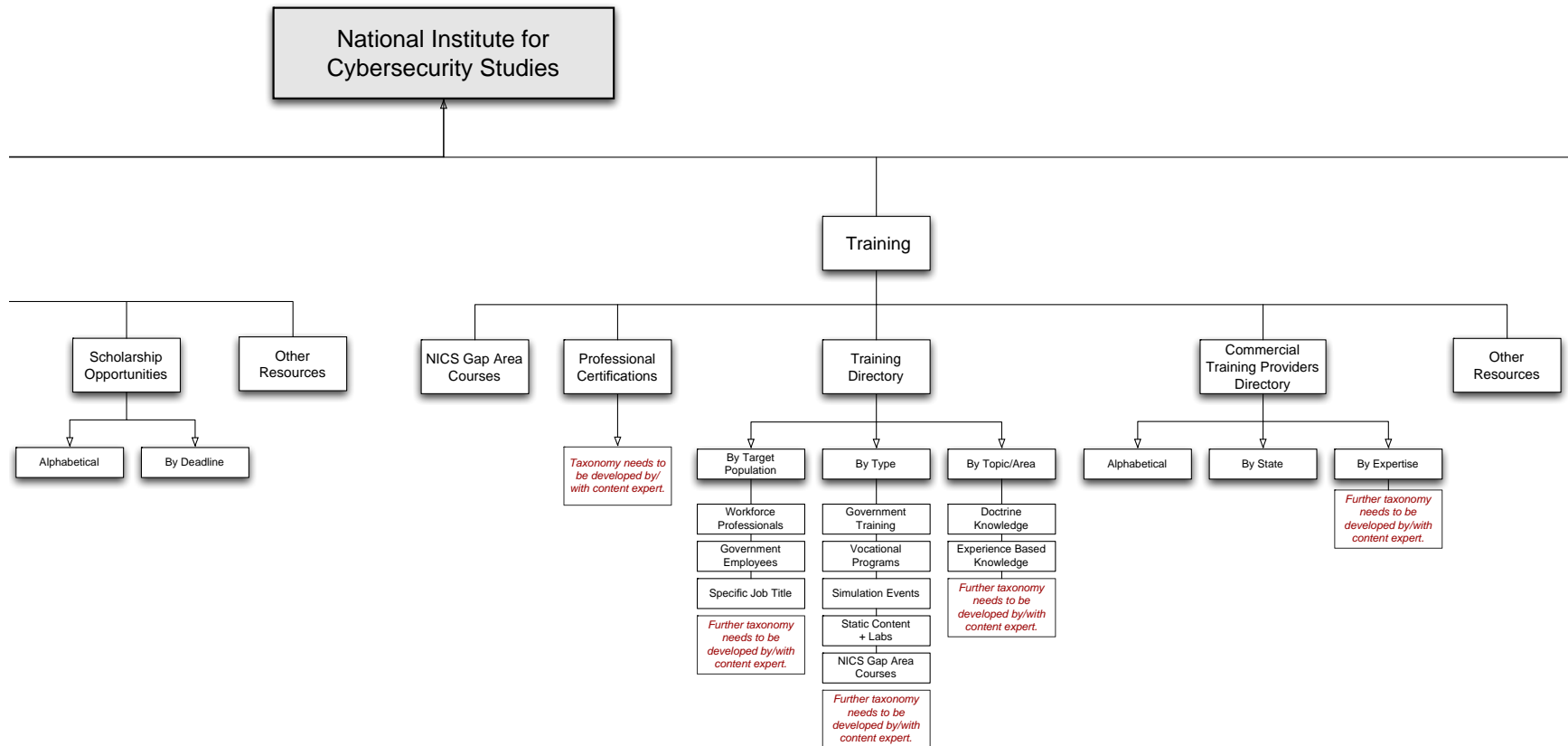
He logs many hours per day behind a system doing routine sys-admin activities, but he is interested in improving skills in network architecture, security engineering, etc.

Information Architecture

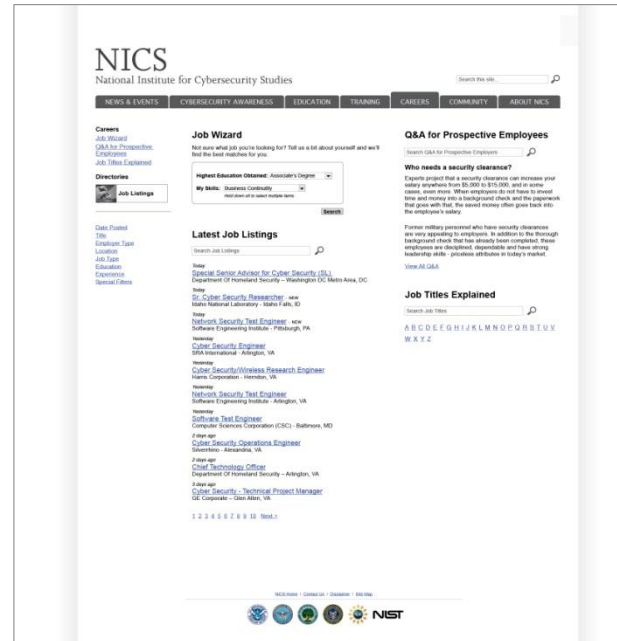


- maps out the information structure of the portal

Information Architecture



Wireframes



- communicate initial design ideas
- focus on content and structure, not visual design
- prioritize content areas on a page

Wireframes

NICS
National Institute for Cybersecurity Studies

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Cybersecurity Terms A-Z

Learn basic terminology and find out how you can become more cybersecurity aware.

Cybersecurity Degree Programs

Upcoming Training

- Oct 9** [SANS Baltimore 2011](#)
Baltimore, MD
SANS Commercial
- Oct 17** [Certified Information Systems Security Professional \(CISSP\) Preparation](#)
Live Online
UMBC Training Centers Commercial
- Oct 18** [Grid SecCon 2011](#)
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SANS Commercial

Newest Job Postings

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Department Of Homeland Security – Washington DC Metro Area, DC

Today
[Sr. Cyber Security Researcher](#) - NEW
Idaho National Laboratory - Idaho Falls, ID

Yesterday
[Cyber Security Engineer](#)
SRA International - Arlington, VA

Yesterday

Prototype Demo



Usability Testing

We invite you to interact with the NICS Portal prototype, help us test-drive it and provide feedback that will further the site's development.

Your input is very valuable to us.

Where	When	Length of Session
NICS Booth	Wednesday & Thursday	5 - 10 minutes
	10 - 11 am	
	12 - 2 pm	
	5 - 6 pm	

NICS Project Timeline



- Validate portal requirements and design
- Portal mockup and start of development

- Establish NICS PMO
- Assemble Advisory Board
- Portal operational

- Pilot State, Local, and Tribal Virtual Training Environment
- Expand portal content partnerships
- Continuously update portal content

30 minute break...

- Please visit the NICS booth and participate in the usability testing.
- After the break, breakout sessions! *This is your opportunity to provide input to make this tool work for you and your organization.*
- Reach us after the conference and in the future with the NICS Mailbox: NICS@dhs.gov

Breakout Sessions - 30 minutes

4 Breakout Groups

- “Awareness” lead by Roy Siple
- “Education” lead by Michelle Young
- “Training” lead by Susan Morris
- “Career” lead by Chelsea Pickens

Please join the group that you would most like to contribute to.

Summary & Wrap Up