Cyber Awareness For Robotics/ Automation/Mechatronics Technicians:
A New Credential

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& Zack Hubbard (Rowan-Cabarrus CC)

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Presentation Outline

- TRACKS-CN Overview

- Badge Motivation

- Digital Badge Development Process

- Badge Demonstration

- Next Steps

- Q & A

Speaker Introductions

Evelyn Brown

- 18 years in academia

- ECU Department of Engineering (2006-2017)

- Started with NC State Industry Expansion Solutions in 2017

- Evaluator for ATE grants

- PI for ATE Coordination Network project

- Grew up in Salisbury, NC

Speaker Introductions

Zack Hubbard

- Dean of Technical Programs at Rowan-Cabarrus Community College (2021-present)

- Previously served as the Program Chair of Information Technology at RCCC (2013-2021)

- Background – Information Systems (focus on MIS and Cybersecurity)

- Co-PI for ATE Coordination Network project

TRACKS-CN Overview

- Project funded by National Science Foundation (NSF) Advanced Technological Education (ATE) program

- How ATE projects benefit NCCCS institutions
- Definition of Coordination Network

- Goal of TRACKS-CN
- Members of TRACKS-CN

TRACKS-CN Overview

NC Community College Members:
- Central Piedmont Community College (J. Dale)
- Gaston College (K. Livsie)
- Rowan-Cabarrus Community College (Z. Hubbard & A. Durham)
- Wake Technical Community College (M. Moore)
- NC Community College System (K. Gold & L. Brown)

TRACKS-CN Website

https://ncmep.org/tracks-cn/

Cyber4RAM Badge (Motivation)

- A new micro credential for technicians

- Goal: expose technicians to content at the convergence of robotics/automation/mechatronics (RAM) and cybersecurity

- With manufacturing's shift to connected machines, their cyber-physical systems need protection

- Digital badges enable training content to be delivered outside of classroom setting and at the learner's pace

Digital Badge Development Process

1) Review published NICE competencies to determine which fit goals and select appropriate competencies to be a part of badge

2) Develop interview protocol and conduct interviews to gather information from experts

3) Create draft scenarios (with assessments) based on interviews

4) Determine topics to cover for each competency and pull content from existing sources, if it exists

Digital Badge Development Process

5) Create content to supplement existing content

6) Set up accounts in LMS and shells/templates for content

7) Insert content, scenarios, assessments into LMS

8) Partner with credential issuer (we are using Credly)

Digital Badge Development Process
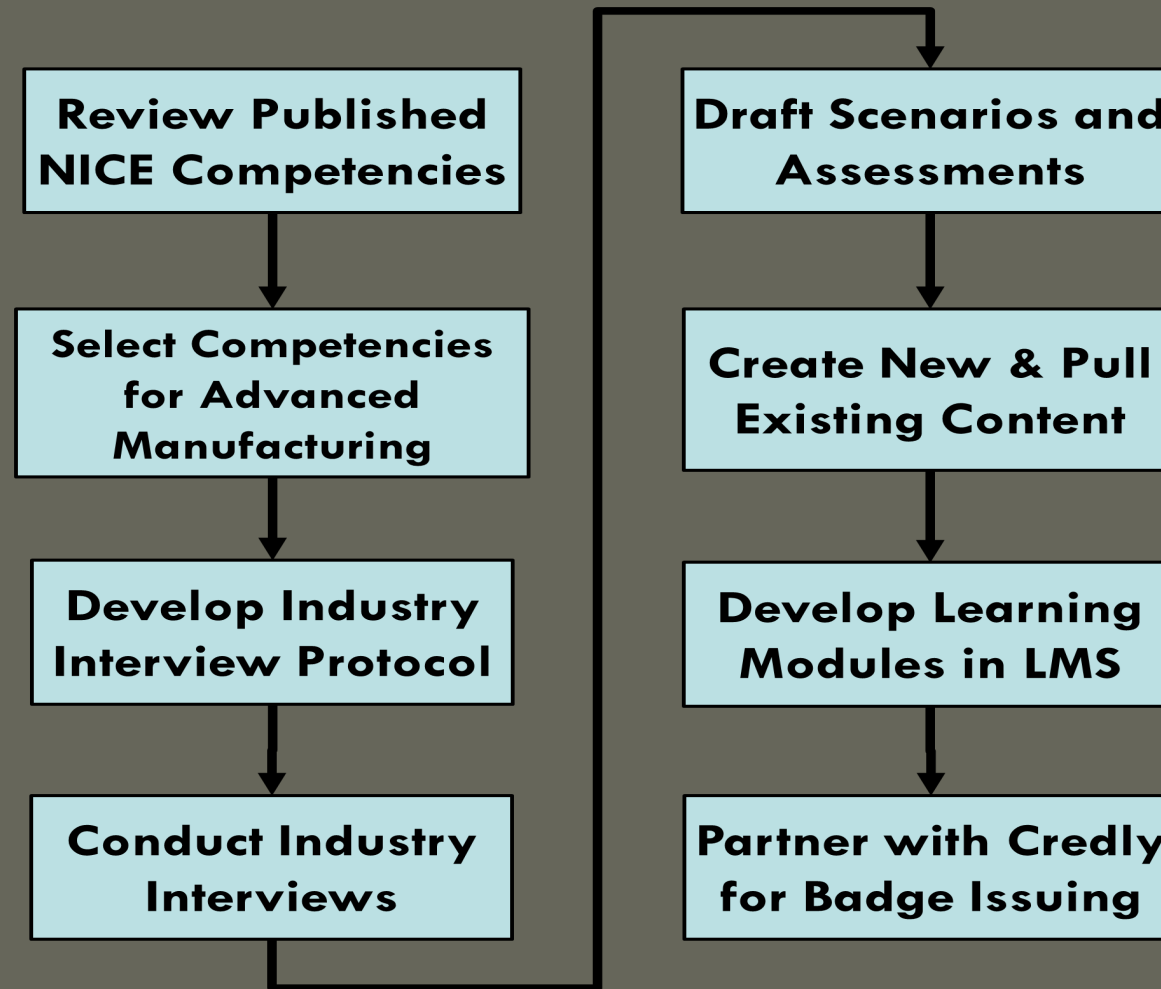
Cyber4RAM Badge Competencies

1. Asset and Inventory Management
2. Computer Languages
3. Data Privacy
4. Data Security
5. Digital Forensics
6. Identity Management
7. Incident Management
8. Infrastructure Design
9. Physical Device Security
10. Systems Integration
11. Vulnerabilities Assessment

Badge Demonstration

- Zack will provide Cyber4RAM badge demo in Canvas Instructure

Next Steps

- Press release about Cyber4RAM badge and social media campaign kickoff

- 2023 focus areas for TRACKS-CN decided at Year 3 Workshop:
  - Determine How To Get Manufacturers Focused on Need for Technicians to be Cyber Aware
  - Develop a Cyber4RAM Level 2 Badge
  - Develop New Partnerships to Promote the Badge to Students

- Maintain current Cyber4RAM badge

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