National CyberWatch Center Information Security Fundamentals Curriculum Standards Panel

Topic Area Working Group (TAWG) #1

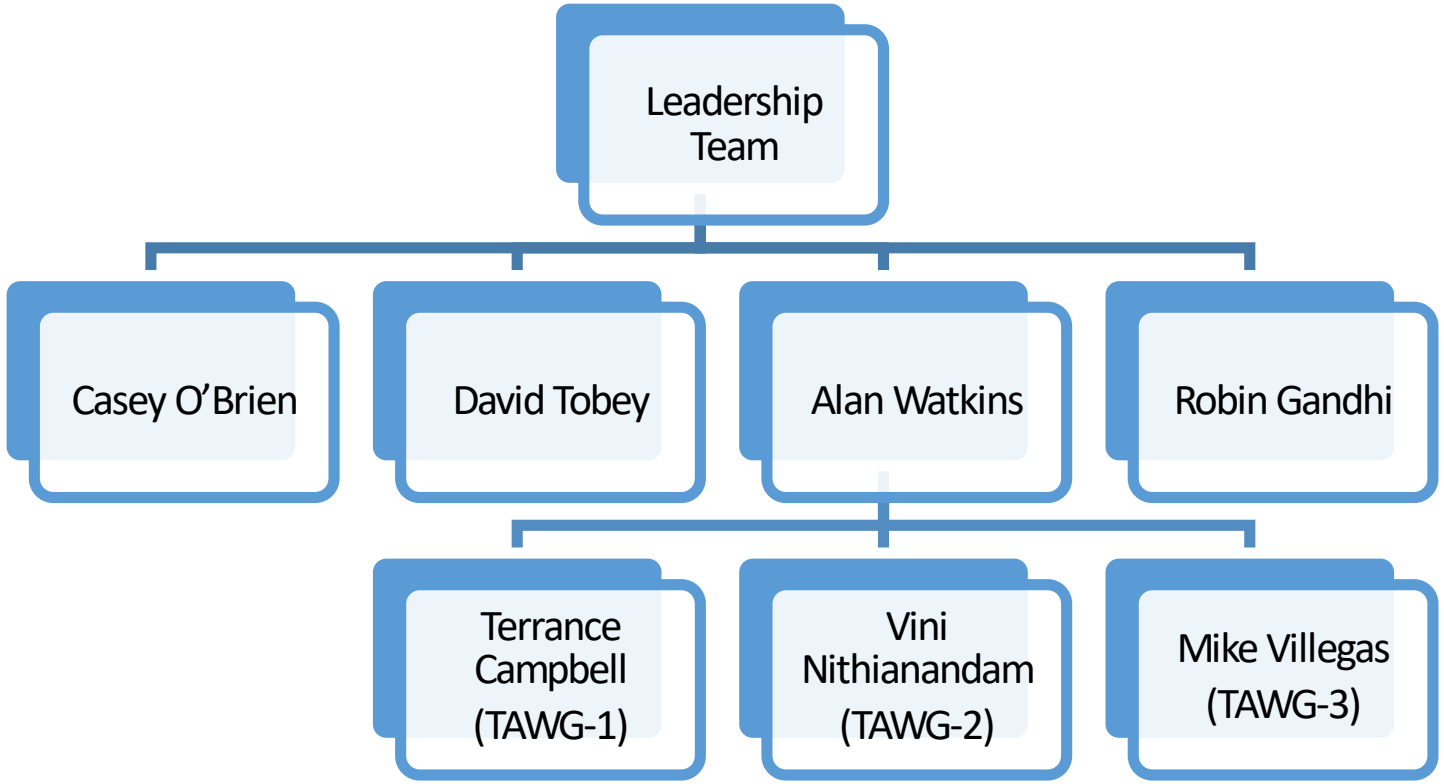
Session #1

Monday, Sept. 11, 2017 at 11:00am EDT | 8:00am PDT

Meeting Agenda

1. Welcome and Introductions [Lead: Casey O'Brien]
2. Review Project Charter and Timeline [Lead: David Tobey]
   - includes Taxonomy of Terms
3. Introduction of TAWG Chairs and TAWG Membership Assignments [Lead: Alan Watkins]
4. Review Project Scope: Pre-requisite Capabilities and Mastery Levels [Lead: Alan Watkins]
5. Bi-Weekly Task: Developing a Concept Map of Information Security Fundamentals Course [Lead: David Tobey]

Welcome and Introductions



- TAWG Member Self-Introductions:
  - Tell us who you are, a brief summary of your background, where you are located, and what interested you in this project
- Leadership Team contact information is located on Google+ Community under About Community

Review of Project Charter

- The Curriculum Standards Panel (CSP) was extended to create course-specific standards panels to advance the models of instructional design used in cybersecurity education.
  - These panels will develop a competency-based, mastery learning library
- Competency-based objectives, principles, and techniques target increased cybersecurity capability maturity of both the entrants and incumbents of the information security workforce.
- TAWGs will use a process that applies recent advances in learning science to innovate the conception, design, and delivery of cybersecurity education.

Review of Project Charter (cont'd)

- There will be five (5) TAWG sessions, held every-other week from Sept. 11 through Nov. 10
- For each session, there will be a task/activity assignment for that time period

Review of Project Timeline

WBS	Task description	Deliverables	Estimated Start date	Estimated Finish date
2.3	**Assessing Competency Profiles (Simultaneous process by TAWGs)**			
2.3.1	**Develop Concept Maps**			
2.3.1.1	Scope concept inventory topics	Course Concept Map	8/28/2017	9/11/2017
2.3.1.2	Classify topics as declarative, procedural, conditional or situational knowledge	Course Concept Tree	10/3/2017	10/12/2017
2.3.1.3	Specify examples of misconceptions and develop Q-Matrix	Q-Matrix of Misconceptions	10/13/2017	10/23/2017
2.3.2	**Codify Threshold Concepts**			
2.3.2.1	Assemble a test bank from textbook and other sources that maps to the Q-Matrix	Assessment Item Library	10/24/2017	11/2/2017
2.3.3	**Develop Action Maps**			
2.3.3.1	Scope action inventory topics	Course Action Map	10/24/2017	10/30/2017
2.3.3.2	Classify actions by difficulty (VUCA)	Course Action Tree	10/25/2017	11/3/2017
2.3.3.3	Specify examples of misconceptions and develop Q-Matrix	Q-Matrix of Misconceptions	10/20/2017	10/30/2017
2.3.4	**Codify Threshold Actions**			
2.3.4.1	Assemble a test bank from case books, simulations and other sources	Assessment Item Library	10/31/2017	11/9/2017
2.3.5	**Develop Incident Maps**			
2.3.5.1	Scope incident inventory topics	Course Incident Map	10/31/2017	11/6/2017
2.3.5.2	Classify incidents by difficulty (VUCA)	Course Situational Judgment Tree	11/7/2017	11/16/2017
2.3.5.3	Specify examples of misconceptions and develop Q-Matrix	Q-Matrix of Misconceptions	11/17/2017	11/27/2017

Review of Project Timeline (cont'd)

WBS	Task description	Deliverables	Estimated Start date	Estimated Finish date
3	**Competency-based Instruction Techniques, Tools and Protocols**			
3.1	**Instruction Modules**			
3.1.1	Design and draft/record modules	Proposed instructional materials	10/3/2017	10/23/2017
3.1.2	Review, rate and comment on modules	Instructional module recommendations	10/12/2017	10/23/2017
3.1.3	Assemble draft module library	Draft instructional library	11/22/2017	12/1/2017
3.1.4	Review, edit and approve module library	Final instructional library	11/23/2017	12/4/2017
3.2	**Practice Modules**			
3.2.1	Design and specify modules	Proposed practice lab specifications	10/25/2017	11/8/2017
3.2.2	Review, rate and comment on modules	Practice lab module recommendations	10/25/2017	10/30/2017
3.2.3	Assemble draft module library	Draft practice lab specifications	11/29/2017	12/4/2017
3.2.4	Review, edit and approve module library	Final practice lab specifications	11/30/2017	12/4/2017
3.3	**Challenge Modules**			
3.3.1	Design and specify modules	Proposed challenge lab specifications	11/7/2017	11/16/2017
3.3.2	Assemble draft module library	Draft practice lab specifications	11/17/2017	11/21/2017
3.3.3	Review, edit and approve module library	Final practice lab specifications	11/22/2017	11/27/2017

Taxonomy of Terms

- Panel members come from variety of backgrounds and this project is focusing on Competency-Based Education principles, which are new to many
- The Taxonomy of Terms was created to level the playing field and allow everyone to have the same understanding – please read through the whole document, if you haven't already
- Some key terms include
  - Knowledge (four types)
    - Declarative, Procedural, Conditional or Situational
  - Concepts and Threshold Concepts

TAWG Chair & Membership Assignments

- TAWG-1 Chair: Terrance Campbell
- TAWG Membership Assignments
  - Approx. 130 people accepted to join the panel (out of approx. 180 who completed the initial survey)
  - Three TAWGs needed to have close to equal representation
    - Primarily based on responses to Cybersecurity Capability Maturity Assessment (CCMA)
    - Some shifting occurred after selecting TAWG Chairs and panelists who dropped
    - Each TAWG has primary area(s) of focus based on five categories from NIST Framework
    - TAWG-1: Identify; TAWG-2: Protect/Detect; TAWG-3: Respond/Recover

Review of Project Scope

- Scope limited to a single course – Information Security Fundamentals

- Deliverables – Outcomes
  - Crowdsourced instructional designs aligned with NCWF
  - Inductive concept inventory development
  - Platform independence
  - Increasing capability maturity

Bi-Weekly Task #1

- **Project Task:**
  - Develop a Concept Map for an Information Security Fundamentals Course
- TAWG Tasks/Activities (Week 1 > Sept. 10-16)
  - During the first session's activities, the panel will be analyzing topics associated with information security to determine their relationship to the topic area(s) assigned to the working group. In the first week, the analysis will include reviewing topics identified by other standards organizations, such as those currently being evaluated by an ACM task force, and adding other concepts that these standards may have missed.
  - This activity needs to be completed no later than Friday, Sept. 15

Bi-Weekly Task #1 (cont'd)

- **Project Task:**
  - Develop a Concept Map for an Information Security Fundamentals Course
- TAWG Tasks/Activities (Week 2 > Sept. 17-23)
  - During the second week, panel members will be asked to pair concepts that are most closely related to each other. The paired associate ratings will be used to construct a concepts map. The map will identify threshold concepts that are central to understanding information security fundamentals.
  - This activity needs to be completed no later than Friday, Sept. 22

Open Session

- Thank you for your participation!
- The remainder of this session is open for questions and for panel members to work on the task assignment, as more questions might arise while working on the weekly activity
- You are encouraged to stay on the session until it ends, so we can answer questions about the assignment; otherwise, you are welcome to leave the session at any time
- If questions or comments arise later, email them to your TAWG Chair (Terrance Campbell) and the Panel Chair (Alan Watkins)
- Be sure to check the Google+ Community for announcements