Evidencing Competencies Through Cyber Competitions

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Pilot framework ideas:

1)Leverage Evidencing Competencies Work Group ABCDE model

2)Reference/align with workforce frameworks such as DCWF and NICE FW

3)Consider alignment with CAE KU Outcomes

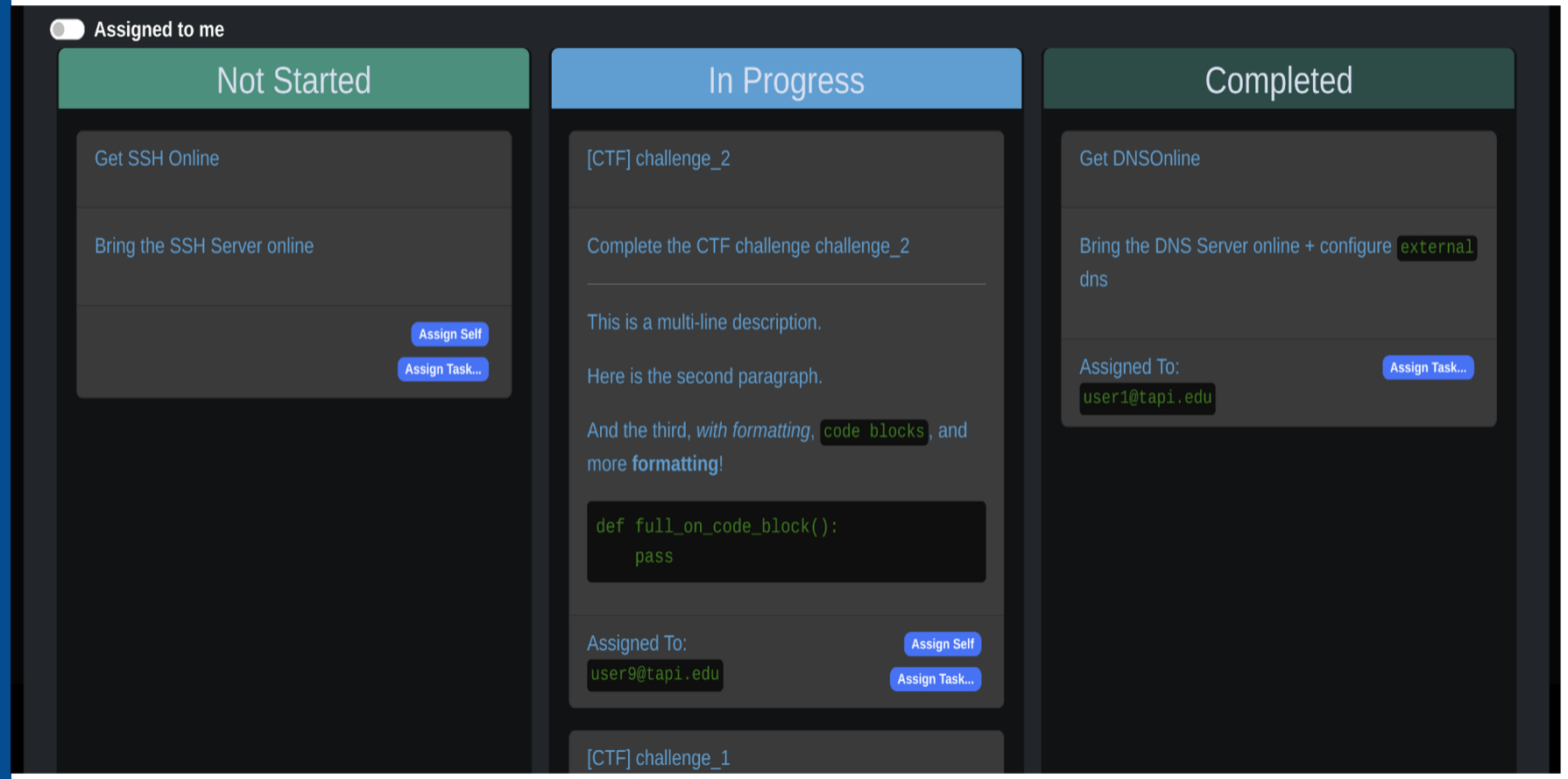
4)Work towards competencies “in a contested environment”

5)Address proficiency levels

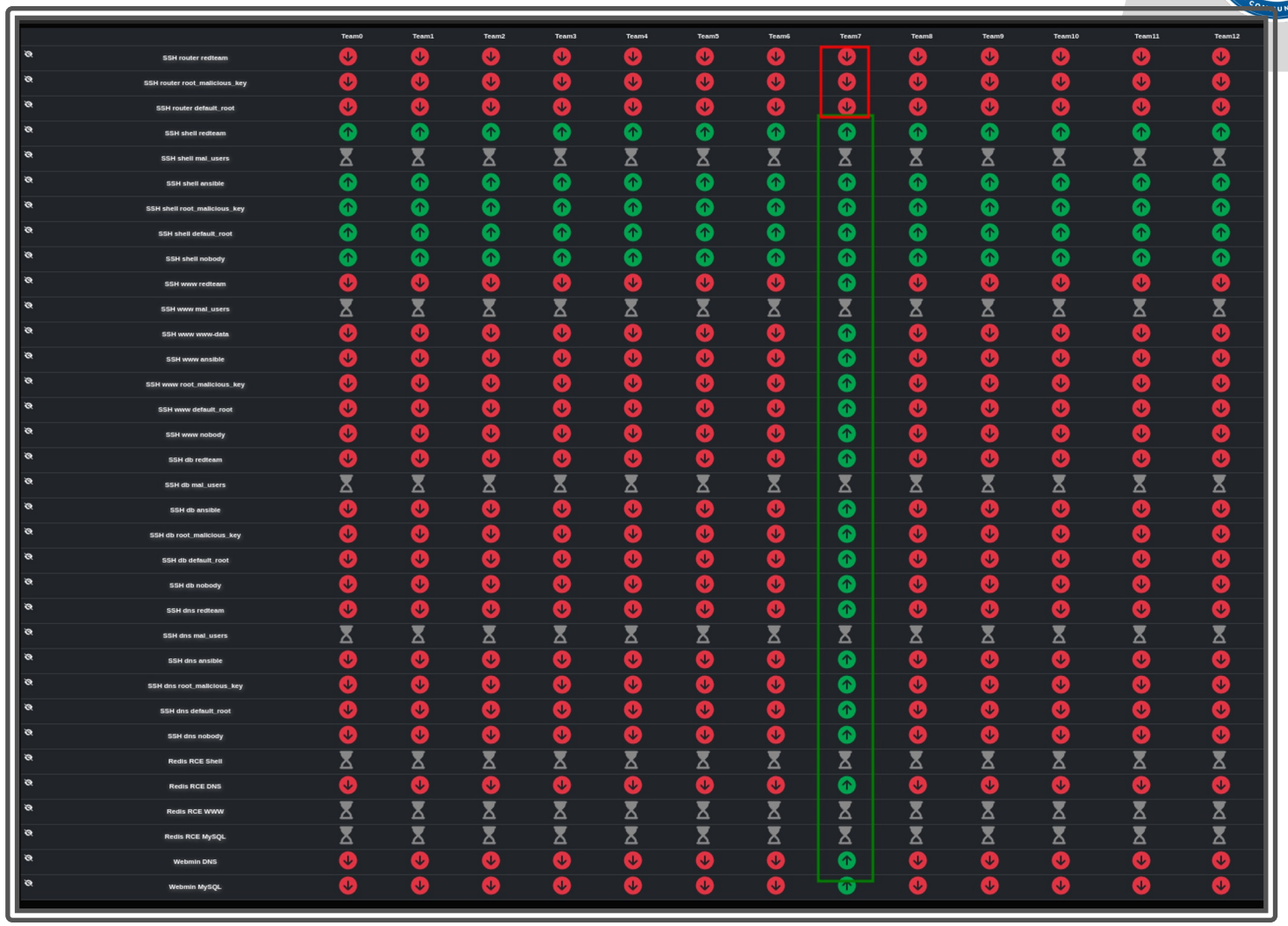
6)Provide a clear summary of what tasks the participant performed to earn the badge

7)Align with findings from Evidencing Competencies Work Group research led by Dan Manson on student understandings of competencies

Kanban: Enabling tasking and assignment



Red Team Dashboard: Tracking remediation status



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NCAE Cyber Games Technical Data Sources

Sandbox

Red Team

CTF

Competency Statements?

Align with existing frameworks:

CAE KU's
NIST NICE
DoD DCWF

Badging?

Student journey and narrative from contested environment in a competition to the Workforce.

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We are tying technical data to ABCDE Competency to Badging while aligning with existing frameworks…. how are we doing?!

What Competencies should we target for a pilot?

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- Configure internal and external DNS
- Maintain user access over SSH
- Use valid SSL certificate for web server
- Web server running critical application stays online
- MySQL connection stays online
- Route traffic to internal hosts from an external endpoint
- Maintain FTP online and files available
- Detect and remove unauthorized system access
- Detect and remove anomalous/malicious files

What Competencies should we target for a pilot?

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Dan Manson: ECWG Competitions Workgroup Lead

The Essential Elements of Competency

Competency is most effectively described using 5 key elements:

A - actor (who exhibits the competency);

B - behavior (what task the actor is expected to complete);

C - context (how the behavior is enacted);

D - degree (how much time, accuracy and degree of completion);

E - employability (what professional skills are necessary for this task to be enacted in a way that would be appropriate for the workplace).

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A - Actor

- Identify level of participant (e.g. high schooler, freshman, junior etc.)
- State any previous courses and/or knowledge they should have acquired before attempting this competency
- Summarize assumed level of knowledge
- Infers anticipated level of proficiency

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B - Behavior

- Corresponds with work role and task listed in existing frameworks (e.g. NICE framework or DoD DCWF)
- Identifies work role and specific task (s)
- Note: identifying the task and work role builds a direct connection between the educational activity and the workplace.

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C - Context

- Describes the unique scenario in which the behavior is enacted
- Describes the tech, documentation and any limitations placed on the student
- Provides the "story" of how the competency was enacted (employers particularly value this in interview conversations)

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D - Degree

- Identifies how much time might be assumed for competent engagement with task, how much accuracy is required and how much of the task needs to be completed
- Shifts focus from academic (potential 100% by each individual) to 'would this be good enough for an employer?'

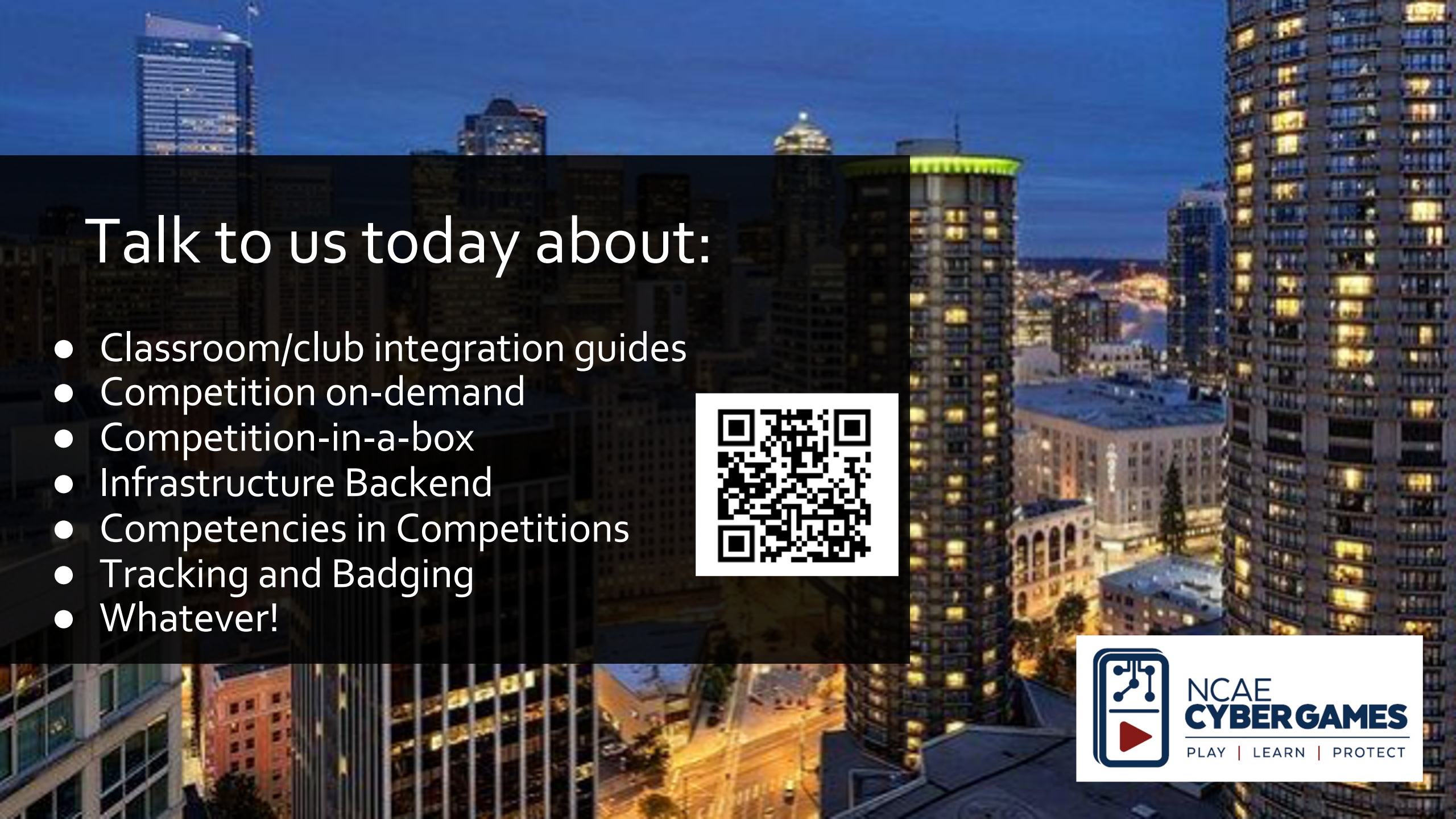
Dan Manson: ECWG Competitions Workgroup Lead

E - Employability

- A person can be technically able but remain unemployable unless they also have the professional skills required by a specific workplace.
- Professional skills tend to include teamwork, critical thinking, communication, integrity, and ethical judgement and reasoning (https://www.montreat.edu/student-life/montreat-360/).
- These cannot be tacitly assumed, but need to be identified and stated.

Talk to us today about:

- Classroom/club integration guides
- Competition on-demand
- Competition-in-a-box
- Infrastructure Backend
- Competencies in Competitions
- Tracking and Badging
- Whatever!



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