

Cyber Gaming, Career Maps and Regional Clinics, Oh My!

Panel of CADENCE Partners



CAL POLY
Digital Transformation Hub



CADENCE

California Advanced Defense Ecosystems & National Consortia Effort



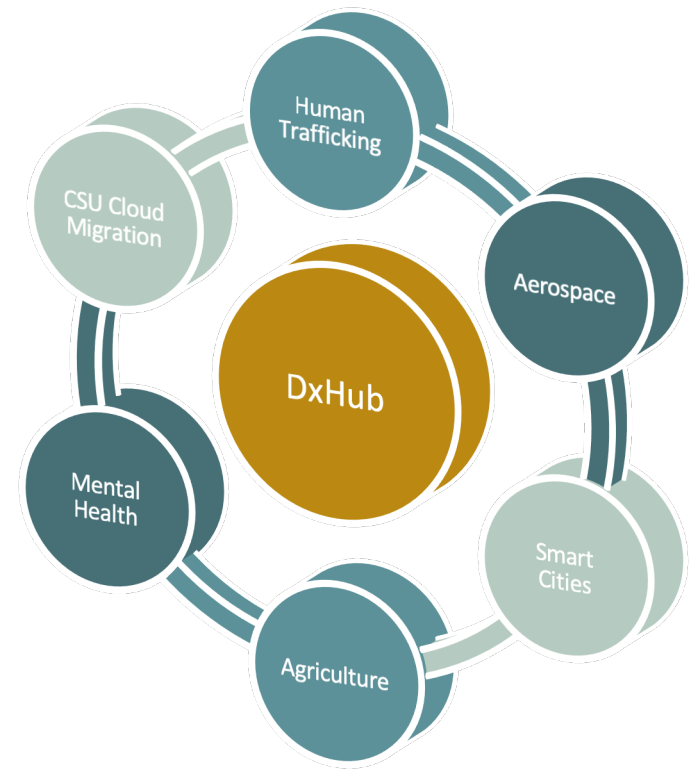
CCOE & Cal Poly - CADENCE Collaboration

- CCOE and Cal Poly are part of the CADENCE Consortium, an initiative funded by the DoD to strengthen the resiliency of the national security innovation and manufacturing base involved in the advancement of specific national security key technologies like microelectronics, 5G, cyber, space, AI, machine learning, and others.
- As part of the project, CCOE and Cal Poly's Digital Transformation Hub (DxHub) are partnering with the newly launched San Diego Regional Cyber Lab (SDRCL) to create a communication/data sharing tool within the Lab that allows regional partners to communicate directly and securely with one another in the preparation and event of a cyberattack.
- Developing a prototype for an online game-based evaluation tool that will allow users to receive a personalized cybersecurity report for their organization.



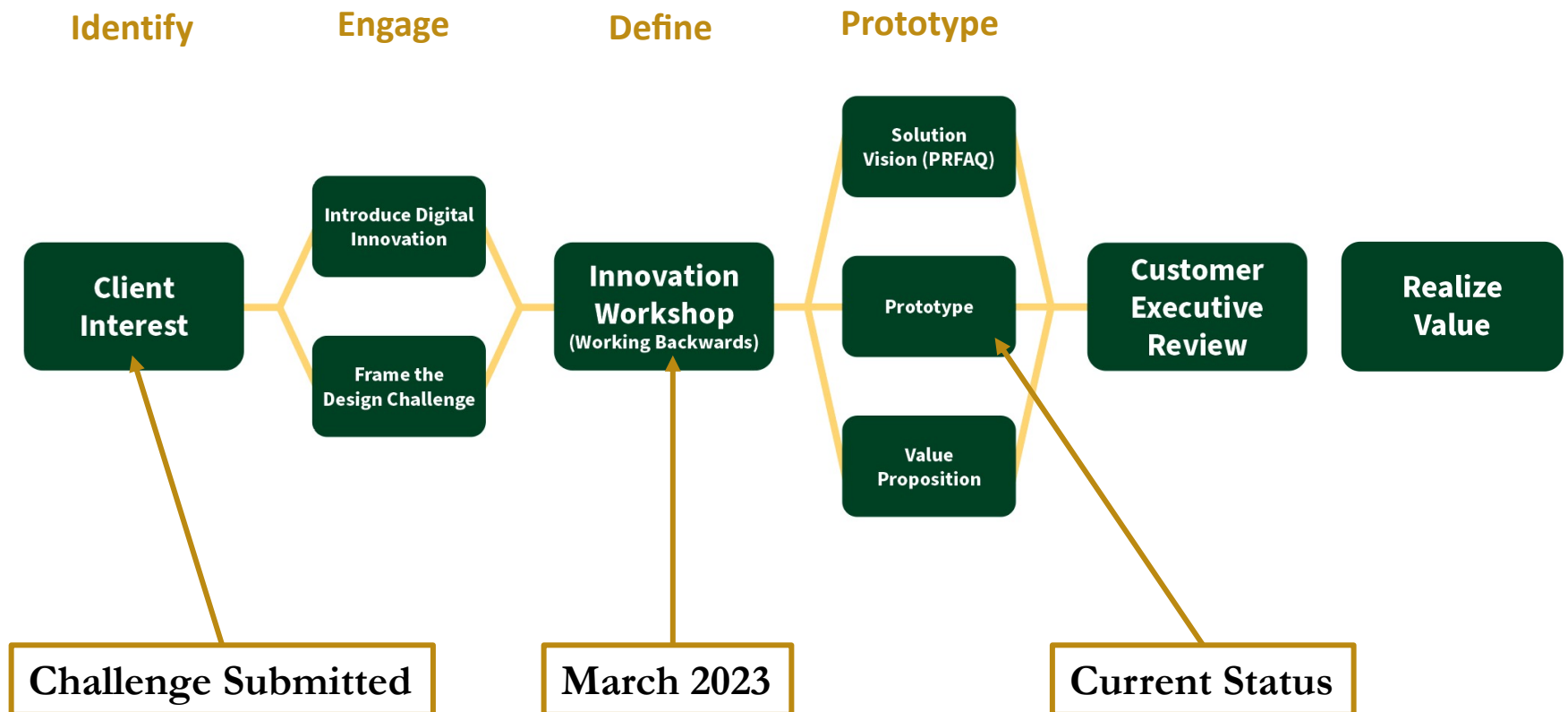
Digital Transformation Hub (DxHub)

- Founded in **2017**
- World's first university-based cloud innovation center **powered by AWS**
- Employs up to **20+ students** quarterly
- Created to **accelerate digital transformation** in the government, education and nonprofit sectors through the application of cloud technologies
- Provide students with **real-world learning experiences**
- Apply **proven innovation methodologies**
- Utilize the **deep subject matter expertise** of the public sector
- Leverage the **technology expertise** of AWS and other partners
- Solve **challenging problems** in ways not contemplated before
- **Focus Areas:**
 - Digital Literacy/Digital Transformation
 - Cloud Innovation/Cybersecurity
 - International Development Technology (World Bank)
 - Space Operations Innovation (USSF/Paso Robles Spaceport)
 - Student Workforce Skills/Experience



DxHub Challenge Process

The DxHub applies Amazon's human-centered, 'Working Backwards' innovation methodology to tackle challenges facing government, education, and non-profit organizations. The DxHub team leads public sector organizations through innovation and solution workshops structured to generate big ideas and impactful solutions. Through product development sprints and customer validation testing, the team creates a 'lean prototype' that brings the solution to life. Students assist the team throughout the innovation process.



Cyber Lab – Security Assessment Tool Challenge

Identify

Original Challenge

- Understand regional needs
- Educate regional participants
- Increase community engagement

Define

During the Workshop

- Determined it is more important to bring in participants
- Leaning toward a choose your own adventure – “**pathway**” model

Prototype

Cal Poly Will

- Develop a prototype tool based on the updated scope/design requirements
- Identify a sustainable technical platform

Key goals

- Game-ified survey/evaluation tool where users will receive a personalized cyber security report for their organization.
- Prioritized list of cyber issues addressing information about policy/operational information relevant to the given user, links to regional groups relevant to their type of organization, lists of currently available online resources for their staff, and more.
- Audiences can span from home users to professional-level enterprise agencies.
- Aggregated and anonymized data to provide region-wide view to further share with the community and to use in the submission of future budget requests and grant applications.

Cyber Career Map

- As part of our CADENCE grant efforts, CCOE is partnering with **Journeys Map** on an interactive pilot to map cyber education, trainings, certifications and career pathways. Users can chart their personal path to a cyber career with the exploration dashboard and zoom in for jobs, education, resources and much more.
- California's only Cyber Career Map includes the NIST/NICE cyber crosswalks and national certifications for individuals to connect existing work roles and related skills to potential opportunities in the cyber and defense industries.



Journeys

Begin Career Exploration



Explore cyber careers in the [NICE Cybersecurity Workforce Framework](#) and [Learn More](#) about how to land your dream job.

Explore Careers

Cyber Career Map Evolution

- Expanded the Career Map to include Work-Based Learning (WBL) opportunities that deliver the experiential engagement the Cyber industry demands, including the addition of the World of Haiku.
- We focused on specific WBL opportunities.
 - Internships, apprenticeships, challenges, simulations, events, info feeds
 - Finding ways to continue adding “evergreen” WBL” resources
- Now includes AI and machine learning tracks, K-12 curriculum and a new mobile app!



Demonstration of the California Cyber Career Map and Haiku Simulator

See the newest enhancements to the Career map that include work-based learning opportunities.

Thursday, September 9, 2021
10am -11am PST
Zoom Platform

If you are interested in attending please contact Lindsey Silvia at lindsey.silvia@eastcountyeedc.org.

The State of California Governor's Office of Planning and Research, CCOE and East County EDC partnered with Journeys Map on an interactive pilot to map cyber education, training, certifications and career pathways. Together, they expanded the map to include the critical Work-Based Learning (WBL) opportunities that deliver the experiential engagement that the Cyber industry demands.

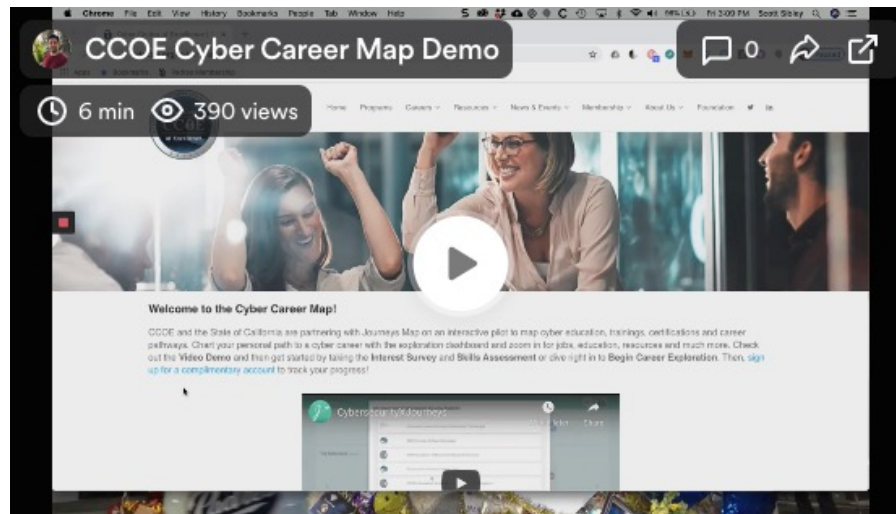
The Cyber Career Map will also include direct access to an exciting cyber simulator, the Haiku Range. Haiku gives a hands-on gamified way for individuals to broaden their cyber skills and career access.

Go explore at: <https://sdcoe.org/careermap/>
<https://haikurange.com/>

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Cyber Career Map Demo *Journeys*

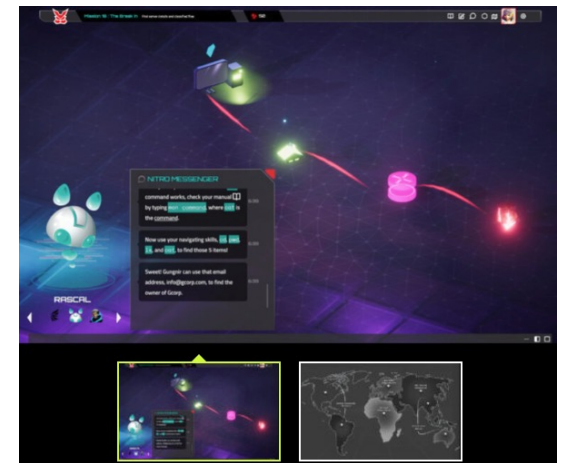
This interactive tool connects the global cyber workforce, students and veterans with job opportunities and career paths! It was made possible by the CADENCE grant and collaboration with CCOE and partners, including San Diego Regional EDC, Cal Poly SLO and others. You can access this complimentary tool via the CCOE website (link below).



<https://sdccoe.org/careermap/>

Haiku Overview

- Haiku provides cybersecurity training in the form of **serious games**. Players engage in a compelling, stimulating video game experience while learning real-world cybersecurity skills.
- **Serious Games:** Haiku leverages learning engineering techniques developed by **Carnegie Mellon** and applies those techniques to teach cybersecurity skills using video games. **It's like Duolingo for cybersecurity.**
 - This format applies across all demographics, dramatically increasing the accessibility to cybersecurity training and jobs to underrepresented groups
- **Skills for Career Advancement:** As players progress through the game, they learn skills mapped to the NICE framework.
 - Players earn badges and build a **Haiku Skillz Resume™** to share with employers. **Haiku Job Connect** also connects players directly to job postings that require their specific skills.



Haiku and Educational Partnerships

- Haiku has partnered with numerous educational institutions including:
 - San Diego State University (SDSU)
 - The Citadel Military College
 - San Luis Coastal School District
 - National University
- We have worked with the **Girls Scouts of San Diego** to qualify them for the Cybersecurity Investigator merit badge
- Haiku can be used to teach actual cybersecurity job skills (not just cybersecurity awareness) down to the 6th grade level due to our **serious game** format.
- We are presenting a study with SDSU at Cal State Connect in July demonstrating the efficacy of the serious game format for increasing hands-on skills



Haiku Demo



Q&A

Thank You For Attending!

- Cal POLY DxHub: <https://dxhub.calpoly.edu/about/>
- CCOE Journeys Career Map: <https://sdccoe.org/careermap/>
- Haiku: <https://haikuinc.io/>
- Learn more about CADENCE:
<https://www.opr.ca.gov/planning/land-use/military-affairs/cadence.html>



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