2024 AECT-NATO ACT D&D Competition Problem Statement

Advancing Education and Training Within NATO Through the Integration of Artificial Intelligence

Last updated February 3, 2024

Background
The North Atlantic Treaty Organization (NATO) recognizes the transformative potential of artificial intelligence (AI) in revolutionizing the educational and training landscape. AI can provide adaptive learning environments, personalized instruction, data-driven insights, and sophisticated simulations, among other benefits. Despite these potential advantages, AI’s application in NATO’s education and training programs remains underutilized and underexplored.

This competition invites instructional designers to conceptualize how AI can possibly transform NATO’s approach to education and training. Through this competition, we aim to uncover ground-breaking ideas and examples that can reshape training methodologies, empower our personnel, and prepare NATO for the challenges of the future.

About NATO ACT
For more information, refer to https://www.act.nato.int/.

Needs and Objectives
Create an AI Design Roadmap that identifies and recommends where NATO can implement state-of-the-art AI functionality to enhance training effectiveness and efficiency.

This Roadmap will show NATO where state-of-the-art AI capabilities can be implemented to:

- Support the objectives below, and
- Other training-related objectives identified by your team. Reminder: a goal of this competition is to provide ideas.
  - Note: Do not list specific software or other commercially available products. Teams should identify state-of-the-art AI functions and capabilities.

The AI Design Roadmap should address the following objectives:
1. Be scalable, adaptable, and capable of addressing the diverse learning needs of NATO personnel across different ranks, roles, and nationalities.
2. Facilitate remote training: Given the geographical spread of NATO personnel, the Roadmap should facilitate remote, asynchronous learning and ensure accessibility regardless of location.
3. Enhance learning efficiency and effectiveness (e.g., personalized learning paths, immediate feedback, and data-driven instructional adjustments based on learner's performance and progress).
4. Improve decision-making skills, e.g., the use of sophisticated simulations or scenarios that help improve decision-making skills, particularly in high-stakes, complex operational contexts.

**Competition Deliverables**

- **Phase I: An Abstract.** The abstract will describe what will be covered in your team’s AI Design Roadmap and the theoretical basis for your approach.
- **Phase II: An AI Design Roadmap.** In Phase II, your team will write the AI Design Roadmap.
- **Phase III: Presentation of the AI Design Roadmap.** Up to three finalist teams will be invited to present their Roadmaps to a panel of judges. This presentation will occur at the 2024 AECT conference and teams may attend in person or virtually.

**Three Phases of the Competition**

Teams of two graduate students are invited to participate. Graduate students do not need to be from the same university; however, all participants must be members of AECT and the Design and Development Division of AECT by the final phase of the competition.

The first two rounds of the competition focus on three components: theoretical excellence, feasibility, and creativity. The final round is a presentation to a panel of judges.

**Phase I of the Competition**

The first round involves the creation of an abstract. The abstract must specifically address objectives 1-4. It must be detailed enough to give a sense of what you intend to include in the Roadmap, but it should not be the final product in full detail.

- It must be submitted by the posted due date.
- An administrative liaison will be available to answer your questions about the context/circumstances of the problem.
- Up to eight abstracts from Phase I will be selected to proceed to Phase II.
- **Important:** Failure to remove personal information, names, and institutional information will result in automatic disqualification from the competition.

**Phase II of the Competition**

Members of the Competition Coordinating Committee will review the Phase I submissions. If the Committee members determine that your team’s abstract represents a viable solution, your team will
move to Phase II and work with a mentor who will be assigned to help you develop what will become your final Roadmap.

A panel of judges will review the Phase II submissions and invite up to three teams to make a presentation to the judging panel at the AECT annual conference.

- It must be submitted by the posted due date.
- An administrative liaison will be available to answer your questions about the context/circumstances of the problem.
- **Important:** Failure to remove personal information, names, and institutional information will result in automatic disqualification from the competition.

**Phase III of the Competition**

At the 2024 AECT annual conference, each team will have 30 minutes to present (20 minutes for presentation and 10 minutes for questions). The judges will deliberate, and one team will be selected as the “Best Presentation.”

Please note that if a team is selected to move on to Phase III of the competition, both team members must attend the AECT 2024 Annual Convention to present.

**For more information about the competition,** visit the competition’s microsite at [https://aect.connectedcommunity.org/aectnatoactdesigndevelopmentcompetition/aect-dd-competition/home](https://aect.connectedcommunity.org/aectnatoactdesigndevelopmentcompetition/aect-dd-competition/home).

Information will be updated throughout the year.

– The AECT NATO Design and Development Competition Coordinating Committee

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02/03/24: updated web location for competition information; removed word virtual from Phase III information

08/26/23: added information about the three phases of the competition

08/11/23: original 2024 problem statement*