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# ARL

# Developing Standards for Adaptive Instructional Systems: 2018 Update

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The Nation's Premier Laboratory for Land Forces

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# Outreach: AIS Standards Workshops

- Exploratory Workshop 7-8 November 2017, University of Memphis, Memphis, Tennessee
- First AIS Standards Workshop 7-8 March 2018, Orlando, Florida
- AIS Standards Workshop at the Generalized Intelligent Framework for Tutoring (GIFT) Users Symposium – 11 May 2018, Orlando, Florida
- AIS Standards Workshop at the Intelligent Tutoring Systems Conference – 12 June 2018, Montreal, Canada
- AIS Standards Workshop at the Artificial Intelligence in Education Conference – 30 June 2018



Institute for Intelligent Systems





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# AIS Standards ARL

### **Collaborative Website:**

U.S. ARMY RDECOM®

- Center for Adaptive Instructional Sciences (CAIS)
  - https://instructionalsciences.org/



Center for Adaptive Instructional Sciences (CAIS)

Wiki News Documents Forums

Center for Adaptive Instructional Sciences (CAIS)

#### BACKGROUND

As part of the US Army Research Laboratory's Open Campus Initiative, ARL has established a Center for Adaptive Instructional Sciences (CAIS). The purpose of CAIS is to bring together government, industry, and academia to advance adaptive instructional science and technology for application in training and educational systems through a collaborative, innovative research ecosystem. Adaptive or tailored instruction in the form of Intelligent Tutoring Systems (ITSs) has been shown to be significant technical challenges to its practical on in the remain significant technical challenges to its practical on in the grant engance (e.g., US Army, large corporations, and universities).

#### PARTICIPANTS

Open to government, academia and industry.

#### CONCEPT OF OPERATION

Leadership and membership in the center will be participation based. All general communications are intended to be open across government and non-government entities to ensure the focus of the center is on open collaboration in addition to funded efforts. The organizational structure of the center is not intended to direct research or technology development, but rather to support the creation of an ecosystem of collaboration and opportunity.

#### COLLABORATIVE FOCUS

CAIS is focused on identifying and leveraging talent, facilities, and resources across government, industry, and academia to conduct transformative adaptive instructional science which enhances capabilities in three broad areas:

- Authoring tools for Adaptive Instructional Systems
- Instructional Management (tailoring & delivery)
- Evaluation tools and methods (effect size)

#### BENEFITS

- Collaborative work with CAIS partners
- Shared data, technology, and activities related to the Learning in Intelligent Tutoring Environments (LITE) Laboratory
- Facilitation in formalizing collaborative relationships defining intellectual property issues
- Participation in strategic and technical discussion through targeted workshops and open formats
- Opportunity to significantly impact the technical projects and management of the CAIS

#### CAIS Science Topics



C VPN Paper Submission Link:

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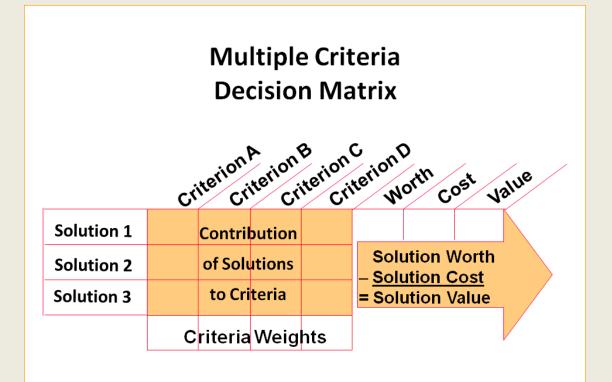
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# A Set of Standards Criteria

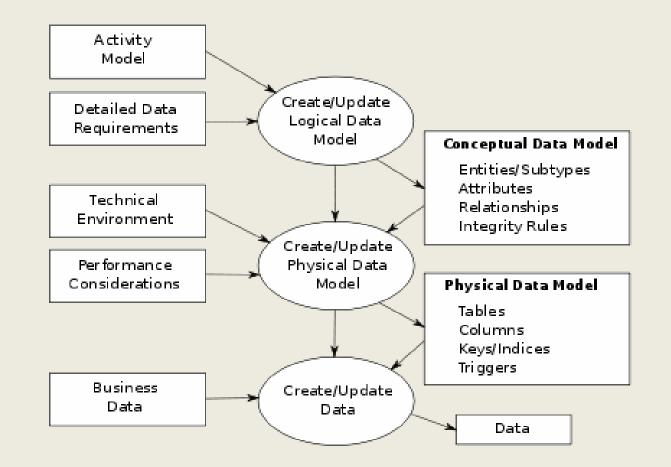
- the idea solves a specific problem identified by AIS developers and/or users
- the idea reduces the time and skill required to develop AISs
- the idea promotes opportunities for interoperability and reuse without negative impact to intellectual property
- the ideas promotes opportunities for new AIS markets or collaboration opportunities







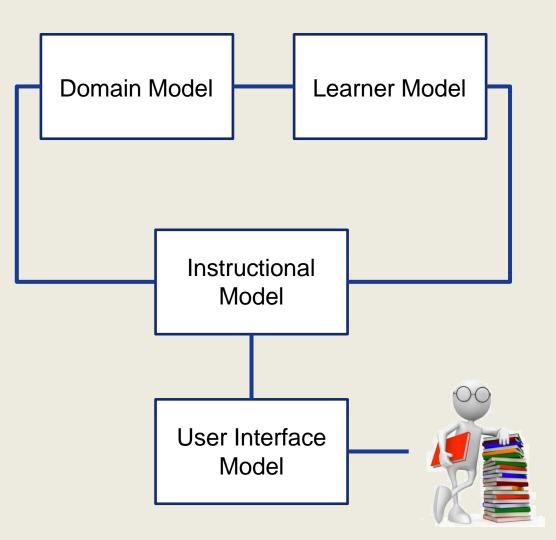
- Common AIS Conceptual Model
- AIS Component Interoperability and Reuse
- Learner Modeling Standards
- Domain Modeling Standards
- Validation Standards





# Some potential solutions...

- Common AIS Conceptual Model
- AIS Component Interoperability and Reuse
- Learner Modeling Standards
- Domain Modeling Standards
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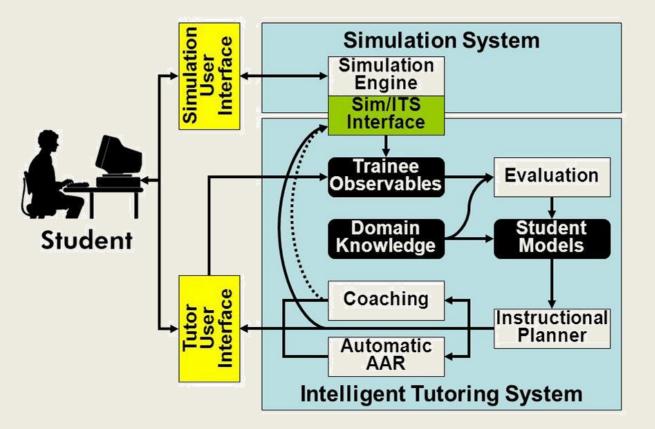


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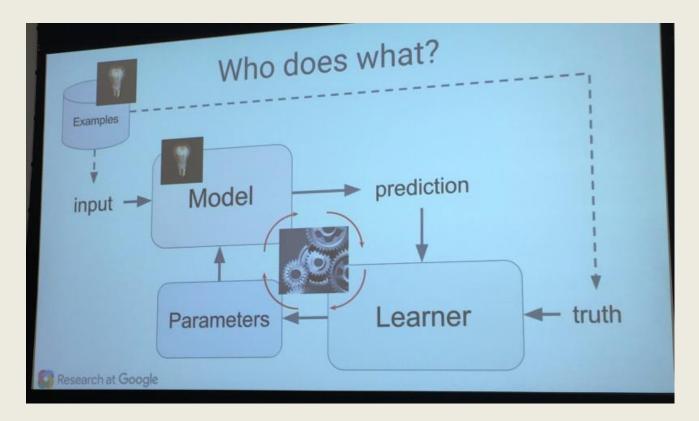






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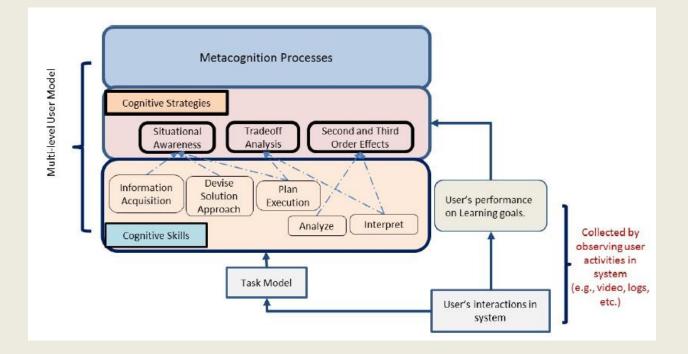
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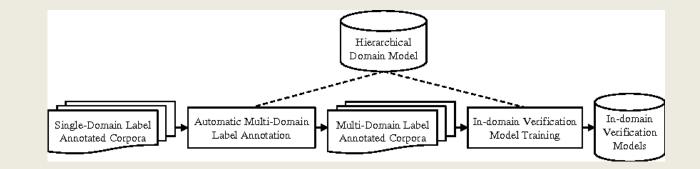






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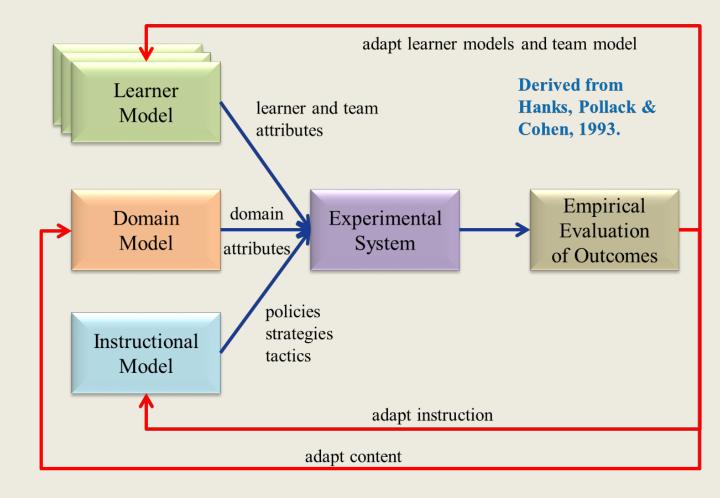
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# Thank you for your Attention... Questions?



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### Acknowledgement

The research described herein has been sponsored by the U.S. Army Research Laboratory. The statements and opinions expressed in this presentation do not necessarily reflect the position or the policy of the United States Government, and no official endorsement should be inferred.