

OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE



Crowdsourcing Evidence, Argumentation, Thinking and Evaluation (CREATE)

L E A D I N G I N T E L L I G E N C E I N T E G R A T I O N

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CREATE Overview

- CREATE is a multi-year research and development program. It will develop and test methods to make better arguments, by enabling dispersed groups of individuals to identify and evaluate reasons, evidence, and assumptions in relation to alternative hypotheses.
- CREATE will develop:
 - Structured methods to elicit and aggregate the elements of an argument.
 - Approaches to crowdsource these methods, so that many individuals can collectively develop and refine an argument.



Intelligence analysis involves making and evaluating **arguments**.

Example

Opposing Reason

Main Claim

Supporting Reasons

“Despite real improvements, the Iraqi Security Forces (ISF)—particularly the Iraqi police—will be hard pressed in the next 12-18 months to execute significantly increased security responsibilities, and particularly to operate independently against Shia militias with success. Sectarian divisions erode the dependability of many units, many are hampered by personnel and equipment shortfalls, and a number of Iraqi units have refused to serve outside of the areas where they were recruited.”

- “Prospects for Iraq’s Stability: A Challenging Road Ahead,”
National Intelligence Estimate, January 2007



- Analytic arguments have been produced in much the same way for over 60 years.
 - Written as narratives; generally no formal representation
 - Emphasis on consensus, disagreements usually resolved privately
 - Prose can mask argument complexity
- WMD Commission: “Perhaps most troubling, we found an Intelligence Community in which analysts have a difficult time stating their assumptions up front, explicitly explaining their logic, and, in the end, identifying unambiguously for policymakers what they *do not know*.”



- Clearly representing an argument's structure makes it easier to identify unstated assumptions, introduce objections and rebuttals, and see how much support each claim has.
- Such representations are seldom used because they are time-consuming to produce.



Analysis of Competing Hypotheses

Figure 15

Question: Will Iraq Retaliate for US Bombing of Its Intelligence Headquarters?

Hypotheses:

H1 - Iraq will not retaliate.

H2 - It will sponsor some minor terrorist actions.

H3 - Iraq is planning a major terrorist attack, perhaps against one or more CIA installations.

	H1	H2	H3
E1. Saddam public statement of intent not to retaliate.	+	+	+
E2. Absence of terrorist offensive during the 1991 Gulf War.	+	+	-
E3. Assumption that Iraq would not want to provoke another US attack.	+	+	-
E4. Increase in frequency/length of monitored Iraqi agent radio broadcasts.	-	+	+
E5. Iraqi embassies instructed to take increased security precautions.	-	+	+
E6. Assumption that failure to retaliate would be unacceptable loss of face for Saddam.	--	+	+

Source:

<https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/psychology-of-intelligence-analysis/art11.html>



	Analysis of Competing Hypotheses	Bayesian Methods	Argument Mapping
Indicate which reasons/ evidence are most diagnostic .	✓	✓	
Accurately update the probability of analytic judgments in light of new evidence.		✓	
Accurately identify assumptions that are crucial to the reasoning.			✓
Accurately identify strong objections to the argument.			✓

CREATE methods will do all of these.



CREATE Approach

- Crowdsourcing can make structured analytic methods much easier to use. Each analyst can contribute just where s/he wishes.
- Crowdsourcing argument representations can make it possible to link claims across representations, enabling analysts and decision-makers to see how the judgments in one piece of analysis depend on evidence and assumptions in another.
- As new evidence is added, dynamic links can enable changes in one representation to propagate through others.



Team Composition

Given the combination of technical challenges, we anticipate that teams will possess expertise in:

- Behavioral and social sciences
- Informal logic and critical thinking
- Mathematics and statistics
- Computer science
- Software rapid prototype development



Summary

- CREATE seeks to develop methods that enable groups to rapidly produce accurate, insightful representations of reasons, evidence and assumptions in relation to alternative hypotheses.
- We are looking for well-executed, creative ideas.