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http://www.iarpa.gov/rfi_trust.html

IARPA-RFI-10-05
Posted Date: 6 August 2010
Responses Due: 27 August 2010

FedBizOpps Reference:

https://www.fbo.gov/index?s=opportunity&mode=form&id=bee248395769562f95
4fe6126ba39cef&tab=core&_cview=0

IARPA's **Tools for Recognizing Useful Signals of Trustworthiness (TRUST)**
Program is seeking to develop new, revolutionary capabilities to detect, leverage,
and analyze one's own behavioral, physiological, psychological, and/or neural
signals in order to assess the trustworthiness of another person in ecologically-
valid contexts, including environments in which, for example, deception and
stress may be common place, but not incompatible with trust and
trustworthiness. IARPA recently released a Phase 1 Broad Agency
Announcement (BAA) for the TRUST program soliciting proposals with the aim of
developing and conducting innovative experimental protocols that could be
validated as testing interpersonal trust, in order to set the foundation for follow-on
Program phases.

Additional information on 24 proposers submissions:

http://www.iarpa.gov/solicitations_trust.html

- Washington University Briefing
- University of Florida Briefing
- Social Science Automation Briefing
- SRI International Briefing
- GE Briefing
- SAIC Briefing
- University of Texas at El Paso Briefing
- Humintell Briefing
- Design Interactive Briefing
- Raytheon Briefing
- University of Oklahoma Briefing
- University of Pennsylvania Briefing
- MIT Briefing

- [Social and Cognitive Network Science Collaborative Technology Alliance Briefing](#)
- [George Mason University Briefing](#)
- [Agincourt Solutions Briefing](#)
- [Florida IHMC Briefing](#)
- [Palo Alto Research Center Briefing](#)
- [George Mason University - KIDLAB Briefing](#)
- [University of South Carolina Briefing](#)
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Request for Information (RFI) - TRUST

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Synopsis

The Intelligence Advanced Research Projects Activity (IARPA) often releases a Request For Information (RFI) to help shape current or future programs. Responses to this RFI are expected to be used to inform a two-day workshop, explained below. Responses must be available for unrestricted distribution and hence proprietary material that responders would not want disseminated should not be included in responses. The following sections of this announcement contain details of the scope of technical efforts of interest, along with instructions for the submission of responses.

Purpose

IARPA's **Tools for Recognizing Useful Signals of Trustworthiness (TRUST)** Program is seeking to develop new, revolutionary capabilities to detect, leverage, and analyze one's own behavioral, physiological, psychological, and/or neural signals in order to assess the trustworthiness of another person in ecologically-valid contexts, including environments in which, for example, deception and stress may be common place, but not incompatible with trust and trustworthiness. IARPA recently released a Phase 1 Broad Agency Announcement (BAA) for the TRUST program soliciting proposals with the aim of developing and conducting innovative experimental protocols that could be

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validated as testing interpersonal trust, in order to set
the foundation for follow-on Program phases.
IARPA is now planning a two-day workshop to
explore the possibility of developing additional
innovative protocols beyond those that will be
developed as a result of the BAA, in order to
potentially enhance the diversity of approaches
available for Phase 2 of the Program.

Responses to this RFI will be used to help in the
planning of this workshop; specifically, the selection
of topics, participants, and setting of the agenda will
in part be informed by the responses, and responders
may be invited to participate in this workshop. It is
anticipated that this workshop will be held in late
September 2010.

Background

Being able to accurately assess whom to trust, in
which situations, with which information or
responsibilities, to what degree, and for how long,
can have enormous impacts on an individual or
group's performance, security, and - ultimately -
survival. However, trust and trustworthiness - as
concepts - remain highly subjective from a research
standpoint and present a challenge that is both
qualitative and quantitative. Indeed, one 2008
meta-analysis of trust research identified over 70
different definitions of trust [Footnote 1], and
McKnight and Chervany observed that "there are
literally dozens of definitions of trust. Some
researchers find them contradictory and confusing,
others conclude that the concept is almost impossible
or elusive to define, and still others choose not to
define it." [Footnote 2]

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However, while there are many different definitions of trust in the published literature, there do appear to be some common features, including: i) a trustor (that is, someone who must choose whether, and how much, to trust), ii) a trustee (someone or something that is to be trusted), iii) an action, by which the trustor is choosing to make him or herself vulnerable to the trustee based on an assessment of the trustee's competence, benevolence, and/or integrity, and iv) a context in which the potential negative consequences of betrayed trust outweigh any perceived positive results.

These few agreements among trust researchers underscore the larger challenge of how to validate trust and trustworthiness: that is, how do you know that a behavioral outcome in any given context is actually based on trust, and not other, tangentially related behaviors, such as altruism, risk-taking, rational analysis, apathy, or affection? While these latter may appear to be trust, they may also reflect different phenomena with different neurobiological underpinnings.

One method to disentangle such phenomena is to develop experimental protocols that are considered to be "construct-valid" (that is, a protocol tests the construct it claims to) and "ecologically-valid" (that is, data from that protocol can be generalized to other contexts). While some have claimed that certain canonical protocols (e.g. the "trust game," observational studies using large scale trust surveys, or deception protocols) measure trustworthiness, much of the research gathered using these approaches has not successfully generalized beyond that specific research, nor have the protocols

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themselves been rigorously assessed in terms of their construct-validity with respect to interpersonal trust. Indeed, the challenge remains to develop experimental conditions and measures that approximate those appropriate for real world conditions where an assessment of another's trustworthiness has truly significant, subjectively meaningful, consequences.

Because of the challenges discussed above, the goal of Phase 1 of the TRUST Program is to develop and validate specific experimental protocols for their construct- and ecological-validity in order to be able to know with high confidence that the protocols test interpersonal trust. In Phase 2, some or all of those protocols that have been shown to be valid during Phase 1 will then be used to attempt to detect and analyze the reliability of one's own signals in order to provide predictive accuracy of another person's trustworthiness.

In order to enhance the diversity of approaches available for Phase 2 of the Program, IARPA is planning a two-day workshop to explore the possibility of developing additional innovative protocols beyond those that will be developed as a result of the BAA. Responses to this RFI will be used to help in the planning of this workshop; specifically, the selection of topics, participants, and setting of the agenda will in part be informed by the responses, and responders may be invited to participate in this workshop. Responses should clearly and succinctly describe:

- the general outline(s) of one or more innovative protocol(s);
- the theoretical rationale behind the protocol(s);

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- the reasons why the respondents feel these protocols are significantly more innovative, construct- and ecologically-valid than typical protocols (i.e. the "trust" game or other similar behavioral economic games; deception protocols; protocols that do not involve significant perceived consequence; etc.);
- limitations or concerns associated with the protocols.

Interested parties (organizations or individuals) are invited to submit responses in a document prepared in accordance with the instructions given below.

Preparation Instructions to Respondents

IARPA requests that submittals briefly and clearly describe the proposed innovative protocol or protocols, as well as any rationale for these protocols that respondents may wish to provide. This announcement contains all of the information required to submit a response. No additional forms, kits, or other materials are needed.

IARPA appreciates responses from all capable and qualified sources from within and outside of the US. Because the TRUST Program is adopting a multi-disciplinary research approach to interpersonal trust and trustworthiness, responses from any discipline or industry are welcome. Responses have the following formatting requirements:

- A one page cover sheet that identifies the title, organization(s), respondent's technical and administrative points of contact - including names, addresses, phone and fax numbers, and email addresses of all co-authors, and clearly indicating its association with IARPA-

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- A description (limited to 5 pages in minimum 12 point Times New Roman font, appropriate for single-sided, single-spaced 8.5 by 11 inch paper, with 1-inch margins) of the suggested approach(es) and ideas;
- A list of key citations that support the rationale or claims made in the description (not included in the page limit).

Submission Instructions to Respondents

Responses to this RFI are due no later than 4:00pm, Eastern Daylight Time on August 27, 2010. All submissions must be electronically submitted to dni-iarpa-rfi-10-05@ugov.gov as a PDF document. Inquiries regarding this RFI must be submitted to dni-iarpa-rfi-10-05@ugov.gov. Do not send questions with proprietary content. No telephonic inquiries will be accepted.

DISCLAIMERS AND IMPORTANT NOTES

This is an RFI issued solely for information and planning purposes and does not itself constitute a solicitation. Respondents are advised that IARPA is under no obligation to acknowledge receipt of the information received, or provide feedback to respondents with respect to any information submitted under this RFI.

Responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Respondents are solely responsible for all expenses associated with responding to this RFI. It is the respondents' responsibility to ensure that the

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submitted material has been approved for public release by the organization or organizations that funded any research referred to in their response.

The Government does not intend to award a contract on the basis of this RFI or to otherwise pay for the information solicited in the RFI responses, nor is the Government obligated to issue a solicitation based on responses received. Neither proprietary nor classified concepts and/or information should be included in the submission. Input on technical aspects of the responses may be solicited by IARPA from non-Government consultants/experts who are bound by appropriate non-disclosure requirements.

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United States

Primary Point of Contact:

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References

[1] Castaldo, S. (2008). *Trust in Market Relationships*. Cheltenham, UK: Edward Elgar.

[2] McKnight, DH, & Chervany, N. (2002). What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology. *International Journal of Electronic Commerce*, 6, 35-59.

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