Proposal Status | MAIN

Organization: AQUERRE TECHNOLOGIES LLC

Proposal Detail:

Proposal Information

Proposal Number: 1416579

Proposal Title: SBIR Phase I: Gun Control Network--A System Theoretic Development

Received by NSF: 12/02/13

Principal Investigator: Noah Jacobsen

This Proposal has been Electronically Signed by the Authorized Organizational Representative (AOR).

NSF Program Information

NSF Division: Division of Industrial Innovation and Partnerships

NSF Program: Small Business - Phase I

Program Officer: Peter Atherton

PO Telephone: (703) 292-8772

PO Email: patherto@nsf.gov

Review Information: External Peer Review began on **02/14/14**

Proposal Status

Status As of Today Dated: **04/23/14**

This proposal has been declined by NSF.

Reviews

All of the reviews of your proposal that have been released to you by your NSF program officer can be viewed below. Please note that the Sponsored Project Office (or equivalent) at your organization is NOT given the capability to view your reviews.

Document:	Release Date:
Panel Summary #1	Feb 25 2014 1:15PM
Review #1	Feb 25 2014 1:15PM
Review #2	Feb 25 2014 1:15PM
Review #3	Feb 25 2014 1:15PM

Context Statement

NATIONAL SCIENCE FOUNDATION
Arlington, Virginia 22230
Industrial Innovation & Partnerships

General Information for Applicants
TECHNICAL REVIEW PROCESS - FY 2014 PHASE I SBIR PROPOSALS

The National Science Foundation received 780 Small Business Innovation Research Phase I proposals in response to the 2013 SBIR Solicitation (NSF 13-599) of which NSF plans to make about 150 Phase I Awards. A small number of the proposals were eliminated from the review process because they were withdrawn or 'Returned without Review' because they failed to meet the Solicitation requirements.

You have been provided access to verbatim copies of all completed technical reviews. A panel summary is also provided if a panel was convened. In reading the reviews, please keep in mind that all reviewers are addressing their comments primarily to the NSF as advisory input to the decision process. Some reviewers provide detailed references for their remarks and give specific suggestions for improvements; others do not. In some cases, NSF must consider comments by a reviewer in the context of other reviews by the same person.

Evaluation is conducted by mail reviews or by panel review or a combination of both. The NSF may consider factors other than the reviewers' comments and ratings in making its decisions. These factors may include the availability of funding, the fields of emphasis stated in the solicitation, and distribution among fields and regions. General NSF policies are also important decision factors.

In general, proposals ranked highest by the topic program officers on the basis of merit review are given precedence in the SBIR award process. A number of proposals, although meritorious, could not be supported for lack of funds. Proposals recommended for award were further examined by NSF in regard to other factors, including possible duplication of other research, potential commercial application, past performance in commercializing SBIR/STTR results, and overall program balance and emphasis.

For additional information about NSF and to obtain publications, we invite you to visit the NSF web site: http://www.nsf.gov. You may also e-mail, pubs@nsf.gov, or call (703) 292-8129.

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Privacy and Security

Proposal Status | MAIN

Organization: AQUERRE TECHNOLOGIES LLC

Panel Summary #1

Proposal Number: 1416579

Panel Summary:
Panel Summary

What is the proposed innovation?

This SBIR Phase I project proposes to develop an anticipatory threat detection and emergency response system, based on the Graph Discovery technique and Message-Passing algorithms.

What are the broader/commercial impacts of the proposed innovation?

The proposed project could be used for gun control, which has the potential of reduce the problem of gun violence in schools, universities, and government buildings.

Strengths:

+ The proposal addresses the important problem of gun violence. The system may increase security in schools, universities, and public buildings.

Weaknesses:

- Vague description of the Data Pre-Processing module (Module A). What standards, open data tools, etc. will be used? For accurate tracking and image recognition applications, the quality of images, audio, and video may be essential.

- Lack of details in the definition of the graph discovery module (Module C). What are the inputs, the outputs, variables, check nodes? How are all these elements represented by edges and vertices?

- It would be better to demonstrate the performance of the interference processing algorithm (Module D) with a concrete example of gun control, such as searching, recognizing, or tracking guns (it is stated in the proposal that the inference processing algorithm will be tested by predicting the path of a moving object).

- Scope of work exceeds what can reasonably be done within the funding and timing constraints.

- Commercialization strategy should be re-evaluated, including the identification of potential customers and business model.

Suggestions:

* None

The summary was read by/to the panel and the panel concurred that the summary accurately reflects the panel discussion.

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Proposal Status | MAIN

Organization: AQUERRE TECHNOLOGIES LLC

Review #1

Proposal Number:	1416579
NSF Program:	Small Business - Phase I
Principal Investigator:	Jacobsen, Noah B
Proposal Title:	SBIR Phase I: Gun Control Network--A System Theoretic Development
Rating:	Fair

REVIEW:

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

Review for Proposal 1416579

Overview
Idea:
The proposal starts by describing a laudable goal of limiting casualties due to gun violence in the United States by using distributed sensors and actuators. From there, however, it descends into an abstract discussion about various components (sparse graph, sensors, wireless sensor networks, 3D user interfaces, virtual reality, etc.). The disconnect is then mitigated on page 9 (Figure 1) where we learn that the proposal amounts to a traditional network of cameras that perform signal processing techniques and potentially some data analytics and picture searches to detect the occurrence of danger (e.g. an individual carrying a weapon entering a secured location). The marketing study starts by grand claims about the economic potential of Internet of Things and then devolves into a more modest claim about targeting security companies.

Status:
The PI is an expert in control systems. He seeks to use his expertise to build a limited test bed during phase 1 to demonstrate the basic tenets of the technology.

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

Broad Impact Aspects:
If successful, the product can help security companies to detect and react quickly to gun violence.

Please evaluate the strengths and
weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if
applicable

Evaluation:
The scope of work that is being presented, even when reduced to the planned testbed appears far more than can be carried out within the duration or the funding limit of an SBIR-1. The vision that is presented is laudable, but the proposal lacks on significant points. First, the proposal describes what one may considered to be a sprawling software system that will be expensive to build, maintain and difficult to use. The discussion often takes an abstract route away from the application at hand, and gives the proposal the appearance that it develops technology for technology's sake. The various subcomponents are not linked coherently with one another and are not presented coherently within the scope of the application that is being targeted. On the marketing side, the proposal does not describe the competition at all (for instance, Savant systems). The business plan appears suspect given the crowded market and the relatively thin resources of a startup company.

Summary Statement

Strengths:
- Qualification of the PI's.
- Laudable goals.

Weaknesses:
- Technology plan incoherent.
- Crowded market.
- Immature business model.
- Scope of work exceeds what can reasonably be done within the funding and timing constraints.

Recommendations for improvement:
- Reduce the scope of work.
- Focus on delivering basic functionality
- Argue why the proposal is technically superior to competition.

Rating: Fair.

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Review #2

Proposal Number:	1416579
NSF Program:	Small Business - Phase I
Principal Investigator:	Jacobsen, Noah B
Proposal Title:	SBIR Phase I: Gun Control Network--A System Theoretic Development
Rating:	Fair

REVIEW:

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

Weaknesses
- Vague description of the Data Pre-Processing module (Module A). What standards, open data tools, etc. will be used? For accurate tracking and image recognition applications, the quality of images, audio, and video may be essential.

- It is not clear which type of data will be collected by sensors. The description of the Data Aggregation module (Module B) focuses more on the technique (low-order statistical moments, spectral theorem, etc.) without mentioning precisely what the data consists of.

- Lack of details in the definition of the graph discovery module (Module C). What are the inputs, the outputs, variables, check nodes? How are all these elements represented by edges and vertices?

- It would be better to demonstrate the performance of the interference processing algorithm (Module D) with a concrete example of gun control, such as searching, recognizing, or tracking guns (it is stated in the proposal that the inference processing algorithm will be tested by predicting the path of a moving object).

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

Weaknesses

- Market opportunity is not justified with data.

- No information about financing and revenue model.

- Budget justification includes PI and 4 other professionals, in contrast with the Summary Proposal Budget where only the PI and 3 other professionals are listed.

Please evaluate the strengths and
weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if
applicable

Summary Statement

This SBIR Phase I project proposes to develop an anticipatory threat detection and emergency response system, based on the Graph Discovery technique and Message-Passing algorithms.

Broader impact. The proposed project could be used for gun control, which has the potential of reduce the problem of gun

violence in schools, universities, and government buildings.

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Proposal Status | MAIN

Organization: AQUERRE TECHNOLOGIES LLC

Review #3

Proposal Number:	1416579
NSF Program:	Small Business - Phase I
Principal Investigator:	Jacobsen, Noah B
Proposal Title:	SBIR Phase I: Gun Control Network--A System Theoretic Development
Rating:	Poor

REVIEW:

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to intellectual merit.

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This Small Business Innovation Research Phase I project introduces an advanced predictive gun control technology based on an internet of things concept. The proposed network technology will provide anticipatory threat detection and emergency response data to appropriate decision-making authorities, such as the security personnel of a school campus.

The proposal appears to lack innovation. Seems that the ONR SBIR has the same core technology. The description of the system does not appear to address the actual sensors and how the sensors would interact with the network nor does the proposal appear to describe how the system would directly impact gun control. Key assumptions are not substantiated.

It is not clear how the system will be implemented or commercialized. Wasn't clear who the customer would be or how the system would be delivered.

In the context of the five review elements, please
evaluate the strengths and weaknesses of the proposal with respect to broader impacts.

The proposal claims to be able to develop a predictive gun control system.

Please evaluate the strengths and
weaknesses of the proposal with respect to any additional solicitation-specific review criteria, if
applicable

Summary Statement

It is not clear that the proposed work is novel or innovative. Some of the assumptions that the system is built on did not appear to be substantiated.

Commercialization strategy should be re-evaluated. The questions of who will buy this technology, how much will they pay and how many do they want should be answered.

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