

## Research Spending & Results

### Award Detail

Awardee:	ENCLAVIX, LLC
Doing Business As Name:	Enclavix, LLC
PD/PI:	Bradley N Davis (801) 550-6642 bdavis@enclavix.com
Award Date:	05/28/2013
Estimated Total Award Amount:	\$ 150,000
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Start Date:	07/01/2013
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Transaction Type:	Grant
Agency:	NSF
Awarding Agency Code:	4900
Funding Agency Code:	4900
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Primary Program Source:	040100 NSF RESEARCH & RELATED ACTIVIT
Award Title or Description:	SBIR Phase I: Project to Create an Automated System to Identify and Curate Web-based Resources for Entrepreneurs
Federal Award ID Number:	1315303
DUNS ID:	145301979
Program:	SMALL BUSINESS PHASE I
Program Officer:	Glenn H. Larsen (703) 292-4607 glarsen@nsf.gov

### Awardee Location

Street:	4249 Foothill Drive
City:	Bountiful
State:	UT
ZIP:	84010-6041
County:	Bountiful
Country:	US
Awardee Cong. District:	02

### Primary Place of Performance

Organization Name:	Enclavix, LLC
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## Abstract at Time of Award

The innovation in this project is the application of machine intelligence technology to help entrepreneurs quickly connect to the specific resources and services that will help them on their road to success. Entrepreneurs are a key source of growth and economic development in the United States, but many entrepreneurs need assistance in key skill areas ranging from raising capital, to legal requirements to building a startup management team. Tens of thousands of resources are available to entrepreneurs to help with these and other areas, however their quality varies dramatically and it is difficult, at best, to find the proper resources for a particular situation. The proposed online system will use a machine intelligence engine to identify, categorize and pre-qualify a wide array of resources, and then use the semantic network-based system to match the needs of the entrepreneur to the resources that will best support their exact need at the time.

The broader/commercial impact of this proposal will significantly accelerate the success of America's entrepreneurs to include job creation. Many entrepreneurs fail because they "do not know what they do not know", because they do not know about available resources, or because they cannot readily find those resources. The proposed, online, "freemium" system will be an invaluable tool to improve the rate of success of America's startups, guiding the time-strapped entrepreneur to specific resources and support whenever it is needed. These tools will include resources and partnerships with non-profits, government agencies and quality sponsors. Beyond the individual business owner, the system and involved communities will leverage existing investments from federal, state and local agencies to better reach and assist potential and emerging entrepreneurs. This project has attracted the interest of organizations which want to partner with the team to bring this system to their entrepreneurial communities. Preliminary work strongly indicates that this machine intelligence-based system will quickly attract many entrepreneurs and accelerate their success

## Project Outcomes Report

### Disclaimer

This Project Outcomes Report for the General Public is displayed verbatim as submitted by the Principal Investigator (PI) for this award. Any opinions, findings, and conclusions or recommendations expressed in this Report are those of the PI and do not necessarily reflect the views of the National Science Foundation; NSF has not approved or endorsed its content.

Entrepreneurs have the opportunity to create profitable, society changing companies with high quality jobs, but many entrepreneurs lack skills in the areas of capital, finance, legal and startup management which are required to convert an opportunity into a successful enterprise. Many resources are available to entrepreneurs, but with millions of search engine links on the topic, most of these are effectively invisible.

The end result of this project, a prototype of an online, "freemium" system, uses a machine learning engine to identify, categorize and pre-qualify a wide array of resources, and also uses a semantic network-based system and visualization system to guide the entrepreneur to the resources that will best help them achieve success.

The team successfully delivered a working prototype of the proposed system to help accelerate entrepreneurs. This includes a machine intelligence engine to take an entrepreneur focused web-based resource and place it in the proper category in the semantic network. The prototype included the advanced visualization system adapted by the University of Utah from an existing interface developed for other data types, successfully presenting the semantically organized data to users.

In addition the team prototyped a second machine intelligence engine to try and answer the question whether a machine-learning system can assess the quality of a resource. This is a very difficult problem and the size of the calculations caused a very large computer to run out of memory resources after 1-2 hours of computation trying to assess the quality of the entire dataset. The team has begun to develop methods to address these issues. Importantly, however, by being able to prototype the machine-learning engine and progress as far as it did, the project team was able to determine that it is possible to successfully use a machine-learning system to qualify a resource and that human quality assessment is not required in a commercial system. These efforts and the working prototype demonstrated that this system is feasible and that it has overcome significant technical hurdles.

Last Modified: 03/28/2014  
Modified by: Bradley N Davis

For specific questions or comments about this information including the NSF Project Outcomes Report, contact us.