

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:	08/05/2014
Estimated Total Award Amount:	\$ 750,000
Funds Obligated to Date:	\$ 760,000 FY 2016=\$10,000 FY 2014=\$750,000
Start Date:	09/01/2014
End Date:	02/28/2017
Transaction Type:	Grant
Agency:	NSF
Awarding Agency Code:	4900
Funding Agency Code:	4900
CFDA Number:	47.041
Primary Program Source:	040100 NSF RESEARCH & RELATED ACTIVIT
Award Title or Description:	SBIR Phase II: Project to Create an Automated System to Identify and Curate Web-based Resources for Entrepreneurs
Federal Award ID Number:	1431025
DUNS ID:	145301979
Program:	SMALL BUSINESS PHASE II
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

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Abstract at Time of Award

This SBIR Phase II project will develop an online system to find and organize the best web-based resources for entrepreneurs. 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 company. 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. Many resources are available to entrepreneurs, but with millions of search engine links on the topic, the most useful of these are nearly impossible to find. The proposed online system will use machine intelligence software to identify and categorize a wide array of resources. It will use another machine intelligence system to grade the quality of these resources, and then use a unique display system to show the most helpful and relevant resources in a dynamic constellation-like interface. This is designed to improve the ability of entrepreneurs to explore and find the help they need to solve their problems. This project requires state of the art software development to train computers to identify and qualify each resource in order to select those most helpful to entrepreneurs. By helping entrepreneurs be more successful, more rapidly, this project will help grow America's economy, generate revenue and profits and create new jobs for businesses all across the country.

The research objective of this SBIR Phase II proposal is to deliver a working system to help accelerate entrepreneurs by guiding them to the resources that will best help them achieve success. Specifically, during this project, the team will develop multiple machine intelligence systems to perform the classification, categorization and quality assessment of online resources; build on the existing Enclavix semantic network; and collaborate with the University of Utah to implement an advanced visualization system. This Phase II proposal is advancing the state of research in all three research areas. This project will include developing a machine intelligence engine to take an entrepreneur focused web-based resource and place it in the proper category in the semantic network. A second machine intelligence engine will solve the difficult problem of determining the quality of a given resource. The machine intelligence systems that are being proposed are very complex and are pushing the boundaries of this technology because of the number of resources that need to be evaluated. In addition, again because of the large number of target resources available, visualizing and exploring the data is challenging and requires an advanced visualization system that provides a new way to successfully access large amounts of data.

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.

VentureWrench.com is designed to help strengthen entrepreneurship in America. In the last half dozen years, the rate of entrepreneurship in the U.S. has fallen by nearly a third, and new business starts is now LOWER than the rate of business failures, which risks putting the U.S. economy in a long term downward spiral.

Entrepreneurs have the opportunity to create profitable, society changing companies with high quality jobs and be rewarded for their efforts with financial success. The truth is most entrepreneurs have a vision and passion, but may not have specific skills, in areas such as raising capital, finance and accounting, legal issues or startup management which are required to convert an opportunity into a successful enterprise. Having worked with many entrepreneurs, the founders of Enclavix have learned that many 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.

Unfortunately, many resources targeted at entrepreneurs which are available from general online searches range from poor to misleading or exploitative, and the new entrepreneur is often not in a position to determine what a quality resource is.

VentureWrench.com was designed by the Enclavix team to help entrepreneurs by identifying and curating the best resources to accelerate their success. VentureWrench.com is an online software system designed to help entrepreneurs find the information they need - from the best in class resources - as quickly as possible.

The project, supported by NSF Phase I and Phase II awards, includes three key parts. First, visible at VentureWrench.com, is the web-based application that is used by entrepreneurs. The entrepreneur uses it to provide information about their company and plans, so that customized information can be provided to them, and then receives curated information, customized to their needs, so that answers and solutions are only a few clicks away.

Second, the VentureWrench Resource Management System includes a robust semantic network and a full set of administrative tools to allow the VentureWrench team to oversee the identification, curation and presentation to users of the best in class resources.

Third, the curation system includes multiple Natural Language Processing (NLP) modules and eight Machine Learning (ML) systems that operate on potential resources to determine what the resource pertains to and its level of quality as well as a series of characteristics such as the type and source of the resource. A key element of the intellectual merit of this project was to develop machine learning systems that are able to accurately characterize online resources on a large scale into one or more of 89 separate categories, in order to provide entrepreneurs with the most useful, relevant, credible information possible.

A significant challenge was to be able to identify the quality of a resource. This was a significant challenge, both in defining the definition of a "high quality" resources for entrepreneurs, and during curation of the training data. Our team focused on the idea of "actionable" as essential to the level of quality of a resource. A resource was only deemed high quality if it could help the entrepreneur take action or move their business forward. We were extremely pleased when the "quality" machine learning system training extremely accurately so that we could readily present high quality resources to America's entrepreneurs. In addition, the team exceeded the requirements of the proposal to be able to curate two characteristics of the resource using ML and NLP ("classification" and "qualification") and can, instead use NLP and ML to curate either characteristics of each resource, each one useful to help entrepreneur narrow the search for needed resources and assistance.

Parts two and three are not visible to users, but provide the power to ensure that a continual supply of the most relevant and useful resources are always available at VentureWrench.com to help entrepreneurs answer questions and solve problems quickly.

Images (1 of 3)



Last Modified: 05/30/2017

Modified by: Bradley N Davis

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