

Innovation

SBIR Topic Number:
OSD06-H05

SBIR Title:
Software Technology for
Cancer Epidemiology and
Prevention

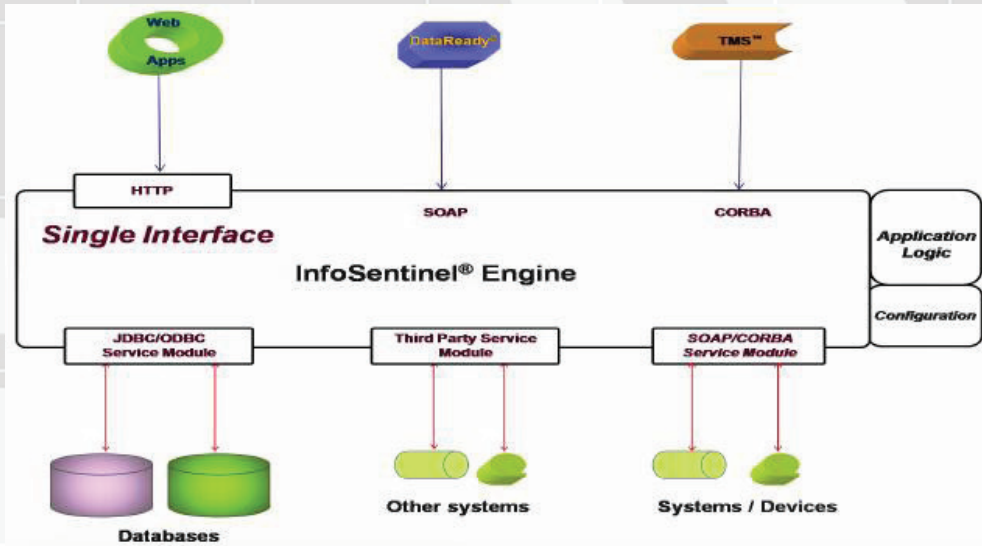
Contract Number:
FA8650-08-C-6833

SBIR Company Name:
Integrated Solutions, Inc.,
Holmdel, NJ

Sponsoring Office:
Office of the Secretary of
Defense, Washington, DC

Technical Project Office:
AFRL Human Effectiveness
Directorate, Wright-
Patterson AFB, OH

This Air Force SBIR/STTR Innovation Story is an example of Air Force supported SBIR/STTR technology that met topic requirements and has outstanding potential for Air Force and DoD.



The Software Technology for Cancer Epidemiology and Prevention (STCEP) software solution was developed on InfoSentinel®, a web-service development and execution platform

Software Technology for Cancer Epidemiology and Prevention (STCEP)

- The Department of Defense needs a software solution that expedites the path from data collection from silos to data analysis of disease research information
- STCEP has a web-based graphical user interface designed for a wide range of users, including those without database or programming experience, to link disparate data sources, extract data in a simplified manner, and export data to statistical analysis packages
- Integrated Solutions, Inc., (ISI) designed a software solution named Software Technology for Cancer Epidemiology and Prevention (STCEP); this solution was developed on the patented technology platform InfoSentinel® and is service-oriented architecture (SOA) compliant
- The commercial market product name is called DataReady®, which significantly decreases time and effort to accomplish research and reduces maintenance cost

RH OPSEC 335

A

DISTRIBUTION A:
Approved for public
release; distribution
unlimited.

Air Force Requirement

A significant hindrance for military cancer studies is the lack of linkages between the disease outcomes database (Automated Central Tumor Registry) and the personnel databases (Air Force Personnel Center Database and Defense Manpower Data Center Database). Linking stovepiped cancer and relevant personnel data must be done manually, which is an extremely cumbersome and time-consuming process.

A software tool that expedites the path from data collection to data analysis will be critical in improving response time from study to implemented protective measures for prevention of disease.

SBIR Technology

Integrated Solutions, Inc., (ISI) designed a software solution named Software Technology for Cancer Epidemiology and Prevention (STCEP). STCEP was developed on the patented technology platform InfoSentinel®, which is an innovative platform that provides the advantages of easy extensibility for additional data sources and applications, continuous upgrade while the system is in live software modification, and a modular design approach which makes simultaneous modification of domain logic and user interface possible.

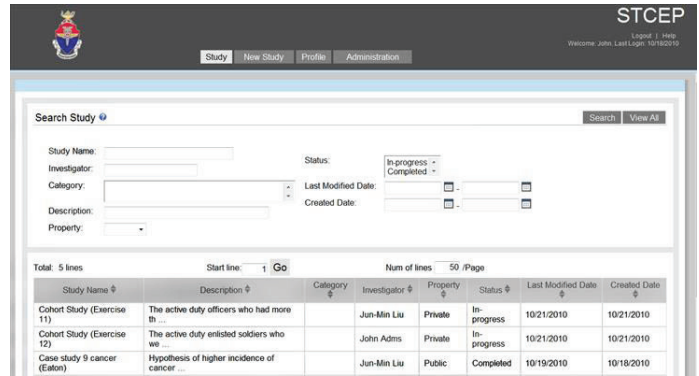
STCEP has a web-based graphical user interface designed for a wide range of users, including those without database or programming experience, to link disparate data sources, extract data in a simplified manner, and export data to statistical analysis packages.

Potential Application

STCEP will facilitate a variety of epidemiological study designs and bolster the quality, depth, robustness, and timeliness of military cancer epidemiology studies. The solution will allow users to easily select specific data fields from various data sources to construct new subsets for inclusion in future studies and to manipulate, manage, and integrate data in an efficient manner.

STCEP will reduce the time to create a usable cancer research dataset for the Air Force and other Department of Defense medical research activities. Previously, data extraction, data field linking, and dataset creation were painstaking manual processes that took weeks or months. This process can now be done automatically in minutes or even seconds, with the resultant capability to perform more epidemiologic studies in a given amount of time. By simplifying the most tedious

and time-consuming research steps, the epidemiologist can investigate many more questions about the burden, causation, and prevention of cancer.



The screenshot shows the STCEP web interface. At the top right, it says 'STCEP' and 'Logged In: Web Welcome John Last Login: 10/18/2010'. Below that are navigation tabs: 'Study', 'New Study', 'Profile', and 'Administration'. A 'Search Study' section contains input fields for 'Study Name', 'Investigator', 'Category', 'Description', and 'Property'. There are also dropdown menus for 'Status' (with options 'In progress' and 'Completed') and date pickers for 'Last Modified Date' and 'Created Date'. Below the search area is a table with 5 lines of data. The table has columns for 'Study Name', 'Description', 'Category', 'Investigator', 'Property', 'Status', 'Last Modified Date', and 'Created Date'.

Study Name	Description	Category	Investigator	Property	Status	Last Modified Date	Created Date
Cohort Study (Exercise 11)	The active duty officers who had more		Jun-Min Liu	Private	In-progress	10/21/2010	10/21/2010
Cohort Study (Exercise 12)	The active duty enlisted soldiers who we		John Adms	Private	In-progress	10/21/2010	10/21/2010
Case study 9 cancer (Estan)	Hypothesis of higher incidence of cancer.		Jun-Min Liu	Public	Completed	10/19/2010	10/18/2010

Screenshot of STCEP Study Case Management Page

The commercial market product name is called DataReady®. This product could significantly decrease time and effort to accomplish research. This will lead to faster policy making and rapid delivery of interventions, resulting in efficient disease prevention, and the saving of lives. In addition, any user who employs a statistic package for data analysis could benefit from using DataReady® in study definition and creation.

Company Impact

"The development of STCEP and DataReady® reconfirmed that the InfoSentinel® technology is a versatile platform for designing and developing a software solution to rapidly meet an emergent need," states Esther Yu, President and Chief Executive Officer, ISI (www.isichoice.com). "In a recent customer satisfaction survey concerning this SBIR project, ISI received top performance marks from the Air Force technical manager."

"DataReady® is a powerful solution to bridge the gap between data collection and data analysis. Many cancer research laboratories, disease research laboratories, and pharmaceuticals companies will benefit from this product in facilitating management and creation of their studies in a timely manner. InfoSentinel® is expected to generate numerous sales opportunities in the health industry and will later provide a significant expansion path in covering various vertical market segments. In addition, DataReady® can be further evolved as many new products in support of silos integration, such as the Tissue Micro Array Data Cross Sharing (TMADCS) application for multiple cancer research institutes, the Intelligent Information System for Border Patrol, and fusion/analysis for the Joint Unified Multi-Capable Protection (JUMP) Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems."



SBIR/STTR

Air Force SBIR Program
AFRL/XP
1864 4th Street
Wright-Patterson AFB OH 45433

AF SBIR/STTR Program
Manager: Augustine Vu
Website: www.afsbirstrr.com
Comm: (800) 222-0336
Fax: (937) 255-2219
e-mail: afrl.xppn.dl.sbir.hq@wpafb.af.mil

