

Raymond D. Aller, MD, and Hal Weiner

Computing for Good project proving great for African labs

Pathology labs in impoverished areas of Africa may not be toasting the five-year anniversary of an innovative program at the Georgia Tech College of Computing, but they do have cause to celebrate the endeavor.

In spring of 2008, the Georgia Tech College of Computing joined laboratory science and computer science in an alliance called Computing for Good, a one semester course offered annually to college seniors and graduate students. The course tackles some of the world's most vexing health care and social problems and has led to the development of blood safety systems and a basic laboratory information system.

The Computing for Good, or C4G, program was the brainchild of Santosh Vempala, PhD, distinguished professor of computer science at Georgia Tech. As Dr. Vempala tells it, he wanted to "start a program that gave students the opportunity to contribute to society by working on real-world problems and delivering tangible benefits to the communities and organizations with which they worked." The course enrolls a maximum of 40 students per session and takes on approximately 10 projects per semester.

Since the C4G initiative began, students have churned out about 50 projects, in some cases meeting local or regional needs, and in some cases addressing global problems, says Ellen Zegura, also a professor of computer science at Georgia Tech. In addition to pathology-related endeavors, the course has undertaken projects addressing, among other topics, patient rehabilitation, mental health, autism, asthma, homelessness, and disaster preparedness. Many of the projects continue after a course ends, and students often continue working on them as research assistants, Dr. Vempala notes.

In the early years of the C4G program, Dr. Vempala initiated a pathology-related program that focused on blood safety. The need for the project grew out of a conversation between Dr. Vempala and a colleague from the Centers for Disease Control and Prevention's Global AIDS Program. During their conversation, Dr. Vempala learned that the CDC was using an Excel-based program to monitor blood supplies and implement standardized testing, and thereby reduce the threat of tainted blood in African countries. But, as Dr. Vempala explains, the agency had to rely on handwritten log books to collect data, which meant blood service centers had to cope with the delays and errors associated with a paper-based system.

In conjunction with two C4G students, Dr. Vempala created a Web-based blood safety system to support the activities of the CDC as part of the U.S. President's Emergency Plan for AIDS Relief, or PEPFAR. The system electronically monitors the national blood supply in the 14 African countries receiving assistance via PEPFAR.

While working with the CDC and several of the participating countries on the blood safety system, Dr. Vempala realized that the greater need was for a system that monitors each unit of blood from the time it is collected until it's transfused—vein to vein. This led to the C4G program developing Vein-to-Vein software, which is used to collect, manage, and store relevant information pertaining to blood donations, blood inventory, blood testing, and transfusion requests in hospitals and clinics. National blood centers that use the program can better detect patterns in collection, test results, and utilization, which in turn allows them to make predictions and more accurately plan blood allocation and transportation, Dr. Vempala says.

The V2V program, as it's called, was designed for low-income African countries with limited Internet access. It is being used in Cameroon and Zambia and is slated to be deployed in select facilities in Ghana and Malawi this summer, Dr. Vempala says.

"In addition to providing a robust and reliable solution for data management and an intuitive user interface," a C4G

course description of the project reads, “Vein-to-Vein also provides customization options to the extent possible to cater to the different needs of various labs. ... In the future, V2V plans to provide an SMS [short message system]-based interface for clinics to make requests to blood centers for issuing inventory, and for a transparent and fair way to allocate available blood.”

The C4G’s Basic Laboratory Information System also serves as a data-tracking solution for clinical laboratories in developing countries. Working in partnership with the CDC and the ministries of health in several African nations, Georgia Tech has helped deploy the BLIS in labs in Cameroon, Uganda, Tanzania, Ghana, and the Democratic Republic of Congo to replace their paper-based systems. “During a six-month pilot implementation in three large hospital labs in Cameroon, BLIS accounted for a 66 percent decrease in errors and a 50 percent drop in employee workload,” Dr. Vempala says.

The BLIS has addressed problems of a similar nature to those handled by the V2V system. Manually entering data into paper logs to keep track of patients tested for malaria, HIV, and other diseases is not only time consuming and error prone, it makes it nearly impossible to track patient history, Dr. Vempala explains. “It was virtually impossible to look up a patient’s records because you basically had these big rooms full of paper registers,” he adds.

Besides reducing errors and improving efficiency, the electronic system reduces workload, allowing laboratorians to increase the number of tests they perform each day. And since patients in these countries typically pay a fee for each test performed, pathology labs using the program have, in some cases, seen their revenue double, Dr. Vempala says.

Both the V2V and BLIS programs are cost-effective, he adds, in part, because they use an open-source database. “Integrating data-tracking software in these labs has been difficult in the past, mainly due to high costs and the failure of other system providers to incorporate the varying needs of labs and hospitals from different countries and cultures,” Dr. Vempala explains. “We wanted to design extremely configurable systems that would adapt to fit the needs of users in order to improve workflow and patient care.”

Cerner purchases Labotix Automation, PureWellness

Cerner recently announced that it has acquired Labotix Automation. The company has also reached an agreement to purchase PureWellness, a marketer of software for managing the health of a population.

Cerner purchased Labotix, a provider of flexible open automation systems for clinical laboratories, in March.

By aligning Labotix’s open automation solutions with Cerner’s Millennium and CoPath products, “Cerner is uniquely positioned with its automation options to support clients focusing on increasing laboratory processing capacity while reducing error,” says John David Nolen, MD, PhD, managing director of laboratory medicine for Cerner.

In February, Cerner announced plans to combine its Millennium suite of health care solutions and Cerner HealtheIntent population health architecture with PureWellness’ health and wellness platform to create Cerner Wellness.

“By aligning PureWellness and Cerner solutions, Cerner will be uniquely positioned to support clients focusing on population health management,” says Matthew Swindells, Cerner senior vice president. Cerner will market the new product to, among others, accountable care organizations, managed care organizations, employers, health plans, and providers.

[Cerner](#), 816-221-1024

Six health IT companies forge interoperability organization

With an eye toward seamless interoperability, several of the nation’s top health care information technology companies have joined forces to form the CommonWell Health Alliance.

Cerner, McKesson, Allscripts, Athenahealth, Greenway Medical Technologies, and RelayHealth will form the independent nonprofit organization, which will support and promote the exchange of health care data across disparate technologies. The founding members are encouraging other health information technology companies to join.

The alliance is a collaborative effort “focused on achieving data liquidity between systems, in compliance with patient authorizations,” according to a release issued by CommonWell Health Alliance members. “The alliance will define, promote, and certify a national infrastructure with common platforms and policies. It also will ensure that HIT products displaying the alliance seal are certified to work on the national infrastructure.”

Elements of the alliance’s national infrastructure will undergo pilot testing within the next year. Among the initial core services of the alliance are the following:

- cross-entity patient linking and matching, which is intended to help developers and providers identify patients as they transition through care facilities, regardless of the underlying software system
- patient consent and data-access management, which is intended to foster a HIPAA-compliant patient-controlled means to simplify the management of patient consents and authorizations for sharing data
- patient record locator and directed query, which is intended to help providers share a history of recent patient care encounters and, with appropriate authorization, patient data across multiple providers and episodes of care.

“CommonWell is a system where consumers not only have a right to their data, but also have the ability to mobilize it in the pursuit of better health,” says Neal Patterson, co-founder, chairman, CEO, and president of Cerner. “This alliance is about setting aside the admittedly tough politics of this issue to do what is right for the health care consumer.”

Liaison Technologies acquires Ignis Systems

Liaison Technologies, a provider of cloud-based integration and data-management services and solutions, has acquired Ignis Systems, a marketer of clinical data-integration solutions, including products for transferring lab orders and results.

Liaison will add Ignis’ EMR-Link physician-centric connectivity product to its integration and data-management services portfolio. The company will also “incorporate Ignis’ expertise in EMR integration, practice-based CPOE [computerized physician order entry], patient engagement, and the company’s nationwide network of integrated labs into its cloud-based health care data-integration portfolio of services,” Liaison reports.

[Liaison Technologies](#), 877-336-5163

Psyche Systems offers new LIS and updates another

Psyche Systems recently released WPTox, its toxicology laboratory information system, as well as a real-time laboratory-management dashboard and standard management reports for its WindoPath LIS.

WPTox, which is designed specifically for drug testing and pain management, simplifies and streamlines the sample-collection process via a Web-based sample-collection portal. It also provides multiple formats for reporting

drug testing. It can be used as a stand-alone toxicology information system or as part of a complete LIS.

Psyche's new eDashboard module for its WindoPath LIS provides management-level personnel with real-time monitoring of daily performance, key metrics, and throughput at the lab test level. The dashboard display uses a traffic light concept, with green meaning no need for intervention, yellow indicating caution, and red signifying that intervention is critical.

Standard management reports allow users to view the lab from a business operations perspective.

Psyche Systems, 508-634-2520

AP-Visions marketing LIS to small hospitals and POLs

AP-Visions has introduced xLab, a laboratory information system for small hospitals and physician office laboratories.

XLab supports user-definable single-screen order entry in a rules-based environment, as well as quality control management with Levey-Jennings graphs and Westgard rules. It is EMR ready and includes support for multi-instrument interfacing and interpretive reporting and reflex testing.

XLab can be fully integrated with AP-Visions' AP-Uro, AP-Derma, and AP-GI anatomic pathology software for specialty physician practices.

AP-Visions, 714-306-0996

HL7 releases intellectual property as free offering

The nonprofit standards development organization Health Level Seven International, earlier this month, began offering much of its intellectual property via a free license, irrespective of HL7 membership. Among the free offerings are published standards and implementation guides.

The intellectual property will not be available on the open-source market. The content of the intellectual property must be licensed for use, but the license is free.

Health Level Seven, 734-677-7777

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Dr. Aller is director of informatics and clinical professor in the Department of Pathology, University of Southern California, Los Angeles. He can be reached at raller@usc.edu. Hal Weiner is president of Weiner Consulting Services, LLC, Florence, Ore. He can be reached at hal@weinerconsulting.com.