A system for change:

*How a web of strong, international partnerships is forever changing one school’s approach to education in Ghana*

By Laurel Kropuenske

Kafui A. Prebbie and his team had 72 hours left. That coming Saturday there would be local dignitaries, students, an entire school staff, and clients from the U.S. eagerly awaiting the grand unveiling of a fully functioning, Internet-capable computer lab. Students Bridging the Information Gap (SBIG) had hired Kafui and his team from One Village Foundation (OVF) Ghana to design and install the computer, power, and Internet systems needed to run the 18-seat lab. This wasn’t just any computer lab though. It was a lab that would provide orphans and students from the Good Shepherd Orphanage (GSO) access to the Internet, forever changing the school’s approach to education. The launch was a highly anticipated event in the school’s local Ofaakor area—there had even been media promoting the event throughout the Central Region of Ghana. And yet, despite working night and day for the last week, Kafui and his team still did not have an Internet signal flowing to the computers.

To get a connection, they needed access to a mast owned by Tigo, a major mobile telecom operator that serviced the area. The mast was located about 100 meters from the school and was a critical - but missing - link in the overall system that Kafui and his team had designed for the orphanage. In theory, the mast would receive a wireless Internet signal from Kasao, a town about 10 kilometers away. There, OVF Ghana had

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**WHO’S WHO SNAPSHOT**

**STUDENTS BRIDGING THE INFORMATION GAP (SBIG)**

A U.S.-based NGO that aims to improve technology and literacy skills among students in less developed countries by harnessing the interests of students, businesses, and other groups to provide the necessary equipment. [www.sbigonline.org/](http://www.sbigonline.org/)

**INVENEO**

A San Francisco-based nonprofit social enterprise that provides communication technology tools, training and ongoing support to information communication technology (ICT) partners in developing countries. [www.inveneo.org/](http://www.inveneo.org/)

**ONEVILLAGE FOUNDATION (OVF) GHANA**

The Ghana-based arm of this international organization, which is devoted to increasing collaboration and access to ICT in underserved communities, facilitating local content creation and dissemination, and building bridges among digital and physical communities globally. [www.onevillagefoundation.org/](http://www.onevillagefoundation.org/)

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*OVF Ghana and Tigo team at the Ofaakor mast*  
Photo provided by OVF Ghana
needs and overall goals, Kafui and his team got to work. The lab at Good Shepherd Orphanage was in fact SBIG's second such project, having installed another school computer lab in Ghana the previous year. That experience had provided several critical lessons that SBIG was sure to share with the team.

First of all, getting the right equipment was essential. In SBIG's first computer lab, the computers had to be cooled with an air conditioner, which was a huge power drain. For this new project, Kafui and his team secured computers from Inveneo that had lower power demands because they had fewer moving parts, which meant no AC was needed. The money saved by not having to buy an AC unit could then go toward purchasing a more reliable and robust power system. Such a system is a critical enabler for any computer lab, and this is especially the case for the Good Shepherd Orphanage because the power source is notoriously unstable in the Ofaakor region. Kafui and his team measured the incoming power to gauge the lab's power requirements, and ultimately recommended buying an inverter system for the lab, which helped stabilize the power supply.

Beyond securing the correct equipment, OVF Ghana needed to design the overall system, ensuring that each part worked seamlessly with the next. With the timelines tight and the challenges great, Inveneo proved to be a critical support system for the OVF Ghana team. Providing Kafui and his team with the technical specifications and insight needed to assemble the system, Inveneo also provided significant moral support. “Inveneo knew about all our deadlines, and convinced the owners of a house to let them install a phone line and modem, and attach a 20-meter pole with a wireless router to the roof. With three days left before the scheduled launch, the Internet signal was being sent but, without access to the Tigo mast, it wasn't reaching the computer lab. Kafui and his team had sent countless letters and made almost daily calls to Tigo to request access. Mr. Jacob Odame and Mr. Victor Zokli, OVF Ghana's IT Officer and Technical Lead, respectively, had even made in-person visits to multiple departments at Tigo. Now all Kafui and his team could do was wait.

In January 2009, SBIG was first introduced to Kafui by the San Francisco-based non-profit Inveneo. SBIG had reached out to Inveneo because of its reputation for building successful IT systems in developing countries. Luckily, Inveneo also had a vast network of in-country ICT partners with whom they worked and supported by providing access to durable equipment and technical know-how. As an Inveneo Certified ICT Partner, OVF Ghana was the perfect in-country resource to help make SBIG's vision a reality. After meeting with SBIG to discuss the specific technical
they really showed us that they were there for us and wanted to make us successful. They gave us both technical support as well as moral support. It was a beautiful thing. We were very happy to have it,” said Kafui.

This support wasn’t in vain—Kafui and his team worked tirelessly in the days approaching the launch. From setting up the actual computers to attaching the wireless router on the pole 10 kilometers away, the OVF Ghana team clearly took pride in their work, knowing what the end prize would be. Kafui described the experience of his four-person team, “We worked day and night, day and night. But there was joy. We were all proud of our work.”

Around lunchtime three days before the scheduled launch date, Tigo called: OVF Ghana could have access to the mast immediately, and could install the needed equipment to make the final link in their system. It seemed that, after all their calls and meetings with Tigo, one of which was attended by Richard Killian, a SBIG board member, all their efforts had finally paid off. Tigo, realizing the importance of the work and how access to the mast could enhance the education of countless children in the area, graciously granted full access. An OVF Ghana team member rushed to install the final equipment needed to receive and transmit the wireless signal into the GSO lab.

On June 13, 2009, the launch proved to be a huge success. Students, local dignitaries, GSO’s founder Bishop Kweku Addei and others helped celebrate the beginning of a new chapter for the school. SBIG had five of their volunteers from Ghana in attendance, along with a ten member delegation that traveled all the way from New Jersey for the event. After all, they wanted to see firsthand the amazing results of all their efforts: GSO was now equipped with 18 low-voltage Inveneo desktop computers, two laptop computers, a laser printer, a LCD projector, a battery pack and inverter, and the needed infrastructure for the computer lab including furniture. In addition to this, SBIG had also stocked the new library with books on a wide variety of subjects to help the orphans and students build on their knowledge through reading.

In his comments at the dedication ceremony, Tom Killian, President of SBIG, noted that their organization’s
humanitarian efforts are narrowly focused on learning through ICT training and supplying books for libraries. As the proverb goes, “If you give a man a fish he will eat for a day, but if you teach a man to fish he will eat for a lifetime.” He went on to explain SBIG’s belief that ICT training can truly change the lives of students by enabling them to participate in the modern economy. In closing, he reflected on how truly fortunate SBIG is to have such good partners as OVF Ghana and Inveneo to assist them with their efforts in Ghana.

Only six months after the launch, the computer lab has already proven its worth. Currently six GSO classes use the lab on a bi-weekly basis, with an average of 25 students per class. Francis Korsah, a highly promising teacher with a degree in Computer Science, was hired in October 2009 to run the new lab. He is initially focusing on teaching the students, but also has plans to get GSO’s teachers involved and educated as well. Students outside of GSO are also being given opportunities to learn how to use the computers, and are benefiting from the new educational tools and information it opens up to them. Overall, about 200 students from GSO and the surrounding region use the computers directly and benefit from this unprecedented access to the web. Students’ enthusiasm for and interest in the lab is clear. After a recent visit to the computer lab in November 2009, Kafui reports, “Solomon Amuzu is a student of the Junior High level who volunteers to clean the lab daily. After some observation and practice, he now has figured out how to open and run both an email and Facebook account. Even students from Primary 4 - who are typically around 11 years old - are creating emails after just one term of exposure.”

SBIG plans to keep the momentum going. Already in talks with OVF Ghana about its strategy to install a third lab in 2010, SBIG has found a truly capable partner. Tom Killian recently reported, “Kafui and his team were real problem solvers and worked quickly and efficiently to find solutions that worked within the original budget. Overall, SBIG was very pleased to work with OVF Ghana on the GSO project. We look forward to working with them on other projects...” The partnership between OVF Ghana and SBIG has just begun, but there are high hopes for what more they can accomplish together.

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