

Ashesi and the environment.

African students apply their skills to create realistic, effective environmental protection tools for Africa.

In Africa, well meaning efforts to stop environmental degradation often falter because of poverty, lack of local education, lack of resources to enforce environmental safeguards, and corruption. Students at Ashesi University College in Ghana are working to tackle these problems from a local perspective.

Ashesi students use their skills to create realistic, effective solutions for Africa's environmental challenges.

Ashesi students have adapted existing technology to design and develop tools that can function in the challenging conditions of Africa's remote, environmentally sensitive areas.

- **To empower Ghana's underfunded parks department to better track and protect wildlife**, Ashesi student Lionel Nuno '06 created a centralized natural resources database for Ghana's parks department that could be easily updateable from remote locations by phone. Currently, the parks service interacts with many organizations with branches in remote locations, each operating a separate database, making an accurate, integrated analysis of all data difficult. Using the MySQL replication feature, multiple databases are synchronized over a network infrastructure. Lionel's web-based application is designed to improve the efficiency and communication of groups working to protect Ghana's valuable natural resources and indigenous species.
- **To monitor air quality around Accra**, Ghana, Ashesi Computer Science students partnered with researchers from University of California, Berkeley to conduct air quality studies. Outfitted with a portable Global Positioning System (GPS) and devices that tracked SO_4 and CO_2 , students recorded levels of these two harmful gases at locations around the city. The data was uploaded daily to a central computer and analyzed to create a map of daily pollution levels around Accra. The research project, named Networked Suite of Mobile Atmospheric Real Time Sensors (N-SMARTS) aims to build a large scale, distributed scientific instrument, using environmental sensors embedded in location-aware mobile phones. Ashesi student, Samuel Boateng Asumadu '08 stated, "After witnessing the high concentration of Carbon Monoxide recorded by my equipment, I began to take air pollution more seriously." Learn more at: www.cs.berkeley.edu/~honicky/nsmarts/.
- **To detect and help combat illegal logging**, an Ashesi student designed a sensor-based program to be deployed in dense forest regions. The design calls for modified cell phone devices mounted on trees. When the sound of a chainsaw is detected, an SMS text message is sent to the nearest park service headquarters, alerting them of illegal activity. If the devices are placed outside of normal cell coverage they use an ad-hoc network technology to transfer the message to the nearest device within mobile phone range.

Ashesi inspires students to care about the environment and to fight corruption and apathy.

- Ashesi's intensive, four-year leadership skills program teaches students to care about their communities and region, and empowers them to act on their concerns. Through mandatory community service projects and intensive senior projects, students select one of their region's many challenges and are required to take significant action to make a difference. As students apply their new skills to local, real-world problems, they learn that they can create positive changes in environmental protection as well as in other arenas.
- All Ashesi students adopt a rigorous honor code, and take courses in leadership and ethics to guide them in making good choices and resisting corrupt practices throughout their careers.

Ashesi University is an African-initiated private, secular, not-for-profit university in Ghana. Our mission is to educate a new generation of ethical, entrepreneurial leaders in Africa; to cultivate within our students the critical thinking skills, the concern for others, and the courage it will take to transform their continent. Ashesi is a catalyst for locally-led progress.