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## Cardiopad Makes Heart Diagnosis Available To Remote Areas

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When Arthur Zang was in his fourth year of study on a computer-science engineering course, he paid regular visits to a hospital in Yaoundé, the capital city of his native Cameroon. He hoped to gain an understanding of how computer science could be used for the advancement of medicine and to this end, during one of his visits he watched a medical programme detailing how staff carried out an electrocardiogram.

### Frightening cardiac statistics

Upon investigation, Mr Zang discovered from the World Health Organisation's records that a staggering 17 million deaths occur each year as a result of cardiovascular disease. In the developing world, the problem is exacerbated by a dire lack of specialists in cardiac care, along with insufficient levels of appropriate equipment in hospitals and clinics in those regions. In Cameroon at that time, there were fewer than 50 specialist heart doctors, although the population was approximately 19 million. Patients, many of them severely ill,

 Arthur Zang

were therefore often required to travel great distances to Cameroon's larger hospitals to seek the necessary examinations and treatment.

## A tailor-made solution

Arthur Zang's IT expertise, coupled with his knowledge of the needs of the medical profession, led him to begin working on a way of addressing the issues caused by this lack of clinical knowledge and equipment. He realised he needed to find a way to harness the knowledge of cardiologists who were elsewhere in the world, while creating advanced instruments that were portable enough to reach remote areas. The results of his efforts are a global cardiology network, named Cardioglob, and a portable piece of apparatus called the Cardiopad.



## Overcoming barriers

Cardioglob solves the problem of access to specialist heart care by allowing a health worker in a developing country to benefit from the advice of a cardiologist elsewhere, and heart analysis data is collected and sent to this network via the Cardiopad.

Users are trained how to use the Cardiopad, which is essentially a touch-screen tablet computer with a separate sensor and electrodes, and can then carry out tests on people who are unable to travel to the larger, better-equipped hospitals.

The data from the examinations is transferred via a 3G connection and therefore only requires a phone line, rather than electrical outlets, which are often absent in rural areas. Upon receipt of the data, a cardiologist can offer a diagnosis and treatment advice.

The Cardiopad project has received support from both the president of Cameroon and from Microsoft, as well as winning one of the 2014 Rolex Awards for Enterprise. There are now twenty devices in use throughout Cameroon, but Arthur Zang intends to use the money his company, Himore Medical, was awarded for winning Rolex' competition to extend the project to other countries.