



Anant Koppa, the architect of Kshema, explains how his rural doctor kiosk works

Remote diagnosis

Mini Joseph Tejaswi | TNN

When Sannappa Mattimani, a farmer in a remote village in Bagalkot district, suffered from severe diarrhoea and dehydration, he was taken to health kiosk set up by KTwo Technologies. He was attended immediately at the kiosk, tests were done, a doctor was consulted remotely and in 15 minutes he and his wife walked out of the kiosk with the prescription and a patient ID card.

The primary health centre in the village has no in-house doctor. To consult a doctor at the district health centre 40 km away, Mattimani would have required to travel 30 minutes by a bullock cart and another 90 minutes by a slow moving local bus.

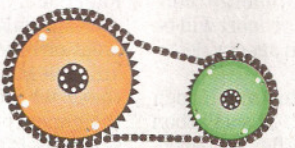
Some villagers have died on the way to the district hospital. And normally a trip to the district centre takes up a whole day, including travel and the wait in the queue.

The kiosk, called Kshema Kiosk, has solved a lot of these problems. Kshema (wellbeing) is a unified healthcare management solution. It unifies diagnostic hardware like microscope, vital signs monitor, ECG machine with a diagnostic software. The software consists of modules for electronic health records, pathology,

radiology and vital signs. The software has the ability to automatically identify the vital parameters and transmit the parameters to a remote doctor through broadband or wireless connectivity.

The system also facilitates webcam interaction between patients and the doctor. Some of the equipment are powered by a solar panel.

Kshema is so simple that even a non-practitioner can record the patient prob-



lems/sufferings/vital parameters. The patient health record module in Kshema allows a technician to do a simple registration and record the patient's complaint and symptoms. Then the technician captures the vital signs of the patient through an integrated vital signs monitoring system. Primary diagnosis can be performed by carrying out a differential blood count (DBC). Temperature, BP, pulse, ECG and SPO2 etc can be recorded. Using the webcam, the technician can also take pictures of the affected part or injury.

These are then transferred to a remote district/city health centre with a doctor, who sees the patient's file, writes a prescription and sends it back to the technician. The kiosk then prints out a medical report and drug prescription. Medicine are typically available in the village medical shop.

Anant R Koppa, the man behind this venture, says: "We thought one way of easing the pain for a person in a remote village was by using technology. Telemedicine systems focus on the tele part and not on the medicine part, but we are able to do remote diagnostics, getting a differential blood count and bio-chemistry through cost-effective solutions. The disease identification part is our differentiator."

The Kshema kiosk infrastructure is priced in the range of Rs 2 lakh and Rs 3 lakh. That's substantially lower than what a regular diagnostic set up would cost. The equipment are mostly simple, low configuration devices.

Four hospitals in Gadag and Bagalkot districts are currently using Kshema. KTwo Technologies has entered into technology partnership with ColumbiaAsia Healthcare Management, a firm that builds and runs secondary and tertiary healthcare facilities across south-east Asia.