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M-DOK PHILIPPINES

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M-DOK: Mobile Telehealth and Information Resource System for Community Health Workers in the Philippines

Grant Amount: US$ 29,784

Keywords: TELEHEALTH, TELEPHONY, SMS, SOCIAL SERVICES, PHILIPPINES

Geographic coverage: Philippines

Objective

The objective of this project is to transmit store and forward diagnosis and treatment data from the community health worker to a remote physician.

Research context

Delivery of health care services and information at the rural level can be improved with the use of innovative information and communications technology (ICT) tools. This project aims to develop a user-friendly graphic interface for a mobile phone telehealth information system using Short Message Service (SMS) to deliver pertinent health information for rural users. This project employs a Java-enabled mobile phone to transmit, store and forward diagnosis and treatment data from the community health worker at the point of care to a remote physician. Deployment of the technology developed in this project is thus applicable to developing countries that require cost-effective hardware platforms and have little or no General Packet Radio Service (GPRS).

Target beneficiaries

The main beneficiary of this project is a rural community in Lanao del Norte where the project partner, the Philippine Council for Health Research and Development (PCHRD) has an established initiative for an Internet multipurpose community telecentre. Other beneficiaries include technology partners involved in the development of the mobile telehealth system with SMS, and local government units working to increase health services for their constituents.

Outputs

The project seeks to deliver a mobile electronic patient record system using Java over SMS with relevant health information stored on a multimedia card.

Research Results and Outcomes

The M-DOK project thus far has fulfilled the following objectives: development of an end-to-end mobile telehealth system composed of a mobile Java application and a Windows-based receiver application; health information modules stored offline on the mobile phone; a mobile electronic patient record; and a lightweight mobile encryption algorithm. Windows was initially chosen instead of Linux because of its greater potential for adoption and ease of installation. A Linux version of the system is planned to be developed.

Health information modules were developed using simple Portable Document Format (PDF) and graphics. By clicking on the pertinent file, the Adobe Acrobat Reader installed on the mobile phone will launch and view the contents of the Hypertext Markup Language (HTML) file. The grant recipient will also develop a version that uses another phone to receive SMS messages (instead of a computer as it is currently configured).

Its only remaining deliverable is the development of a network of community health workers and referral physicians for the system. The project grant recipient has already coordinated this with the PCHRD who has agreed to deploy the application in one of their Multipurpose Community Telecenters in Lanao. This represents an opportunity to compare the Internet-based telehealth system and the mobile telehealth system. Deployment is scheduled to begin with a test run. The application will be revised based on the response from these tests.

Unlike Internet telehealth applications, or more complex mobile telehealth applications, M-DOK is designed to be easily scalable and low-maintenance. The health information modules will be made freely available, with translation shouldered by the downloading party. The application is expected to augment the delivery of health care in communities where the primary health workers are the community health workers and not tertiary care physicians. It is also expected to be most useful for countries where SMS messaging is prevalent, allowing for greater dissemination and use.

Project Duration

Start Date: July 2005
End Date: June 2006
Total Duration: 12 Months

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