

ABSTRACT

This project is about aiding healthcare worker locate and deliver medication to HIV/AIDS patients living in nomadic communities. This is done through GPS group tracking of communities and patients therein using shared GPS tracking devices such as GPS capable cell phones. The system also monitors patient drug levels and alerts the healthcare worker that that patient needs more medication before it runs out through auto - generated schedules. The system is built on top of the chameleon framework. The chameleon framework provides facilities to build semantically aware, evolving systems devoid of programming on the part of the users (authorized to make system behaviour changes). The framework manages the low-level Input/Output functions through pluggable modules. These modules are interconnected using a shared high speed bus. The system exposes functionality through tapping the interfaces provided by the modules, this is done through the dynamic creation of ontologies by the system as directed by the users architecting the system (through the administrative functions provided in the User Interface). The user interfaces (web and SMS) are dynamically generated and provisioned respectively in accordance with the rules provided by the admin and translated by the chameleon framework and implemented by the underlying modules. The system allows for a more efficient and accountable distribution of ARV medication to persons living with HIV/AIDS in nomadic communities. The healthcare worker determines the location of the patients through online maps generated within the system, which are informed by the last known location of the GPS tracking device associated with the community within which the individual belongs. Also, the healthcare worker is provided with a system - generated schedule of patient drug deliveries to be made so that the patient never runs out of medication. In addition, the system allows for the patient to request drug replenishment in the event the drugs are lost/stolen e.g. during cattle rustling, which is rampant in the ASAL areas. This then adds to the healthcare worker schedule to bring to him/her the need to replenish medication for that particular person who sent the SMS message.