

mCHOIS: An Application of Mobile Technology for eHealthCare System

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ABSTRACT:

Hand-held computers with mobile technology or smart phones are becoming more versatile in use and a valuable tool for the healthcare field workers. Earlier, we designed and developed *Integrated Data Management System (i-Dataware)* for coordinating social service activities through web based services. This has been deployed by the National City Collaboratory (NCC) for serving at-risk students of the National School Board and the residents in the National City, which is executed through the Family Resource Centers (FRCs). The process is designed to serve a family instead of an individual. In the process, a 'Care Coordinator' has to visit the Family and gather the information through paper-pencil processes and then re-enter the data into the database, an error prone process, using a laptop/tabletPC/desktop when it is available with internet access, underscoring the value of paper-less processes for this web based services. Similarly, our *Child Health Obesity Informatics System (CHOIS)* for monitoring Body-Mass Index (BMI) among the school-children often need to enter or update data from a place where internet connection is not available. Thus, the availability of a computer with internet access has become the limiting factor for the field workers' ability to interact with the data or databases for the clients. Meanwhile, a smart phone has become more affordable and accessible to the internet through 3G phone line and wifi. Our proposed solution is to create a software application, mCHOIS, based on mobile technology for addressing the above problem. For development of the application and testing, we have used *Android*-based smart phone, a Google phone, which comes with valuable features including Geospatial Information System (GIS) for location based services. *Android* is an Open Source Operating system enabling the software developers to develop applications where access to the source code is needed. The application developed in this project enables a field worker to input or modify the data and store it locally. Once internet connection is available either through the phone line or through the built-in wifi, data can be sent to the database. Updating the data and visualization of the data are also available through the browser. This application has been successfully field tested and will be demonstrated. Such application can be used for Point-of-Care (POC).

Keywords: Android, eHealthCare, Google phone, Body Mass Index (BMI), Obesity, Diabetes, tablet PC, Point-of-Care (POC), Telemedicine, personalized medicine

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