Digital Inclusion Healthcare Solution in Botswana: Mobile phones used to Access HIV/AIDS Information (Microsoft Project Reference Number: 5703800404)


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The Project:

Integrated Healthcare Information Service through Mobile telephony (IHISM) project is conducted by a team of researchers at Department of Computer Science, University of Botswana. The project aims to explore the use of mobile phones by the general public in Botswana to access HIV/AIDS information from health care portal. At the heart of the system is an Information Server and Intelligent Personal Information Centers designed to derive and present appropriate information for individual users. It aims to demonstrate how under-served communities can benefit from opportunities afforded by the power of information and communication technologies to achieve development goals such as healthier communities. The expected benefits would be to minimize patients’ (or public) visits to hospitals, especially among the digitally excluded communities, thus enabling understanding, prevention and control of their medical conditions. IHISM takes advantage of the fact that Botswana, like many countries in Africa, has had a very encouraging mobile phone penetration a high mobile penetration with most of the handset used are moderate to advances functionalities such as picture messaging (MMS), camera, GPRS connectivity, Internet capabilities, GPS position. A number of interactions with stakeholders has been achieved. The Ministry of Science and Technology has provided full support for the project and collaborates with the project in data acquisition from relevant departments. More partnerships are to be formalized with research centers mobile phone service providers Orange.

IHISM has achieved a number of deliverables thus far including a total of 14 papers papers published resulting from activities carried out in the IHISM project. An FAQ retrieval system has been development using XML and Microsoft SQL server. Other software prototypes include the interface into the IHISM portal that runs on phones and PDAs, a voice technology interactive system and an Expert System developed to support users with Internet access.. Furthermore, a demonstration showcasing some of the output of the IHISM was presented at an ICTD conference, Quatar, 2009.
Technical and feasibility constraints:

The first stages of the project involved modeling user information needs, establishing requirements specifications and developing the IHISM Portal. The major challenges were in terms of geographical context of the project, in particular, acquisition, translation and presentation of content in languages understood in the country and cultural issues relating to developing information interfaces for users who are semi-literate or illiterate. These challenges prompted the next phases of the project which should extend to multimedia user interaction to accommodate these targeted users. Another challenge came from obtaining clinical patients data which could not be availed for ethical reason. However a process of intense dialogue with medical practitioners has been established to discuss the best practices.

Deployment component and scalability

The final phase would be deployment which is targeted towards making the system useful to the population through well established means based on sponsorship and collaboration. The project is expected to roll out to the whole community in both rural and urban areas and the technology itself, if successful, to be applied in various educational processes of Botswana. A field study has already been carried on the use of mobile technologies by semiliterate people such as device ergonomics, ease of use, and understanding of technical interaction by semiliterate people. The next phase is to test out the designed interfaces to produce the final interaction interfaces and measure the acceptance of the new technology.

Appropriate assessment and evaluation techniques

To evaluate the impact of the system of society, a rigorous logging of the interaction of the system with the users will be observed, analyzed and monitored in phased deployment stages. Furthermore, periodic public surveys of the effectiveness of various components of the system will be administered to evaluate the system’s impact on society.

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