Abstract

In this paper, we present a framework for a multimodal interactive rural kiosk for spreading awareness about diabetes and monitoring of blood glucose level, thus aiding its diagnosis in rural India. There were an estimated 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70 million people by 2025. In the last 15 years the prevalence of Diabetes in rural India has risen from 2.4 per cent to 6.4 per cent of the total population. In rural India, there is a lack of awareness about Diabetes. Primary Health Centers (PHC) are the prime caterers here to provide basic healthcare services which also includes diagnosis and treatment for Diabetes. But, in the current scenario, each Primary Health Center covers a population of 1,00,000 and spread over about 100 villages[5]. This is not sufficient for the population and access becomes difficult due to spatial constraints. An interactive kiosk is a computer terminal that provides information access via electronic methods. Multimodal interaction provides the user with multiple modes of interfacing with a system. Our proposed Multimodal Interactive Kiosk System (MIKS) provides easy access and good communication to create awareness and also diagnoses Diabetes. The blood glucose level is monitored using a glucometer which is interfaced via USB with the kiosk. Telemedicine facilities
are also provided to the users if they are diagnosed with Diabetes so that they can decide the further course of action. The communication can be done by mechanical backhaul[6] for low cost and high efficiency.

**Reference**

- Erno Mäkinen, Saija Patomäki, and Roope Raisamo: Experiences on a Multimodal Information Kiosk with an Interactive Agent, NordiCHI, October 19-23, 2002
- Sameer S Sawarkar, Rajeev Kumar, Manish Ingle, Dr. C. S. Sukumar, R. Anuradha: Kiosk-based Scalable and Self-sustainable Telemedicine Solution for Rural India, Global-e-health, 2006.
- Government services of India, http://india.gov.in/citizen/health

**Index Terms**

Computer Science  
Kiosk Systems

**Key words**

Multimodal interactive kiosk  
Diabetes Type 2  
Telemedicine  
Human Computer Interaction