An app leading the blind

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A smartphone app could improve travel arrangements and safety for sufferers of the otherwise debilitating sight problem of night blindness.

A smartphone app that keeps track of your location and distance walked from home or hotel and warns you when you are likely to be caught out after dark has been developed by researchers in Pakistan to help sufferers of the debilitating disease night blindness. The app can also help travellers with the disease pinpoint hotels should they find themselves too far from base to get home safely.

The researchers describe details of the smartphone software in a forthcoming issue of the *International Journal of Mobile Learning and Organisation*.

Kamran Ahsan, Obaid Khan and Abdul Salam of the Federal Urdu University of Arts, Science and Technology, in Karachi, explain how night blindness, nyctalopia, afflicts millions and may be present at birth as a genetic disease, arise in childhood through malnutrition or injury or be a symptom of numerous eye diseases. Sufferers find it difficult or impossible to see in low-light conditions and so can be very much at-risk if darkness falls while they are in a strange city or even in their home town. Of course, many people with nyctalopia never venture from their home environment because of their disability.

Ahsan and colleagues have now developed a smartphone app that could provide sufferers with a new vision of the world, allowing them to safely leave their home knowing that their phone is keeping track of their

whereabouts and can calculate both the remaining daylight hours available and estimate how long it will take the person to reach their base before nightfall. The application is geo-aware and so knows the time of sunset around the world as well as having access to online mapping software which can offer the potentially vulnerable user with shortcuts back to their base. Moreover, it also has the added benefit of being able to locate nearby hotels should the user need to reach one before darkness falls.

The researchers have had a positive response from sufferers of night blindness who recognise that the smart phone app would be a boon to their lives not only in their hometown but when they travel to other cities.

  More information: "Assistive technology for night blindness: a mobile application approach" in *Int. J. of Mobile Learning and Organisation*, 2013, 7, 140-157. www.inderscience.com/jhome.php?jcode=ijmlo

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