GlassAllergy: A Glass-based Solution to Empower Patients with Skin Allergies

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Motivation

According to the German Association for Allergies and Asthma about 20% of the German population (about 16 million people) shows allergic reactions like itching, swelling or pustules if they are exposed to certain allergens. Many substances contained in cosmetic products (e.g., shampoos, body lotions, sun blockers, etc.) can lead to allergic reactions for certain individuals.

Material

Innovative wearable devices are on the verge of entering the consumer market. A well-known example is Google’s Glass device. It might be the next evolutionary step in the field of mobile computing, as consumers can still use both of their hands while at the same time receiving calls, sending e-mails or taking pictures. Google released the so-called Glass development kit (GDK) in late 2013.

Results

As a first prototype, we implemented a Glass-enabled mobile application that scans barcodes of cosmetic products. As it turned out, ambient light can have negative effects on the scan process and thus on the recognition duration. By contrast, the percentage of products identified correctly was a lot higher in the ambient light in a real-life shopping environment at local drugstores. As the proposed solution is still at a very early stage, a full evaluation remains an open task.

Such reactions are often associated with a decreased quality of life for those affected. Though all ingredients are printed on the product itself, it is difficult for many consumers to identify those substances, which might trigger allergic reactions. Even if an individual knows which allergens to avoid it can be difficult to apply this knowledge in daily life. This especially applies when he/she has to make a buying decision. Consequently, consumers are exposed to a risk of buying a cosmetic product that might trigger a minor to severe allergic reaction.

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