An adaptive recipe recommendation system for people with Diabetes type 2

Diabetes type 2 (DM2) is a common lifestyle disease caused by an insufficient amount of physical activity, bad eating habits and possibly some genetic factors. Coaching people on their eating habits and physical activity can help patients to reduce their dependence on medication. My MSc research project, executed at Philips Research, was focused on helping people with DM2 to eat healthier. People are creatures of habit and it is difficult for them to change their eating patterns. For this purpose, we have investigated the use of a content-based recommender system that suggests recipes based on the similarity to past choices of a user. We have taken a user-centered approach in which we collected requirements in a qualitative and a quantitative study. This has led to the development of an adaptive user representation. This profile is used to suggest recipes using a similarity measure. The approach is evaluated in an experimental study. The results showed that personalizing recommendations is effective, but that a simple, baseline personalization is as effective as the more complex adaptive profiling personalization in the current study. An additional qualitative user study showed that people with diabetes appreciated the recipe navigation options we presented them with, and liked the insight in the healthfulness of their choices which the recipe recommender gave them.

Research in recipe recommendation by matching recipes to users should be continued.