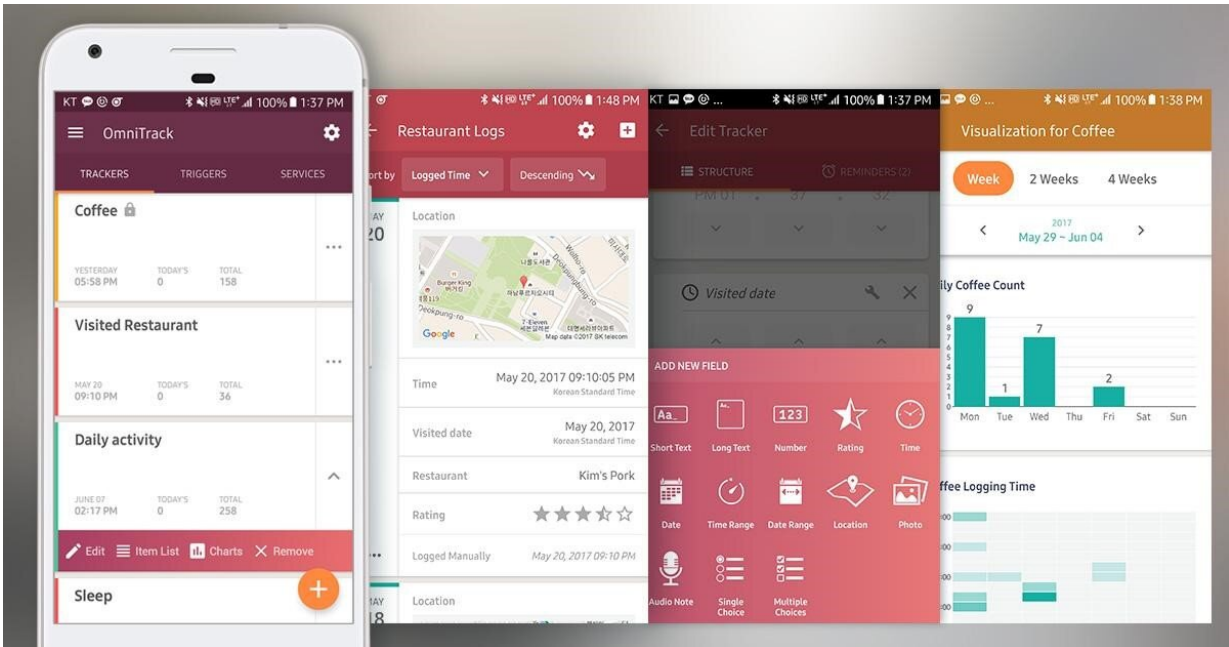# Creating a new type of food tracking app

July 17 2019

Credit: University of Maryland

Kim S., like half of mobile phone users, has an application to track her daily eating and fitness. But Kim is newly diagnosed with Type 2 diabetes and wants to start tracking the glycemic index of her food, her blood glucose levels, how low blood sugar affects her moods, and feelings of fatigue. People with complex or unique health tracking needs like these can struggle to find a single tracking app and often resort to using multiple apps, spreadsheets, and lists.

Dr. Eun Kyoung Choe, at the University of Maryland College of Information Studies (UMD iSchool), in partnership with researchers at Seoul National University and Microsoft Research, is tackling this challenge of individualized and unique data tracking needs through the development of a mobile data collection platform, called OmniTrack.

OmniTrack allows people to easily design their own personalized tracking tool (whether for food tracking or other health or fitness needs), selecting what they want to track and how to track it, and adding extra support like reminders. The app can also sync with external tracking devices, such as smartwatches, to integrate data scattered across multiple platforms. OmniTrack is in fact so flexible, that it can be used for people with unique tracking needs across domains, such as exercise, sleep, mood, or productivity.

Dr. Choe and UMD students Yuhan Luo and Peiyi Liu are also looking at potential applications of OmniTrack specifically in supporting the tracking of complex food and other contextual data to support individuals and patients with complex diet needs, such as individuals with diabetes, irritable bowel syndrome (IBS), or eating disorders.

The team wanted to understand 1) what data would help dieticians better treat the patients with complex diet needs, and 2) how to support capturing this data through a customizable tracker. To address these questions, the UMD research team worked with dieticians to co-design trackers for various food/diet patient types.

During co-design workshops, dietitians first developed "patient personas," which portray characteristics in terms of patients' age, gender, symptoms, and goals. They then designed a food tracker for each persona using paper-based prototype widgets of different possible input types and metrics, such as numeric, textbox, audio, image, checklist, and Likert scale. The team identified 32 tracking metrics grouped into five

tracking categories: food, reflection, symptoms, activity, and physical status.

The research team intends for these food trackers to be available to both users and healthcare professionals (e.g., dieticians and physicians) for use on the mobile app. The team envisions healthcare professionals utilizing these trackers to share with patients as well as other healthcare professionals.

More information: For more information, see omnitrack.github.io/main

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