

DIETETICS AND TECHNOLOGY

with Professor Deborah Kerr,
Associate Professor Carol Boushey and
Associate Professor Fengqing (Maggie) Zhu

Talking points

KNOWLEDGE AND COMPREHENSION

1. What do 24-hour dietary recalls and keeping dietary records involve? What are the limitations of these methods for assessing dietary intake?
2. How does the Technology Assisted Dietary Assessment (TADA) system identify food and drinks in an image? What practical challenges does the team have to overcome to enable it to achieve this?

APPLICATION

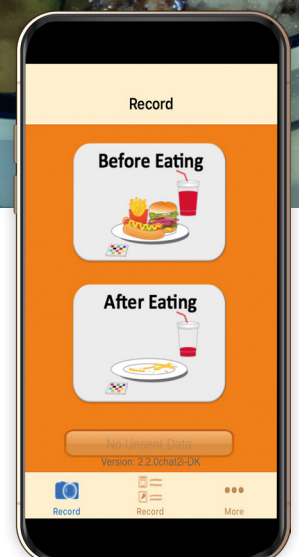
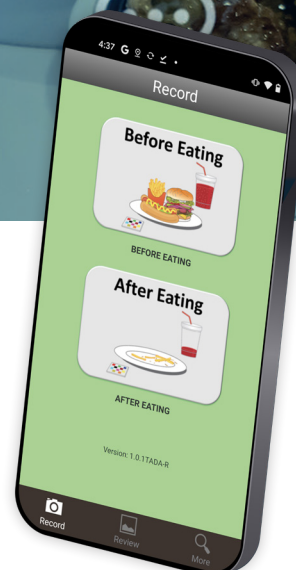
3. What questions would you ask participants during the feeding study to discover their opinions about the Mobile Food Record™ (mFR) app?
4. The team is designing TADA to improve dietary assessment for research dietitians. How do you think clinical dietitians could use it to help individuals monitor their diet and health?
5. What foods and drinks do you think might be challenging (for machine learning or a dietitian) to identify from examining a participant's food images?

ANALYSIS

6. Why is consumer input important in the development of the TADA system?
7. How have changes in our use of technology paved the way for the mFR?
8. How have Deborah, Maggie and Carol's life experiences influenced the work they currently do?
9. Why did TADA require such an interdisciplinary team to develop it?

EVALUATION

10. Of the many disciplines featured in the TADA team, which most appeals to you, and why? How would you most like to contribute to dietary knowledge and/or inventions?





Activities

1. Explore the importance of interdisciplinary collaboration

TADA was developed by a large, interdisciplinary team. Using the article and any other information you find online, complete the table below. What do the different team members study, and how were their skills and knowledge applied in the ACE-TADA project?

| | What does someone in this field study/do? | How is the field contributing to the ACE-TADA project? |
|--------------------------|---|--|
| Research dietetics | | |
| Nutritional epidemiology | | |
| Computer engineering | | |
| Biostatistics | | |
| Health psychology | | |
| Health economics | | |
| Public health policy | | |
| Population surveillance | | |

2. Design an app to improve health

TADA and the mFR app harness the power of technology to improve dietary assessment methods. What other areas of health could benefit from new technological inventions? Chose an aspect of health (e.g., nutrition, physical activity, mental health, etc.) or healthcare (e.g., admitting patients to hospital, collecting prescription drugs, etc.) and design an app that could improve the situation or process. Consider the following:

- Who will your app be aimed at? (e.g., any individuals, a certain group in society, healthcare practitioners, etc.)
- What will your app do?
- How will your app improve an individual's health or a healthcare process?
- What fields of research could contribute to developing your app? What expertise would each field provide?
- What challenges do you think you would encounter as you create your app?
- How would you test your app to evaluate its effectiveness and usability?

More resources

- Learn more about the TADA project (www.tadaproject.org) and the ACE-TADA feeding study (www.eatingresearchperth.org)
- The Australian Eat for Health (www.eatforhealth.gov.au), US Department of Agriculture (www.nutrition.gov), UK Eatwell Guide (www.nhs.uk/live-well/eat-well/food-guidelines-and-food-labels/the-eatwell-guide) and Canada's Food Guide (food-guide.canada.ca/en) all provide a wealth of resources about nutrition and healthy eating, including recipes, fact sheets and quizzes.
- Learn more about the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) that Carol helped to establish: www.fns.usda.gov/wic
- Head to the team's Futurum webpage to watch an animation about the TADA project and listen to Deborah's podcast: www.futurumcareers.com/how-are-advances-in-technology-improving-dietary-research