

BALANCE

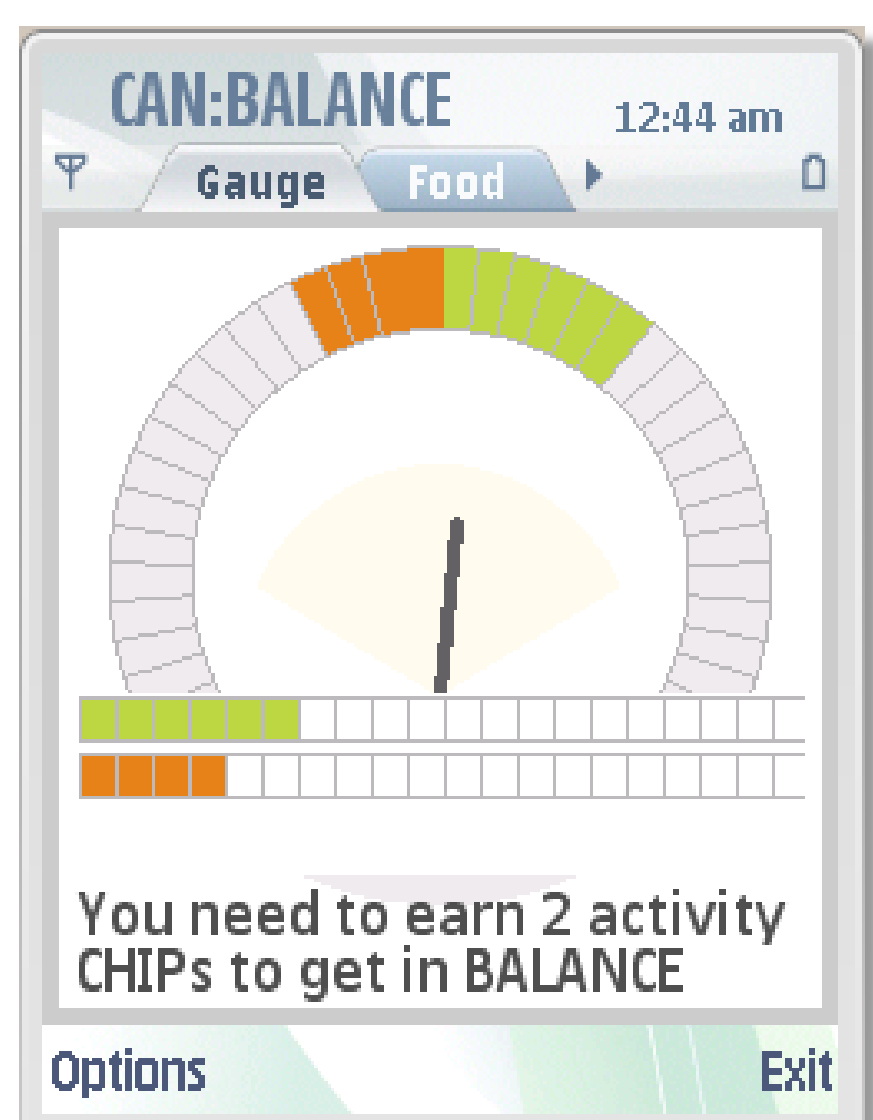
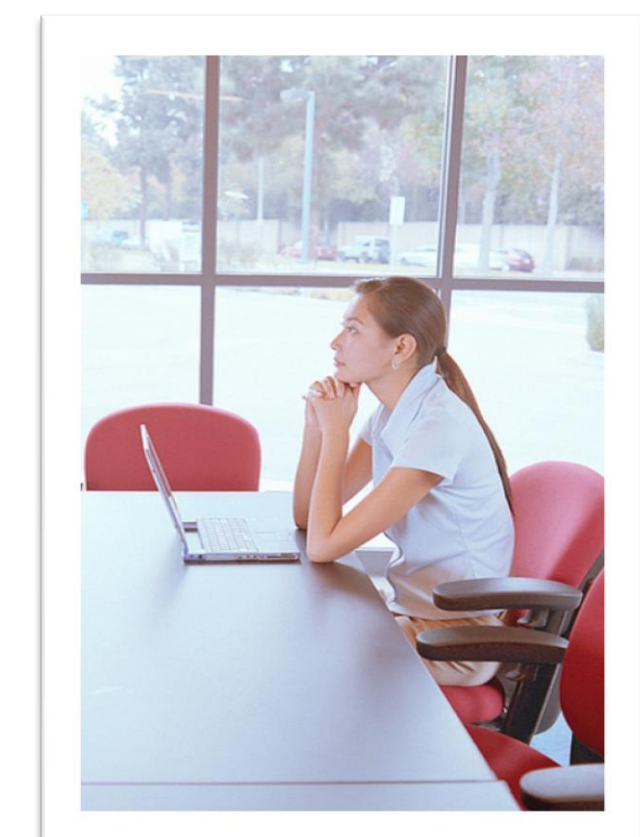
Bioengineering Approaches for Lifestyle Activity and Nutrition Continuous Engagement



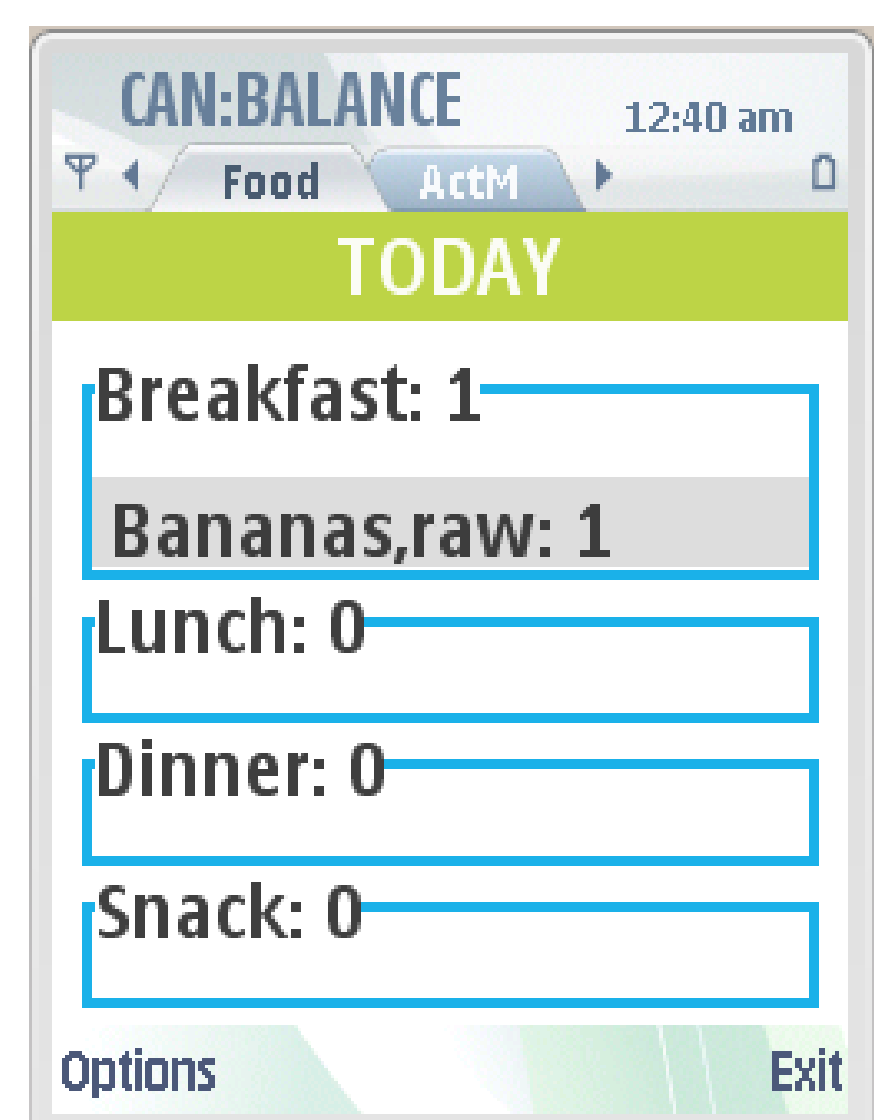
BALANCE is an NIH funded project to provide a medically validated up-to-the moment display of your caloric balance



- Mobile Sensing Platform detects activities and provides calibrated caloric expenditures
- Users get credit for calories burned
- Food interface on the phone allows users to enter what they've eaten
 - Interface allows you to define custom favorites
 - Design meals composed of multiple food items
- Calories are tracked in terms of CHIPs (approximately 100 calories each)



Food/Exercise Balance



Summary screen for today's snacks/meals



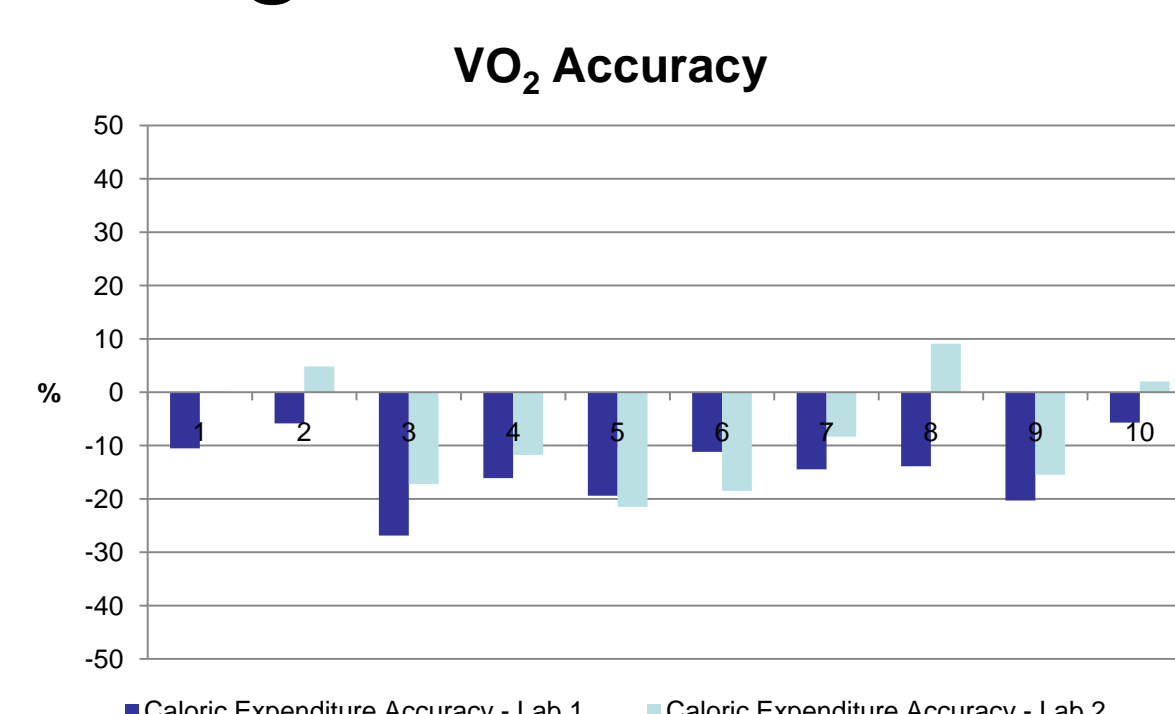
User studies and initial deployments on Nokia N95s



Final application may be available on several platforms

Exercise Laboratory Study (n=10)

- Activities: Walking and Jogging at various speeds and inclines
- Results
 - 88% accurate at computing walking speed
 - 87% accurate at predicting expended calories
 - Measured against medical 'gold standard' VO_2



Ongoing Work

- User studies to improve user interface
 - Paper prototype sessions to improve the UI
 - Focus groups with multiple users who take phones with the application home for several days
- Additional laboratory and field studies to collect caloric expenditure data (n=60)
- New opportunities to use online data sources/historical actions to make food entry easier

Adrienne Andrew (UW CSE)

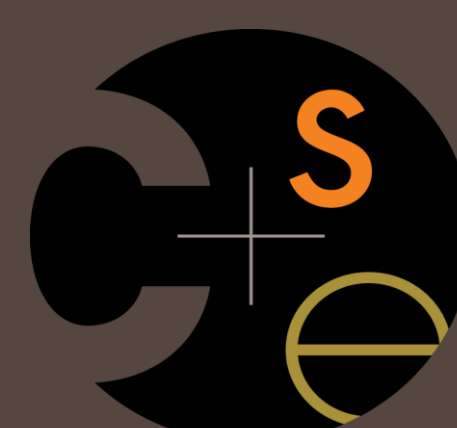
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