



# HCI in Promoting Health and Wellness

**Designing for Healthy Lifestyles: Design Considerations for Mobile Technologies to Encourage Consumer Health and Wellness**

Lucretia Williams



# Authors

-Sunny Consolvo

-Predrag Klasnja

-David W. McDonald

-James A. Landay

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# Sunny Consolvo

- Currently a researcher at Google with a focus on security, privacy, and anti-abuse.
- Best known for work on mobile technologies to encourage health & wellness
- Contributed immensely to UbiFit



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# Predrag Klasnja

- Currently an assistant professor at University of Michigan and a researcher at Kaiser Permanente Washington Health Research Institute
- Research focus on health informatics
- 10 Year Impact Award, Ubicomp 2018



# David W. McDonald

-Professor and Chair of HCDE at University of Washington

-Ubiquitous sensing for behavior change, recommendation systems, and public use of large screen displays

-2013 Distinguished Paper Award - American Medical Informatics Association Fall Symposium (AMIA)



# James A. Landay

Professor of Computer Science and the Anand Rajaraman and Venky Harinarayan Professor in the School of Engineering at Stanford University.

Founder and co-director of the World Lab, a joint research and educational effort with Tsinghua University in Beijing.

Was named to the ACM SIGCHI Academy in 2011 and as an ACM Fellow in 2017.





# Related Literature

Mobile Technologies To Promote Physical Activity

Collecting Behavioral Data

Providing Self Monitoring Feedback

Support of Goal Setting

# Mobile Technologies To Promote Physical Activity

Using mobile applications and trackers to increase and maintain a person's physical activity.



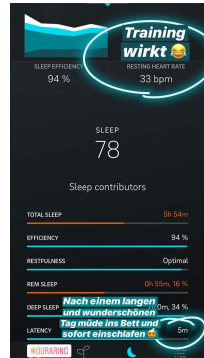
Design requirements for technologies that encourage physical activity



# Collecting Behavioral Data

Behavioral data can be collected through sensors and manual entry

## Sensors on Oura Smart Ring



## Manually inputted data on MyFitnessPal

YESTERDAY				
1,200	+2,056	-840	1,216	-16
GOAL	FOOD	EXERCISE	NET	REMAINING
Snacks				95 cal
Cardio Exercise				
Walking, 3.0 mph, mod. pace, walkin...				200
60 minutes				
Bicycling, <10 mph, leisure (cycling, bi...				81
20 minutes				
Kickboxing (including Turbo Jam)				307
30 minutes				
Body pump				254
45 minutes				

Understanding quantified-selfers' practices in collecting and exploring personal data

# Providing Self Monitoring Feedback

Feedback on a person's collection of behavioral data. Can be presented in visualizations such as graphs and charts or reports.



Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component



# Support of Goal Setting

Used to encourage and promote health and wellness

Draws from Goal Setting Theory by Locke and Latham

## Locke's Goal Setting Theory

1. Clarity
2. Challenge
3. Commitment
4. Feedback
5. Task Complexity



# Later Work

[Addressing Challenges When Promoting Healthy Lifestyles](#)

[Semantic Web Technologies To Promote Healthy Lifestyles](#)

[Smart Garments and Accessories For Healthy Lifestyles](#)

**THANK YOU!**