Playing games and telling stories: Implications for technologies that address African American health disparities

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Motivation & Method

Our research examines how technology can address diet-related health disparities in low-income African American communities.

previous work

Designed 2 mobile phone applications (OrderUP! and EatWell) that
* help users gain locally and culturally relevant nutrition information
* help users encourage others towards increased wellness
* focus on the community social unit, given the cultural value of collectivism

In-depth fieldwork to evaluate applications
* 12 people used each system for 3-4 weeks.
* interviews, surveys, system log analyses & user-generated content analysis

current work

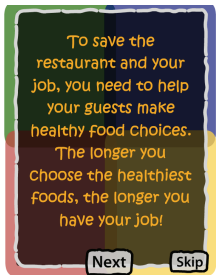
Comparative analysis of the design elements in OrderUP! and EatWell
* used design analysis & fieldwork findings to derive recommendations for future systems

Turn sheet over for more info

Our Systems

[GAMES]

OrderUP!



OrderUP! is a casual game for mobile phones that helps players learn how to make healthier meal choices [1].

* the player assumes the role of a restaurant server

* goal: serve incoming customers quickly & healthfully by choosing the healthiest dish from 3 randomly chosen meal options

* customers are members of the players' fictional community

[1] Grimes A, Kantroo V, Grinter RE. Let's Play!: Mobile Health Games for Adults. In: UBICOMP'10; 2010. p. 241-250.

[STORIES]

eatWell

"Welcome to EatWell. You can listen to or record memories about trying to eat healthfully in your neighborhood."

AUDIO CLIP

"I have a great memory for a lentil loaf. I actually got it off the Food Network. That Italian cook, the one they say is so sexy, did a lentil loaf. So it's like meatloaf only it's made with lentils! … It is so good that my daughter who is 4 and a half wanted to take it for lunch the next day...Good and good for you! So, give it a try."

EatWell allows people to share their healthy eating ideas with a broader audience [2-4].

* people use their cell phones to record audio clips describing how they have tried to eat healthfully in their local neighborhoods

* once they create a clip, anyone in the community can listen to it on their cell phone.

[2] Grimes A. Sharing Personal Reflections on Health Locally. In: Shared Encounters: Springer; 2010.
[3] Grimes A, Bednar M, Bolter JD, Grinter RE. EatWell: Sharing nutrition-related memories in a low-income community. In: CSCW'08; 2008. p. 87-96.
[4] Grimes A, Landry B, Grinter RE. Characteristics of Shared Health Reflections in a Local Community. In: CSCW'10; 2010. p. 435-444.

Recommendations for Future Systems

Community, Collaboration & Culture

When designing systems, compare the IMPACT OF SIMULATED VERSUS REAL COMMUNITY INTERACTION on the health-related attitudes and behaviors of users.

Examine how much the IN-SYSTEM CARE OF OTHERS TRANSLATES TO REAL-LIFE CARE and encouragement towards healthy living.

It is critical to investigate how important cultural meals are to users. Carefully consider how much focus the system should place on such foods, for example, by designing the system to ADAPT TO THE DIFFERING VALUE OF CULTURAL FOODS in peoples' lives.

Information Presentation

Systems that give SPECIFIC HEALTHY EATING RECOMMENDATIONS MAY NOT BE AS DIRECTLY MOTIVATIONAL as those that help people learn how to assess the healthiness of foods more broadly.

PRESENT HEALTH INFORMATION THROUGH MULTIPLE FORMS MEDIA (visual, oral, etc.), leveraging the strengths of each. The medium chosen may affect how actively the user processes the information given.

PROVIDE TIERED HEALTH INFORMATION ACCESS, making it easy for individuals to access more detailed information.

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Comparing OrderUP! and EatWell

	Design Element	OrderUP! Instantiation	OrderUP! Impact on Users	eatWell Instantiation	eatWell Impact on Users
implicit cultural focus	community representation *(helping users see the value of caring for one's community)*	**Fictional Community** Players must choose the healthiest foods for members of their fictional community.	**Caring For Friends & Family** After playing, users began caring for their real-life social network (friends, family)	**Real Community** In their audio clips, users share healthy eating ideas with others in the community (who are typically strangers).	**Caring for the Community** By contributing "memories", users began caring for their community as they shared their experiences for others to hear.
implicit cultural focus	collaborative features *(allowing users to interact with others via the system)*	**Game Mobility** Mobile device facilitated "social play" (playing in front of others or letting others play).	**Relational Benefits** Led players to have health-related conversations with others.	**Shared Stories** Users share audio clips containing their healthy eating ideas with other community members.	**Emotional Benefits** People felt a sense of hope and encouragement when hearing the stories.
explicit cultural focus	cultural food information *(references to African American soul food)*	**Many Cultural Meal Options**	**Identification with Foods** Participants saw foods that they currently eat, that they like to eat or that they are familiar with.	**Open-ended Information Sharing Platform** Users could create clips about any kind of food experience (cultural or otherwise).	**Few Cultural Ideas Were Shared** People mostly spoke about general American foods (not, e.g., soul food). People still enjoyed the ideas that were shared.
	information medium *(how health information is conveyed)*	**Visual** Stoplight feedback is given: a light flashes after each selection is made (green=player chose the healthiest option, red=the least healthy option was chosen, yellow=in between).	**Easy To Understand, More Detail Desired** Information about the relative healthiness of foods was conveyed in an easy to understand way. However, participants felt the information was too high level and wanted more detailed feedback about the healthiness of the items.	**Oral** Users record audio clips describing their healthy eating strategies.	**Emotion & Personality Conveyed, Clarity Concerns** The emotion & personality in the spoken clips made the information engaging and interesting. The clip creators sometimes worried about how they sounded and if they were getting their point across effectively.
	type of learning *(facilitated by the system)*	**Active** Users try to make the healthiest choices and then receive feedback on their selections.	**Tested & Corrected General Knowledge**	**Passive** Information is conveyed through the broadcast messages that people create. Users then listen to the messages that people have created and thus are given healthy eating advice by other users.	**Received Personally-Tested Strategies** However, we didn't see as many signs of users analyzing the information as we did with OrderUP!.
	content localization *(tailoring information to the local environment)*	**Generally Local** The foods in the game are commonly available at local fast food and cultural restaurants (soul food & Caribbean). However, information about specific establishments is not provided.	**Made Changes to Diet** Participants identified with the foods and were able to apply the information they learned to their own lives.	**Deeply Local** The system prompts users to describe how they have tried to eat healthfully in their neighborhood. All users live, work or frequent the same general neighborhoods. Thus, users are encouraged to share locally-relevant strategies.	**Planned to Try Tips** Most people specifically pointed out local establishments in their clips, while they rarely provided directions or information about how to find these places. Participants valued this localized information.

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