Foodmunity: Designing community interactions over food

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Abstract

Communities contain a rich diversity of backgrounds, personal experiences, and viewpoints. Fortunately, online social networks can make it even easier for people within a community to meet each other. This leads to an opportunity space for exposing people to the differences of their neighbors through mutual interaction. Our study presents Foodmunity, a social networking site that facilitates the organization of food-related events by members of a community. Meeting over a meal provides a more comfortable environment for experiencing new ideas, new people, and new viewpoints. Foodmunity utilizes themed events based on personal experiences its users have with food. This serves as both a cultural representation of those individuals and as a method of bonding between neighbors. By encouraging its users to reflect on the experiences they want to share and the experiences they have attending others' events, our system facilitates the growth of communities and a deeper understanding of the differences within.

Keywords

Community interaction, event coordination, meals, online communities, social networking

Introduction

People build relationships and connections over the experiences offered by meals, a comfortable commonality [5]. While the circumstances can be drastically different - a great first date, a new friendship sparked over coffee, or a shared meal abroad that leads to a lifelong friendship - food is a powerful aid for building relationships. Food is also a strong method of bonding and sharing and is intimately connected to one's own history and identity [3,4].

"On the structural level, as a socially created object, food may knit persons together into the collectivity, while simultaneously differentiating them from others with differing food practices" [5]. The goal of our proposed system, Foodmunity, is to provide communities with a platform through which its members can share experiences over meals. These personal experiences may focus on a variety of topics such as culture, religious events, or family. The core of Foodmunity lies in sharing these experiences with others as a basis for exposing people to the new and unknown.

Simply pointing out differences is not the best way to help people appreciate them. Physically bringing people of varying viewpoints together is more effective in building common ground, helping them better relate to and appreciate their differences [6]. Unfortunately, creating these interactions can be difficult; there is no one-size-fits-all solution for strangers, even in the same neighborhood, to get to know each other. Going door-to-door is off-putting, handing out flyers is impersonal, and existing social networks emphasize exclusivity, limiting their ability to introduce strangers. Foodmunity eases the burden of introductions by creating an opportunistic model, allowing individuals to have meaningful encounters over meals in a way that encourages continued use [10]. By creating opportunities for community members to seek out new experiences and people through food, Foodmunity builds community awareness and appreciation for diversity.

We build on research proposals presented in Grimes and Harper's paper on Celebratory Technology, describing a system in which users can follow and visually track culinary trends [5]. Foodmunity adds depth to the information presented around the food, supporting an experiential history of the foods and themes its users have experienced. It promotes and encourages dialogue regarding these experiences, and presents this dialogue in an engaging online environment that people can navigate on their own terms, motivating them to attend and create new events. Foodmunity presents a method of using digital interactions to lead to new relationships and experiences in the physical world.

Design Process

To identify methods of helping people appreciate the differences of others, we first needed to develop a working definition of diversity. We began our design process with an affinity diagram that helped us reach a collective understanding of diversity and the differences that create it. This led us to a definition similar to how
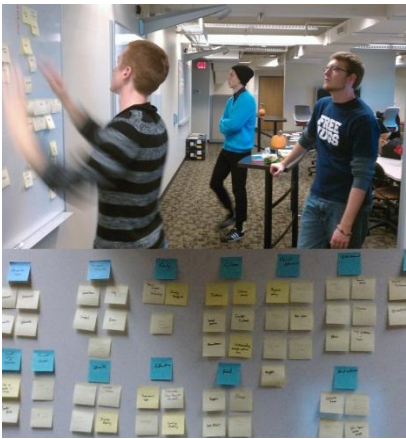

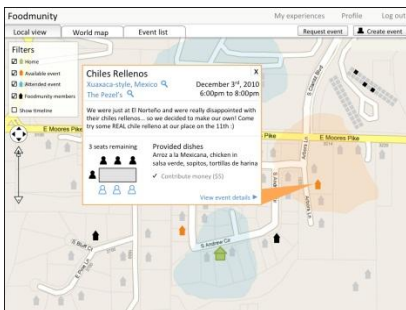**Figure 1**. Affinity diagram: developing our definition of diversity.

Figure 2. The Local Map: displaying a snapshot of the user's community.

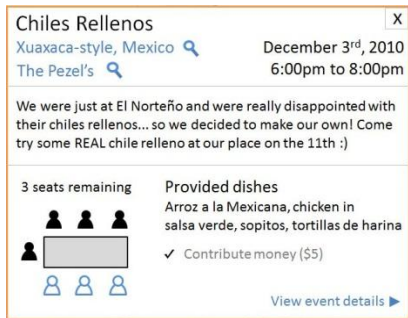**Figure 3**. A closer view of the Local Map.

Figure 4. A callout screen from the Local Map, displaying basic event details.

Winship describes diversity: "our own identities—racial, gender, social class, and others" [8]. Differences are the many aspects that make individuals unique, and "diversity" arises when those individuals are viewed collectively. The problem, however, is that these differences can be deeply hidden. The challenge became to find a way to bring people together in a situation that would open them up to sharing their differences in a meaningful manner. We arrived at the notion of using food as something that can serve as both a cultural representation and a method of bonding.

To balance our concept from the affinity diagram, we conducted interviews with international students, exploring how they feel about being exposed to a different culture's foods and eating habits. These interviews showed us a variety of perspectives on eating, but were all reflective of the folkways of their respective cultural origins. This led us to see food as a appropriate method to create a comfortable environment for sharing.

Once a topic was chosen, we developed two personas to help guide our design. We also employed rapid brainstorming techniques and mind maps to help us uncover a problem space, then we dispersed and developed individual design sketches to generate a broad range of possible solutions. One concept outlined a system matching people with strangers in their community to have lunch together over lunch breaks. Another built on the CounterIntelligence [1] system, creating a way for strangers to track and share customized recipes and cook together remotely. Our generation of over twenty concepts underwent a series of refinements and iterations that resulted in the creation of Foodmunity. We asked critical questions of the system and began to find areas that merited further refinement, such as ways to incentivize the system and give users the opportunity to reflect upon their past Foodmunity experiences. Finally, Valerie Casey's Lenses [9] were also employed to evaluate our concept before testing.

System Overview

The core functionality of Foodmunity is its ability to allow strangers to organize and attend food-related, themed events in their community. Each event created in Foodmunity has a theme, intended to extract elements of meaningful experiences its users have had with food so that those experiences can be shared with event attendees. Personal experience is used as a foundation to add a sense of investment by hosts, create an initial conversation point among guests, and motivate users to share, discuss, and host new events. For example, one of our personas regularly cooks tamales with his family, so he may create an event to share this involved process and associated bonding time with his neighbors. This event would expose attendees to a new cultural experience they may have never understood or fully appreciated. Our usability and event testing, outlined later, supports the idea that these themed events were a motivating factor for initial and continuing use of Foodmunity.

The first method of navigation with Foodmunity is the Local Map, an interactive map of the user's neighborhood that displays available and past events and other Foodmunity users (Figure 2). The Local Map emphasizes the community aspect of interactions with Foodmunity. In our first prototype, the Local Map displayed the community as a darkened area that uncovered as users

Figure 5. The Event Details screen displays participants, discussion, and detailed event information.

Figure 6. The Experience Map offers a visualization outlining the experiences users have had through Foodmunity.

had more experiences attending events within their community. Confusion regarding the utility of the darkened areas in usability testing led us to instead present events through a heat map metaphor, highlighting areas users have experienced. This screen also led us to focus on security, which is an important consideration in any system that attempts to introduce strangers [2]. New users are gradually introduced to events, with events at homes where users have more positive rankings suggested first. Feedback is visible to all users, available wherever user profiles are displayed. Formal complaints can be filed by users, and feedback can be left anonymously if needed.

The Experience Map is presented on a world map and displays a holistic narrative of the origins of the cuisines for each event (Figure 6). The Experience Map differs from the Local Map in that it highlights the geographic origins of foods and events as specified by the host of the event. It adds information and conversations collected by users about hosted events to the map, including comments, recipes and pictures that appear as the user zooms in to the map (Figure 7). After events have ended, users are prompted to enter a review and pictures of the event that are then displayed on the Experience Map as a reminder of the experiences users have had. Excerpts from discussions before and after events are visible within this view and are used as exemplars for the creation of new events and user testimonials. The Experience and Local Maps work in tandem to offer two distinct yet connected means of motivating users to view and attend events organized through Foodmunity.

Event information is displayed within the Event Details screen, which displays all event attendees, recipes, and

conversations occurring around that event. Test participants highlighted the importance of this screen including allergen lists and other dietary or event considerations, which should be automatically generated or provided by the host. This screen visually represents the people and dishes that will be present for the event, as well as highlighting dishes that attendees can volunteer to contribute (Figure 5). The Event Details screen displays an avatar around the table for each attendee that link directly to that person's profile page. The profile pages display a small amount of information about the user to help alleviate some of the discomfort inherent in meeting strangers.

User Research
Event Testing
Foodmunity's ability to help people learn and appreciate the differences of others hinges upon the effectiveness of the events it helps create. To test these events, we observed an event similar to one that could be created through Foodmunity to study how participants would react to having a themed meal with strangers. The sixties-themed dinner party we studied was created through Facebook and was based on the hosting couples' favorite television show. We found and invited two individuals who knew neither each other nor the hosts. Five participants, ages 22 to 61, were present for the event. Two members of our team observed the event and collected post-event questionnaire responses. The questionnaires evaluated the response to the event and judged its engagement and effectiveness for meeting new people. We found that this event did expose participants to new viewpoints and people, but that there were issues with breaking the ice and starting conversations. Most importantly, participants noted that the theme of the event would be the main

Figure 7. Zooming in to the Experience Map provides event details and conversations that have occurred.
Images by Shad Gross.

motivating factor for them attending events in the future.

Prototype Testing

To evaluate the usability and usefulness of our design, we constructed two prototypes. The first, a low-fidelity paper prototype, was subjected to peer and expert review from students and professors. Though focused on the display and basic organization of events, feedback from this prototype ultimately led us towards making events meaningful and allowing users to revisit the experiences they had through the system.

We refined our concept and built a second, interactive PowerPoint prototype that was tested with four users. Usability was one of our primary testing concerns, but we also focused on how users felt about the concept as a whole, their motivations for using such a system, and their concerns about the presentation of information. Participants were given a pre-test questionnaire to gather demographic information and information that would be requested when first signing up for Foodmunity, and were encouraged to think aloud during the testing. Participants were led through a series of scenarios ranging from event creation to attendance. The scenarios deliberately allowed for a variety of approaches so we could observe what information would be used in their decision-making processes.

Although the sample size for our testing was low, our tests highlighted two general motivations for using this system. The first use pattern was for those interested in experiencing the new and unknown to seek out new foods through this system. The second pattern was for those interested in meeting new people in their communities to use the system to become better acquainted with their neighbors, for example after moving to a new area. This feedback prompted us to revise Foodmunity to the final design we propose here, which focuses on supporting these two use patterns.

Future Design Iterations

It is one thing to have friends over, but a big stumbling block of getting to know one's neighbors can be concerns over inviting unknown people into one's home. One of the hosts of the event we observed showed less concern because "[she] knew they would be people known by people [she] knew, etc., not random strangers off the street." In an online community, this building of trust can be created through a robust system of reputation that displays a history of activity on the Foodmunity site [7]. Representation of the actions of others, and an account of one's own actions, create a resource to help people develop a collective experience with a sense of security and privacy [2]. After testing, our user reputation functionality was modified to make the complete history of a user visible, excepting location, to help build trust among users.

Our testing participants expressed that getting together over a meal is a good way to meet other members of their community. However, for this particular event, they noted the lack of planned activities or ice breakers, which could have alleviated some of the uncomfortably frequent lags in conversation. To address this issue, future designs should add the ability for users to see a list of planned activities as put forth by the host, suggest their own activities, or browse a list of activities suggested by Foodmunity pulled from similar events. Participants also pointed out that having the opportunity to read information from other users'

profiles would help them feel more comfortable about the events.

Conclusion

We offer a compelling and engaging way for members of a community to meet over a commonality that everyone shares: the need to eat. Foodmunity creates a comfortable environment for people to experience the new and unknown through shared meals. Our design offloads the management and difficulty in organization and creation of new events, providing an easy way for people to meet, experience new foods, create new memories, and track their experiences. Everyone has unique views and perspectives that arise from their personal experiences. These inherent differences create a wealth of opinions, backgrounds, and preferences within every community.

Our research and testing show that food can be used as an incentive for people to meet and experience the unknown, even when strangers are present, and that Foodmunity offers this in a motivating and engaging way. By physically bringing neighbors together in a compelling environment, Foodmunity creates situations which allow them to share and appreciate the differences and experiences that make people unique. This design serves as a tool to build a sense of community through the events created within and the interactions it facilitates over food, something nearly everyone enjoys.

Acknowledgements

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