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 of varying histories 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 new people 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 to serve 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 on their 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

Figure 1. The Local Map, displaying a zoomed-in snapshot of a user's community.

Figure 2. An example of an event popup displaying basic details of an event.

ACM Classification Keywords

H5.2. Information interfaces and presentation: User interfaces. H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

People build relationships and connections over the experience offered by meals, a comfortable commonality [5]. While the circumstances can be drastically different, such as 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 a strong method of bonding and sharing and is intimately connected to one's own history and identity [3,4].

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 culture, a religious event, or even a grandparent. "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].

Merely pointing out differences is not necessarily the best way to help people appreciate them. A more effective method is for people of varying viewpoints to interact in the same physical place. This builds common ground between them, helping them better relate to and appreciate their differences [6]. Unfortunately, creating these interactions can be difficult; there is no great way for strangers, even in the same neighborhood, to get to know each other well. Going door-to-door is off-putting, handing out flyers is

impersonal, and existing social networks are limiting in their ability to encourage in-person meetings and provide sustained community interactions. 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]. We create opportunities for people to branch out and encounter new experiences and people through food, exposing them to the differences inherent in their own communities.

We were inspired by Grimes and Harper's paper on Celebratory Technology, describing a system in which users can follow and visually track culinary trends [5]. By creating such a system, we introduce an incentive for use to those who like to experience new foods, while also adding depth to the information presented around the food. Foodmunity offers an experiential history of the foods and themes people have been introduced to. 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, hopefully motivating them to attend and create new events.

System Overview

The core functionality of Foodmunity is its ability to allow users to organize and attend food-related, themed events in their community. A large part of the online Foodmunity experience takes place in an interactive map of the user's neighborhood called the Local Map (Figure 1). This screen centers around the user's community, displaying available and past events and other Foodmunity users--if they have agreed to show their location. Clicking on events within the local
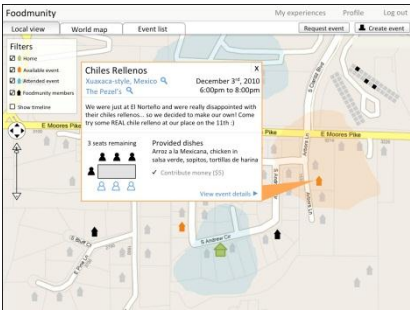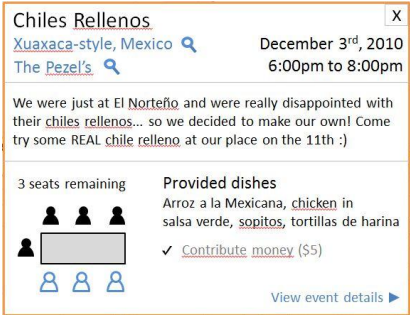
Figure 3. The Event Details screen shows detailed information about each event.
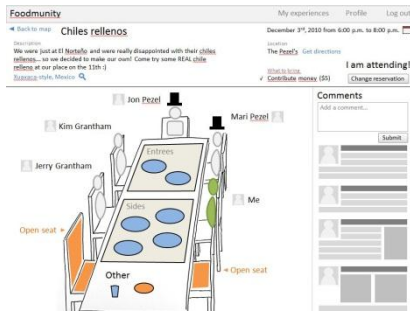

Figure 4. The Experience Map offers a visualization outlining the experiences users have had through Foodmunity.

map causes a pop-up window to appear with a snapshot of information about the event (Figure 2).

For further details, the user can navigate to the Event Details screen, which displays much of the basic information about the event: its location, time and date, the theme of the event, a description, and discussions taking place regarding the event. The Event Details screen contains a visual representation of the dishes that will be present for the event, as well as dishes that attendees can volunteer to contribute (Figure 3). Each dish icon links to the accompanying recipe, including allergen lists and other dietary concerns, if provided or linked by the user. The Event Details screen also displays an avatar for each attendee. These avatars link directly to that person's profile page, which displays a small amount of information about him or her, and help alleviate some of the discomfort inherent in meeting strangers.

Each event in Foodmunity has a theme, intended to extract elements of meaningful experiences that users have had with food so that those experiences can be translated to event attendees. Personal experience is used as a basis for these themes, adding a sense of investment by hosts and creating an easy conversation point among guests. For example, our persona, Jonathan Castillo, has personal experience creating tamales with his family, so he may create an event that involves making tamales with his neighbors. Some user-suggested examples of themed events included a sushi-making party, local ingredients only, or foods passed down from your grandmother. The experiences associated with the themes are not only very personal, but should be leveraged as a way to motivate people to share, discuss, and host events. Test participants noted

that these themed events were a motivating factor for initial and continuing use of Foodmunity.

The Experience Map displays a holistic narrative of the origins of the cuisines for each event (Figure 4). This map displays information on events the user has experienced, displayed in a heat map-style outlining areas of familiarity. It differs from the Local Map, instead highlighting the geographic origins of foods and events as specified by the host of the event. It additionally adds information and conversations collected by users about hosted events to the map, including comments, recipes and pictures, which appear as the user zooms in to the map (Figure 5). Users are prompted to enter a review and pictures of the event after its completion, which 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 excerpts are additionally used as exemplars for the creation of new events and user testimonials.

Sensitivity to security is an important consideration for any system encouraging strangers to meet [2]. After each event, participants can rate the event and its participants. New users are gradually introduced to events, and events at homes where users have more positive rankings are suggested by the system first. Feedback is saved and visible to all users, available wherever user profiles are displayed. Formal complaints can be filed by users if the need arises, and feedback can be left anonymously if needed.

Design Process
To identify methods of helping people appreciate the differences of others, we first needed to develop a

Figure 5. As users zoom in to the Experience Map, it displays event details and conversations that have occurred.
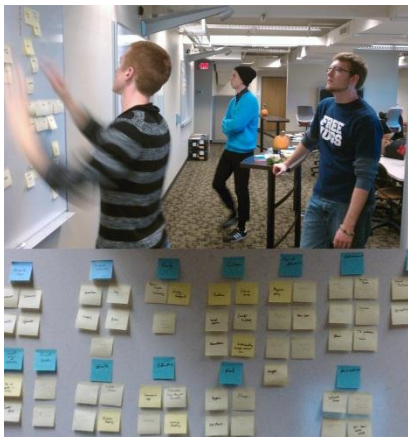*Images by Shad Gross.*

Figure 6. Affinity diagramming process.

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. Winship describes diversity as "our own identities—racial, gender, social class, and others" [8]. By difference, we mean any aspect of an individual that is different from another individual, and "diversity" arises when those individuals are viewed as a whole. The problem, however, is that these differences can be deeply hidden. The burden 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 expert interviews to learn about how people represent themselves through food and the cultural importance of different dishes. Informed by the expert interviews, we did further research that include asking international students about how they feel about being exposed to different culture's foods and eating habits as well as those from their countries of origin. What emerged from this series of design research is how experiences can be shared through food and how the process of sharing meals can be a powerful method of introducing new people and cultures.

We used personas and a series of brainstorming methods to develop a wide range of possible concepts from which we could pick and choose functionality that would help us achieve our goals. 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. These twenty-three concepts were narrowed down to ten possibilities based on feasibility and applicability to the design problem, from which we combined functionality to create Foodmunity. In order to keep our design focused, we evaluated our design using a series of critical questions, continued to whiteboard and sketch through ideas, pursued expert reviews both within and outside the classroom setting, and refined our concept. Valerie Casey's Lenses [9] were also employed to evaluate our concept before testing.

User Research

Prototype Testing
To evaluate the usability and usefulness of our design, we first constructed a low-fidelity paper prototype which we iterated based on expert and peer reviews. We then built the prototype in PowerPoint, using hyperlinks within the document to simulate interactions. This prototype was then tested with four users. We identified two types of users through our evaluation. The first were those people interested in experiencing the new and unknown, motivated by the possibility of experiencing new foods and meals through this system. The second were those interested in meeting new people in their communities after, say, moving to a new area. We described the evaluations in more details below.

While usability was one of our primary testing goals, we also focused on how users felt about the concept as a whole, their motivations for using such a system, and how they felt about the presentation of information. We began with a pre-test questionnaire to gather demographic information as well as information that

would be requested upon sign-up. Testing then led participants through a series of scenarios meant to evaluate whether or not they could navigate the system, ranging from event creation to attendance. The scenarios deliberately allowed for a variety of approaches so we could see what information would be used in their decision-making processes. Participants were instructed to explore the application between tasks and these interactions were noted during the testing sessions. Participants were also encouraged to think aloud during the testing.

Event Testing
For Foodmunity to be effective, the events created through it must be motivating and must help strangers get to know each other. Our prototype test asked users how they would feel about attending and hosting events, but we needed to know how people would react to having a themed meal with strangers. To accomplish this, we observed an event that had been created through an existing social network. The event was a sixties-themed party based around one of their favorite television shows. 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 the post-event questionnaire responses. The questionnaires evaluated the response to the event and judged its engagement and effectiveness for meeting new people.

Findings and 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. For the event we observed, one of the hosts

showed less concern because "[she] knew they would be people known by people [she] knew, etc., not random strangers off the street" (Event participant #02). This trust can be created through a 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.

The participants agreed that getting together for 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, we added the ability for users to see a list of planned activities, as put forth by the host, and suggest their own activities. The hosts can browse a list of activities suggested by Foodmunity or compare their event with similar events for ideas on what did or did not work. The participants also agreed that having the opportunity to read a short bio about the other participants only positively affects the outcome of the evening.

Conclusion
It can be difficult to bring people together, especially if they do not know each other. Yet, for all of the barriers that can stand in the way, there are many benefits to be gained from learning about others. We offer a compelling and engaging way for members of a community to meet over a commonality that everyone

Figure 7. Usability testing our initial prototype created in PowerPoint.

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, creating 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, however seemingly insignificant they may appear at first, create a wealth of opinions, backgrounds, and preferences within every community. Our research and testing shows 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 ability in a way that people are motivated to use. It physically brings neighbors together in a compelling environment, creating a situation which allows them to share and appreciate the differences and experiences that make people unique.

The feedback we have received suggests that our design offers a motivating and engaging way for new people to meet. The experiential view offered by the world map as well as the ability to request new events offer people incentive to explore new areas, both in terms of the food that they try and the people that they meet. 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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