



But I Don't Trust my Friends

Ecofriends – An Application for Reflective Grocery Shopping

Jakob Tholander, Anna Ståhl, Mattias Jacobsson, Lisen Schultz,
Sara Borgström, Maria Normark, Elsa Kosmack-Vaara
Mobile Life @ SICS/Stockholm University, Stockholm Resilience Centre
Box 1263, SE-164 29 Kista, Sweden, jakobth@dsv.su.se

ABSTRACT

The Ecofriends application was designed to encourage people to reflect on their everyday grocery shopping from social and ecological perspectives. Ecofriends portrays the seasonality of various grocery products as being socially constructed, emphasizing subjective dimensions of what it means for a product to be in season, rather than attempting to communicate it as an established fact. It provides the user with unexpected information (news, weather, blog posts and tweets) about the place where the product was grown, and visualises how the product's popularity shifts throughout the year, among the user's friends, among chefs and other food experts, and the general public. Key findings from users' first encounters with the system are presented. In particular, we discuss aspects of trust, information fragments as catalysts, and how several of the participants were challenged by the system's portrayal of season.

AUTHOR KEYWORDS

Subjectivity; Social Construction; Mobile Interaction; Sustainable Interaction

ACM CLASSIFICATION KEYWORDS

H.5.m. Information interfaces and presentation (e.g., HCI).

INTRODUCTION

The Ecofriends application was designed to engage group of friends to reflect on their everyday grocery consumption behaviours from social and ecological perspectives. Shopping of groceries is nowadays characterized by considerations of a variety of factors such as price, taste, health, habits, social context, availability, and to an increasing extent ethical aspects, such as environmental effects and fair trade.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

MobileHCI'12, September 21–24, 2012, San Francisco, CA, USA.
Copyright 2012 ACM 978-1-4503-1105-2/12/09...\$10.00.

The design aimed for an open-ended style of interaction with the intention to spur reflection, inspire, and challenge people's basic assumptions regarding seasonal aspects of groceries, as well as broader issues of ecological consequences of our daily choices. It is designed to be social but with the twist that a user's group of 'ecofriends' are one of three social media voices about seasonality. The other two are "experts", such as food experts and chefs that are blogging. The last one is local twitter-users that are micro-blogging about a product. The application attempts to encourage users to take the complexity of consumption choices into account, grounding them in a number of personal, social, and informational aspects of their lives. It portrays the subjectivity of season and seasonal purchases rather than attempting to influence people to make "the right choice". Moreover, the application is designed to provide ways for users to relate to the contextual circumstances around the product.

In wealthy parts of the world, it is more or less expected that all products should be available at all times of the year. In reaction to this, it has become increasingly popular to buy food that is 'in season' and locally produced. The reason for this is plenty-fold, including environmental reasons to decrease transportation and to support local farming, as well as to consider natural conditions that maximize taste and nutritional value of fruits and vegetables. In a sense, due to the ubiquitous accessibility of any kind of fruit and vegetables in grocery stores as well as our everyday consumption and shopping of food, some of our sense of a product's natural growing conditions and natural season is lost.

In this paper we discuss the application and the rationale behind it. The application was designed through collaborative efforts in a multi-disciplinary design team consisting of interaction designers, researchers in sustainability and ecosystem management, and experts in visual design. Some key findings from a number of users' first encounters with the system are presented. In particular we discuss aspects of trust, information fragments as catalysts, and how several of the participants often were challenged by the system's portrayal of season.

DESIGN APPROACH – EXPERIENCING SEASONS AS A SOCIAL CONSTRUCTION

Our work draws on a number of design approaches that have recently emerged in HCI. These emphasize subjective and value-based dimensions of experience, and how these are socially constructed phenomena. Approaches such as reflective and critical design [6], openness for interpretation [7], interactional empowerment [5], and ambiguity [5] explore ways of designing technologies that engage users in reflective and subjective experiences. We contribute to expanding these approaches into the area of sustainable interaction [1] by providing further design examples, in a fashion related works like the Prayer companion [3]

These approaches bring up questions regarding the nature of the values that designers deal with as well as their actual sources. Are they contained in the system or are they to be understood as constructed and communicated by the users themselves? Critical and interpretationist approaches explore how values in design can be accounted for as something constructed by users own actions and interpretations, rather than as something that can be contained in, and delivered by a computer system. Values are looked upon as something to be *discovered* by users rather than communicated by a system [2]. Overall, we portray the notion of ‘season’ as a *social construction* that arises out of people’s situated actions with each other and with the environment. From this point of view, what is ‘in season’ emerges from interactions around aspects such as cooking trends, personal preferences, and political values, rather than from a stipulated set of facts. As discussed above, season as a time-bound phenomenon has largely disappeared from grocery stores. Basically, the same selection of products is available independent of the time of the year. In a sense, groceries have to some degree lost their relation to place, and the ‘real’ season of that place. As one of the participants in our study put it, *“the origin of a product is more like a label, just like a price tag, it might say Israel or 4.95, but that does not really mean anything”*. The range of different eco labels work in a similar way. In their attempt to simplify choices, they tend to abstract or hide some of the complexity of environmental effects. For example, as pointed out by another participant: *“When I hold two tomatoes in my hand, one labelled as environmentally friendly, but grown far away, and one conventionally farmed, but grown nearby, I don’t know whether the label includes the effects of transportation or not, so I don’t know which one to choose”*. To broaden this picture we have attempted to give people access to socially and contextually rich material that can create novel reactions and also spur reflection. In addition, it enables users to situate and “embody” themselves in some of the ‘real stuff’ such as political values, local weather, growth conditions, and environmental influences that socially constructs the notion of season of fruits and vegetables.

To allow for interaction around these aspects, i.e. the values around the notion of season and what constitutes the real

places of the fruits and vegetables, the Ecofriends application was designed to mirror seasons, places and their context. Firstly, based on data captured from social media such as Twitter and blogs, the system continuously constructs and portrays three *social voices* of what products are ‘in season’, the voices of your friends, food experts and chefs, and the general public. Secondly, the system dynamically gathers information about the origin and context of the different products the users are buying. Local news, weather, together with tweets and blogs relating to the product supports users in making a *contextually rich interpretation* of the product and its origin. This data is presented in interaction style, intended to be aesthetically inspiring. In summary, the design aims at providing users with a socially grounded system for inspiration and reflection around everyday food consumption.

THE DESIGN OF ECOFRIENDS

Ecofriends is a mobile application that connects you to other friends. It is designed to work as a scanning device used when grocery shopping at the supermarket. A user’s ‘ecofriends’ are other users that uses the application and are connected through existing social networks. In the current prototype we implemented hard-coded relationships for the sake of keeping the study tight. The application has three visualization views; scanning of groceries the seasonal changes (Fig. 1), and product-related visualization (Fig. 2).

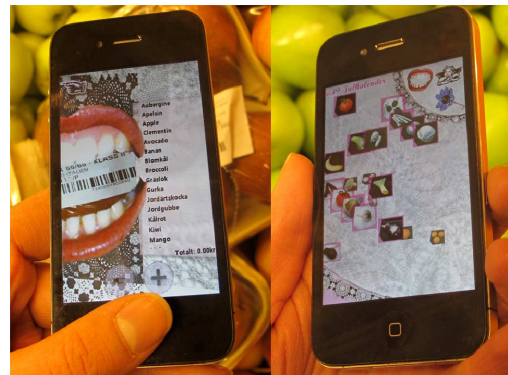


Figure 1. Left: Scanning of groceries. Right: Seasonal changes

The seasonal visualization portrays the three social voices of which products are ‘in season’. The voice of your friends is based on the purchases of fruits and vegetables to calculate when a product is ‘in season’. The voice of food experts and chefs uses occurrences of particular groceries in social media to calculate when a product is ‘in season’. The voice of ordinary people is based on twitter feeds in your local area to calculate the when various products are ‘in season’. These three categories have their own expression to let the user distinguish between them. The top 5 fruits and vegetables each week, within each category, are emphasised in the interface. The groceries that are less ‘in season’ are gradually faded out in the interface. The user can scroll back and forth in time to see how seasons dynamically change from week to week over the last year.



Figure 2. Product related information brought by an angel (left), as a collage (right)

Groceries ‘in season’ or recently scanned trigger product related messages. These contain information with local news and weather from the origin of the product, together with a tweet and a blog relating to that product.

USER ENCOUNTERS WITH ECOFRIENDS

Our aim was to get insight into people’s experiences of using the application in a realistic setting. The study was therefore set up in form of a dinner party among three groups of friends, consisting of four to seven people including two researchers. Each group was asked to use the application to plan a three-course dinner, shop for groceries, and cook the meal together. During the dinner itself we held an open-ended group interview around the participants’ experience of the application. The interviews evolved around the following themes: what they found the application to be about, representations and expressions of season and place, how and if the application influenced their understanding and motivations of seasonal shopping. The data was explored through collaborative video analysis sessions in which the authors individually identified key aspects in the interviews. These were collaboratively iterated and discussed to identify critical themes.

Overall, the participants described the application to be about various things. Some described it as an inspirational tool for cooking ingredients, while others saw it as an inspiration for making ecologically grounded choices of what products to buy, or combinations of the two. One participant said it helped him reconnect to nature and reflect on the origin of products. In the following, we discuss two of the themes that emerged from the discussions, along with examples from our data.

1. Trust and the pursuit of ‘the truth’
2. Information fragments as catalysts

Trust and the pursuit of *the truth*

Common to the ways that participants described the application was that they got engaged in the trustworthiness of the system. These descriptions regarded the character and form of the information presented. How the notion of

season was portrayed was perceived as frustrating, provocative, as well as inspiring. In a similar vein, they also got involved in discussing the sources that were used and their reliability. This way of reflecting upon season as a concept was in line we wanted to achieve with the design.

In all three groups of friends, the system spurred discussions among participants about recipes, environmental issues, and what is actually meant for a product to be ‘season’. When scrolling between weeks of the year, participants reflected on the changes in popularity of various products, and how this related to their own ideas of what was ‘in season’. Some noted that it was “*actually quite accurate*” whereas others argued for the opposite by claiming that “*bananas should never be in ‘season in’ Sweden*”. As an example of this discussion about the accuracy of the application, one participant said that he simply did not trust it. He described himself as a “*facts*” guy and that he early on had dismissed the information in the application. He called the design and the way information was represented in the application muddled and sometimes confusing. He claimed that the traditional Swedish “*Bondepraktika*” - a farmers’ calendar with seasonal heuristics - would do the job of the application and simplify the whole thing. Another participant would rather have the application based on “*scientific calculations of all the environmental effects*” of various choices. On the contrary, others brought up that they were much aware of the complexity of seasonality, its environmental effects and the specific interests and values of these. Still, they found that the application turned the abstract character, often experienced in this, into something to deal with concretely at particular moments and situations. These users also emphasized that they appreciated the subjectivity of the application, but still felt that it could provide simplified hints for positive or negative choices.

Moreover, several participants elaborated on questions of the kind of sources they would consider reliable. Most of them agreed that it is interesting to know and see what products friends buy and the meals they cook. However, some still claimed that this would not imply that these would be trusted in relation to seasonal shopping. One participant even claimed that “*I don’t trust my friends*” in these matters. On the other hand, when we probed him and his friends on what sources they would trust, they brought up a weekly delivery service of groceries for pre-specified recipes as a trustworthy example. When asked for the reason for this they had no clear argument apart from that “*they should know*”. On the issue of trusting the ‘voices of the experts’ of the system, they claimed that they did not know enough about who the experts were and that they wanted to know the exact sources. In relation to this, some suggested a redesign where they themselves could select voices that they already trusted, e.g. eco-chefs and environmentally progressive friends and role models. The variety of ways that the participants talked about these issues points to how the application engaged them in a

tension between wanting to know what was the best choice, or *the truth* like someone said. Ecofriends seems to engage participants to reflect on the subjective dimensions and nuances involved in the ecological consequences of different choices. This relates to issues of how individuals and communities handle uncertainties and that we must adapt and act without perfect knowledge in everyday life, e.g. to practically adapt to changing environmental conditions and the role of technology in such processes.

Information Fragments as Catalysts

The participants had a variety of reactions and reflections to the product-related information. Our initial assumption, confirmed by several of our participants, was that people tend to disregard the country of origin of a certain product. Being rather fragmentary in character, the meaning of this information is only loosely coupled to the specific products at hand. It is not selected because of its immediate relevance, but rather because it provided potential seeds for surprise, reflection, and provocation. The participants perceived the fragmentary collection of information in various ways. Some regarded it as irrelevant nonsense that they could not see the point of. However, in cases when specific elements in some way or another talked to their previous experiences or interests, they found it amusing and inspiring in different ways. For instance, when browsing for zucchini one participant said “*Hey, but Lars aren't you from Skara?*”. This led to discussions of farming in Skara as well as fun memories of old friends. The information thereby worked like a springboard for further reflection and discussion in playful manners among the participants.

Some participants claimed that this random selection of fragmentary information provided concrete traces back to the actual grocery and made its context and origin more ‘alive’. By juxtaposing information about the weather situation with news from the country, the system occasionally allowed for unexpected conclusions, provocations regarding the choice of a specific grocery, as well as opinions about the appropriateness of linking food to politics. E.g., two participants got deeply engaged in the question of actually buying mango when having read about laws that inflicted on women’s rights in the area where the mango was from, saying that “*this is the kind of reasons that makes this so hard*”, referring to the challenges of making informed choices. Moreover, seeing weather information like persistent sunshine next to news about drought spurred participants to reflect upon relationships between eating habits and the effect they have on the world. In some occasions, participants described how the system’s portrayal of place made geographic distance more explicit, which let that place come to life in the here-and-now. Interestingly, the participants that instead claimed this information to be unnecessary and uninteresting, “*What do I care about the weather forecast of San José?*”, still told humorous anecdotes inspired by this part of the system.

These ways of interpreting and relating to fragmentary product-related information, points to how unexpectedness and unpredictability can provide ground for surprise, playfulness and provocation. Through the users’ own contextualisation and meaning making, this selection of partially unfiltered assemblies of information can become catalysts for a variety of social interactions. It may work as sources for deeply political issues, as springboards for novel topics of discussion, and as inspirations for cooking.

FINAL REMARKS

In reflecting on the design of the Ecofriends application we saw how the leading design rationales that drove the process were mirrored in the kind of interaction users got engaged in. By construing ‘season’ as a socially constructed phenomenon we have, to some extent, reconnected users back from a disembodied relation to food and groceries. Our studies points to how in situations like these, people often want to know ‘the truth’ of the consequences of their actions in order to make decisions that they feel are correct. By presenting potentially relevant pieces of information the application invites the user to contextualise the product. The way information is juxtaposed in the application tied the product closer to its origin and social context, in a way, giving it its own agency. Once this agency was established, users could weigh the voices of the experts, friends or general reflections about these voices. Abstract relations between me and what I consume is expressed through concrete informational representations. The immediate connection of the information to the product provided concrete in-the-moment and here-and-now manifestations of the relation. The open-ended design provided users with a space in which to navigate their own conceptualization about seasonality, put it in a broader context.

REFERENCES

1. Blevis, E. Sustainable interaction design: invention & disposal, renewal & reuse. *CHI '07*. 2007
2. Gaver, W., Blythe, M., Boucher, A., Jarvis, N., Bowers, J., and Wright, P. The prayer companion: openness and specificity, materiality and spirituality. *CHI '10*. ACM. 2003.
3. Gaver, W., Beaver, J., & Benford. S. Ambiguity as a resource for design. *CHI '03*. ACM. 2003.
4. Höök, K., Ståhl, A., Sundström, P. and Laaksolahti, J.. Interactional empowerment. *CHI '08*. ACM. 2008.
5. Le Dantec, C., Shehan Poole, E., and Wyche. S. Values as lived experience: evolving value sensitive design in support of value discovery. *CHI '09*. ACM. 2009.
6. Sengers, P., Boehner, K., David, S., and Kaye, J. 2005. Reflective design. *CC '05*. ACM. 2005.
7. Sengers, P., and Gaver. W. Staying open to interpretation: engaging multiple meanings in design and evaluation. *DIS'06*. ACM. 2006