

# Ambient Informatics in Urban Cafés

Joseph F. McCarthy

Strands Labs

4143 University Way NE

Seattle WA 98105 USA

<http://labs.strands.com/seattle>

[mccarthy@strands.com](mailto:mccarthy@strands.com)

## ABSTRACT

The Community Collage (CoCollage) is designed to cultivate community in a café, a quintessential “third place”, by bringing the richness of online social software into a physical community space. The system shows photos and quotes uploaded to a web site by café patrons and staff on a large computer display in the café, providing a new channel for awareness, interactions and relationships among people there. Much of the research into urban informatics focuses on digital representations of artifacts, processes and systems in a city. CoCollage offers a window into digital representations of city dwellers in the community-oriented places in which they regularly dwell.

## Categories and Subject Descriptors

H.5.3 [Information Interfaces and Presentation (e.g., HCI)]: Group and Organization Interfaces – *Asynchronous interaction, Synchronous interaction*

## General Terms

Design, Experimentation, Human Factors, Measurement.

## Keywords

Place-based social networking, situated social software, public displays, community, third places, cafés, coffeehouses.

## 1. INTRODUCTION

Cafés are quintessential *third places*, “‘homes away from home’, where unrelated people relate” [7]. These local, accessible and inclusive “great, good places” act as staging grounds for cultivating the vital informal public life that is essential to all great cultures. They provide neutral spaces in which diverse people with divergent views can serendipitously encounter and engage with one another. In contrast to many online communities of interest, third places in the real world provide “the full spectrum of local humanity”, creating opportunities for connecting with people with different interests, and for appreciating that other people can be interesting, in spite of – or perhaps because of – these differences. In addition to personal benefits, the “inclusive sociability” and “ease of association” offered in such places benefits the community by enabling people to discuss, plan and execute “potentially useful collective undertakings”.

Although many cafés and coffeehouses are designed to encourage conversation and community, the growing proliferation of technology, especially laptops and mobile phones with wireless Internet access, is rendering many such places “physically inhabited but psychologically evacuated” [2]. Café patrons often use technology to tunnel out to their online social networks, while ignoring the physical community in which they are situated. Some cafés have responded by prophylactically disabling wireless Internet use on weekends.

The Community Collage (“CoCollage”) is a new place-based social networking application designed to bridge the gaps between people in coffeehouses by bridging the gaps between the richness of their online interests and activities and their physical presence in a potentially “great, good place” [7]. CoCollage links online profiles, machine-readable loyalty cards and a large computer display that shows elements from those profiles when people use their loyalty cards in the café.

The CoCollage display, situated near the coffee bar, incrementally adds social media – digital photos and short text messages – to a dynamic collage (see Figure 1). Priority is given to media items associated with people who are physically present in the café, offering new channels of awareness and potential conversation-starting opportunities (“tickets to talk”). CoCollage is an example of *situated social software* [6], designed for use by a specific social group – and, in this case, a specific social setting – rather than for a generic set of users.

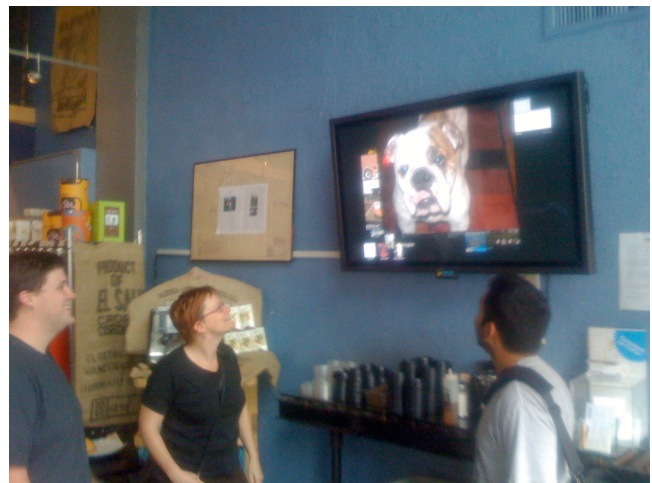


Figure 1: CoCollage display in an urban café.

CoCollage consists of a number of system components. Online profiles are created on the CoCollage web site, which enables users to upload, link to and share digital content – currently images and text – as well as vote and comment on others’ content. The presence of users is established via an explicit “check-in” through the use of machine-readable loyalty cards or a button on a web page that is enabled only when the user’s computer is connected to the wireless Internet router in the café. A visualization component shows a continuously updated collage of content items selected from the pool users’ online profiles. An administrative interface enables café owners and employees to control the behavior of the system and manage its user accounts.

## 2. STUDIES ON USE AND IMPACT

CoCollage was first deployed at a café in the University District of Seattle. In developing a framework for measuring the impact of our technology on sense of community and place attachment, we draw heavily from research by Rosenbaum, *et al.* [8], on *third place attachment*. In a study of 83 patrons of a coffee shop, they found that people who experience voids in their social support networks – e.g., through moving to a new place – may fill those social voids by visiting third places and connecting with the community they find there. As they develop supportive relationships through the third place, they become attached to the place itself. Drawing from sociological research, we also found a measure of psychological sense of community [9] that we believe is appropriate for assessing the impact of situated social software like CoCollage.

We have conducted two studies exploring the use and impact of CoCollage. The first study [1], conducted during the first few weeks after the deployment, adapted standardized measures of place attachment, social networks and psychological sense of community to provide a framework grounded in the social science literature for studying real world adoption of place-based community technologies. We found the standardized measures of place attachment and psychological sense of community meaningfully predicted likelihood of technology adoption and usage in a café

The second study [6] presents the results of a two-month study of the system’s usage and its impact on the sense of community and place attachment in the café over time. We found that users of CoCollage experienced a significant increase in two dimensions:

- the *neighboring* factor of *sense of community*, which is the extent to which people in a community visit each other’s homes and/or do each other favors, and
- the *dependency* factor of *place attachment*, which is the extent to which people rely on the place itself to have their needs met.

After reporting on the results of this study, we conclude with a discussion of lessons learned from our deployment and future plans for enhancing the system.

## 3. DISCUSSION

The initial studies of CoCollage were conducted when the system was deployed in only one venue. The system is currently deployed in 24 different venues throughout Seattle; most are other cafés, but we are also piloting the system in other types of third places, e.g., bars, a bookstore and a hair salon. The adoption and use of the system varies considerably across venues, and we suspect that there is similar variability in the levels of impact the system has had on the communities in each place.

We have begun to formulate some hypotheses about factors that affect the variability we are seeing. Among the dimensions we are currently considering are the characteristics of

- place (location, size, # of seats, layout, type of neighborhood),
- management (engagement of and promotion by owners, managers, baristas and other staff),
- community (# of regulars, demographics, technology comfort and use)
- system (placement & affordances)

We are interested in how urban informatics, and other dimensions of research that contribute to the understanding of digital cities, might help inform our work ... and how our work may offer new dimensions of consideration to those who work in these areas.

## 4. BRIEF BIOGRAPHICAL SKETCH

Joe McCarthy is Principal Instigator at Strands Labs Seattle, where he leads a team that creates technologies that help people discover other people, places and things of interest in the online and offline worlds. Prior to joining Strands, Joe was a research scientist at Nokia, Intel and Accenture, where he has instigated projects and prototypes that use technology to enhance awareness, interactions and relationships in physical spaces and events, e.g., a fitness center [4], a conference [5] and corporate workplaces [6]. He holds a Ph.D. in Computer Science from the University of Massachusetts, and his career includes earlier roles as an entrepreneur, professor, consultant, and musician. More about Joe can be found on his blog (<http://gumption.typepad.com>).

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