Cowabunga!: A System to Facilitate Multi-Cultural Diversity through CouchSurfing

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Abstract
Many organizations endeavor to promote diversity through their ideals and goals. Couchsurfing.org (CS) has a large presence in that realm. They have made it their mission to "create inspiring experiences: cross-cultural encounters that are fun, engaging and illuminating". However, even in this presumably open-minded community the participants are often advised by experienced couchsurfers (CSers) to filter their couch-searches within homogenous members to increase response rates. It is human nature to interact with people similar in values and belief systems. We propose Cowabunga!, a mobile application which augments multi-cultural exchanges instigated by CS. By facilitating chance meetings that would not happen otherwise, our solution is helping people get spontaneous exposure to others with whom they may have nothing in common except their CS membership.

Keywords
CouchSurfing, diversity, mobile application.

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Opportunity
Openness to meet any couchsurfer
No bad experience, no concern
Trigger
Any couchsurfing alert
Breakdown/Constraint
No computer when traveling
Cumbersome search interface
Key Insights
Less discrimination in last minute requests
Filtering common in both couchsurfing & hosting
Groups are mostly based on geography & likes

figure 1. Common themes from our affinity model.

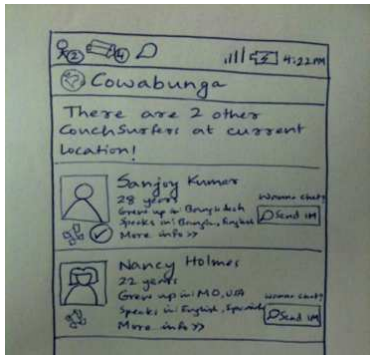


figure 2. Low fidelity concept prototype.

General Terms
Design.

Introduction
As we considered the challenge of helping people connect with others and appreciate their differences, we investigated many communities via online searches and literature reviews. One of those communities was CouchSurfing.org (CS). With an overwhelming 2.4 million users from 245 countries, it is the largest online hospitality exchange network [4]. Upon a quick examination of the website, we thought this community may already be saturated with enough diversity-promoting ideas that we might not be able to substantially further this agenda. However, a deeper review of the user profiles and group discussions revealed scenarios in the CS experience where we could facilitate more diverse connections.

The revelation that we could facilitate more diverse connections within the CS community came when we read the members' group posts. The most discussed topic regarding diversity was whether some ethnicities were discriminated against when it came to receiving an acceptance of their couch requests. There were a number of rebuttals to this perceived slight due to one's ethnicity. They stated that many CSers, regardless of ethnicities, were also reported to have a high failure rate when trying to secure a couch. The prevalent advice from successful CSers was to be sure to provide a lot of information about themselves in their profiles so that potential hosts could feel safe inviting them into their homes. Many of the posts also suggest that unsuccessful CSers should make requests to people with the same language, interests, tastes, likes and dislikes as themselves. This advice within the website is counter to the message in CS's vision statement that reads, "Building meaningful connections across cultures enables us to respond to diversity with curiosity, appreciation and respect" [4].

Based on prior studies, we learned that people have a tendency to want to be around others similar to themselves [2] and not to be around dissimilar people [8]. The research we did for this project leads us to believe these phenomena may occur widely even within the CS community. Previous research on CouchSurfing also indicates that a higher degree of interaction is observed where the friendship tie is strong or within a homogenous community [1, 6].

Our goal in this project is to facilitate chance meetings among CSers so that they gain more exposure to people who were not hand-picked via a filtered search. The probability of engaging with a more diverse cross-section of human beings will naturally be higher if the meetings are random rather than prearranged.

Contextual Research
Each member of our team created a profile on CS. We performed a digital ethnographic study, reviewing over one hundred profiles in depth and reading dozens of group discussions. Based on our findings, we formulated ideas to facilitate more successful CS connections and overcome barriers that prevent diverse types of people from getting to know one another.

To allow our stakeholders to help confirm or reject our ideas, we created a Facebook advertisement targeting CS members across the world who also 'liked' the CS group. The advertisement yielded 39 (18 male) survey participants from 6 different countries ranging in age

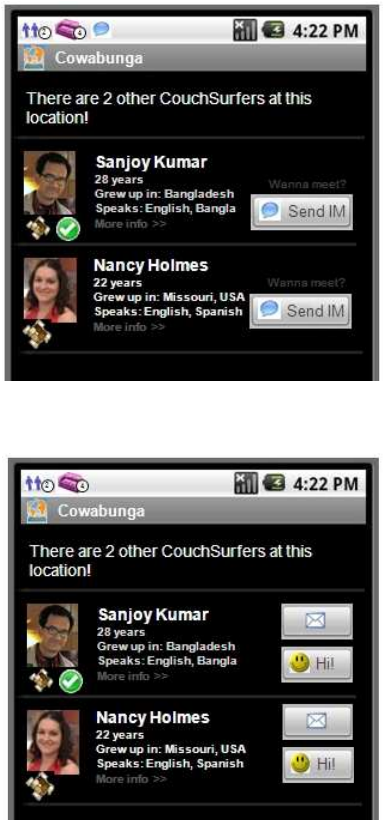


figure 3. Mid-fidelity prototype: Nearby couchsurfer screen and associated icons in first (top) and second (bottom) iteration.

from 20–45 years, 8 of whom were interviewed later for further input.

Prior research has shown that people are comfortable only revealing their location to social connections they trust [3]. Our survey question, "If you saw another CSer wearing a CSer shirt in a public place (i.e., an airport, restaurant, etc.) would you enjoy meeting them?", resulted in 29 responses of 'absolutely', 9 of 'It depends on …' and only 1 of 'absolutely not'. This was a positive indication that a majority of CSers would be willing to reveal their identity to other CSers in a public location.

In the same survey, 18 respondents reported believing that last minute host cancellations were not uncommon, and 11 said they, or someone they knew, had suffered this experience. This validated our idea that we could increase the occurrence of chance connections by helping stranded surfers find hosts willing to let them stay in their homes.

User Centered Design Process

Based on our initial user research, we created an affinity model (Figure 1) and came up with four personas. Then to identify the core design goals that would help users achieve their goals, we wrote scenarios for each persona.

Personas

- Pierrick - The Consummate Couch Surfer: He travels constantly; couch surfs whenever he can find a couch and tries to get in a hostel if his plans fall through at the last minute; is eager to host other CSers; regularly attends group activities.
- Nick - The Convenience Couch Surfer: He has had a profile on CS for two years, but did not use it until last year when he surfed on several couches across Europe; has hosted one person in his city at the last minute as a pay-it-forward for a last minute couch he got in his travels; only logs on to CS to check out group activities or when he wants to travel.
- Serenity - The Newbie: She does not have enough couch-surfing friends, references or vouches in this community; is not getting adequate responses for her couch-requests; still is not comfortable hosting surfers, but is eager to meet them over a cup of coffee.
- Xavier and Lise - The CS Host Family: The couple has two middle-school children; used to couch surf but now only host other travelers; both parents work and only log on to CS once every week or two, but are very excited when they have a couch request; express a desire to expose their children to different types of people from different cultures.

Scenarios

- Pierrick is traveling and unfortunately his host has cancelled at the last minute. He cannot find a couch or hostel. He recalls his previous experience of staying overnight at a bus station.
- Serenity is waiting for her friend at a restaurant. She knows that a number of active CSers regularly hang around there. It would be great if she could meet some of them and discuss her concerns for her upcoming trip as a new CSer.

figure 4. Mid-fidelity prototype: Mapview of nearby couches.

- Nick is travelling to India and his couch requests have been accepted and confirmed in all three cities. He is now planning to surprise his hosts by greeting them in their native languages.

- Xavier and Lise logged into the website after two weeks and discovered that a Japanese student requested a last minute couch in the local emergency couch request group one week ago. They wish they could have helped this guest in time and also regret that they missed the opportunity to Learn more about 'Ikebana' from her.

Design goals
We arrived at these two core features based on the unmet user needs:

1. Provides an ambient display of nearby CSers, similar to the one conceptualized by Pultar and Raubal [7].

2. Enables CSers and hosts to send and receive last-minute couch requests without having to access a computer.

Our proposed solution is device agnostic, but we decided to create a mobile application since several people we surveyed expressed an interest in a smartphone-based application. The Android platform accommodates both push and pull of information and interaction. We envisioned this application to be an extension to the features currently offered by the official CS website. Our assumption was that the CS user data necessary to provide these features will be accessible through the user's CS credentials.

User experience and Usability goals
We defined three user experience goals (interestingness, contextuality, unobtrusiveness) and four usability goals (utility, security, learnability, flexibility) for this application which was measured quantitatively (survey) and qualitatively (think aloud protocol) at each iteration. Our primary focus was to improve utility and interestingness because user interviews reflected that these characteristics were more important for mass adoption, which is critical to the success of our solution [5].

Utility: Functionalities should be limited to those attending to a demonstrated need of hosts, guests or CS network members in a mobile scenario.

Interestingness: The proximity notifications should be perceived by users as an interesting 'cowabunga' experience (i.e, wonderful with an element of surprise).

Iterative Design and Evaluation

After sketching our ideas for the application functionality, we created our first mid-fidelity interactive prototype using Microsoft PowerPoint. We conducted remote usability tests on the prototype through voice-call and Mikogo (a desktop sharing application). Five users (UM1 – UM5, 3 female) participated in the first test.

To begin the test, each user was asked to assume that s/he was in a restaurant. There were two silent notifications on their Android device visible as two icons in the status bar. A CSer icon represented that there were two CS members present at that restaurant at that time. The couch icon represented that there were

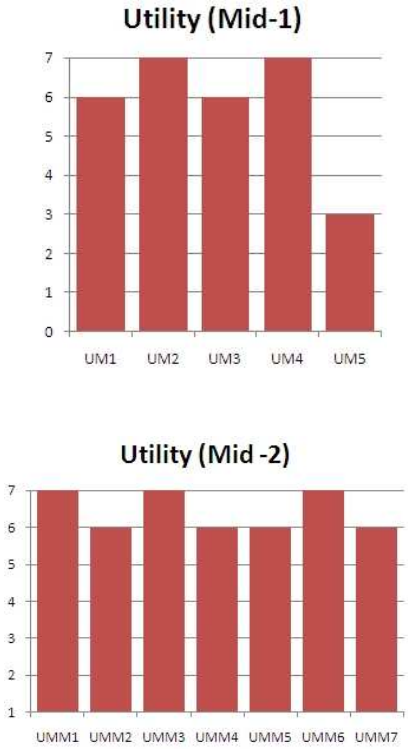


figure 5. User feedback on utility of mid-fi prototypes in iteration one and two

four couches available for last-minute couch request in the surrounding area.

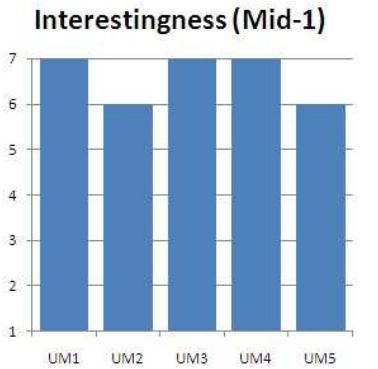
Task 1: The user was asked to contact a nearby CSer and ask him if he wanted to meet. The user was expected to click on the CSer icon to attend to the notification. It led to a screen where a list of nearby CSers' profiles was presented (with their picture being optional for security reasons). Each nearby CSer could be contacted through the IM (instant messenger) button. When the users clicked on the IM button, they were asked to suggest some sample text that they would type in the real situation. The text that our users suggested ranged from a simple 'Hi' to an elaborate sentence explaining who they were and why they wanted to meet.

Task 2: The user was asked to now play the role of the CSer who just received the instant message. A third icon (IM icon) appeared on the status bar. The recipient was expected to respond to the notification and view the profile of the invitee. S/he could then IM back to indicate his/her availability or interest for that in-person meeting. No response could be interpreted as lack of interest or silent rejection.

Task 3: The user was asked to find nearby couches available for last minute requests. The users were expected to click on the couch icon which would lead to a map view of all couches in the surrounding area (Figure 4). Clicking the list icon produced a list of abbreviated host profiles. The hosts could be contacted via the couch-request button. The submission confirmation screen also had a 'Learn more' button. That button led to a page containing tips about the local area, culture, nearby places of interest and a list of sentences transliterated into the local language.

Task 4: The user was asked to play the role of host responding to a last-minute couch request. A new icon in the status bar represented an unread couch request. Clicking on that icon presented the details of the request and a profile view of the interested guest. The host then could decide to accept or reject the request using the corresponding buttons. If the host accepted the request, a 'Learn more' button offered more information about the culture of the visiting guest.

Although most users were not very familiar with Android devices, they completed the tasks efficiently with minimal assistance. After performing the tasks, they evaluated the user experience and usability of this prototype using a 7-point Likert scale. The user feedback in general ranged from positive (6) to very positive (7) for most goals (Figure 5, 6). We tried to identify the problems where the ratings were non-positive (less than 4). One user (UM2) was familiar with the Android platform and did not like that too many notifications cluttered the status bar. He noted that the nearby couch information would not be useful most of the times. For similar reasons, we considered differentiating between local residents and visitors during proximity notifications, but postponed this functionality until users asked for it. Another user (UM5) commented that the she would feel pressured to respond to a chat message and it would be obtrusive to her. She informed us that the chat feature previously available in the CS website was discontinued because of complaints from some users. All users liked the idea of checking if the other person was available before approaching them.



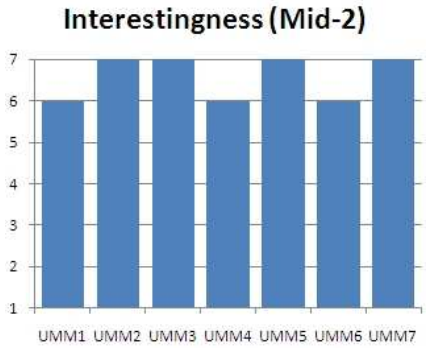


figure 6. User feedback on interestingness of mid-fi prototypes in iteration one and two

Based on all user feedback, we made some design changes and produced a second prototype. Since users will not constantly need to attend to the nearby couch information, it was unnecessary to have that icon visible at all times. One user (UM2) pointed out that the last-minute couch searches were not always conducted from nearby locations. Therefore, we removed the nearby couch notification but provided the option for a couch search at any location when the application is explicitly opened. We discontinued the chat feature and replaced it with a 'Send Message' icon. We also added a 'Say Hi' button so that users could still quickly check the availability of the other person before requesting a face-to-face interaction. Furthermore, it simplified the initial communication overhead to a single click in a mobile environment.

In between iteration one and two, one experimenter couchsurfed in Oklahoma City with two CS hosts. They were observed ethnographically, tested with a second iteration of our prototype and then contextually interviewed. Their feedback was positive and we continued the test with seven users in total (UMM1 – UMM7, 4 female). This time usability results for utility were slightly better while the user experience (interestingness) remained mostly similar.

Conclusion

Through an iterative user-centered design process, we constructed Cowabunga! for a community for which increased connections or interactions between existing members has the highest potential of promoting diversity. We acknowledge that our approach to diversity was passive. However, we claim that it is an organic approach that follows from the behavior pattern of our target population. The feedback we received suggested that such a complement to the CS platform is both interesting and has novel utility and is thus conducive to increasing cross-cultural awareness.

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