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CONTENT STRATEGIES AND ANOVULATION BASED ON PROXIMITY APPLICATION

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ABSTRACT

The design and concept evaluation of Next2You, a proximity-based social mobile application that promotes contact between people who are frequently in close vicinity to one another through gamification, progressive disclosure, and lightweight interactions, are presented in this paper. The software seeks to deviate from the custom of introducing and pairing individuals based on shared hobbies or characteristics. Focus groups were held in order to assess the application concept. We present user study results that add to our knowledge of the possibilities and difficulties of gamified proximity-based social applications.

Author Keywords

Social interaction, social apps, proximity-based systems, progressive disclosure, and gamification.

INTRODUCTION

In the fields of human-computer interaction and computer-supported collaborative work, eliciting and promoting social contact amongst colocated individuals has grown in popularity as a research topic. According to research, gathering game-related content from random people in the area encourages people to go out and explore the real world, offers enjoyable surprises, and can even result in in-person interactions [19]. Applications based on proximity are thought to have potential in a number of fields, including business and leisure [2]. Our study examines the potential of proximity-based applications to promote social contact among individuals in the vicinity.

People have lost the kind of connection to one another that may still exist in small towns and villages, especially in large cities. This raises the question of whether information technology could motivate individuals to take use of the abundant social chances in their environment. Social engagement, after all, gives us a sense of companionship and connection and is a basic source of enjoyment. It is the cornerstone of cultural growth and knowledge exchange in societies, and it has an impact on the general standard of living in communities [8,12,24]. Although it's common to criticize modern individuals for spending too much time interacting with their personal electronics in public, we can also observe that the same technology has the power to make people more aware of others around them.

With a variety of strategies, including as social matching, interactive installations, and awareness applications, interactive technology has been used to promote and facilitate social connection. Systems that suggest or pair individuals together are known as social matching systems [26]. Academic research and industry alike have been paying close attention to social matching systems, particularly as dating services (like Badoo) and professional networking platforms (like [1]). Still, these systems mostly rely on matching algorithms that combine interests and profile information to provide results. But in our opinion, this restricts users to only people with comparable interests and doesn't give them the chance to broaden their

horizons. On the other hand, we give them the chance to interact with neighbors within their own neighborhood.

Social Awareness and Profile Sharing Applications

There are more strategies to get people in the vicinity to socialize with one another than only social matching. Apart from facilitating introductions, studies have investigated strategies to heighten individuals' awareness of one another's existence. This endeavor is predicated on the idea that it will strengthen public cohesion. Jacobberwockies[20], a type of Bluetooth-based device created by Paulos and Goodman, collected data about known strangers—that is, people you have already interacted with. The information shown to users by the system was extremely basic. In other words, it gathers data on users in the vicinity and uses various colored lights to indicate whether a user has previously interacted with a certain person or not. DigiDress is a mobile app for sharing profiles. Users are able to see the profiles of others.

It is said that the method piques users' curiosity, which ultimately encourages in-person communication between users. Our method recognizes users in the vicinity and initiates automatic conversations with them while simultaneously storing the gathered content, negating the need for the user to actively search the environment. Meme Tag is a system that allowed users to exchange nametags with one another when they were nearby, resulting in new individuals meeting in person [4]. TWIN was a mobile WLAN application designed primarily to facilitate file sharing amongst users at close proximity. Users were also able to find out who was nearby.

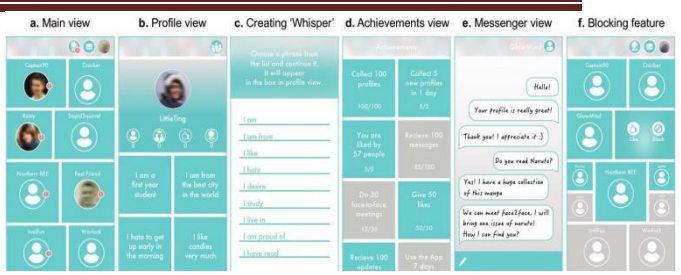


Figure 1: N2U mock-up screen photos

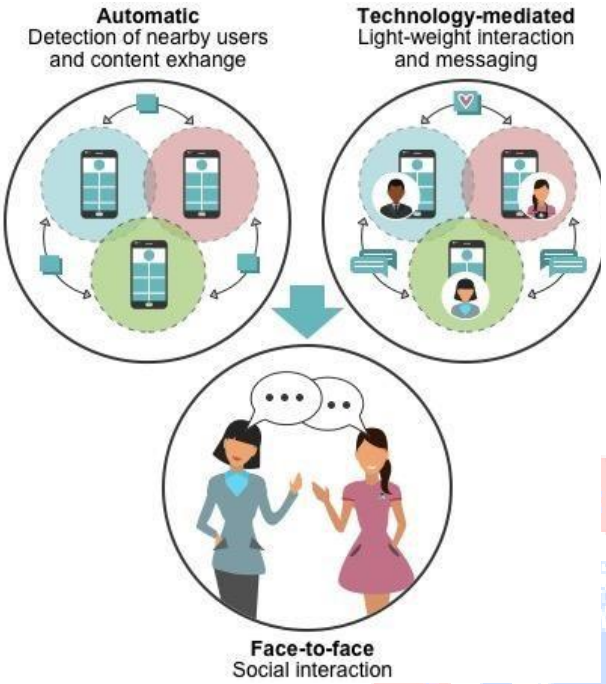
With the Nintendo 3DS, use StreetPass. The user creates content for exchange with other nearby stranger players who own the same game by playing games for themselves. Studies conducted on StreetPass users' experiences [19] have demonstrated that the automatic content exchanges in games encourage real-world exploration and foster a sense of community and player connection. We test whether gamification—the application of game aspects to non-gaming contexts—can have comparable impacts to the exchange of real game content with social media content.

CONCEPT

A social mobile application called Next2You (N2U) attempts to promote in-person communication between individuals who are frequently in close proximity to one another but are not necessarily socially linked in other contexts.

N2U uses a minimal form of gamification to encourage users to use the app and socialize. A sense of advancement and curiosity is generated by the slow and automatic gathering of content created by other users. The unexpectedness of social contacts include a surprise factor. N2U differs from similar location-based apps (like Foursquare), where users' actions are restricted to recognized areas, in that it is more serendipitous. Achievements, which are the main component of gamification in N2U (see Fig. 1–d), are designed to improve users' incentive to use the application actively and to fulfill goals.

Three levels of interaction were designed: Automatic, Technology-mediated, and Face-to-Face. These levels are depicted in Figure 2 to facilitate a seamless transition between non-interactive and face-to-face sessions.



Three tiers of N2U interaction are shown in Figure 2.

Technology-mediated level of interaction

The next level of face-to-face meetings is facilitated by the technology-mediated level of engagement in N2U. The user can browse and read the profiles of persons in the vicinity at any moment as the program gathers information about them automatically (refer to Fig. 1 – a). Users may start casual social interactions at this stage, like liking or texting (See Fig. 1–e). The goal of like and messaging is to help people build social interactions with one another.

Level of face-to-face communication

N2U also aims to promote socialization in the physical world. N2U gives users the impression of advanced personal disclosure, which is a normal step in building relationships. This allows users to progressively get to know one another and may even result in a face-to-face encounter. The information gathered from the whispers would grant permission to speak, and the messenger would enable scheduling of the meeting time and location.

Privacy

IMPLEMENTATION

N2U was developed for Android 4.3 to 6.0 mobile devices that had Bluetooth and an Internet connection. Two web services make up the implementation's server side (see Fig. 3). The first provides a RESTful API for MongoDB and NodeJS with the Express framework for database access. The second uses Socket.IO to enable direct web socket communication. The Android application, which makes use of Bluetooth to connect with nearby mobile devices, HTTP requests to send and receive data from the first server, and a client version of Socket.IO to initiate connection with the second service make up the client side.

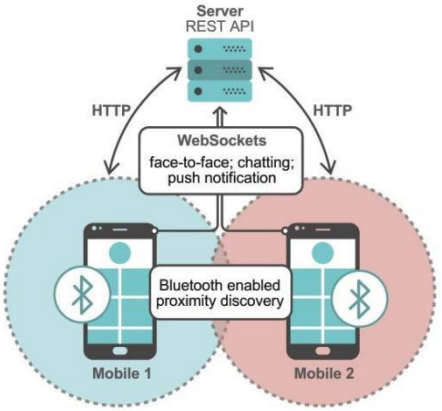


Figure 3: N2U's architecture

In addition to receiving and processing HTTP requests to write, update, and remove data on the server, the web service running on the server is in charge of transferring the necessary data from the database to the users' mobile apps. Also, it uses web sockets to enable "end-to-end" user communication. The users' chat messages are exchanged through

this communication. Lastly, messages can be sent to a subset of users or to all of them using a server-to-client socket communication.

METHODOLOGY

Humancentered design relies heavily on design and evaluation iterations. Our ultimate objective is to work with N2U to set up a long-term field trial. Applications that rely on social proximity, like N2U, must have a critical mass of users and provide an excellent user experience in order to be evaluated. The first requirement for the occurrence of encounters and subsequent interactions is a critical mass of users. The application's user experience must be satisfactory to prevent features unrelated to the main idea from undermining the user's motivation and activity to use it. We made the decision to use an early phase evaluation to get helpful input on the concept in order to guarantee a positive user experience. Furthermore,

The campus of a university seems like the perfect setting for our field study. Every day, students spend time on campus. It is expected that there will be a large number of well-known strangers in this setting, people who are not yet very familiar with one another but who cross paths frequently. In order to utilize the program, the pupils must also have modern cell phones and mobile Internet access. It is anticipated that lecture halls, hallways, lunch lines, and busy areas with an emphasis on events will offer convenient areas where other users may be found. Focus group meetings were used to implement the idea evaluation. Five one-hour sessions were scheduled. Students studying technology at a university in Finland participated in our study. Out of the eighteen participants, ten were female**.**

We had a limited feature set, semi-functional prototype ready at this point. Because of this, in order to aid participants in understanding the idea, we produced a concept film that demonstrates the use of N2U. The five-minute film showcased the features of the app by telling the tale of a single user who downloads the app, finds other users who are nearby, finds someone interested, messages them, and then meets up with them in person. To ensure that everyone understood the idea before the group discussion, we outlined the key parts of the concept after the video. Every participant received a smartphone pre-loaded with the N2U prototype. Prior to the group conversation, the participants were requested to make their

FINDINGS

Quantitative overview

The concept received positive response from those who completed the final questionnaire. It was unanimous among the majority of participants (16/18) that the application looks interesting and they would like to give it a try. Every participant concurred that it would be suitable for the setting for which it was designed, a university campus. The majority (15/18) also concurred that the app seemed to be a useful tool for learning more about strangers. They might even consider messaging someone who shares their interests (15/18) and setting up a face-to-face meeting after establishing contact via the app (16/18). Most of the participants thought that it is better to create a profile with real information rather than false information (17–18). On the other hand, opinions regarding whether the app permits users to do actions that are not authorized byPossible applications of N2U From a predetermined list of reasons to use the application, we asked the participants to select the appropriate options.

The potential of N2U leading to face-to-face interaction

One primary goal of the application was to promote in-person meetings. Positive

feedback was given to our design efforts to encourage in-person meetings. However, one user questioned whether the decision to restrict messaging to when two people are close would really give them enough time to schedule a face-to-face meeting: "I don't think people would reach face-to-face through this app, because one does not have enough time to even start a face-to-face." This moment is too difficult to reach. Participants observed that the quality of shared content had a significant impact on the likelihood of in-person meetings:

"N2U might support in-person interactions if the content is sufficiently significant or distinctive."

"The profile needs to be entertaining or people should have something in common."

It functions when people

Sharing to nearby strangers

It appears that consumers find it difficult to approach neighboring strangers. It was observed that having an intriguing profile could raise the likelihood of actually interacting with people. The participants noticed that a large portion of the shared content was quite dull after going over each other's and their own focus group members' profiles. An actual, albeit anonymous, example of a profile made by one of our participants is displayed in Figure 4. Though the first item is plainly too simple and dull to be discussed in a university campus atmosphere, it does follow the principle of disclosing more personal information as a result of encountering more. The third item, which discloses one's home street, already seems to go too far. And finally, a revelation

Figure 4: An example profile with both boring and fascinating items

Concerns related to using N2U

There were two different practical difficulties posed by Bluetooth as the enabling technology. Our idea limited messages to close proximity. The short Bluetooth operating range was deemed to restrict interaction possibilities excessively, even with the implementation of a five-minute time window for interactions following the discovery of another user. There was also concern that the device's battery might fast run out if Bluetooth checks were performed frequently.

Finland, where the focus groups were held. Participants' worries about their personal safety when disclosing information to others in the vicinity were a result of utilizing similar applications in their less secure native nations. It was observed that the blocking option gave the appearance of customizing privacy. There were two main worries about the amount of active users. However, a participant questioned what would happen if there weren't a critical mass of people for interactions to occur.

CONCLUSIONS

We introduced a fresh idea for social contact amongst strangers who live close by. It

incorporates gamification in multiple ways and seeks to promote in-person encounters. In this work, we provide an early examination of the notion and discuss the study's conclusions. Based on our findings, the idea may stimulate people's curiosity about strangers in the vicinity and encourage them to socialize. It appears that potential users of proximity-based social programs are not very concerned about privacy. Further study and design efforts are necessary because it seems to be a difficult task to provide interesting profile content for local strangers.

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