

## Chapter 14

# It's Time There Was an App for That Too: A Usability Study of Mobile Timebanking

**Kyungsik Han**

*Pennsylvania State University, USA*

**Patrick C. Shih**

*Indiana University, USA*

**Victoria Bellotti**

*UC Santa Cruz, USA*

**John M. Carroll**

*Pennsylvania State University, USA*

### ABSTRACT

*Timebanking refers to community-based volunteering in which participants provide and receive services in exchange for time credits. Although timebanking takes advantage of web technologies, the lack of flexibility in managing web-based timebanking transactions and the difficulty of attracting younger adults whose contributions would be highly valuable to the community still remain as major challenges. The authors' design research attempts to address these issues by leveraging the unique affordances of smartphones and their attractiveness to young adults. In this paper, the authors introduce a timebanking smartphone application and present a 5-week user study with 32 young adults. The results highlight the potential of timebanking for young population with an application that facilitates access to communications and transaction-management activities, and strengthens social connection and the sense of community attachment. The authors in particular present new affordances of smartphone technology on timebanking, including (1) transaction time reduction, (2) location and time-sensitive timebanking activity support, and (3) real-time coordination. The authors discuss design challenges and opportunities of smartphone-based timebanking.*

DOI: 10.4018/978-1-5225-7909-0.ch014

## INTRODUCTION

Timebanking formalizes community-based volunteering by tracking service transactions amongst community members in terms of the time taken to perform the services (Cahn, 2000). Members can “earn” time by providing a service and “spend” it by receiving a service. Unlike conventional monetary systems, time created from any type of work has equal value. Timebanking does not require reciprocal service exchanges, but members can give and receive services in a flexible way. For example, a person who has a vehicle can give a senior citizen a ride to and from the hospital and be compensated with time credits. The earned time credits can then be used to ask a different timebank member to fix his/her computer. At its core, timebanking encourages people to use their own unique and valuable skills to help others. This helps timebank members develop a sense of self-efficacy and achievement, regardless of their professional or income level (Cahn, 2000; Collom, Lasker, & Kyriacou, 2012; Lasker et al. 2011).

Any community interested in timebanking can run a timebank. Mostly, a timebank is formed by motivated individuals for their local community who see the value of timebanking. Each timebank has administrators and coordinators who manage members and timebanking activities. At this stage, a local timebank adopts one of the existing technology software platforms designed to facilitate managing and operating a timebank more efficient ways. There have already existed a few large timebank organizations providing web-based software platforms to simplify what was traditionally paper-based work by coordinators. *TimeBanks USA* (<http://timebanks.org/>), one of the largest timebank organizations consisting of about 250 local timebanks with over 25,000 members in North America and 13 other countries, created a web-based platform called Community Weaver. *hOurworld* (<http://hOurworld.org/>), another national non-profit organization that has over 190 local timebanks with over 20,000 members (as of June 2014), also provides a web-based platform called Time and Talents. Such timebanking platforms facilitate more efficient timebanking interactions for members as well as reducing the work for coordinators. For instance, members can easily set up their accounts, provide and access a list of requests and offers, and record time credits. For coordinators, they can easily manage overall members’ activities and time credits.

In this paper, we are interested in tackling two major challenges in particular. The first is the lack of flexibility in managing web-based timebanking transactions for members, mainly because they are not always connected to the webpage of their timebank when they are in need of services, in the position to offer help, or in the stage of reporting time credits. This could lead to underreporting of timebanking transactions, which in turn lowers the visibility of timebanking contributions to the public good, giving rise to underestimates of the utilization of timebanking. Good estimates of utilization and benefits are needed when seeking funding for timebanks; thus, reporting those transactions is important. The second challenge is that timebank members are disproportionately single, Caucasian, and highly educated elderly females (Collom et al. 2012). Because of this, the types of timebanking services available are limited to some extent. This lack of a fully diverse population and lack of a broad range of services both reduce the attractiveness and viability of timebanks. For these reasons, timebanks consider a diverse membership as a key to their survival.

Considering a number of positive influences that have been created and supported from technology to timebanks, we believe that leveraging newer technology would provide better solutions that have not been well addressed in web technology. Many timebanks that we have contacted (e.g., hOurworld, TimeBankUSA, CommunityForge, etc.) want to leverage opportunities from new technologies yet still confront a number of challenges such as limited personnel resources and a shortage of funding (Collom

22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/its-time-there-was-an-app-for-that-too/220945](http://www.igi-global.com/chapter/its-time-there-was-an-app-for-that-too/220945)

## Related Content

---

### A Survey on Emerging Cyber Crimes and Their Impact Worldwide

Suraj Gangwar and Vinayak Narang (2022). *Research Anthology on Combating Cyber-Aggression and Online Negativity* (pp. 1583-1595).

[www.irma-international.org/chapter/a-survey-on-emerging-cyber-crimes-and-their-impact-worldwide/301708](http://www.irma-international.org/chapter/a-survey-on-emerging-cyber-crimes-and-their-impact-worldwide/301708)

### E-Signature Use in China: Four Case Studies

Zhonghao Liu (2012). *International Journal of Cyber Behavior, Psychology and Learning* (pp. 73-83).

[www.irma-international.org/article/signature-use-china/75173](http://www.irma-international.org/article/signature-use-china/75173)

### Death by Hacking: The Emerging Threat of Kinetic Cyber

Penelope Wang (2019). *Multigenerational Online Behavior and Media Use: Concepts, Methodologies, Tools, and Applications* (pp. 1186-1202).

[www.irma-international.org/chapter/death-by-hacking/220999](http://www.irma-international.org/chapter/death-by-hacking/220999)

### Intertextuality and Constructing Islamic Identities Online

Najma Al Zidjaly (2010). *Handbook of Research on Discourse Behavior and Digital Communication: Language Structures and Social Interaction* (pp. 191-204).

[www.irma-international.org/chapter/intertextuality-constructing-islamic-identities-online/42780](http://www.irma-international.org/chapter/intertextuality-constructing-islamic-identities-online/42780)

### Cyber-Victimization and Cyber-Aggression among Portuguese Adolescents: The Relation to Family Support and Family Rules

Maria José D. Martins, Ana Margarida Veiga Simão, Isabel Freire, Ana Paula Caetano and Armanda Matos (2016). *International Journal of Cyber Behavior, Psychology and Learning* (pp. 65-78).

[www.irma-international.org/article/cyber-victimization-and-cyber-aggression-among-portuguese-adolescents/160698](http://www.irma-international.org/article/cyber-victimization-and-cyber-aggression-among-portuguese-adolescents/160698)