

Farmer's Tale: A Facebook Game to Promote Volunteerism

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ABSTRACT

Volunteering is an important activity that brings great benefits to societies. However, encouraging volunteerism is difficult due to the altruistic nature of volunteer activities and the high resource demand in carrying them out. We have created a Facebook game called “*Farmer's Tale*” to attract and make it easier for people to volunteer. We evaluated people's acceptance to this novel idea and the results revealed great potential in such type of games.

Author Keywords

Volunteerism, Persuasive Games, Social Networking.

ACM Classification Keywords

J.4. Social and Behavioral Science.

General Terms

Design.

INTRODUCTION

Digital games are increasingly leveraged by researchers and practitioners as an effective tool/media to achieve goals in addition to passing time. One emerging genre of games is designed to “seek influence and change opinions and behaviors” (e.g. *persuasive games*) [4, 9]. Persuasive games have been explored in many areas (e.g. health promotion [8], reduction of energy consumption [1], etc.). However, one area with great importance for both individuals and the society has so far been under-investigated: using games to promote real world altruistic behaviors, e.g. volunteerism.

Volunteerism is “an unpaid activity undertaken of a person's own free will and involves the commitment of time and energy to actions of benefit to others and to society as a whole.” [13] Top motivations to volunteer are altruism, personal growth (e.g. skills), gains in social relationship (e.g. friendship), and moral obligations [2, 12]. However, the actual practice depends on the availability and accessibility, the match to personal interests, and the potential social support and influence.

The most recent Individual Giving Surveys (2006 and 2008) [5, 6] showed a decrease in volunteer participation, from 48 million hours in 2006 to 45 million hours in 2008 in the local community. It is tough to remove constraints in volunteer work (e.g. competition in time), and thus, efforts

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to encourage volunteerism are mainly devoted to increasing accessibility and flexibility of altruistic activities.

For this purpose, *SG Cares* was established in 2009 to promote occasional volunteering by offering a variety of flexible activities throughout the year without minimum requirement for participation. Up to September 2010, *SG Cares* has successfully attracted 5000 volunteers [10]. However, given that the local city has multi-million residents, there is still a large need and potential to promote volunteering. This motivated us to work on a persuasive game that promotes volunteerism in the local community.

Nevertheless, encouragement of altruistic behaviors is much harder to achieve than the other goals in persuasive games. Volunteering consumes significant amount of time and physical efforts. In addition, the direct benefits of players' efforts are devoted to others, unlike the target behaviors (e.g. quit smoking [8]) in conventional persuasive games, which directly benefit the players. In other words, a game to promote physical volunteer activities has high *perceived cost* (time and physical efforts), but low *perceived benefit* other than the enjoyment of game playing, which imposes significant challenges to its design.

To make a persuasive game successful, its *perceived benefit* needs to out-weigh its *perceived cost* [3], and one way to increase the *perceived benefit* is to enhance the fun factor of playing the game. Currently, many persuasive games are not as engaging compared to other popular games, because most of them emphasize on the target behavior, which often significantly compromises the entertainment value.

In this paper, we took a different approach. Instead of designing a persuasive game for volunteerism from scratch and evolving the game play mechanics around the target behavior, we modeled our game “*Farmer's Tale*” (Figure 1) (apps.facebook.com/farmerstale) after an existing popular game on Facebook called *Farmville*. We inserted persuasive elements into the game by having a quest system which links virtual tasks to real world volunteer activities.



Figure 1. Screenshots of *Farmer's Tale*: game scene (left) and volunteer quest calendar (right).

Farmer's Tale was developed in collaboration with *SG Cares* [10]. It aims to increase awareness of volunteer activities, to encourage people to overcome the barrier of initial involvement, and to keep people engaged.

GAME USAGE SCENARIO

Tom is a young adult in his mid-twenties. He logs onto Facebook and his friend's newsfeed says, "Jane has been rewarded with an exclusive horse stable for completing a real world quest on *Farmer's Tale*! Click here to see how you can make a difference to someone else's life too!" Curious about how volunteering and farming can be combined together, Tom decides to try out *Farmer's Tale*.

In the game, he gets to be a farmer who can grow and harvest many kinds of localized crops. Tom finds out that there are virtual and real world quests by which he can receive reward to buy food and buildings for his farm. Tom clicks on the real world quests as it offers higher reward. He sees a calendar listing different volunteering opportunities. He comes across a beach cleaning activity that will be held this weekend and is nearby. The rewards for completing this activity are an exclusive "spa" and a "special diamond" to buy more rare farming tools. Tom clicks on "Beach clean up" to find out more details. He is pleasantly surprised to see that Jane's name is highlighted in the signup sheet. He feels more motivated to join the activity as he has a friend for company. He clicks on "Sign up for this activity" and spends a meaningful morning on the beach with friends.

One day after volunteering, he logs onto *Farmer's Tale* and sees that *SG Cares* has already sent him his reward. He happily claims his reward and posts it on his wall. *Farmer's Tale* has made volunteering a breeze for Tom. He cannot wait to tell his friends about this game, which combines the joy of farming with flexible volunteering opportunities. Being able to get exclusive rewards and join a community of like-minded people are attractive incentives too.

GAME DESIGN FOR VOLUNTEERISM

To ensure the popularity of our game and strike a fine balance of fun and persuasion so that the entertainment elements can function as a sufficient motivator without distracting people from the actual intention [14], we modeled our game after a successful Facebook game.

Selection of Platform and Successful Game Model

Given the social aspect of volunteering, we picked Facebook, a popular social website [11], as the platform to deploy our game. Through their friend network, Facebook users can quickly keep up and spread the news about game playing and any involvement of volunteer activities, and thus the influence can be magnified and propagated (a.k.a. snowball effect, Figure 2).

Two months into its first appearance on Facebook in June 2009, *Farmville* has consistently been the number one game application. At its peak, it has over 80 million active monthly users [11]. Farming, a commonly adopted game model, is advantageous because there is gender and age

balance of its players which allows us to attract players from all backgrounds. Farming is also peaceful and blends well with volunteering. By adopting after *Farmville*, we inherited a number of key contributors to the popularity of successful games: simplistic tasks with high rewards, social enjoyment, invitation rebate, and personalization.

GAME MECHANISM

In *Farmer's Tale*, players will be able to grow crops, buy decorations (e.g. houses, animals etc), and take part in quests as those in *Farmville*. The game, however, also has some customized elements such as local delicacies and crops to make it more interesting for local players. Special items (such as spa buildings) are only awarded to players who complete volunteer tasks in real life.

Incorporation of Persuasive Element

In *Farmer's Tale*, Fogg's seven persuasion strategies [7] have been implemented in various elements (Figure 2). The volunteer recruitment mechanism was implemented as a new type of quest in addition to traditional tasks in farming games. The idea is to use virtual rewards that help advancement in the game to motivate players to perform volunteer work in real life. *SG Cares* will indicate the degree of difficulty and the urgency of sign up for each volunteer activity added into the game, and the appropriate level of reward will then be assigned to each task.

In order to determine the most appropriate virtual reward system that can effectively increase the perceived benefit without harming the flow of the game, six reward mechanisms with different underlying persuasive strategies were incorporated: 1) Heart points and food system to refill energy (player empowerment); 2) gold and diamond system to buy ordinary items for farming or decoration (player empowerment); 3) exclusive reward system such as special buildings not available on the general market (player empowerment); 4) clan contribution system - the received reward can be shared among friends (clan) (group empowerment); 5) simplistic game play and subtle system - no explicit reward but encouragement via verbal interaction with the volunteer coordinator (game interaction); and 6) volunteer status tracking system (points and achievement).

As with the volunteer status tracking system, *Farmer's Tale* displays information of existing players who have signed up for this quest and friends of the current player will be highlighted. This enhances group encouragement and peer influence. The tracking of the real-world quest activities is accomplished by updates in *SG Cares'* databases.

In general, deploying the game on Facebook helps to create a social environment for both existing volunteers and non-volunteers. The two groups of players can then interact socially both in the virtual and physical world. Once a non-volunteer registers in *SG Cares* and starts to participate in volunteer activity, he/she becomes a volunteer. The combination of game incentives, social influence, and the mixture of virtual and physical world reinforcement thus

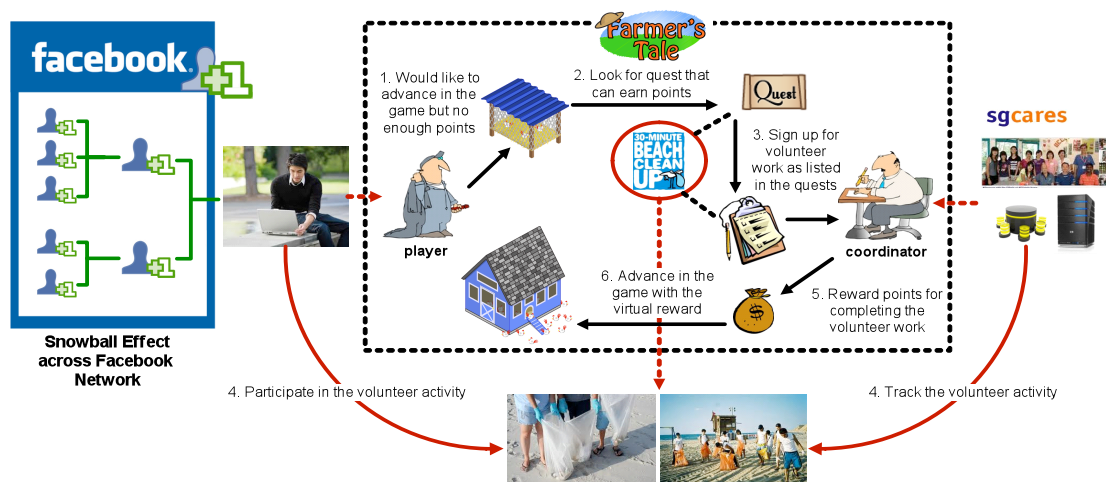


Figure 2. Interaction mechanism between virtual world and real world.

help to overcome the difficulty in promoting volunteerism. Different persuasive mechanisms are exemplified below.

EVALUATION OF ACCEPTANCE

We carried out an exploratory evaluation that involves a group of volunteers and non-volunteers for one week to determine the validity and acceptance of our approach, particularly on the six reward systems.

Experiment Design and Participants

The evaluation consisted of a pre-test survey on the players' gaming experience and volunteering status, daily surveys on the usability and acceptability of *Farmer's Tale* during the week-long game play, and a post-study survey gathering feedback. Twenty-eight players (10 males and 18 females, of age 15 to 50) participated in the study. We sent email invitations to the volunteer mailing list maintained by *SG Cares*. In three days, 48 volunteers signed up and 10 individuals were selected with the best gender, age and occupation mix. The 12 non-volunteers were recruited via email invitations to the undergraduate student mailing list in the local university. Volunteers and non-volunteers were playing together as a community in *Farmer's Tale*, and 20 of them had played Facebook games before. In addition, six volunteer leaders were recruited from *SG Cares* as Farming Quest Councilors to facilitate both groups of players.

Results and Analysis

Factors to Encourage Participation in Volunteerism

Overall, 25 (89.3%) players felt that the game has the potential to influence their willingness to volunteer.

We identified a few keys to encourage first-time volunteer participation based on responses from the non-volunteers: availability of volunteer activities that match personal interests (70%); accessibility of information on volunteering opportunities (70%); involvement of friends or family (70%); and being approached by volunteers (40%). None of the participants indicated complete unwillingness to start volunteering. These results clearly showed the possibility of attracting new volunteers through the game

with the large variety of volunteer activities available, the ability to find out more about the activities, a platform to play the game with friends and family, and volunteer leaders placed into the game who will encourage and are willing to share their experiences as a volunteer and information about the different volunteer leaders.

Acceptance of the Novel Game Design

Our earlier surveys suggested that at the beginning, players were surprised that the volunteer elements in the game were not very conspicuous. However, players indicated in the later surveys that they had begun to explore the volunteer quests as the game progressed. Many players also mentioned that, they would use the chat box in the game to gather friends to join them if registering for a volunteer event. Some essential factors to acceptances were revealed:

1) **Fairness.** Players desired for a balance of the persuasive message and the fun factor. 2) **Social interaction.** Players were all in favor of the social features and felt that the community spirit they provide will be very powerful. Most players enjoyed competitions with friends, as it would make the game more fun. 3) **Personalization.** Players in general liked the localized food and crops in the game. They felt that they could identify with the game. 4) **Self-monitoring.** Players also liked the volunteer stats system and felt that it would give them a means to keep track of past volunteer work. 5) **Fun.** "I have gotten to enjoy the game. I look forward to farming every day after a long day at work."

Although some players were concerned that it would make volunteer work incentivized, generally, players seemed positive about exchanging volunteer work with diamonds and to quote them, "Effective usage of game and virtual activity to relate to real-life volunteerism", "It is interesting as it can encourage people to volunteer more in real life."

It is encouraging that players showed a high acceptance (Somewhat acceptable: 42.9%, Acceptable: 46.4%) to this novel approach of persuasive game design that focuses on game play and incorporates the persuasive elements. Players also presented clear preference for a farming game

with optional but encouraged volunteerism over a game played with compulsory volunteerism (92.9%). This result showed that the majority of players were in fact in favor of our approach to the conventional persuasive game design.

Acceptance of Individual Persuasive Reward Systems

Acceptance of six reward systems from four persuasive strategies (Figure 3) was tested on a 5-point Likert scale. Overall, volunteers were generally positive towards all the reward systems. However, non-volunteers had many more concerns about how the heart points and food system might be biased towards people who carry out volunteer work and people who receive special items as a gift from their volunteer friends. Non-volunteers wanted an alternative way to get those exclusive rewards.

It was unexpected to find out that volunteers preferred to have the volunteer message subtle and inconspicuous with a simple game play design. On the contrary, some non-volunteers mentioned that they did not agree that reducing the game play complexity is a good idea as they felt that it would reduce the fun of the game. Non-volunteers enjoyed rewards that made them feel special and influential.

To sum up, the design of the persuasive reward systems must achieve a fine balance between encouraging practice of target behavior and maintaining the fairness of the game.

CONCLUSIONS, LIMITATIONS AND FUTURE WORK

Our evaluation of acceptance showed that the approach of using successful game models into which persuasion is built using Fogg’s strategies is possible and promising.

Although the desired target behavior is participation in volunteer events, the study was unable to measure the actual practice demonstrated by the players due to the short experiment duration. We plan to carry out a controlled multi-month longitudinal study with invited users before fully launching the game on Facebook to the public. We believe that the work we have presented in this paper is valuable for future research on promoting volunteerism as a continuation of this project.

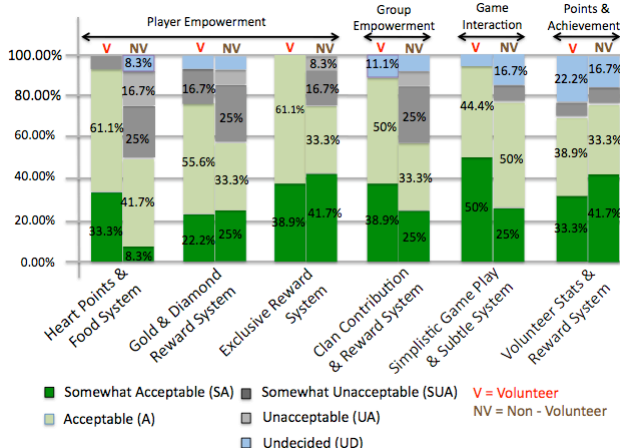


Figure 3. Acceptance of Persuasive Reward Systems

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