Genkii - The Effects of Varying Sequential Rewards for User's Motivation to Complete a Set of Crowdfunded Tasks

Helmut Prendinger
helmut@nii.ac.jp
National Institute of Informatics,
2-1-2 Hitotsubashi, Chiyoda-ku,
Tokyo, 101-8430, Japan

Ruben Geraldes
rubengeraldes@gmail.com
Instituto Superior Técnico,
Universidade de Lisboa,
Av. Prof. Cavaco Silva,
Taguspark Porto Salvo, Portugal

Daniela Fontes
daniela.fontes@ist.utl.pt
Instituto Superior Técnico,
Universidade de Lisboa,
Av. Prof. Cavaco Silva,
Taguspark Porto Salvo, Portugal

Daniel Morais
rui.prada@tecnico.ulisboa.pt
Instituto Superior Técnico,
Universidade de Lisboa,
Av. Prof. Cavaco Silva,
Taguspark Porto Salvo, Portugal

Rui Prada
rui.prada@tecnico.ulisboa.pt
INESC-ID ,
Av. Prof. Cavaco Silva,
Taguspark Porto Salvo, Portugal

Abstract

A good abstract will leave people satisfied that they know
what you did,
why you did it,
and what you found out.
Keep it at 120 words.

1 Introduction

1.1 Motivation

The ubiquity of hand-held devices opened up new opportunities for research. Nowadays it is accessible to perform off-site studies, and collect data in real-time and across great geographical spans.

This new paradigm also gives rise to the search for new methodologies, and best practices, which may help the scientific community improve and stage new experiments, in a way that optimizes its resources.

Genkii was conceived after realizing some problems in attracting users for crowdsourced studies in Japan. The initial hypothesis for this problem in attracting users for social studies had to do with privacy issues.

We want to study the effects of varying inducements to get people to perform a determined task repeatedly.

1.2 Outline

2 Related Work

2.1 Crowdsourcing

1. Clearly identify the research goals;
2. Select a study method;
3. Devise an incentive mechanism;
4. Choose the target platform(s);
5. Design and develop the mobile app;
6. Prepare data collection;
7. Implement a scheme to obtain informed consent from users;
8. Distribute and promote the app;
9. Continuously monitor data collection for a designated time period;
10. Filter and analyze data to answer the research question

(Henze et al. 2013).

2.2 Rewards and Motivation

> When explicit incentives seek to change behavior in areas like education, contri-butions to public goods, and forming habits, a potential conflict arises between the direct extrinsic effect of the incentives and how these incentives can crowd out intrinsic motivations in the run short and the long run.

(Gneezy, Meier, and Rey-Biel 2011)

Crowdsourcing has been often associated with Gamification, the use of game-design elements to achieve a more compelling user-experience driven by fun.

The use of rewards to induce a desired behavior has been thoroughly studied. There has been a clear separation between intrinsic rewards and extrinsinc rewards.

According to (Gneezy, Meier, and Rey-Biel 2011), there are instances where monetary rewards (extrinsic rewards), work well to provide a

3 Genkii

Genkii is an application that enables gps localized satisfaction reports. Users report their "Genkiiness", by performing three different gestures:

- Circle meaning that the person feels happy/genkii;
- Triangle which represents an "OK" state;
- Cross which denotes sadness.

3.1 Implementation

3.2 Yahoo Crowdsourcing Japan

3.3 Crowdsourcing Campaign

Following the methodology suggested by (Choi et al. 2014), we want to perform a study where one group will be considered our baseline by receiving a fixed reward for each task over time. Besides our control group we devise a second incentive scheme, that using the same amount of points, poses as a progressive reward system. We can compare both reward schemes on 1.

Our goal is to study this and compare these two incentive schemes, specially by studying user enrollment rates and user drop rates.

Table 1: Scheme of rewards used for the crowdsourcing campaign. Using the same amount of reward points, for our first group these rewards are the same for every task over time. On the second group we devised an increasing reward mechanism.

Reward	Task 1	Task 2	Task 3	Task 4	Task
Stable Rewards	20	20	20	20	20
Increasing Rewards	5	10	15	30	35

The first campaign ran from 19/06/2015 ti 26/06/2015.

4 Results

The first campaign counted with 436 genkii reports. 115 users installed the Genkii application, and 79 users provided at least one report.

The accuracy (the gesture predicted by the system being the same as the gesture confirmed), is 85.3%.

The main goal of this study is to compare the effect of rewards on the user's reporting behaviour. At first glance in order to understand the data collected it's important to study the overall frequency of the user reports. In the Figure 1 we can observe that in fact there seems to be considerable onboard with 39 users making 1 report.

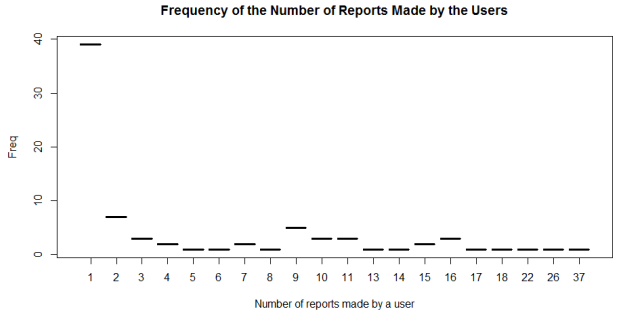

Figure 1: Frequency of Reports Made by Users. As expected, the number of users that made only a single Genkii report is very large, 39.

As we can observe in Figure 2 the campaign quickly took off. During the last three days we verified a drop in the number of reports being made. Our hypothesis for this has to do with the architecture of the Yahoo crowdsourcing and a limit of times the each task could be unlocked, as we were primarily interested on studying the sequential behaviour. Also users understood that given the time constraint between reports (4 hours), it was became more difficult to finish the set of 10 tasks.

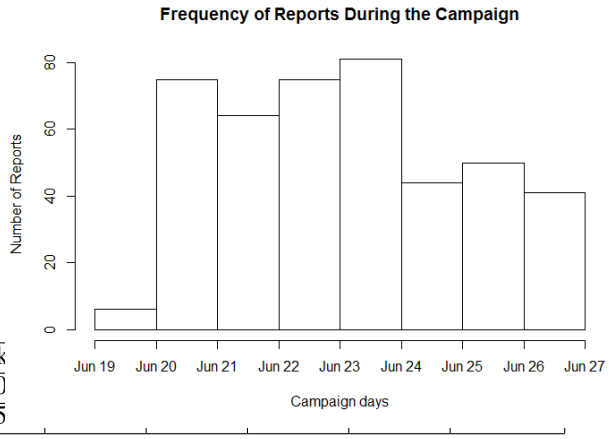

Figure 2: Number of Reports made on each day of the campaign.

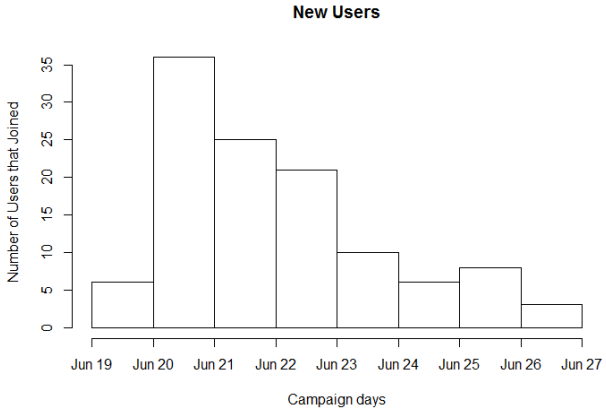

Figure 3: User acquisition throughout the campaign.

5 Conclusions

6 Acknowledgments

References

Choi, J.; Choi, H.; So, W.; Lee, J.; and You, J. 2014. A Study about Designing Reward for Gamified Crowdsourcing System. 678–687.

Gneezy, U.; Meier, S.; and Rey-Biel, P. 2011. When and Why Incentives (Don't) Work to Modify Behavior. *Journal of Economic Perspectives* 25(4):191–210.

Henze, N.; Shirazi, A. S.; Schmidt, A.; Pielot, M.; and Michahelles, F. 2013. Empirical research through ubiquitous data collection. *IEEE Computer* 74–76.