

Get Me Home: Making crowdsourcing more popular

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1 Abstract

In this paper we present a system that attracts normal people (non regular crowd workers) into crowd working. Our approach is inspired by the idea that people are open to spending small amounts of time for small rewards but unwilling to spend large amounts of time on comparatively larger but proportional rewards. Our ultimate aim is to get the average Indian college student doing crowd work in his/her spare time in order to pay for small expenses such as bus tickets.

Our system is designed to minimize the amount of hassle that users experience in setting up accounts on the sites. We have designed and built a prototype of this system. A user study was conducted and the analysis of the feedback is presented.

2 Motivation

Crowd sourcing sites like Amazon Mechanical Turk typically pay their users a small fee for each task that is successfully completed. This money is directly deposited into the user's bank account. Our approach aims to reduce the amount of time needed to set up accounts by using a debit system. The money earned is instead deposited as "Points" into an account which is controlled by the site itself. Each point has a constant exchange rate with regular money (1 Point = 1/6 USD or INR 10). The debit amount can be withdrawn to pay for small costs like bus tickets or a cup of coffee using their cellphones. The primary idea is that users show higher quality of work when they are made to work in small bursts rather than long stretches.

3 Related Work

The idea of extending crowd research to mobile platforms has been extensively explored by [2] and [1]. While [2] aims to increase the cognitive load and reduce

the total time spent on working through *Twitch crowdsourcing*. Our goals are markedly different. The tasks completed by the user are similar to tasks on other platforms like Mechanical Turk. The primary aim is to exploit the low granularity of tasks to make the work attractive and interesting to users.

Similarly [1] develop and demonstrate a system called MobileWorks, which makes crowd sourcing more accessible to Indian users. It does not require a smartphone or an internet connection. Instead the tasks are sent over SMS.

4 Insight

Cognitive theory suggests that it is more desirable for a human to work for short time in leisure then, work exclusively for hours of proportional amount of money or benefits. Crowd sourcing benefits at present has more flexible options for those who earn their living out of it. Our idea allows people with little time but other commitments like school, college or office work to explore crowd sourcing. Our system lowers the opportunity cost of participation and consequently reaches out to a wider number of people. Consequently, the worker base improves.

5 System

The system consists of two components: A mobile application for completing HITs and debit management system for keeping track of points. The debit management system can also be used to exchange points between users. This was done to facilitate exchange between vendors and users. The application was distributed via the Android App Store. Users complete HITs in their spare time. Each HIT in our study took an average time of 1 minute to complete and paid 1 point (10 INR or 0.167 USD).

Users sign up for an account by using their phone numbers. In this way, the reputation of the worker is kept track of. For vendors, there is an additional step of registering their bank account. Since this was just a pilot study, this step was not undertaken. The vendors were paid directly by us using the values taken from the debit management server. Point transfer is facilitated by using a one time password that is generated by the user's smart phone. The OTP is communicated verbally to the vendor who enters it into his application. The phones then authenticate with the server and point transfer occurs.

The vendors studied in this paper were mostly food outlets and one private bus company that operate in and around the BITS Pilani Hyderabad Campus. The primary customers are essentially students. This group has a very high access to smart phones. 4 out of 5 students had at least a phone which could connect to wifi, 2 out of 5 had a smart phone running Android. At the food outlets, the mean amount of money spent by students was INR 10. The average ticket cost with the bus company was INR 20.

Quality control is implemented in a way similar to B. The same HIT was

sent to 2 users at the same time. If their answers match, both were awarded points. If their answers did not match, the HIT was distributed to a third user for verification. The answer returned by this user was assumed to be the correct one. If a user submitted more than 3 incorrect HITs in a day, then the user was blacklisted and the user was only able to redeem points and not earn points.

6 Evaluation

A HIT pool of 1000 HITS was created that involved a variety of tasks like image comparison, translation and captioning. Initially 20 users were recruited personally by the authors. All the initial 20 users had access to 3G Internet connectivity on their smart phones as well as wifi inside campus buildings. Each user could send referrals to their friends who could then download the app.

We found that the number of users grew exponentially, with the number of users reaching 250 in just a span of 3 days. At that point, the number of HITs provided by us was exhausted and we had to stop the experiment. At the end, feedback on the user experience was collected and analysed. We found the major annoyance faced by users was the comparatively large waiting time required for the HIT to be approved (10 minutes). Otherwise users were happy with our system. Over 70 percent of users described themselves as more than satisfied. Around 15 percent described themselves as satisfied. The mean total equivalent amount of money earned through this system was INR 20. Only one user was banned from doing HITs on our system during the evaluation period.

7 References

“Twitch Crowdsourcing: Crowd Contributions in Short Bursts of Time” [2]

“MobileWorks: A Mobile Crowdsourcing Platform for Workers at the Bottom of the Pyramid” [1]

References

- [1] David Rolnitzky Anand Kulkarni Bjoern Hartmann Prayag Narula, Philipp Gutheim. *MobileWorks: A Mobile Crowdsourcing Platform for Workers at the Bottom of the Pyramid*. AAAI, 2011.
- [2] Jingshu Chen Brandon Cheung Michael S. Bernstein Rajan Vaish, Keith Wyngarden. *Twitch Crowdsourcing: Crowd Contributions in Short Bursts of Time*. Computer Human Interaction, 2014.