Crowd-Workers: Aggregating Information Across Turkers
To Help Them Find Higher Paying Work

Chris Callison-Burch
University of Pennsylvania
ccb@upenn.edu

Abstract

The Mechanical Turk crowdsourcing platform currently fails to provide the most basic piece of information to enable workers to make informed decisions about which tasks to undertake: what is the expected hourly pay? Mechanical Turk advertises a reward amount per assignment, but does not give any indication of how long each assignment will take. We have developed a browser plugin that tracks the length of time it takes to complete a task, and a web service that aggregates the information across many workers. Crowd-Workers.com allows workers to discover higher paying work by sorting tasks by estimated hourly rate.

Extended Abstract

Crowdsourcing has been enabled by online labor markets like Amazon Mechanical Turk (MTurk), CrowdFlower, and oDesk. The most prominent of these is MTurk, where Requesters advertise work in the form of Human Intelligence Tasks (HITs), and workers (often referred to as Turkers), can browse the listings choose which tasks they would like to work on. MTurk is ostensibly a marketplace, where generous, high paying Requesters successfully compete for Turkers’ attention over unreliable or lower paying Requesters. However, several design choices in the MTurk platform means that it is hard for workers to identify good Requesters, and to find high paying work (Silberman, Irani, and Ross 2010; Silberman et al. 2010). In particular:

- MTurk allows worker to search for HITs based on reward amount on a price-per-item basis, with no way of estimating an hourly wage.¹
- MTurk’s reputation system is asymmetric. Workers are ranked and filtered based on their past performance, but it’s not possible to sort Requesters based on how quickly they pay or filter them based on their rejection rates.
- When a Requester rejects work a Turker’s work, the worker is not paid, and there is no mechanism for appeal or redress.

Since Turkers’ ability to continue working is based on their past approval rating, they are often quite conservative about taking on new tasks.

Since the MTurk platform falls short, Turkers often turn to external resources to improve their experience on MTurk and to optimize their productivity (Martin et al. 2014). They use forums like Turker Nation to discuss Requesters and work habits, tools like Reddit to share HITs worth working on, and browser plugins like TurkOpticon to share star ratings of Requesters (Irani and Silberman 2013).

In this work, we adopt one of the design principles that has been suggested to make online labor fairer and more transparent: disclosing the effective hourly rates of tasks (Bederson and Quinn 2011). We have designed a Chrome plugin that tracks when a works accepts and submits a HIT. This information is combined with the reward amount, and aggregated over many workers. Our web service, crowd-workers.com, lists allows workers to discover higher paying work by sorting tasks by estimated hourly rate. (Figure 1).

Figure 1: The crowd-workers.com web service allows users to sort HITs based on hourly rate. The hourly rate is estimated by tracking how long it took other workers to complete the task (using our browser extension), along with the reward amount (which MTurk makes available).

Copyright © 2014, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

¹MTurk does compute and display an effective hourly rate, but only displays it to the Requester who posted the task.
Table 1: TurkOpticon provides a mechanism for workers to give start ratings requesters along four qualitative dimensions. Our CrowdWorkers plugin aims to replace these qualitative ratings with quantitative equivalents. Currently it computes average hourly rates.

The Crowd-Workers browser extension currently computes aggregate information about hourly rates. We plan to extend it to track additional information about requesters, including speed of payment, and approval/rejection rates. The goal is to replace TurkOpticon's subjective ratings with more quantitative information. (Table 1).

We have conducted a pilot study that tracked more than 77,000 HIT submissions from 110 Turkers. 50 of the subjects were paid participants who were recruited on mturk.com. Up to 26 of the subjects were undergraduates from the University of Pennsylvania’s “Crowdsourcing and Human Computation” course (http://crowdsourcing-class.org). The remainder of the subjects found our tool on their own through word of mouth. 65 of the subjects completed more than 100 HITs. Figure 2 plots the average hourly earnings for each of those workers. The average hourly earning across all workers was $9.56 per hour, and the median hourly earning was $7.85 per hour.

In the future, we plan to analyze whether our web service helps workers improve their productivity. We believe that the data that we gather will also provide insight into the Mechanical Turk marketplace (Ipeirotis 2010a), how task pricing and financial incentives affect completion time (Mason and Watts 2009; Singer and Mittal 2011), and how earnings and work patterns vary by worker demographics (Ipeirotis 2010b).

Acknowledgements

I would like to thank Adam Jeziorski, Maciej Gol, Michal Klujszo and the other 10clouds employees for their development work, Panos Ipeirotis for open sourcing his MTurk tracker software and database, the Turkers who worked in our pilot study our HITs, Turker Nation’s spamgirl for providing thoughtful feedback, Walter S. Lasecki for useful discussions, and the students enrolled in my graduate crowd-

References


