Harnessing the Power of Mechanical Turk: an Online Workforce

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What is Mechanical Turk (MTurk)

- Amazon Web Services
- A crowdsourcing marketplace that enables computer programs to co-ordinate the use of human intelligence to perform tasks which computers are unable to do!
- They call it the Mechanical Turk, after an 18th century hoax, a mannequin that appeared to play chess
MTurk Components

- HITs - *Human Intelligence Tasks* - are individual tasks that workers work on.

- *Requesters* - Human ask workers to complete HITs and get results using Mechanical Turk

- *Workers* (called *Providers* in Mechanical Turk's Terms of Service) can then browse among existing HITs and complete them for a monetary payment set by the Requester.
Benefits

As a Mechanical Turk Requester you:
• Have access to a global, on-demand, 24 x 7 workforce
• Get thousands of HITs completed in minutes
• Pay only when you're satisfied with the results

As a Mechanical Turk Worker you:
• Can work from home
• Choose your own work hours
• Get paid for doing good work
MTurk Common Misbelieves

- It is a virtual sweatshop
- Taking advantage of poor people in third world countries that are doing tedious tasks for pennies.
- Those misbelieves made people afraid that the results will be either of very poor quality, or they will not be representative of the actual U.S. population.
- While Instead, Mechanical Turk tends to be often a replacement for TV, or simple something to spend some free time and get some spare cash in reward.
MTurk Demographics 1

- A survey by (Panos Ipeirotis):
- Well, as you will see below the Turkers are a pretty representative sample of the online population

<table>
<thead>
<tr>
<th>Country Breakdown</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>United States</td>
<td>76.25%</td>
</tr>
<tr>
<td>India</td>
<td>8.03%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>3.34%</td>
</tr>
<tr>
<td>Canada</td>
<td>2.34%</td>
</tr>
<tr>
<td>Others</td>
<td>10.04%</td>
</tr>
</tbody>
</table>

Most participants are coming from the US and not from a third world country, this is due to the fact that in order to get paid, someone has to have a US bank account,
MTurk Demographics 2

- Gender breakdown

As you can see, there are slightly more females than males.
MTurk Demographics 3

- Age distribution

![Age distribution chart]

- Not surprisingly, many young people participate on Mechanical Turk, mainly as a way to get some extra cash
Turkers are a pretty representative sample. Most of them have a college education, and some of them even have PhDs! In fact, the distribution seems pretty similar to the distribution for the overall US population.
MTurk Demographics

- Why people participate in Mechanical Turk?

- From the qualitative survey, you could see that most of the participants mention money, one way or another.
Using MTurk in our Research

- Using MTurk to create Arabic corpus of summaries:
- 150 Arabic articles (10 concepts)
- 5 summaries each
- $0.10/HIT
- Turkers are asked to select the sentences that should be in the summary.
- Sentences should not exceed 50% of the total number.
Quality of the Results

- In the beginning it took 5 days to complete hits for 10 articles.
- Later, results of 30 articles in 1 to 2 day(s).
- Users should provide 1 to 3 keywords to insure that they are reading the article.
- Turkers who doesn’t follow the guidelines will have their work rejected.
- Contacting the worker.
- Comments by the workers
Questions arise

- Are the workers Arabic native speakers?
- Do they actually read?
- Should we make the hits easier (using checkboxes)?
Start using MTurk

As a Requester all you need is a US address and zip code.
As Worker, in addition to the address you need a valid US bank account.

Getting started:
www.mturk.com