Join us now at: crowdresearch.slack.com in #meetings

Email crowdresearch@cs.stanford.edu if you need an invite.
How might computing connect large groups to tackle bigger, harder problems than they could complete in isolation?
Today: small tasks, many people

- Combine many paid non-expert opinions
  - e.g., text shortening
  - e.g., image labeling
  - e.g., data collection
<table>
<thead>
<tr>
<th>Requester</th>
<th>HIT Expiration Date</th>
<th>Time Allotted</th>
<th>Reward</th>
<th>HITs Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Data Gurus</td>
<td>May 23, 2015 (15 hours 59 minutes)</td>
<td>6 minutes</td>
<td>$0.01</td>
<td>36</td>
</tr>
<tr>
<td>Vishwanath Kumar</td>
<td>Aug 1, 2015 (9 weeks 6 days)</td>
<td>60 minutes</td>
<td>$0.03</td>
<td>1</td>
</tr>
<tr>
<td>Venue Quality</td>
<td>May 26, 2015 (3 days 2 hours)</td>
<td>5 minutes</td>
<td>$0.01</td>
<td>2</td>
</tr>
<tr>
<td>Amazon Requester Inc.</td>
<td>Jun 2, 2015 (1 week 2 days)</td>
<td>10 minutes</td>
<td>$0.00</td>
<td>1459</td>
</tr>
</tbody>
</table>
Yoel Inbar @yorl · Jun 22
Academics: any experience with @CrowdFlower? Are they a viable alternative to Amazon? #mturkgate

Kristy@TurkerNation @TurkerNational · Jun 23
WTF Amazon mturk?! #mturkgate bit.ly/1N6TLBf uses #mTurk

Lisa Williams @williamslisaphd · Jun 23
@amazonmturk raises commission to 40% (from 10%) effective 21 July. #mturkgate, indeed. Let the research exodus commence.

Michael C. Frank and 2 others favorited
todd gureckis @todd_gureckis · Jun 22
@BrianNosek #mturkgate may be a real opportunity for research community to build an alternative with better research features

Gabrielle Paolacci @gpaolacci · Jun 23
That’s right academic friends, mturk commissions will be 4x larger #mturkgate requester.mturk.com/pricing

Amazon Made Its Humans-For-Hire More Expensive
Amazon’s Mechanical Turk is a slightly bizarre service where researchers pay workers to perform repetitive tasks to strangers on the internet, often for “small” amounts of money. It’s popular among scientists as...
The status quo needs help.

• Today’s platforms are notoriously bad at…
  • ensuring high-quality results
  • producing fair wages and respect for workers
  • making it easy to author effective tasks
  • collaboration and discussion
  • and much more
What might we create if we knew that our children would become crowd workers?
our goal: create a new standard for crowdsourcing platforms
Designing a new future

• We will follow a user-centered research trajectory:
  • Empathy and needfinding
  • Brainstorming and ideation
  • Rapid prototyping and implementation
  • Launch
  • Evaluation

• …but you don’t need to be an expert at all of these!
Outcomes

- A new marketplace that we’re all proud to support and use
- Papers to top-tier academic venues — with you as coauthor
- A chance to learn with me as we experiment with new forms of research at scale
Our research principles

• Be positive.
• Simplify.
• Always bias toward action.
Successes so far
Our trajectory

- Alpha platform, Daemo
- UIST work-in-progress poster, 60 authors
- White paper
- Knight Data Challenge finalist

- Two Stanford one year paid positions offered to crowd researchers
Our friends

- Three crowd research efforts thus far
  - Computer vision (Prof. James Davis, UC Santa Cruz and Prof. Serge Belongie, Cornell Tech)
  - Data Science (Prof. Sharad Goel, Stanford)
  - Human-computer interaction (us!)

- Alumni have gone on to Cornell, UC San Diego, and others…
Our plan

• Full paper submissions to UIST (April 17th) and CSCW (late May)
• Launch the platform!
### Top publications - Human Computer Interaction

<table>
<thead>
<tr>
<th>Publication</th>
<th>h5-index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Computer Human Interaction (CHI)</td>
<td>84</td>
</tr>
<tr>
<td>2. Conference on Computer Supported Cooperative Work (CSCW)</td>
<td>46</td>
</tr>
<tr>
<td>3. ACM Symposium on User Interface Software and Technology</td>
<td>41</td>
</tr>
<tr>
<td>4. Handheld and Ubiquitous Computing (HUC)</td>
<td>40</td>
</tr>
</tbody>
</table>

CHI, UIST, CSCW are top research venues.
Why publish?

- Being a core author on a paper at a top-tier research conference is an incredible boost up in getting accepted into graduate school (masters/PhD).
  - The higher your place in the author list, the more reputation you gain from the paper

- I got my faculty position at Stanford because I published a paper (eventually a series of papers) that became highly cited
How I got into MIT grad school

- Collaborated on a paper with a Stanford professor as an undergraduate

**Reflective Physical Prototyping through Integrated Design, Test, and Analysis**

Björn Hartmann, Scott R. Klemmer, Michael Bernstein, Leith Abdulla, Brandon Burr, Avi Robinson-Mosher, Jennifer Gee

Stanford University HCI Group
Computer Science Department, Stanford, CA 94305-9035, USA
{bjoern, srk}@cs.stanford.edu

**ABSTRACT**

Prototyping is the pivotal activity that structures innovative collaboration and creative activity in design. Prototypes are tools and their creation is a process. Reflective prototyping through integrated design, test, and analysis promotes this process. This paper offers an overview of the Reflective Physical Prototyping (RPP) framework to support collaborative work and improve the design process. It presents an RPP prototype toolkit and its design principles, along with examples of its use in various domains, and concludes with an outlook on future research directions.
My goal...

- Is that you could make this kind of transition too.

Reflective Physical Prototyping through Integrated Design, Test, and Analysis

Björn Hartmann, Scott R. Klemmer, Michael Bernstein, Leith Abdulla, Brandon Burr, Avi Robinson-Mosher, Jennifer Gee
Stanford University HCI Group
Computer Science Department, Stanford, CA 94305-9035, USA
{bjoern, srk}@cs.stanford.edu

ABSTRACT
Prototyping is the pivotal activity that structures innovation, collaboration, and creativity in design. Prototyping supports designers in visualizing, exploring, and communicating ideas, and is crucial in design processes. It facilitates collaboration among multiple stakeholders, provides a platform for user feedback, and helps in identifying and resolving design issues early. A well-established prototyping practice can lead to more effective design outcomes and a better alignment of expectations among all involved parties.
Why publish?

- Publishing is how you tell the world about your research results. It’s not “public” until it’s published.

- To get published, you need to go through an extremely rigorous process of peer review by other HCI and crowdsourcing experts.
How can Michael help?

- You will be an author on the full papers we publish. This is an incredible resume point for jobs and graduate school.

- I can write recommendation letters for your applications to graduate school or college.
Recommendations

- Letters of recommendation are core to your chances of getting into graduate programs.
- I am happy to write letters for contributors to this project.
Recommendations

• What I can include in my letter:
  • A discussion of your contributions to the project
    • Self reported by you to me
    • Described by your colleagues on the project (I will reach out)
    • As evidenced on Meteor, GitHub, Wiki, etc.
  • Your peers’ evaluation of your efforts within the community
    • For example, when I write letters for my Stanford students, I am asked to compare them to other Stanford graduates
  • Your collaboration strengths, leadership and behavior
    • From me, your colleagues, and as logged on our platforms
Credit and authorship

- We do our research in the open
- The code is open source
- Credit, when necessary, is determined by peer evaluation and participation
A note on affiliation

- We’d love for you to share your hard work here

- Call yourself a member of the Stanford Crowd Research Collective
  - Otherwise it confuses people who aren’t sure whether you attend Stanford
How will this work?
Milestones

- Goal: each week, assign yourself to one or more milestones
  - Each one has a member of the crowd who is leading it, known as the Directly Responsible Individual (“DRI”). You can ping them with questions or for advice
Milestones

- Milestones range from introductory skills like getting the code working to contributions like…
  - building a new feature
  - redesigning a user interface
  - brainstorming ideas for one of our four milestones
  - paper prototyping and storyboarding
  - …and more
Milestones

• Milestones are due each Sunday at 8pm Pacific Time

• Between Monday’s meeting and the milestone deadline, collaborate on Slack to tackle the milestones!
  • The milestone will list the relevant Slack channels to use
Milestones

• Remember: we succeed or fail at this together!
Milestones this week

- Learn about crowdsourcing
  - Go make $1 on Mechanical Turk
  - Go post a task on Mechanical Turk (we can PayPal you $ if you need)
  - Use our Daemo platform: post tasks & complete tasks
  - Get started with the research literature: read MobileWorks, Flash Teams, and interesting sections of The Future of Crowd Work
Milestones this week

• Join the engineering test flight group if interested
  • If you have a programming background and want to work in advance of our broader engineering launch…
  • Get our platform running on your local machine
  • (And there are some GitHub issues if you’d like to try developing features)
Badges

• This is how we recognize peers
• In Slack:
  `/give 1 to @rajanvaish for a great insight #idea`

• Check #badges channel in Slack for a stream of kudos
• Details at http://crowdresearch.stanford.edu/w/index.php?title=Badges
Want a team?

• You are welcome to work in a team, or solo
• If you’d like to find a team, introduce yourself in #introduction-winter16
Weekly team meeting

- Google Hangouts on Mondays @ 8pm PT
- Just like this!

- We will discuss hard open problems, figure out our next steps and milestones
- Discussion on Slack #meetings just like now
- Also: some folks each week will join us live on the hangout
Code on GitHub:
http://hci.st/crowdgithub
Where we are going
Launch the platform!

- Our work so far has produced the platform, the Boomerang reputation system, and the prototype task system.

- Now it’s time to start finding requesters to use it.
  - Start thinking: do you know anyone who has data needs?
Brainstorming our next research

- Career advancement?
- Open governance?
- Task feed ranking?
- You decide.