

EXAMINING CROWD WORK AND GIG WORK THROUGH THE HISTORICAL LENS OF PIECEWORK

Ali Alkhatib, Michael Bernstein, Margaret Levi

ali.alkhatib@cs.stanford.edu || [@_alialkhatib](https://twitter.com/_alialkhatib)

May 1, 2017

Stanford University

WHAT IS THE FUTURE OF WORK?

We hope to provide:

- A useful ontological lens for making sense of crowdsourcing and gig work (which we collectively call “*on-demand work*”) as a resurgence of *piecework*.
- A method for making sense of contemporary phenomena through *historical analysis*.

Historical analysis is nothing new

- Wyche, Sengers, and Grinter [[12](#)] and Bødker [[2](#)]

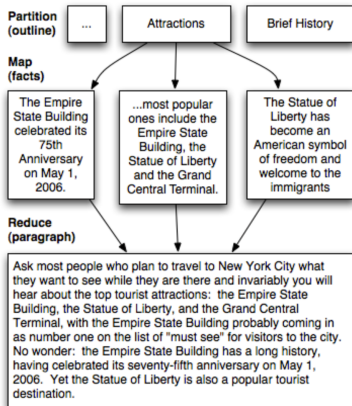
- Crowd work: digitally mediated **information work** — for example, work done on Amazon Mechanical Turk [9]
- Gig work: digitally mediated — but often **physically embodied** — one-off jobs, such as *driving*, *courier services*, and *administrative support* [3, 11]

What kinds of problems do we mean when we talk about complexity?

- Can crowds improve existing works? [1, 7]
- Can crowds critique designs? [13]
- Can crowds create things from whole cloth? [5, 6, 4, 10]

WHAT DOES THE CROWDSOURCING LITERATURE SAY?

- Build complexity into the process
 - Apply CS methods to people (Kittur et al. [8])



WHAT DOES THE PIECEWORK LITERATURE SAY?

something even more insightful, I'm sure!

CONTACT

name: Ali Alkhatib

email: ali.alkhatib@cs.stanford.edu

twitter: [@_alialkhatib](https://twitter.com/_alialkhatib)

REFERENCES



Michael S. Bernstein et al. “Soylent: A Word Processor with a Crowd Inside”. In: *Proceedings of the 23Nd Annual ACM Symposium on User Interface Software and Technology*. UIST '10. New York, New York, USA: ACM, 2010, pp. 313–322. ISBN: 978-1-4503-0271-5. DOI: [10.1145/1866029.1866078](https://doi.org/10.1145/1866029.1866078).

URL:

<http://doi.acm.org/10.1145/1866029.1866078>.



Susanne Bødker. “Historical analysis and conflicting perspectives—contextualizing HCI”. In: *Human-Computer Interaction* (1993), pp. 1–10.



Gerald Friedman. “Workers without employers: shadow corporations and the rise of the gig economy”. In: *Review of Keynesian Economics* 2 (2014), pp. 171–188.



Nathan Hahn et al. “The Knowledge Accelerator: Big Picture Thinking in Small Pieces”. In: *Proceedings of the 2016 CHI*

Conference on Human Factors in Computing Systems. CHI '16. ACM, 2016, pp. 2258–2270. ISBN: 978–1-4503–3362–7. DOI: [10.1145/2858036.2858364](https://doi.org/10.1145/2858036.2858364). URL: <http://doi.acm.org/10.1145/2858036.2858364>.



Joy Kim and Andrés Monroy-Hernández. “Storia: Summarizing Social Media Content Based on Narrative Theory Using Crowdsourcing”. In: *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. CSCW '16. ACM, 2016, pp. 1018–1027. ISBN: 978–1-4503–3592–8. DOI: [10.1145/2818048.2820072](https://doi.org/10.1145/2818048.2820072). URL: <http://doi.acm.org/10.1145/2818048.2820072>.



Joy Kim et al. “Mechanical Novel: Crowdsourcing Complex Work through Revision”. In: *Proceedings of the 20th ACM*



Juho Kim et al. “Crowdsourcing Step-by-step Information Extraction to Enhance Existing How-to Videos”. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. CHI '14. Toronto, Ontario, Canada: ACM, 2014, pp. 4017–4026. ISBN: 978-1-4503-2473-1. DOI: [10.1145/2556288.2556986](https://doi.org/10.1145/2556288.2556986). URL: <http://doi.acm.org/10.1145/2556288.2556986>.



Aniket Kittur et al. “CrowdForge: Crowdsourcing Complex Work”. In: *Proceedings of the 24th Annual ACM Symposium on User Interface Software and Technology*. UIST '11. ACM, 2011, pp. 43–52. ISBN: 978-1-4503-0716-1. DOI: [10.1145/2047196.2047202](https://doi.org/10.1145/2047196.2047202). URL: <http://doi.acm.org/10.1145/2047196.2047202>.



Aniket Kittur et al. “The Future of Crowd Work”. In:

Proceedings of the 2013 Conference on Computer Supported Cooperative Work. CSCW ’13. ACM, 2013, pp. 1301–1318. ISBN: 978-1-4503-1331-5. DOI: [10.1145/2441776.2441923](https://doi.org/10.1145/2441776.2441923).

URL:

<http://doi.acm.org/10.1145/2441776.2441923>.



Walter S. Lasecki, Raja Kushalnagar, and Jeffrey P. Bigham.

“Legion Scribe: Real-time Captioning by Non-experts”. In:

Proceedings of the 16th International ACM SIGACCESS Conference on Computers & Accessibility. ASSETS ’14. Rochester, New York, USA: ACM, 2014, pp. 303–304. ISBN: 978-1-4503-2720-6. DOI: [10.1145/2661334.2661352](https://doi.org/10.1145/2661334.2661352).

URL:

<http://doi.acm.org/10.1145/2661334.2661352>.



Paolo Parigi and Xiao Ma. “The Gig Economy”. In: *XRDS* 23.2 (Dec. 2016), pp. 38–41. ISSN: 1528-4972. DOI: [10.1145/3013496](https://doi.org/10.1145/3013496). URL: <http://doi.acm.org/10.1145/3013496>.



Susan Wyche, Phoebe Sengers, and Rebecca E. Grinter. “Historical Analysis: Using the Past to Design the Future”. In: *UbiComp 2006: Ubiquitous Computing: 8th International Conference, UbiComp 2006 Orange County, CA, USA, September 17-21, 2006 Proceedings*. Ed. by Paul Dourish and Adrian Friday. Berlin, Heidelberg: Springer Berlin Heidelberg, 2006, pp. 35–51. ISBN: 978-3-540-39635-2. DOI: [10.1007/11853565_3](https://dx.doi.org/10.1007/11853565_3). URL: http://dx.doi.org/10.1007/11853565_3.



Alvin Yuan et al. “Almost an Expert: The Effects of Rubrics and Expertise on Perceived Value of Crowdsourced Design

Critiques”. In: *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. CSCW ’16. ACM, 2016, pp. 1005–1017. ISBN: 978-1-4503-3592-8. DOI: [10.1145/2818048.2819953](https://doi.org/10.1145/2818048.2819953).
URL: <http://doi.acm.org/10.1145/2818048.2819953>.