The Gig Economy in Times of COVID-19: Designing for Gig Workers' Needs

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ABSTRACT

Worldwide, the COVID-19 pandemic has disproportionately affected gig economy workers due to the contingent and precarious nature of their work. Many gig economy workers have had to adapt quickly to new forms of working, and even learn new skills, to sustain their livelihood. At the same time, gig economy companies have prioritised profit and customers' needs over workers' safety. In this position paper, we draw insights from recent academic literature, policy papers, and media reports from across the globe to explore broad implications the pandemic has had on gig economy workers. We then discuss how gig economy platforms might be re-designed to support better working conditions and foster workers' development.

CCS CONCEPTS

• **Human-centered computing** → **Computer supported cooperative work**.

KEYWORDS

future of work, gig economy, worker-centred design, COVID-19

INTRODUCTION

Worldwide, the COVID-19 virus has claimed over 500,000 lives and infected millions of people [3]. Many countries have implemented robust public health measures, such as lockdowns, to contain the spread of the virus. As a result, many jobs have been profoundly impacted. Millions of employees around the world started working from home, especially those whose work requires creative and collaborative skills [21]. The situation has been vastly different for independent workers, such as *gig economy workers* [13], whose livelihood is partly or wholly supported by digital platforms and whose jobs – in many cases – cannot be conducted from home. While there are varying definitions of the gig economy, for this paper we refer to it as the types of jobs that are conducted through digital platforms that handle the matching, contracting and payments between customers and independent workers [41].

Gig economy workers are in a particularly vulnerable situation during the pandemic because of two primary reasons. Firstly, gig economy workers are usually regarded by companies as 'independent workers', meaning that they lack access to benefits provided by regular employers, such as paid sick leave and health insurance [7]. This independent worker status also means that workers bear all the risks associated with their jobs, from health and safety to financial loss [19]. Secondly, gig work is contingent to the demand of their services – thus gig workers whose demand for their work has significantly declined due to public health measures, like social distancing, are left without income. The combination of these two factors puts workers in a tough position because many of them rely on day-to-day wages and have no other sources of income thus forcing them to put themselves and their families at risk of contagion due to financial pressures.

In this position paper, we discuss how COVID-19 has affected the working circumstances of gig economy workers across different countries. We start by reviewing the type of work that is contingent on workers and clients sharing the same physical or geographical location, such as couriers and carers – namely *location-dependent work* [41]. Then, we explore the types of gig work that is conducted entirely online, such as crowdwork and freelancing – namely *online gig work*. After that, we discuss a series of implications for future research in computer-supported cooperative work and social computing (CSCW). We argue that location-dependent companies have mainly taken a customer-centred approach during the pandemic, overlooking workers' conditions and needs in their designs. We contribute to the ongoing discussion in HCI around 'worker-centred' approaches to improve gig workers' conditions [12]. Then, we discuss how online gig workers' circumstances could be improved, drawing parallels from current research on knowledge workers adapting to work from home.

HOW HAS THE COVID-19 PANDEMIC IMPACTED GIG WORK

Drawing from academic publications, policy papers, and media reports, here we present insights on how different types of gig work worldwide have been broadly impacted during the COVID-19 pandemic. We begin by discussing how the pandemic has affected those gig economy services bounded to social proximity and the changes implemented by platforms to stay in business, as well as their efforts to support workers. Then, we explore the effects of the pandemic on online gig work, and how those gig workers who can work from home are facing new challenges.

Location-dependent gig work

A re-imagined gig economy. Gig economy companies have re-designed their services to fit the pandemic needs. Food delivery companies such as Deliveroo, Uber Eats and the like partnered with supermarkets to conduct grocery deliveries in various countries [37]. In South Africa, getTOD, a household services company launched virtual 'do it yourself' (DIY) assistance, whereby gig workers could provide guidance remotely [16]. Etsy, an online marketplace re-designed its search engine and urged independent workers to craft face masks to meet customers' demands [25]. Similarly, some local companies have followed gig companies' model to stay afloat; such is the case of UK's Blueline taxis that have compensated the sharp decrease in rides with delivering household products [38]. Many local restaurants have joined delivery apps to continue their operations. However, media reports suggest that in some cases platforms' fees exceed their renting costs [29]. Certainly, gig economy companies have quickly adjusted to the pandemic circumstances to stay in business, encouraging workers also to adapt and continue working. However, as we will revise below, their approaches to supporting workers' needs may not be sufficient.

Update: From Sat 21 March, all deliveries in the UK will be contact-free.

How to make a contact-free pick up

Figure 1: Screenshot of Deliveroo contact-free feature.

A customer-centred approach? Despite gig workers putting their lives on the line to conduct work, platform companies do not seem to have made adequate changes to their services to protect them. Instead, the focus seems to be around prioritising customers by keeping them engaged and safe. 'Contact-free delivery' has been a standard feature implemented by delivery companies, whereby workers and customers maintain a safe distance when exchanging goods [11]. Figure 1 shows an example of this feature from the company Deliveroo [2]. While this feature might inspire safety to customers, reports suggest that workers remain at high risk of contagion when coming in contact with other gig workers and staff at the collection points [11, 15].

Moreover, an examination of 120 gig economy companies across 23 countries indicated that gig workers' primary concern has been sustaining their income, yet companies have not adequately addressed this issue [11]. Some companies have introduced a form of financial compensation for sick workers and those self-isolating [4]. However, workers have expressed that these compensations are often stringent and hard to obtain, for example requiring COVID-19 diagnosis from official authorities,
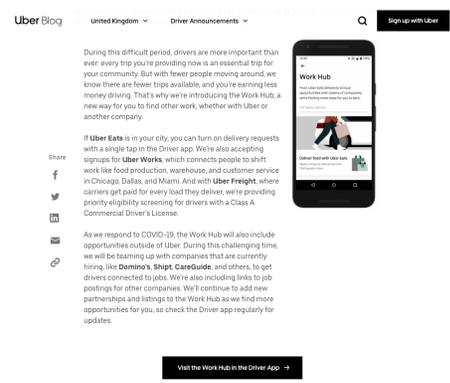
Figure 2: Uber announces the Work Hub.

which can be scarce in many countries and assumes that workers have access to healthcare [26]. A less common approach has been the incorporation of alternative forms of work to support gig workers' income. For example, a gig economy company in South Africa that offers 'micro-jobs' to be completed from a mobile device, such as data entry and survey completion, offered paid training for workers to conducts home [14]. Uber launched the 'Work Hub', an extension of their driver app that connected drivers with other forms of essential work [36]. Figure 2 shows a screenshot of the Uber Work Hub announcement. This extension of their app encouraged workers to join other Uber services like Uber Eats and claimed partnerships with other companies requiring workers. Nevertheless, these examples seem to provide sporadic alternatives for workers rather than addressing their financial concerns.

Online gig work

The effects that the COVID-19 pandemic has had on those gig economy services that occur entirely online, such as freelance web development on platforms like Upwork, are relatively underexplored. The available examinations indicate that needs for digital services have abnormally fluctuated in comparison to previous years [6]. A quantitative study of online gig work platforms in 3 countries suggests that jobs in the technology category (e.g. software development) remained highly requested between February and May 2020 [32]. Conversely, creative, multimedia, and marketing services dramatically decreased during the same period. Also, this study demonstrates that the demand for online gig workers has plummeted while there has been a steady rise in available workers [32]. This disruption in the supply and demand for online gig work has increased the competition for markets that were already over-saturated even before the pandemic [28, 40]. As a result, a large proportion of online gig workers may have seen their earnings significantly reduced. However, in contrast to location-dependent work, there is little evidence that online gig platforms have provided alternative sources of income for those workers whose income fell. This could be because online gig work can still be conducted from home and arguably has not been disrupted by public health measures.

The pandemic has wholly reconfigured the household as a working space not only for online gig workers but also for millions of employees across the world now working from home. Arguably, online gig work is a highly autonomous and flexible profession that can be conducted from anywhere in the world with an internet connection [33]. While it might seem that online gig workers are familiar with working from home, previous examinations of crowdworkers indicate that only those with adequate spaces and technologies had positive experiences [24, 39]. Conversely, those crowdworkers who alternated caring responsibilities with their work and lacked quiet spaces to focus expressed a decline in their productivity [24]. Indeed, working from home during the pandemic has meant for many workers having less time to focus and caring for their children, thereby disrupting their standard working patterns [9]. A panel study of 60 online gig workers in the US indicated that many of them have modified their work availability and decreased their workload to attend household

responsibilities with their families [32]. Many of these online workers also had their partners working from home or even laid off, adding an extra emotional burden. The nature of online gig work is contingent on clients' requirements and subject to finding new gigs which can be time-consuming and unremunerated [35]. Therefore, it should not be assumed that designing approaches and tools for supporting working from home can equally benefit online gig workers as they do regular employees.

REFLECTIONS AND IMPLICATIONS FOR RESEARCH

In this section, we discuss implications for future research structured around two broad areas: 1) worker-centred optimisation of gig economy platforms, and 2) designing for online gig workers.

A worker-centred gig economy

The COVID-19 pandemic has exacerbated the precarious nature of the gig economy, yet gig companies' responses seem to prioritise their customers and interests rather than workers. Despite gig workers worldwide voicing their concerns about safety and income loss through unions, gig companies' responses have not adequately addressed these needs [11]. Regarding safety, the 'contact-free' delivery feature is a prime example which focuses on customer safety, dismissing workers' interactions during the collection process. A worker-centred approach to address this issue could be enabling gig workers to report unsafe collection points through the app with photos and short descriptions, while also allowing them to reject the collection of goods without penalisation. Regarding income, location-dependent companies have predominantly addressed financial compensations for workers who fall ill or have to self-isolate [11]. Other efforts to support workers' pay include repurposing their services to keep workers providing other services. For example, Etsy restructuring its online marketplace to sell face masks [25] and Uber encouraging workers to expand to Uber Eats through its 'work hub' [36] speak to companies' motives to satisfy customers' needs. Worker-centred approaches could provide remunerated training and development opportunities for workers to engage in other types of work. For example, Etsy could provide online crafting workshops for independent workers to learn how to sew face masks and include this product to their profile. Moreover, Uber could provide its drivers with other forms of paid work that could be carried out from home, thereby protecting those drivers who are in high-risk groups and cannot engage with delivery or shift work. The gig economy is shaping new forms of work through technology-mediated management, work autonomy, regulation, and even reconfiguration of the workplace [17]. It has also expanded rapidly, with over 50 million gig workers estimated only in developing countries [20]. Previous work in HCI has engaged with methods to facilitate worker-centred approaches in the gig economy that better serve workers [12, 17, 22, 23]. From providing crowdworkers with digital tools to evaluate employers [22] through to providing design recommendations to improve Uber drivers' experiences [17]. However, the incorporation of these approaches should go beyond – informing policies that advocate for better working conditions

in the gig economy [10]. At the same time, it is essential to acknowledge that taking a worker-centred approach merely addresses a fraction of the broader inequalities and injustices that underpin the gig economy [40]. The COVID-19 pandemic has only sharpened these injustices by companies designing for customers and their business, overlooking those who bear most of the risks – gig workers.

Designing for online gig workers

The experiences and issues of online gig workers during the pandemic have seldomly been explored, thus opening up an area of opportunity for future studies. Since HCI research and other disciplines have started examining the gig economy, mainstream location-dependent platforms like Uber and Airbnb have attracted most of the academic attention, leaving knowledge-based forms of gig work understudied [34]. Among the various types of online gig work, Amazon Mechanical Turk (AMT) crowdwork has taken most of the academic attention, e.g. [1, 24, 27]. During the pandemic, only a few researchers have covered online types of gig work [5, 31, 32]. A reason for this could be that online gig work is less visible to the public as online gig workers primarily collaborate with corporate and business clients and far less with everyday people. Future examinations should capture broader perspectives from other forms of online gig work, such as freelancer conducting work through platforms like Upwork. As recent research demonstrated that the demand for various online gig services has plummet [32], future studies could investigate how online gig workers have adapted to compensate this shortage and ways to support them.

Online gig workers, alongside millions of employees around the world, are experiencing an unprecedented transition to working from home. However, there are notable differences between online gig workers and regular employees working from home, and thus the design of tools and strategies to support better working from home conditions might look very different. Online gig workers primary concerns might be around landing new projects and responding to the fall in demand for their services [32]. In contrast, knowledge workers who have stable employment might struggle more with their productivity and family wellbeing during the pandemic [30]. While online gig workers might already have designated spaces and various devices to support their working practices, employees who mainly worked in an office might be struggling to get technological equipment that is in shortage [18]. Exploring interactions with home spaces and household members is an area of further research that might benefit both online gig workers and regular employees that are attending personal responsibilities while working from home [8].

CONCLUSION

This position paper has discussed the implications COVID-19 has had on various types of gig work. It argues that during the pandemic gig economy companies have primarily adapted their services and platforms to fit customers' needs, overlooking workers' preferences. Based on recent academic

literature, policy reports and media articles, we present two main areas for future research. Firstly, we contribute to the recent HCI discussion of worker-centred approaches to support better workering conditions [12], arguing that future gig platform designs should engage their workers in these processes and address their needs. Secondly, we explore the forms of online gig work that have been seldomly studied during the pandemic. Also, we compare how designing for online gig workers might look similar or different from those employees also working from home.

REFERENCES

[1] [n.d.]. reddit API. https://www.reddit.com/dev/api
[2] 2020. Contact-free delivery. https://roocommunity.com/contact-free-deliveries/
[3] 2020. COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. https://coronavirus.jhu.edu/map.html
[4] 2020. COVID-19 Resources: A new way to support you. https://www.uber.com/blog/covid-resources/
[5] Institute AppJobs. 2020. *How Does the COVID-19 Outbreak Affect the Life of Freelancers & Gig Workers.* Technical Report. AppJobs. https://institute.appjobs.com/how-does-the-covid-19-outbreak-affect-the-life-of-freelancers-gig-workers-march-2020
[6] Paulina (AppJobs) Bajorowicz. 2020. How much is the gig economy affected by the coronavirus outbreak? https://www.appjobs.com/blog/coronavirus-effect-on-gig-economy
[7] Uttam Bajwa, Lilian Knorr, Erica Di Ruggiero, Denise Gastaldo, and Adam Zendel. 2018. Towards an understanding of workers ' experiences in the global gig economy. *Globalization and Health* 14, 124 (2018), 2–4.
[8] Luigina Ciolfi, Breda Gray, and Aparecido Fabiano Pinatti De. 2020. Making Home Work Places. In *18th European Conference on Computer-Supported Cooperative Work.* https://doi.org/10.18420/ecscw2020_ep10
[9] Lucie Cluver, Jamie M Lachman, Lorraine Sherr, Inge Wessels, Etienne Krug, Sabine Rakotomalala, Stephen Blight, Susan Hillis, Gretchen Bachman, Ohad Green, Alex Butchart, Mark Tomlinson, Catherine L Ward, Jennifer Doubt, and Kerida McDonald. 2020. Parenting in a time of COVID-19. , e64 pages. https://doi.org/10.1016/S0140-6736(20)30736-4
[10] Tawanna R. Dillahunt, Xinyi Wang, Earnest Wheeler, Hao Fei Cheng, Brent Hecht, and Haiyi Zhu. 2017. The Sharing Economy in Computing. *Proceedings of the ACM on Human-Computer Interaction* 1, CSCW (dec 2017), 1–26. https://doi.org/10.1145/3134673
[11] Fairwork. 2020. *The Gig Economy and Covid-19: Fairwork Report on Platform Policies.* Technical Report. Fairwork, Oxford, United Kingdom. https://fair.work/wp-content/uploads/sites/97/2020/06/COVID19-Report-Final.pdf
[12] Sarah E. Fox, Vera Khovanskaya, Clara Crivellaro, Niloufar Salehi, Lynn Dombrowski, Chinmay Kulkarni, Lilly Irani, and Jodi Forlizzi. 2020. Worker-Centered Design: Expanding HCI Methods for Supporting Labor. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 1–8. https://doi.org/10.1145/3334480.3375157
[13] Gerald Friedman. 2014. Workers without employers: shadow corporations and the rise of the gig economy. *Review of Keynesian Economics* 2, 2 (apr 2014), 171–188. https://doi.org/10.4337/roke.2014.02.03
[14] Mudiwa Gavaza. 2020. Cell C and M4Jam offers R2m to gig-economy workers. https://www.businesslive.co.za/bd/companies/telecoms-and-technology/2020-04-14-cell-c-and-m4ja-offers-r2m-to-gig-economy-workers/
[15] Dalia Gebrial. 2020. If you don't care what happens to gig workers during coronavirus, you should – you're next. https://www.independent.co.uk/voices/coronavirus-deliveroo-uber-self-employed-gig-workers-sick-pay-a9430336.html
[16] GetTOD. 2020. Virtual DIY Handyman. https://www.gettod.com/virtual-hero/

[17] Mareike Glöss, Moira McGregor, and Barry Brown. 2016. Designing for Labour: Uber and the On-Demand Mobile Workforce Mareike. (2016), 1632–1643. https://doi.org/10.1145/2858036.2858476

[18] Jefferson Graham. [n.d.]. Coronavirus shortage: Looking for a Logitech? Webcams hard to find as we all work from home. https://eu.usatoday.com/story/tech/2020/04/07/coronavirus-shortage-webcams-sold-out-ebay-price-gouging/2956373001/

[19] Sally-Anne Gross, George Musgrave, and Laima Janciute. 2018. *Well-Being and Mental Health in the Gig Economy: Policy Perspectives on Precarity*. University of Westminster Press, London, UK. 1–39 pages. https://doi.org/10.16997/book32

[20] Richard Heeks. 2019. How Many Platform Workers Are There in the Global South? https://ict4dblog.wordpress.com/2019/01/29/how-many-platform-workers-are-there-in-the-global-south/

[21] Adam Hickman and Lydia Saad. 2020. Reviewing Remote Work in the U.S. Under COVID-19.

[22] Lilly C. Irani and M. Six Silberman. 2013. Turkopticon: Interrupting worker invisibility in Amazon Mechanical Turk. *Conference on Human Factors in Computing Systems - Proceedings* (2013), 611–620. https://doi.org/10.1145/2470654.2470742

[23] Lilly C. Irani and M. Six Silberman. 2016. Stories We Tell About Labor: Turkopticon and the Trouble with "Design". In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA, 4573–4586. https://doi.org/10.1145/2858036.2858592

[24] Laura Lascau, Sandy J.J. Gould, Anna L Cox, Elizaveta Karmannaya, and Duncan P Brumby. 2019. Monotasking or multitasking: Designing for crowdworkers' preferences. In *Conference on Human Factors in Computing Systems - Proceedings*, Vol. 14. ACM. https://doi.org/10.1145/3290605.3300649

[25] Dave Lee. 2020. Craft site Etsy sews up share bounce with homemade masks. https://www.ft.com/content/075c1d10-29e4-4a52-ad67-16d3825705c8

[26] Natasha Lomas. 2020. Deliveroo riders can't access coronavirus hardship fund, warns union. https://techcrunch.com/2020/03/18/deliveroo-riders-cant-access-coronavirus-hardship-fund-warns-union/

[27] David Martin, Benjamin V. Hanrahan, Jacki O'Neill, and Neha Gupta. 2014. Being a turker. *Proceedings of the ACM Conference on Computer Supported Cooperative Work, CSCW* (2014), 224–235. https://doi.org/10.1145/2531602.2531663

[28] Ekaterina Nemkova, Pelin Demirel, and Linda Baines. 2019. In search of meaningful work on digital freelancing platforms: the case of design professionals. *New Technology, Work and Employment* 34, 3 (2019), 226–243. https://doi.org/10.1111/ntwe.12148

[29] Nathaniel Popper. 2020. As Diners Flock to Delivery Apps, Restaurants Fear for Their Future. https://www.nytimes.com/2020/06/09/technology/delivery-apps-restaurants-fees-virus.html

[30] Paul Ralph, Sebastian Baltes, Gianisa Adisaputri, Richard Torkar, Vladimir Kovalenko, Marcos Kalinowski, Nicole Novielli, Shin Yoo, Xavier Devroey, Xin Tan, Minghui Zhou, Burak Turhan, Rashina Hoda, Hideaki Hata, Gregorio Robles, Amin Milani Fard, and Rana Alkadhi. 2020. Pandemic Programming: How COVID-19 affects software developers and how their organizations can help. (2020). arXiv:2005.01127 http://arxiv.org/abs/2005.01127

[31] Daniel Spurk and Caroline Straub. 2020. Flexible employment relationships and careers in times of the COVID-19 pandemic. *Journal of Vocational Behavior* 119, May (2020), 1–4. https://doi.org/10.1016/j.jvb.2020.103435

[32] Fabian Stephany, Michael Dunn, Steve Sawyer, and Vili Lehdonvirta. 2020. Distancing Bonus or Downscaling Loss? The Changing Livelihood of US Online Workers in Times of COVID-19. (2020), 1–20. https://doi.org/10.31235/osf.io/vmg34

[33] Will Sutherland and Mohammad Hossein Jarrahi. 2017. The gig economy and information infrastructure: The case of the digital nomad community. *Proceedings of the ACM on Human-Computer Interaction* 1, CSCW (2017). https://doi.org/10.1145/3134732

[34] Will Sutherland and Mohammad Hossein Jarrahi. 2018. The sharing economy and digital platforms: A review and research agenda. *International Journal of Information Management* 43, February (2018), 328–341. https://doi.org/10.1016/j.ijinfomgt.2018.07.004

[35] Will Sutherland, Mohammad Hossein Jarrahi, Michael Dunn, and Sarah Beth Nelson. 2019. Work Precarity and Gig Literacies in Online Freelancing. *Work, Employment and Society* October (2019). https://doi.org/10.1177/0950017019886511

[36] Uber. 2020. Introducing the Work Hub, a new way for drivers to find essential work. https://www.uber.com/en-AU/blog/introducing-work-hub/

[37] Louise Whitbread. [n.d.]. Which supermarkets let you order your groceries through Deliveroo? https://www.independent.co.uk/extras/indybest/food-drink/deliveroo-supermarket-delivery-grocery-morrisons-coop-a9457006.html

[38] Graeme Whitfield. 2020. Blueline Taxis launches North East delivery service Grab. https://www.business-live.co.uk/retail-consumer/blueline-taxis-launches-north-east-18055464

[39] Alex C. Williams, Harmanpreet Kaur, Gloria Mark, Anne Loomis Thompson, Shamsi T. Iqbal, and Jaime Teevan. 2018. Supporting workplace detachment and reattachment with conversational intelligence. *Conference on Human Factors in Computing Systems - Proceedings* 2018-April (2018). https://doi.org/10.1145/3173574.3173662

[40] Alex J. Wood, Mark Graham, Vili Lehdonvirta, and Isis Hjorth. 2019. Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society* 33, 1 (2019), 56–75. https://doi.org/10.1177/0950017018785616

[41] Jamie Woodcock and Mark Graham. 2020. *The Gig Economy: A Critical Introduction* (1st ed.). Polity Press, Cambridge, UK. 182 pages.