
Designing for Labour? Accountability and self-management in an app-based management

Ben Wagner

Vienna University of Economics
Vienna, Austria
ben.wagner@wu.ac.at

Joanna Bronowicka

Centre for Internet and Human Rights
Berlin, Germany
joanna@cihr.eu

ABSTRACT

Technology has become the new contested terrain of work relations. The way we think, imagine, and aspire to work in future is closely linked to the ways in which we hope how the tensions and conflicts around technology will be resolved. The following think-piece argues that key design challenge situated at the core of the debate about future of work is the promise to deliver greater freedom and flexibility. In doing so it will first provide an overview of a specific case study of food delivery riders. It will then look at responses to app-based management system of food delivery riders, as well the role of HCI in defining the future of labour. It concludes with different design perspectives around the future of labour, drawn from the original case study and beyond.

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Technology has become the new contested terrain of work relations [3]. The way we think, imagine, and aspire to work in future is closely linked to the ways in which we hope how the tensions and conflicts around technology will be resolved. As noted by Gloss et al., there is a close relationship between "markets, technology and those who labour" [5] which in turn directly impacts how the future of work is conceived.

The following think-piece argues that key design challenge situated at the core of the debate about future of work is the promise to deliver greater freedom and flexibility [11]. There is a considerable tension between the hopes for greater autonomy offered by many technologically advanced companies and the reality of these work environments. In fact, some scholars argue that this flexibility vanishes when "[a]pplication-centric computing dominates human-computer interactions," [12]. Thus, technological design contributes to "illusions of autonomy," where the promise of self-management and emancipation is never fulfilled [7, 17].

CASE IN POINT: APPLICATION-BASED MANAGEMENT IN FOOD DELIVERY SECTOR

Freedom and flexibility are the key features of the workplace design in the food delivery companies such as Deliveroo, Foodora or Uber Eats, which use a mobile application to coordinate the work of bike couriers called riders [8]. Indeed, as we have argued elsewhere, this app-based management regime where technological design enables and constrains how individuals interact and self-manage in order to maintain autonomy, is prototypical for ideas of the future of work. Autonomy is the key promise offered by these companies: "You decide when to work. Working with Deliveroo gives you flexibility and independence" [10]. In addition, in the absence of any relationship with a physical boss, all of the work tasks are managed through the App. In cases where the employment relationship between riders and platform is primarily managed through an mobile application, the design of this app plays a crucial role for delivering on the promise of greater autonomy.

Unsurprisingly, the key feature of such app-based management regime is the gaping information asymmetry between the platform and the riders. Similar to other closely monitored workplaces like call-centres where every step of the working process is broken into small tasks that workers report on, this management regime generates a vast amount of data. By optimising this trove of information, which combines user-generated and GPS data, the companies can optimise its processes and calibrate its algorithms to increase profit. On the other hand, the riders have no clear information which data they generate is collected, how it is processed and also, used to monitor their own performance. However, this data collected on riders is used to calculate rider bonuses and enables differential forms of access to shift-system which determines who is really free to decide when to work.

Moreover, the riders are not informed about the constant experiments conducted on them to improve their performance. The app develops a specific "choice architecture" [10] which incentivises certain behaviours and penalises others. By focusing the attention of riders towards certain decision-points, it

attempts to precisely engineer the relationship between worker and employer more precisely, although such an approach obviously also has its limits [19]. Riders do not have the ability to choose what data they share, nor can they remove their consent from being part of the constant UX experiments, or to see their results. Their integration within the platform is an object, not a subject, of changing workplace relationships.

RESPONSES TO APP-BASED MANAGEMENT?

In response to such persistent information asymmetries, scholars have developed their own solutions to support riders in gaining greater control over workplace-related information. For example Irani et al's "Turkopticon browser plug-in to let Mechanical Turk workers review employment providers, to balance out the original one-sided rating system [...] Sherpashare is a similar attempt involving an app that tracks car movement and uses this to help drivers manage and track their expenses" [5]. An alternate perspective is provided by Van Kleek et al., who propose enabling forms of pro-social deception as ways to safeguard the autonomy [18], for example by proposing a program that "creates fictitious appointments based on common diary structure, to automate the process of deploying butler lies. Friends can be enlisted to give weight to the lie, and corroborating evidence is posted on social networks." [18] In all of these cases, the proposed system serves to provide additional agency to workers, either by providing them with additional information, time or autonomy in workplace settings.

What is common to all of these approaches above is that they serve to develop an additional external system which shifts the balance of power towards workers. While supporting riders in collecting and crowd-sourcing additional information to reduce existing information asymmetries, they also highlight the adversarial relationship in which such asymmetries could be overcome. At the same time, most of the struggles around workplace relationship are typically focused on differences in the legal status of riders and improving conditions at the workplace. However, as our Berlin-based research indicates, the challenges of app-based regime persists regardless of the legal status as a self-employed or employed [10]. Thus it seems highly likely that beyond a focus on the legal status of individual riders and workplace conditions, a wider consideration of the design of app-based management systems and their differential effects on staff may need to be considered in greater detail.

THE FUTURE OF LABOUR AND HCI

It has been suggested by Harvey suggests that "HCI researchers are in a novel position to positively intervene in a bid to create a stronger, fairer economy." [6] However while there are many interesting conceptions of how this could work, there remains a dearth of concrete ideas on how to implement these in practice. For example: In which situations should employees be allowed to obfuscate their data to avoid surveillance? At what point safeguarding autonomy is no longer part of the managerial

regime, but an act of resistance? How can workers feed back to the design process in a meaningful way?

The future of work is certainly about flexibility and self-management around employment relationships, but perhaps not in the ways typically discussed. If food-delivery riders are considered indicative of future developments in the workplace, then it is quite possible that their negotiation of boundaries around app-based management will be mirrored in other areas of employment as well. These kinds of relationships are not limited to food-delivery riders but also extend to other forms location-based gig work such (Uber, Lyft, Upwork) and even online content moderation (Facebook, Youtube) [15].

Importantly, many of the issues related to bias, fairness, transparency and accountability [9, 13, 14, 16] already well-understood in large-scale technical systems are equally present in these workplace environments [2, 4]. It is reasonable to suggest that the future of work and the future of technological innovation are closely intertwined.

DESIGNING FOR THE FUTURE OF LABOUR

What could it mean to design for the future of labour? To start with, it would mean putting the worker at the centre of the design process. While workers are certainly considered a relevant constituency in HCI research, their design choices are not typically given a priority over those of other relevant actors. A worker-centric design process could bring out things that go beyond technological acceptance, but actively promote design choices that matter to workers.

In the context of food-delivery riders, this could mean a greater transparency about what data is collected and processed about the workers, especially for the purpose of evaluation of their performance. In addition, all the algorithms which have direct impact on the wages and well-being of the riders, such as order allocation, shift booking or sorting of riders into groups should not only be revealed, but consulted with the riders. In addition, all modifications to the choice architecture of the app-based system should be tested with its users willing participation, so that their preferences are captured and weighted against the interests of the company. It would also mean that results of the kind of A/B tests that are pervasive in app-based management would have to be available to the workforce. We should also question the process of optimisation itself - perhaps optimise for different collective goals while ensuring that certain ends are actually not optimised for[14].

This type of design could also implement differential privacy [1] in which food-rider companies clearly define what specific kinds of data they need about riders and riders are able to share this information with them selectively, rather than simply providing a complete data dump. It could also involve external accountability mechanisms, where riders are accurately provided with an overview of their behaviour in relation to the typical/average behaviour of their platform. While this approach might pose challenges for some employers, there is no indication that they are completely impossible.

Instead, the challenge is to make their implementation sufficiently viable that their usage requires as little additional time and effort as possible for both workers and employees.

Such pro-social implementations of workplace management apps have the potential to change the relationship between riders and their platforms, in ways that are potentially at least as powerful as changing the legal status of riders. Building on the current implementations of software designed to support riders such as Turkothon or Sherpashare, there is an important need to systematise these kinds of technical systems in ways that can be easily implemented. Solutions as ad-hoc bug fixes or band aids are not sufficient. Instead, we should focus on systematically introducing co-design practices and accountability mechanisms into the core of workplace relations. This could contribute to changing the way in which workers engage with technologies, but also as a way to match the expectations of greater autonomy promised by the app-based companies.

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