

# **The Platform Review Alliance Board: designing an organisational model to bring together producers and consumers in the review and commissioning of platform software**

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## **1. Introduction: The platform firm in the platform economy**

In this paper, we propose a Platform Review Alliance Board that can bring together guild-like and trade union-like models to promote collective action in the platform economy. In the platform economy, online digital platforms mediate between individual freelance workers and customers. The platform operator creates an algorithm that matches workers with customers, but the workers don't benefit from regular employment, they take on tasks as and when they are given them, responding to temporary offers of work via an app (De Groen et al., 2016). These platforms benefit customers as they can find the lowest price for products and services worldwide, but workers do not have the job security, opportunities for collective action or benefits that workers in more traditional organisations have. Although the platform economy is currently less than 1% of the total economy (OECD 2017), that proportion is growing.

Coase (1937) defined a firm as where an entrepreneur protects workers from the fluctuating market by acting as their employer. By working within the firm, workers get a regular wage, while the entrepreneur gets the assurance that they will have labour when they need it to satisfy market demands. Although the platform operator might claim not to be a firm in the traditional sense (Kenney and Zysman, 2016), the firm (or corporation as it is now more commonly known), still acts as an employer by directing resources (Coase, 1937) in a market where transaction costs approach zero.

The Frankfurt Paper on Platform-Based Work (2016) notes that in the platform economy, workers as independent contractors are 'typically excluded from the legal and social protections established for employees over the last hundred years', and that the digital platform economy undermines traditional forms of collective bargaining, particularly trade unions. Many writers have proposed different measures of institutional redesign to address such negative consequences, for example Lanier (2014) predicts that, in a not so distant future, traditional businesses could be replaced by individuals selling data and services through new kinds of cooperative organisation. In creating a new model for collective action, we start with the proposal from Unionen (2016), the biggest Swedish trade union for white collar workers, that employer and employee organisations jointly create an institution to certify platform owners who are prepared to sign collective agreements that enable and facilitates sustainable transactions on the platform based labour market for all stakeholders concerned. Our model, however, focuses on a specific aspect of the platform economy, user participation in the review and certification of workplace software.

## **2. Institutional redesign to bring together producers and consumers**

In this paper, we reflect on opportunities for institutional redesign geared towards creating the organizational conditions for such review activities. In this reflection, we draw on the experience gained with the UserAward program in Sweden. The UserAward software certification program was launched in 1998, initiated by the LO (Swedish Trade Union Confederation) in cooperation with the TCO (Swedish Confederation for Professional Employees) (Walldius et al., 2005). The main activities of the UserAward program were to involve users of the software in its deployment, use, and eventual redesign in the workplace through a process of user-driven software quality assessment, where a key finding of an evaluation of the program was that it needed to consider its effects on both direct and indirect stakeholders (Walldius et al., 2005, 2009, 2015).

However, a weakness with user certification is that it was reactive and lacked strategic alliances with software providers, two shortcomings that are not seen to the same extent in its predecessor, the TCO Certified program for computer hardware. In the light of the recent renaissance of guild-like cooperative social formations, external review and certification could offer a mechanism for software producer guilds to involve external stakeholders in production and certification of software. We identify there is an urgent need for systematic scientific and scholarly review of how these propositions could succeed, but, as the Frankfurt Paper (2016) highlights, there is a lack of systematic review of software systems, also of resources to deal with the lack of review. In this paper, we propose a multi-stakeholder review alliance to promote long-term scientifically based reviewing activities that can support future collective bargaining processes regarding the design, development and deployment of platform related software. The proposed software producer-user alliance model can involve both internal and external stakeholders as participants in the process of software review and commissioning.

In order to make the diverse set of stakeholder interests explicit and negotiable, in particular the needs and requirements of different user groups, we propose the forming of Review Alliances that act as facilitators for universities, user organizations, employer and employee organisations and relevant public authorities to initiate this kind of transparent and multi-stakeholder reviewing and policy deliberation activities. These Alliances can be branch specific, national and international. We also propose that these activities should build on the knowledge base provided by the more than 20 years of research and development activities within the Value Sensitive Design and the Pattern Language communities. We introduce the Platform Review Alliance model in the next section.

### **3. The Platform Review Alliance Board model as a design pattern**

As well as trade union models, we draw on the medieval guilds, where guilds have been linked with open source by Merges (2004) and developed further by Larner et al. (2017) as the open source guild model. The open source guild model and experiences gained from user-driven quality review activities contribute to potentially complementary organisational patterns in that each can help address an identified weakness with the other. Evaluation of the UserAward model (Walldius et al., 2015) indicates that the process needs to be developed to involve a range of software providers and researchers, including both indirect and direct stakeholders in the review and commissioning of platform related software. We propose a network that brings together representatives from software producers and trade union which:

1. Draws on the open source guild business model to support the creation of guild-like cooperative structures for software producers.
2. Draws on the experience of the UserAward program to involve trade union representatives in software review.
3. Draws on the research aspect of the UserAward program to involve universities in relevant research.
4. Involves the management of workplaces where the software will be used.

Design patterns were introduced by Alexander et al. (1977) in the context of urban architecture, where a design pattern is abstracted in a standardized format from practical experience so it can be applied to future design problems in the same domain. Dearden and Finlay (2006, p. 50), investigating the application of design patterns in computer science, defined a pattern as ‘a structured description of an invariant solution to a recurrent problem within a context’ and a pattern language as ‘a collection of such patterns organized in a meaningful way’. A design pattern typically takes the form of:

- *Context*: where the pattern links to a higher-level pattern.
- *Name*: that clearly states the central idea of the pattern.
- *Example*: an example of the pattern as used in a real-world context.
- *Problem definition*: the issue that the pattern is intended to address.
- *Forces*: these further define the problem.
- *Solution*: a generic statement of how the problem may be addressed.
- *Supporting patterns*: lower level patterns that the pattern links to.

This paper has presented the problems with existing organisational structures for the production and review of workplace platform software and offered the Platform Review Alliance Board as a potential mechanism to overcome them. A design pattern approach, in this case creating a propositional design pattern, can help with implementing this model. Considering the Platform Review Alliance model as a propositional design pattern that builds on existing established patterns, we can present the model as:

- *Context*: Platform Economy, Trade Union, Cooperative, Software Producer Guild.
- *Name*: The Platform Review Alliance Board.
- *Example*: There are examples of components of the Review Alliance Board model, the UserAward program is an example of unions working with universities and user groups to review software, while the San Mateo County Union Alliance is an alliance of unions (<http://smcuca.org>) that engage in reviewing the design, deployment and use of UrbanSim software. The Software Guild (<http://www.thesoftwareguild.com>) offers training and development from a group of masters to apprentices in software. The Swedish trade union Unionen (2016) proposes to create a certification body for platform owners, which could also be a mechanism that is applicable in the Alliance Board model.
- *Problem definition*: The Platform Economy pattern, where centrally owned online servers facilitate workers and employers to interact individually, undermines collective action.
- *Forces*: A mechanism for centralized interaction means workers interact individually with each other rather than in groups. Existing organisational patterns, particularly Universities, Trade Unions, Guilds and Small Work Groups are being bypassed by the Platform Economy pattern.
- *Solution*: Create a Platform Review Alliance Board that can be a central body to link together and strengthen existing organisational patterns, particularly Universities, Trade Unions, Guilds and Small Work Groups in the context of workplace software production and review. Individuals who are members of these organisations can interact via their organisation and the Review Board. The Review Board is responsible for performing and reporting on transparent and standardized software reviews and local user and management satisfaction surveys.
- *Supporting patterns*: User Software Satisfaction Survey, Users' Software Review, Master and Apprentice.

The Platform Review Alliance Board pattern can potentially overcome the inward focus of both trade unions and software producers by encouraging closer co-operation between them and thereby contributing to the strategic development of both parties. Applying this pattern can further contribute to the development of innovative and high-quality workplace software through the involvement of universities, who can contribute fundamental research, and workplaces who can feed back how the software is used and applied.

#### **4. Implementing the Platform Review Alliance Board Model in the context of transport**

The work of Friedman et al. (2008, p. 305) in the context of UrbanSim can be helpful in implementing the Platform Review Alliance pattern. UrbanSim is an open source land-use computer

modelling system that has been in development since 1996 to assist urban planners in evaluating the potential impacts of planning decisions (Borning et al., 2008). It was developed using a Value Sensitive Design methodology, which aims to foster human values in technological design, where both the values implicit in the system and those of stakeholders need to be considered in the design process (Friedman et al. 2002). Friedman et al. (2008) developed the VSD methodology further in UrbanSim, to enable indirect stakeholders to become direct stakeholders through the Indicators Perspectives Framework (IPF). The IPF ‘provides a mechanism for different partner organisations to present their own perspectives on major land use and transportation issues, on which indicators are most important, and on how best to evaluate alternative scenarios of land use and transportation’ (Friedman et al., 2008, p. 3).

Transport is a domain where software developments have enabled innovative systems that promote the more effective use of public transport. The experience of using and developing UrbanSim since the 1990s showed how transport was key in urban development (Borning et al., 2008). More recently, projects such as OneBusAway (Ferris et al., 2010) offer an indication of how transport could be transformed using networking technology. However, this technology has also led to other developments that reinforce the corporate platform economy through centralized apps that link individual drivers in their own cars to individual passengers (Belk, 2013). These individual drivers could be part of a structure for collective provision of transport. Such a system will need effective software to make it work. The starting point for creating this software platform can be to implement the Review Alliance pattern in the production of software for transport systems. In the domain of transport, there is an additional group of stakeholders, the general public who use transport systems, and increasingly in the platform economy, provide them as well. We propose that these stakeholders can be represented through the universities, who can undertake research with transport users that can inform the development of software to run transport systems.

## **Conclusion**

In this paper, we have presented how trade union-like and guild-like models in the context of workplace software can be brought together as a conceptual model which we have called the Platform Review Alliance Board. Drawing on the historical experience of guilds and cooperatives, the UserAward program and the development of UrbanSim, we propose that the Review Alliance Board model includes not only guild-like cooperative software producers and trade unions, but also universities and the workplaces where the software platforms will be deployed. We propose that a Value Sensitive Design process that takes into account both direct and indirect stakeholders is appropriate to implement this model. The contribution we make is to propose how a Review Alliance Board model can be an alternative strategy for both software producers and trade unions in assuring the quality of workplace software in the context of the growing platform economy, where individual providers are the new workplaces.

We have considered in this article how the model could be implemented in the context of software platforms for integrated transport systems that could include individual transport providers. Future work in the domain of transport can start with a pilot project in one city, which focuses on how software platforms for transport services are designed, deployed and used. A university could establish the Review Alliance Board and invite transport authorities, transport providers, unions and software providers to become members of the alliance. The university can then undertake a Value Sensitive Design process with the other members of the alliance to establish both its core values and how it can operate in practice.

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