Activity Report for Study and Development Fellowship for Sessional Lecturers

Critical approaches to user agency and Internet governance

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Please let me express my gratitude for generously supporting my research with a Study and Development Fellowship by the University of Guelph in the most recent fellowship term. In the last six months I carried out a number of tasks to further my insights into the interaction between user agents in small online groups which are delivering our current Internet standards and in this particular case, a new version of HTTP. Particular milestones include:

1. An update to my current literature review;

2. Reading and contextually embedding about 10,000+ online documents (listserver contributions);

3. Identifying, selecting the most important and time sensitive periods when this particular IETF WG experienced considerable pressure to produce group *consensus* (January-March 2012);

4. Identifying and researching the professional background of the main contributors to the email list;

5. Uploading content and categories into NVivo;

6. Developing categories and assorting email contributions. The categories are 'personal clout', 'technological specifications'; 'consensus'; 'agents and users'; 'protest'; 'pink ponies'.

7. Applying for a paper presentation of my research result at a professional conference in London (UK);

8. Revising and resubmitting my paper proposal, paper accepted as research-in-progress (see Appendix). For further details, see http://smsociety16.sched.org/event/7G8i/corporate-power-institutional-resistance-and-online-exchanges (the link will lead you to the website with the updated version of my research, but I also attach a copy of my update to this report, see Appendix).

9. Preliminary preparations of a power point presentation for the conference, held in July 11-13, 2016.

My next step is the preparation of my research for publication in a professional journal. Once my research is published in a professional journal I will gratefully acknowledge the financial support generously extended to me by the fellowship fund of the University of Guelph.

Sincere regards,
Sylvia E. Peacock

APPENDIX: REVISION AND RESUBMISSION OF RESEARCH IN PROGRESS PAPER TO REVIEWERS (SOCIAL MEDIA AND SOCIETY, LONDON (UK), JULY 11-13, 2016)

Work-in-Progress Paper (#133)
Corporate power, institutional resistance, and online exchanges
Sylvia E. Peacock

Background:

How is consensus found in small groups that negotiate important Internet protocols, just using public email listservers? This project analyses three important threads on a public email listserver that contain the email exchanges of a small group of people who were chartered by the IETF with updating our current HTTP protocol, that underlies all our traffic on the Internet. It was an update that was long overdue, and is still in the wake of being finalized. The Internet Engineering Task Force (IETF) is an international Internet standard setting organisation. In general, its mandate is to identify and develop technical standards for the entire Internet, anywhere in the world. It is one of the most unregulated, independent, transnational, and anti-authoritarian Internet governance levels. Given the considerable number of users affected by these standards, vested interests emerge and are vigorously pursued, at times. Only a very small number of studies have shed light on the socio-economic and political role of this organisation, exploring how the IETF works, who benefits from their procedures and publications, and how much deference is paid to corporate interests that claim patents or intellectual property rights.

The selected email threads contain discussions on the required changes to make the next generation HTTP a success. One particularly contested point was how much of the world's next HTTP should be based on Google's SPDY (read 'speedy'), developed by Mike Belshe and Robert Peon while they were employed by Google (both have since left). SPDY was launched by Google in 2009 without IETF standardisation, and included some business enhancing possibilities for their social media platforms (see https://tools.ietf.org/html/draft-mbelshe-httpbis-spdy-00). Their corporate search and social media business model is straightforward. While people are engaged in entering searches or exchanging their views and opinions online automatically all their online entries and machine data are tracked, stored, analysed, bought and sold without public oversight (Hoofnagle & Whittington 2014). Although the possibility for online exchanges is usually viewed positively, online users are divided over the merits of the corporate use of their personal data (PEW 2015, Goodman 2006, Peacock *under review*). Additionally, pervasive monitoring (PM) with its continuous analysis of web traffic by governmental agencies was identified as a problem that needed attention in any HTTP update: "Pervasive monitoring is a technical attack that should be mitigated in the design of IETF protocols, where possible" (Farrell &

Tschofenig 2014, p. 1). In the wake of this development, the HTTP working group who was chartered with the design of the new HTTP framed PM as relevant to their work. These and other discussions lead to increased their independence from the initial corporate push to merely standardise SPDY.

Objective:

In international organisations people selectively share important knowledge to strengthen in-group coherence, enhancing social status of some while producing social exclusion of others. The current study offers evidence of the social tension between corporate interests and the public goods character of the Internet. Given the salience of the HTTP/2 charter corporate actors, online agency and user advocacy feature prominently in select online discussions.

The current work is not so much about the merits of our new HTTP/2 but focuses on the way rough consensus in this working group is produced using tools of social media. The extent of rough consensus is at the very heart of this project and the use of social media – in this case, an early form of social media, namely public email listservers – serves as my empirical case study. According to an earlier study by Froomkin (2003) discussion in IETF working groups are an ideal case of an inclusive practical discourse that Habermas seems to have envisioned as a public sphere (Habermas 1989, Froomkin 2003). The questions answered in this study are twofold: When does rough consensus succeed or fail and who are the most central people in this process? Furthermore, in how far do online discussions emulate an inclusive practical discourse, particularly if the politics of engineering Internet standards for the entire world is at the heart of the discourse?

As one of the first institutional bodies of standardising best practise on the Internet, a dated but proven email listserver tool is used to exchange ideas and opinions. In the current high-stakes case to produce the next generation HTTP, I assess behavioural objectives and social interactions amongst the working group (WG) members who are all volunteers, vis-à-vis dominant corporate agents to analyse how consensus is build or fails to be build. Most email inputs in the archive contain technical specifications or experiments (testing applications in the wild), but the launch of the charter to construct a new HTTP/2 saw deeply social topics covered like the degree of independence of the IETF which shows the political nature of Internet engineering. In the end, what is made possible or inhibited by technology are very often political decisions made by a small number of people which then go on to affect a large number of people, in this case the entire world (if adoption is successful).

Of particular interest are the initial three months when the group's charter is discussed. Members weigh into the merits of SPDY versus a more secure HTTP, and debate the extent of their options to have more independence. Given the corporate presence of WG members with heavy ties to Google, Mozilla and a number of other large Internet firms and an already existing 'new' HTTP (SPDY) members felt heavily

nudged towards 'rubberstamping' corporate online interests. But other opinion leaders emerged to insist on broadening their assignment. Eventually, this lead to a more consensual move: SPDY was used as a mere backdrop and while the group independently improved the current HTTP. A small number of people dominated the discourse resulting in the outcome we have today – an improved HTTP with backward compatibility and better options to circumvent PM. According to Haberman, this can be viewed as an outcome of *delegation* when important decisions are delegated to people who are considered more capable than others. As might be expected, a considerable number of emails focused on the very nature of the WG's assignment and the envisioned end product, given the urgent need for more thorough HTTP updates. Humour, allcaps, hilarity, and rhetoric are used as members engage in highly contentious exchanges, which is usually a good indication of the political nature of their work. Taken together, a theoretical framework of the *public sphere* seems appropriate to advance my analysis of the empirical data produced by this working group.

Methods:

My research includes the representation of knowledge, rules, clout, and classifications in the publicly accessible email contributions from working group members (WG). These public contributions are of a very peculiarly nature, because public access to the email list is obscure while at the same time, full public access is granted, if anyone finds them. Currently, I am finishing the analysis of emailed contributions from members of the HTTP/2 WG on the contentious discussions about the extent of their charter and questions surrounding the inclusion of Google's SPDY for the new HTTP/2. To wit, SPDY had been in use since 2009, and the number of company heads who were adopting it without IETF standardisation was increasing (e.g., Amazon in September 2009 or Netty in February 2012). Discussions on how to recharter the HTTP/2 working group started in January 2012. The first http proposal was officially launched in February 2012 (based fully on SPDY). In the next two months at three different discussion threads ensued containing lively debates on the question how much of our next generation HTTP should be based on Google's SPDY.

The choice of this case study is based on its importance for the online public sphere, particularly regarding user agency and the fact that social media were used to negotiate technical choices. Contentious issues are identified by the comments of group members and in published articles outside the WG that describe this particular piece of engineered standard setting (e.g., Kristol 2001, Kamp 2015). The full list of email discussions on the HTTP/2 standard is hosted by the IETF HTTP WG (see http://httpwg.github.io/). Additionally, an IETF meeting took place in Paris in March 2012 (IETF 83) that offers some insights of how the discussion of the charter continued face-to-face. All of these materials are publicly accessible, although members expect little public scrutiny beyond those immediately

contributing and involved in the discussions. Therefore the archives are characterised as quasi-public in my current work.

The context and social interactions of the working group members are analysed based on the discussion threads, meeting materials, and some publications surrounding the process. But most of the scrutiny surrounds their exchanges on the email listserver. The applied method is a directed content analysis of online documents (Zaidman-Zait 2014). Categories are chosen based on the extent social and political power expressed in an email. The goal is to reproduce how online consensus is created. Three different threads are studied that contain contentious issues on the legitimacy of SPDY as the next HTTP protocol and included in the analysis.

Results:

The temporal context behind the new HTTP protocol spans over more than three years, while the development and launch of SPDY goes further back. Many improvements are included in the new HTTP/2 protocol. They promise to shorten our upload and download times of online material and introduce long overdue security measures and efficiencies. The implementation of our new HTTP is not finished, yet. So the story that can be told is open ended. While new parts of the protocol are worked out, discussed, or standardised, the most pressing issue is whether the world will adopt the new protocol. The main HTTP/2 standard was released in May 2015, published in RFC7540 (Belshe et al. 2015). It includes the most wide-ranging changes to our HTTP protocol for the last 20 years. However, chances are that the majority of Internet users may not have heard about the ongoing overhaul of our current Internet protocol. The exclusivity which the HTTP/2 working group enjoys is reflected in some of the group members' comments. Input by common Internet users is neither offered nor required and although publicity is not shunned, neither is it sought. The unusual setting of a possible public sphere in a semi-private setting increases the impact of some of the more powerful and vocal online contributors. This very unique layering of online accessible governance, machine mediated social group interactions, and distinct short-versus long-term group agreements make the production of public outcomes so interesting in this particular field. How are changes affecting billions of users brought on by a small group of people? What are the main political problems the group grapples with in the first few weeks and how are they resolved? My study contains answers in the dynamics of political issues and measures of centrality with some interesting examples. It counters the idea that the IETF is a plain engineering division. Issues concerning privacy problems, pervasive monitoring and remedies, instrumentalisation of the IETF by Google, invasive corporate business goals, and ideas for a better Internet, and more exemplify the political nature of this institution. Currently, doubts are voiced whether the current governance structure is able to handle the increased complexity, size, and value of hard- and software developments (e.g., Kamp 2015).

Data from three different email threads are condensed into a comprehensive analysis. The focus is on an initial two month period that follows after the rechartering of the HTTP working group to renew the HTTP protocol (January 2012). A comprehensive context containing the most important contents of concurring online and offline meetings and discussions is compiled, which will offer an overview of important milestones. An open question still is whether the "practical discourse" of this IETF working group legitimately may be called a discourse happening in the public sphere (see Froomkin 2003). In sum, the theoretical and empirical contributions rest on two pillars; firstly, the introduction of *political engineering* as a field of study and applied to the current case study, and secondly, an answer as to whether the current case study underscores or refutes the idea of the IETF working group as an ideal case of a public sphere.

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