'Social' or 'anti-social' Software: Content production in Web 2.0 – who benefits?

As computing educators we naturally like to see progress in the possibilities afforded by new technology. We strive to maintain currency and actively promote the latest and greatest in technology platforms. "Social software" has become one of the more recent technology trends, demonstrated in the CS Education context through "Peerwise", a collaborative learning platform [2] based upon a "contributing student pedagogy" [4]. We see platforms such as Facebook™, Twitter™ and YouTube™ gaining wide reach, accompanied by active research programmes applying data mining and social network analysis techniques to uncover patterns of human behaviour and collaboration [7]. This bloom of interest in social software platforms has excited tech entrepreneurs, students who now see computer science as a doorway to riches, and CS educators happy with the increasing number of students, which paints a positive story of the march of progress rolling on!

But we cannot simply take the naïve view that this technology is socially neutral; in fact many aspects of "social software" are decidedly "anti-social". Perhaps we need to take a step aside to a more distanced perspective, so that we can better consider how we should be educating our students about the merits and pitfalls of such technology.

A recent report produced for the Australian Government [6], inquired into the phenomenon of *unpaid work* in Australia. The preface to the report made the following observations:

> In the last two decades and more, globalisation has wrought an enormous transformation in the world of work and the way it is regulated.
> In part this has resulted in a challenge to the standard employment relationship and an increase in precarious forms of work. Internships and the other types of unpaid work examined in this report can be seen as a further example of this shift to precarious work". [p. xi, 6]

The report expressed concerns about employers exploiting unpaid internships as a means of sourcing a renewable supply of cheap labor, a practice under Australian law that is actually illegal. Student internships as part of a course of study are not however legally deemed an employment relationship in Australia, so some form of valid *quid pro quo* in terms of professional experience while learning has been acknowledged.

In a more global context I have likewise commented on exploitation and the need to:

> *…move global software development in its worst instantiations from a highly unstable and primitive form of "global labor arbitrage"… to a constructive and effective way of sharing expertise and creating software systems in global partnerships based upon mutual respect.* [1]

But what of voluntary online contributions? A recent paper has categorized some forms of online content production as "hope labor":

> *"Un- or under compensated work carried out in the present, often for experience or exposure, in the hope that future employment opportunities may follow"* [5]

The authors note however that that the primary motivation for online collaboration is "for the intrinsic pleasures of productive processes and for peer recognition of a job well done" [5], but that is accompanied by a secondary set of motivations "the desire to better oneself for future employment opportunities" [5]. Both motivations happen to neatly match a learning and self actualization agenda. They argue that this future oriented investment view lends a seductive motivation to engage in this work, and "one that is increasingly incorporated into online business models" [5]. For instance in the analogous, but more communitarian, open source model that is Wikipedia, "Users.…can switch at any time from a pure consumption role to a producer/consumer, or "prosumer" role" [3, p. 51]. So in a world in which our students are no longer educated merely to become global consumers, but to become global "prosumers" on behalf of others (and in the case of CS graduates, the designers and implementers of such platforms), what is our function as educators?

Figure 1: An Anti-social software industrial ecology

In their critique of "hope labor" Kuehhn & Corrigan [5] question the power asymmetries in digital enterprises, in which the business models are based upon "harnessing of user's uncompensated productivity – their *free labor for the purposes of capital accumulation*", and observe that "Free labor arguably benefits the commercial firms that facilitate it and harness it, rather than the users who create the underlying value".

This inherently exploitative process is shown as operating through "proprietary service agreements that strip users of intellectual property rights" [5] and through a subtle transformation process wherein "through the surveillance of tastes and preferences, social media also convert user data into cybernetic commodities that are sold to third party marketers" [5]. These mechanisms of course are heavily cloaked, with the authors arguing that "Hope labor functions because it is largely **not** experienced as exploitation or alienation, despite the commodification processes inherent to digital and cultural production" [5].

So if this then, is the model through which an *anti-social software* industrial ecology is sustained, what responsibility lies with us to educate our students eagerly building the next "killer app" through which to make their millions? Are they merely to be the blinkered technicians writing the systems to someone else's tune, or will they rise to become the ethically detached entrepreneurs driving these new ventures? We need to raise the issues involved with social software and make clear to students the risks. They need to be conscious of the implications of entering into a Faustian contract where they sell the traces of their lives to corporate entities to profit from, in return for access to a seductive technology, which gives them the means to not only socialize online but to have a whole new circle of 'friends'. Is this a sufficient trade-off for sharing their data for free, foregoing privacy and turning their lives into a publicly viewable commodity? Social software's subtle invasion of the personal space by the corporate space carries the potential for a serious prosumer backlash, which could for instance destroy Facebook™ as a publicly traded company. Social software firms themselves will need to address the risks to their business of growing awareness of their disturbing business models, in which relationships with family and friends are transformed into commercially valuable transactions, and the resulting corpora into consumer intelligence datamines. It will become more important to educate students and social software business owners about the downside of such unsustainable approaches to business, so they can respond by devising democratising technologies based upon more equitable models that share rather than simply appropriate the wealth gained from the unconscious or 'hopeful' labor of others.

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