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How to build a map for nothing: immaterial labour and location-based social networking

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In April 2011, I happened to find myself in the beautiful city of York, Northern England, on a Wednesday evening, ready to deliver a paper to a conference the next morning. While there is much to admire in York – beautiful architecture, plentiful culture and wonderful scenery – I had only one objective in mind. On this evening, I wanted to watch Manchester United play Chelsea in the quarterfinals of the Champions League. I support neither team – and downright loathe Chelsea – but I really wanted to watch the match: I wanted to watch it in a bar, with other football supporters, with cheap beer and plentiful screens to see the action. In the past, this would have involved tiresome seeking out of bars in the city, walking from place to place and possibly missing the action. On this evening though, I missed nothing and found the perfect place, and I achieved this in seconds with the use of my iPhone and the application Foursquare: I hit the Foursquare app button; pulled up the list of places near to my location in the centre of York; started going through the venues to find bars, and read the comments and tips left by other customers; and found a nice place with student discounts for beer and lots of screens. The game was a routine 1-0 win for Manchester United, but the bar was great, a hidden gem in York, and found by utilising the power of smartphone technology and the social tips left by other likeminded people. I used the check-ins and comments of other users, stored in a database, to make decisions about somewhere I didn't know anything about, and when I checked-in there and left a comment – "a great place to watch football and great offers on beer!" – I contributed to this database and map of places as well. This is the world of location-based social networking (LBSN), a map of places created by users: what is called a "bottom-up" system, where users create the information rather than being given the information from above in a "top-down" system. This type of mapping has been incredibly useful to me, but it poses a very important question to be considered: what happens to the data I produce for the LBSN? This essay looks at how the data produced by user-generated databases of places is a very valuable commodity produced for free by the users, and while the database or map is very useful, we should also be aware of how our activities using such services are made into commodities for the companies that provide these services.

Location-based services (LBS) are the fastest growing sector in web technology business.[1] These services, be they LBSN, satellite navigation devices in cars or augmented reality browsers as applications on mobile phones, open questions about the awareness of location and engagement with location for users. McCulloch[2] argues that LBS are a channel or means of obtaining hyper-specialized information, in that the information reaching users is now about where they are, rather than decontextualized information with no relevance to the location of the user. Research on LBS[3] has concentrated on the relationship between technology use and physical

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[1] Gordon Eric and Adriana de Souza e Silva, *Net Locality: Why Location Matters in a Networked World*, Chichester: Wiley-Blackwell, Pp. 9, 2011.

[2] Malcolm McCullough, On the urbanism of locative media. *Places* 18 (2): p.26, 2006.

[3] Rowan Wilken, Locative media: From specialized preoccupation to mainstream fascination. *Convergence,* 18: p. 243, 2012.

spaces[4] [5] [6], discussions of power and politics in LBS[7], discussions on the representations of space that LBS provide,[8] [9] and privacy and the implications of revealing location (who would have known what bar I watched the game in, and how important could that be?).[10] [11] This essay discusses an aspect of the power and politics of using LBSN, about how LBSN create "places": how the users of LBSN are contributing to a huge database of places that provides unique information on places. The bar I found on Foursquare was not there by luck or accident; a user created that "place" on the map of Foursquare, and other users checked-in there and left tips and advice that I eventually acted upon to watch the match. The use of Foursquare creates a data trail of check-ins, tips and data entries that builds a giant resource for the application and for other applications to use through the use of application programming interface (API) resources: on where users go, what they do when they get there and with whom they share that information. This paper discusses the importance and implications of the use of immaterial labour in constructing these giant databases of places, and what this may represent in terms of political and economic power. In short, this paper considers the consequences of "checking-in" to a place on Foursquare from the perspective of what that is worth for the application and company itself: how important or valuable was my check-in to the bar on that evening? At first glance, one would think "not at all"… but the argument being expanded here is very simple: the users of free LBSN are creating valuable digital resources for free because the process of mapping has been turned from top-down (created by governments and organisations) to bottom-up (created by us, the users), and because of this the users are becoming a commodity in themselves.

What is New Cartography? From top-down to bottom-up mapping

The development of LBSN, and the development of user-generated databases of places, needs to be thought of within the context of historical map-making and mapping processes if the full implications of the switch to user-generated mapping are to be appreciated. Cartography has been described as a purely top-down activity[12] where power is exercised through the creation of maps as political artefacts. Top-down refers to powers at the "top" of a society, like governments or people in

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[4] Crawford Alice and Gerrard Goggin, Geomobile web: Locative technologies and mobile media. *Australian Journal of Communication* 36(1): pp. 97–109, 2009.

[5] de Souza e Silva Adriana and Jordan Frith, Locative mobile social networks: Mapping communication and location in urban spaces, *Mobilities,* 5(4): pp. 485–505, 2010.

[6] de Souza e Silva Adriana and Daniel M Sutko, Theorizing locative media through philosophies of the virtual, *Communication Theory* 21(1): pp. 23–42, 2011.

[7] Greg Elmer, Locative networking: Finding and being found, *Aether: The Journal of Media Geography* 5A, March: 18–26, 2010.

[8] Alison Gazzard, Location, location, location: Collecting space and place in mobile media, *Convergence: The International Journal of Research into New Media Technologies* 17(4): pp. 405–417, 2011.

[9] Sophia Drakopoulou A moment of experimentation. *Aether: The Journal of Media Geography* 5A, March: 63–76, 2010.

[10] Friedland, Gerald and Robin Sommer, *Cybercasing the joint: On the privacy implications of geotagging*, In Proceedings of Fifth USENIX Workshop on Hot Topics in Security (HotSec10), 2010.

[11] Michael, M. G., and Katina Michael, *Uberveillance: Microchipping People and the Assault on Privacy*, http://ro.uow.edu.au/infopapers/711, 2009.

[12] Jeremy Crampton, *Mapping Without a Net: The Politics, Sovereignty and Ontology of Cartography*. Proceedings of the 24th international Cartographic Comference, icaci.org/documents/ICC_proceedings/ICC2009/html/nonref/27_6.pdf, 2009.

positions of importance, transferring knowledge, ideas and ideologies "down" onto the members of a society. Persons in positions of political and military power historically have controlled the creation of maps; for example the history of the Ordnance Survey (OS) in the UK is one of military and political power.[13] In practice, this means that maps have never just represented the territory they cover, but also represent political and ideological aspects of society too: just think of a map of Europe, with all the borders carefully and accurately drawn to represent not just the physical dimensions of the countries, but also to differentiate them as distinct entities that have different political, historical and social dimensions. Another example of this is the mapping of areas in dispute around the world, like Kashmir (disputed by Pakistan and India), that are mapped differently by different sides of a dispute. Cartographers are affected by the ideological and cultural influences placed upon them in their role in society, and as such, there emerges a need to acknowledge that maps generate specific territorial knowledge or what Olsson[14] calls cartographic reason. Cartographic reason can be linked to Foucault's notion of bio-politics[15] and the political production of knowledge: the top-down position of cartographers means the maps they produce are products of the state, which exist to normalise concepts of territory and power for those subjects under the power of a particular state. This also normalises power relations between different states. Korzybski[16] famously wrote that "the map is not the territory", and this tells us that the map is only a representation of territory, and as a representation its character is to order or re-engineer the territory in line with dominant ideologies in a state. This means that the places on maps are not as important as the political or ideological influence of the map.

Moving on historically and developed from traditional cartography through the utilisation of modern satellite and computational technology, Global Positioning Systems (GPS) technology locates an individual or object within the range of the technology by pinpointing their position on Earth through communication between a GPS enabled device and a network of 24 satellites known as the Global Positioning System.[17] GPS represents a different paradigm in locational representation, no longer purely graphical, but now precise and relational to other entities based on the spatial co-ordinates of latitude, longitude and altitude which GPS technology uses to locate the device or individual. GPS technology had its developmental roots in, and is still dependent upon, military technology; but the development of GPS (and in particular the development of commercial applications of GPS for the civilian market) has also led to a new kind of information source on location, which has developed directly from innovations in commercial GPS devices. GPS devices like in car GPS units require a database of places and geographical features to operate a functional user interface. The databases used in GPS devices are proprietary ones, owned and controlled by the hardware manufacturers, or created by software companies and licenced by the hardware manufacturer. Either way, the system is closed; the user

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[13] Richard Oliver, *Ordnance Survey maps: a concise guide for historians (second edition),* London: The Charles Close Society for the Study of the Ordnance Survey, Pp. 10, 2005.
[14] Gunnar Olsson, *Abysmal: a Critique of Cartographic Reason,* Chicago: Chicago University Press, 2007.
[15] Michel Foucault, *The History of Sexuality Volume 1: The Will to Knowledge*, London: Penguin. Pp. 140, 1998.
[16] Alfred Korzybski, A Non-Aristotelian System and its Necessity for Rigour in Mathematics and Physics. *Science and Sanity*, p. 747, 1993.
[17] Robert Nelson, *The Global Positioning System: A National Resource*, Riva, Maryland: Applied Technology Institute. http://www.aticourses.com/global_positioning_system, 1999.

cannot alter the software or more importantly add to the software and so it is still decidedly top-down.

This kind of closed system is in contrast to neo-geographical[18] software programmes that have emerged in the last few years: like openstreetmap, which allows user-created content to build layers of information into maps. There has also been the development of a series of user-created databases that are the product of interactive geospatial tagging applications for mobile platforms such as the iPhone. These applications or LBSN – Foursquare, Gowalla[19], Brightkite and Rummble being popular examples – build databases of places by users creating "spots" and "checking-in" at those spots. These mapping systems, that build-in user-generated information into maps to create new, dynamic maps are not "top-down", they are "bottom-up": everyday users, not people in power or governments, add the information to the map and so the information is build from the "bottom" of society, not the ideologies of the "top" of society.

When using LBSN, users are rewarded in points-based systems for the creation of spots and for checking-in to spots, and from this a game environment is created where users are encouraged to compete with friends for high scores over periods of time. Users are also rewarded with badges and titles for check-ins and creating spots: Foursquare conveys the status of "mayor" on users who have the most check-ins at a spot. Users can leave comments about spots they check-in at (and as many of these spots are services like restaurants or shops, this can be seen as a form of free advertising or user-review of the service) and photographs of the place. When I looked for a bar in York, I was relying on the work of others before me to make that information and guide me in the unfamiliar place I was in: their check-ins and tips helped me familiarise myself with the city and make my choice. By checking-in to a place, a list of nearby venues and places is automatically generated, providing the user with further information on their location and their relative position to other places and services. The database of places of a LBSN is built using user-generated content (be that geo-tagged places, comments or recommendations) and as such the database grows and develops as a function of the use and popularity of the LBSN.[20]

While the use of game design and gamification of location to attract and maintain users is interesting in these applications, it is the result of user activity that is more important in this discussion. Usage creates a user-created database of places, which is filled with content such as comments and photos that adds a social dimension to the database. The combination of social and service applications, geolocational technology and geo-tagging (the process of locating oneself at a place using GPS-based applications) is what we know as LBSN.[21] A LBSN application's functionality

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[18] Jeremy Crampton. *Mapping Without a Net: The Politics, Sovereignty and Ontology of Cartography*. Proceedings of the 24th international Cartographic
Conference. icaci.org/documents/ICC_proceedings/ICC2009/html/nonref/27_6.pdf, 2009.

[19] Gowalla was acquired by Facebook in December 2011, and was ended as a stand-alone service in March 2012. Facebook acquired the Gowalla development team as part of the take-over to develop Facebook's "Timeline" function (Todd Wasserman, 2012).

[20] Foursquare make this database of places freely available to programmers and application developers through the Foursquare API.

[21] In 2007, Dennis Crowley (CEO of Foursquare) met Naveen Selvadurai, a programmer primarily interested in geo-location and digital tagging of locations (Pollack, 2010: 94). The combination of Crowley's experience with social and service applications, and Selvadurai's interest in geolocational

has been outlined above; a user activates the application, which locates the user using GPS triangulation. This triangulated position is then matched up to spots that have been created nearby, for example a shop or restaurant. The users can check-in to this place (and leave a comment, and link this check-in to another social network) or if they are in another place nearby, can create a new spot. The spots are superimposed on a Google base map to insure accuracy, but it is left to the user to check for the accuracy of their spot. Once created, other users can also check-in at this spot, and information on check-ins will be relayed to friends of the user through a message to their mobile device. Foursquare launched on March 13th 2009, and had 10 million registered users by April 2011.[22]

This shift in production is significant; in a top-down system the database is a created, closed interface, without the facility for user contribution or editing. In a bottom-up system, the users of the application (over 10 million is the case of Foursquare in March 2011 from 1 million in March 2010) create the information held in the database. This open form of database is a contingent on users: some areas can be expected to have many spots, others none based on the relative facilities available and technological limitations (such as 3G coverage). These databases are also developing in isolation to one another as it can be expected that the more users that use an application, the more valuable to advertisers the database will become. When a user creates a place on Foursquare, there is clearly not a top-down power relationship in the cartography. The creation of a gazetteer or database entry is both down to the users of the network (and therefore distributed rather than concentrated in the hands of a cartographer) and is immediately turned over to the network[23] as a bottom-up (i.e. users creating the database rather than being "given" the information) form of activity. The map is not a static representation of the territory: the user can add to the map, and change the character of the gazetteers that have already been left on that map. The method of creation and the role of the user have been changed with the role of the map itself. Maps were representations of territory but with the right computational device, maps are something with which we can navigate the world socially and add to, in order to aid others that aim to navigate that physical space.

The Political Economy of LBSN – how much is my check-in worth?

There is clearly a possibility, within the design and functionality of the applications that use GPS technology to build a database of places, that LBSN can be utilised by businesses and organisations as a means of advertising in a very labour-free way. Businesses do not need to create their own entry on the database (although they can do this if they feel necessary): a user will do this for them through creating a spot and checking-in to that spot.[24] If a spot is created for a restaurant a drinks manufacturer could directly advertise to a user within that restaurant that has checked-in there, or an offer on a meal could be made by the restaurant itself (a possibility already being

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technology and geo-tagging (the process of locating oneself at a place using GPS-based applications) led to the development of Foursquare.

[22] Foursquare, *Wow! The foursquare community has over 10,000,000 members!* http://blog.foursquare.com/2011/06/20/holysmokes10millionpeople/, 2011

[23] This in itself is an example of a system being created by free labour or the audience commodity (Dallas Smythe, 2006).

[24] Christian Fuchs positions this free labour in the context of a political economy of social networking, arguing that this kind of production is a transformation of everyday practices and entertainment choices into commodities to be sold for the commercial benefit od social networking companies.

exploited on Foursquare). More importantly, the database collects information on individual users - where they visit, when they visit that place and what they do there if the user contributes a comment to the check-in - which is invaluable demographic information, and information that could be used for targeted advertising of the individual in the same way Facebook or Google collects data on usage to sell to advertisers.

To understand what the implications of this bottom-up, user-generated mapping are and how it relates to economics we can focus on Marx's view of how technology affects the mechanics and dynamics of capitalism. Marx explicitly discussed the role of machinery in capitalism in *Das Kapital*, beginning with the observation that the radical change of production in one sphere is mirrored in others.[25] The LBSN and smartphone has radically altered the production of maps, from top-down to bottom-up, but this transformation is mirrored in the users. The user or audience is transformed by the LBSN and digital technology from an audience (or consumers) to a commodity.

Marx makes the role of machinery explicit: machinery "increases productivity without increasing the value of labour".[26] Technology serves the purpose of increasing production (and therefore increasing revenue) while stabilising (or possibly reducing) the value of labour involved in the production of the commodity. When thinking of the production of a material product, this analysis is quite simple: consider a hammer. In a pre-industrialised society, a craftsman may produce one hammer per day, and the cost of this hammer would be linked to the labour of the craftsman in a linear manner; the cost would represent the amount of labour put into the creation of the hammer. As the mechanisation of industrial processes takes place, the creation of the hammer is taken away from the craftsman, and instead is produced by a machine: for arguments sake, let's suggest this machine now produces one hundred hammers in the time it took the craftsman to create one hammer. The price of the hammer falls, but not accordingly: there would not be a one hundred fold collapse in the price of the hammer, but again for arguments sake take it that the fall in price is 50%. Therefore, the sale of two hammers from the stock of 100 produced would account for the labour costs of the craftsman per day, and there are still 98 hammers left to sell at profit! The machinery is creating a surplus value, and that surplus value is embodied in the mass of products that have been produced, that is the hammers.[27] The machinery is involved in transferring the value of the product to the product itself and away from the labour that was used to produce it; as the labour cost of producing hammers using the machine are less than the labour cost of the craftsman. The craftsman, or any labourer, is left to operate or oversee the machinery producing hammers rather than create them; the machinery not just changing the means of production but also the world of labour and employment.

The notions of surplus value embodied in the products of production may not at first appear to be applicable to LBSN, but there is a very important connection between the

[25] Karl Marx, *Capital: A Critique of Political Economy, Vol. 3 (Penguin Classics)* (Reissue ed.), London: Penguin Classics. P. 236, 1993.

[26] Karl Marx, *Capital: A Critique of Political Economy, Vol. 3 (Penguin Classics)* (Reissue ed.), London: Penguin Classics, P. 239, 1993.

[27] Karl Marx, *Capital: A Critique of Political Economy, Vol. 3 (Penguin Classics)* (Reissue ed.), London: Penguin Classics. P. 231, 1993.

use of LBSN by users and the product (data) that is like the relationship between the labourer and the production of hammers. This link is provided by Dallas Smythe[28], who outlines the transformation of audiences from viewers to commodities to be traded in the marketplace like any other commodity (just like hammers). Smythe[29] states that there is (as Marx would say) a material base of work, which people must do in monopoly capitalism (accepting that this is the state that we find ourselves in economically and socially). This base of work is not confined to work itself, but also involves buying and consuming goods, and the work done by the audiences of the mass media: in watching, engaging with the texts and buying the products that are advertised alongside or within the texts, therefore supporting the economic base of society through work done.

The principle product of the mass media must be something that can be sold: a commodity that would allow for the realisation of the two main functions of the mass media to be realised in market activity. Smythe states that the principle product of the mass media (in monopoly capitalism) is audience power, and that this is the commodity that is produced, sold, purchased and consumed. Literally, the audience itself is sold, to advertisers as a group to be targeted for the selling of products. As such, it has a price like any other commodity that can be used in this way would have. In effect, the audience is being sold on the basis that it has "labour power" like any other labour (Smythe 2006: 257).[30] The buyers of this labour (advertisers) are in effect buying the attention of potential customers. Smythe does point out that audiences are not the homogenised swamp of buyers that this analysis might seem to be suggesting that they are, but that they are all produced by the mass media and sold in markets to advertisers.

Christian Fuchs[31] largely adopts Smythe's view of the audience commodity in his analysis of online communications and social networks and their impact within monopoly capitalism, and it is this analysis that is most important when thinking about what happens to user data when we use LBSN. Fuchs' identifies commoditised Internet spaces that are always profit orientated (even if the goods are not tied to an exchange value or market orientated in themselves) such as Facebook, Foursquare or YouTube. In these cases, free content is used to drive up visitor numbers so that high advertising rates can be charged to achieve profits. Fuchs argues that the primary orientation of these online spaces is instrumental, in that they are interested in realising the potential surplus to the invested capital in these platforms. What this means is that all my activity on social networks (which always produces data of some kind) can be packaged and sold to advertisers, based on my preferences and patterns of usage. Fuchs' view of the commoditised Internet economy emerges from the view that the productive forces of contemporary Western society are not organised around industrial production but around informational networks[32]. Benkler calls this a

[28] Dallas Smythe, On the audience commodity and its work, *Media and Cultural Studies: Keyworks* (pp. 230-56), New York: Blackwell, 2006.
[29] Dallas Smythe, On the audience commodity and its work, *Media and Cultural Studies: Keyworks* (pp. 230-56), New York: Blackwell, pp. 254, 2006.
[30] Dallas Smythe, On the audience commodity and its work, *Media and Cultural Studies: Keyworks* (pp. 230-56), New York: Blackwell, Pp. 255, 2006.
[31] Christian Fuchs, A Contribution to the Critique of the Political Economy of the Internet, *European Journal of Communication*, 24(1), 69-87, 2008.
[32] Christian Fuchs, *Internet and Society: Social Theory in the Information Age (Routledge Research in Information Technology and Society)*, New York: Routledge, 2008.

"networked informational economy" that has effectively displaced the industrial economy and society.[33] This development has led to an economics of information, where traditionally non-market commodities can now be commoditised: knowledge, information, locations (like my check-in to the bar, and the check-ins all the other users did before me that helped me decide to go to the bar) are all now commodities.

Fuchs' analysis can be summarised as an identification of two forces at work when we use free social networking services: commoditisation and individualisation (which revolves around personal freedom, freedom of access to resources and information and freedom of movement in the network). This idea of commoditisation and individualisation is very useful when we think about the bottom-up mapping that smartphone technology and LBSN such as Foursquare has allowed. When I check-in somewhere, I am sharing my location with others and allowing others to access and comment upon my location (or locate me there if they wish!). At the same time, I am creating data through my "work" for Foursquare that can be sold as a commodity: the technology that allows me to express my location and become a neo-cartographer is also the technology that stores and collates my data to make it accessible and therefore a commodity to be sold. We can use the freely available facilities on the internet (individualisation), but in doing so we are giving labour to others for free (commoditisation), so that they may accumulate capital. The "gift" economy (and the sites and applications that embody this economy) is a specific form of the audience commodity, in that the accumulation strategies employed by users such as adding friends, making comments and checking-in to places constitutes an audience commodity that is sold to advertisers. There is a radical difference compared to the audience commodity with old media (such as television) in that audiences are not just in the role of audience, but also content producer. User-generated content, community building and communication are the fundamental product of social networking sites, and this content is provided by the user that is also the audience sold by the platform to advertisers. LBSN are no different; the creation of places, commenting on places and checking into places are actions that create information, which in this information economy is a commodity to be marketed and sold. Fuchs term for the consumer and producer is "prosumer"[34] and it is this entity that ultimately is the commodity in the "gift" economy. The advent of personalised advertising on social networking platforms is a move to Deleuze's "society of control" where individuals must integrate and continually participate into structures that exploit them.[35]

The Commoditisation of Making a Map – why a check-in is worth something

It should now be clear that the bottom-up mapping that applications like Foursquare have "two sides": a creative, individual side where we make places and find out about places from others activity, and a commercial side where our data can be marketed to companies for specific advertising based on our activities. The game element of Foursquare is critical for this: remember that users are rewarded for the creation of locations within the game structure of the application. Gamification is the use of game

[33] Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom*, New Haven: Yale University Press. Pp. 3, 2006.

[34] Christian Fuchs, A Contribution to the Critique of the Political Economy of the Internet. *European Journal of Communication*, *24*(1), p. 82, 2008.

[35] Christian Fuchs, *Internet and Society: Social Theory in the Information Age (Routledge Research in Information Technology and Society)*, New York: Routledge, p. 149, 2008.

mechanics and game-thinking to solve problems and engage audiences,[36] and Bogost[37] has argued that gamification is an exploitative marketing technique designed to capitalise on a cultural moment. The ideological argument is that LBSN providers like Foursquare entice users through the game aspect of the application, and then collect and collate the location information provided by users (and the comments and discourses that they enter into on those places) as a commodity to be sold to advertisers. While the LBSN is free to use, it generates (or will generate) income through offering detailed information to advertisers, who can target specific individuals based on where and when those people visit places. This ideology that explains the rationale for allowing and promoting user-generated content in maps is clearly capitalist, motivated by the desire for accurate and specific targets for product advertising. The conclusion that is logically drawn from the argument is that the gamification model of LBSN actively commoditises both user and place, as such reducing both user and place to a resource to be sold.

It is interesting to note that Foursquare's own application is now moving away from a game/database creation model, into a navigation model that aims to add value to user experiences through the use of the application in the world. This has been achieved through the addition of an "explore" function into the application architecture (Foursquare, 2012).[38] The gamification aspect therefore seems to be waning, as the "work" of constructing the database itself is now at a stage where such an explore feature is possible to implement, and can be useful to users. The design of applications that build gamification into their data collection procedures should be viewed critically in terms of political economy, but there is a "catch-22" in making such a recommendation, as getting users to take up the service in the first place does require a feature that will draw in users, and undoubtedly in the case of Foursquare the gamification model was critical to this initial use of the application.[39] Since February 2012, new mobile software services, such as Glancee (recently purchased by Facebook) and Highlight, have indicated that the sharing of social experience rather than gamification of location is becoming the important aspect of LBSN for future development. Both applications are built upon the Foursquare API, and are based around matching people in nearby areas with relevant interests and check-in histories to users of Foursquare. The presence of the immaterial labour that created the database in the first instance looms large on these applications, despite their rejection of that form of database building.

There are positives and negatives to the use of immaterial labour through gamification in building a LBSN as Foursquare has done. The product is undoubtedly rich, useful and can be appositive for users. If you doubt this, hit the "explore" button in a new

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[36] Gabe Zichermann and Christopher Cunningham, *Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps,* Sebastopol, CA: O'Reilly Media, Pp. ii, 2011.

[37] Ian Bogost, *Gamification is Bullshit.* http://www.bogost.com/blog/gamification_is_bullshit.shtml, 2011.

[38] Foursquare, *Anywhere in the world, foursquare Explore can find you something interesting,* http://blog.foursquare.com/2012/01/12/anywhere-in-the-world-foursquare-explore-can-find-you-something-interesting-now-on-your-computer/, 2012.

[39] Arguably the gamification model, with the eye-catching increases in user numbers that may be attributed to the novelty of the game model during 2010 and 2011, was a major factor in attracting large capital investment in the company. This includes a $50 million investment in June 2011 that valued the company at the time at $600 million, on the basis of the high value of the then 10 million users (Sarah Lacy, 2011).

place (if you use the application) and you can find a wealth of social gazetteers that can help you navigate the unfamiliar territory in a way that a traditional map never could. The traditional map can tell you where places are, but not what they are like, or how others have used, experienced, enjoyed or hated them. This certainly helped me in my desire to get a cheap (but nice) beer in York to watch the Champions League quarterfinal. However, also be aware if you "check-in" to a place, what happens to your action: data produced, stored, aggregated, and waiting on a database possibly to be leveraged in future for commercial gain. The new cartography of LBSN gives and takes, but the eventual result of this new mapping and sharing of social gazetteers is not yet apparent to us: "checking-in" and sharing location could be the best way to sell you something yet. While we benefit from LBSN, the LBSN also benefits from commoditising users – and this is indicative of the new, information economy.

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