Going Digital: Attempting to Bring Digital Tools to the Study of Everyday Home Life

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Abstract

In uncovering everyday futures, the Internet is a potentially vital place to investigate the experiences and expectation of home life. The home is a key site to understand and intervene in futures-in-the-making, being a critical space of consumption and a place in which everyday practices and norms are (re)produced. Notably, online methods allow a window into the privacy of the home (i.e. written and visual media) and ease the process of data collection for cross-cultural comparisons. We explore the utility of home improvement forums for understanding expectations of (near) future homes, comparing desired futures by householders in the Netherlands and UK. Importantly, this paper offers a methodological reflection of innovative online methods for studying everyday futures.

Discovering Everyday Futures of the Home

To interrogate and explore everyday future imaginaries, the Everyday Futures workshop in July 2016 drew together an international group of scholars. From this event the home emerged as a common area of interest between participants and this has become the context of this short essay. The home serves both as a specific place, or context where futures are imagined and made, and as a subject of futures – the home as a changing fluid concept that is both physical (a location, a building) and an idea (a sense of belonging, comfort and privacy). To contribute to understanding everyday future homes we decided to investigate what home improvement forums could reveal about householders expectations or desires for their (near) future homes. We capitalize on the international composition of the Everyday Futures Network by doing a cross-cultural comparison between the Netherlands and UK. Certainly, previous cross-cultural comparisons on the home (Wilhite *et al.*, 1996; Ozaki, 2002) have demonstrated how taken-for-granted norms in one country can become more visible when contrasted with another culture's norms. The novelty of the approach in this paper lies in using *online methods* to make a cross-cultural comparison of key home improvement themes. This has resulted in this short essay being primarily a reflection on the potential of using online methods to study everyday home life.

We introduce some of the key debates related to the use of online methods (Section 2) and explain in detail how we used a few digital research tools to make a comparison of home improvement forums (Section 3). Section 4 presents our results and a limited discussion reflecting on our use of online methods in the cross-cultural comparison.

Online and Natively Digital Methods

Considering that searching peer-reviewed journals and looking up key terms are now general uses of the Internet, we argue that this short essay is broadly of relevance to the majority of academics. For instance, it is unsurprising to point out that there is nothing organic about search results and we all might benefit from learning more about understanding 'Google effects' and how to structure keyword searches (e.g. the impact and difference between using ', ", and []). Indeed, there is quite a bit of advice about 'search as research', with two key preparatory steps being to set up a 'research browser' (e.g. clear cookies, disentangle yourself from Google) and understand (default) Google settings (e.g. search within city not country). There is also

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much to explore in <u>how research results are ordered</u>; and it does not only matter what one searches for but also when.

To help orient the audience, we briefly allude to some basic debates in the online methods field before explaining our choice of tools for investigating home improvement forums. Firstly, we acknowledge, but have to set aside, explaining the wealth of approaches and terms for this type of online research (e.g. digital versus virtual methods, digital humanities, online ethnography, netnography). One main distinction to organise these approaches is sometimes articulated in terms of the difference between 'virtual methods' and 'digital methods' (Rogers, 2013). The former is an extension of traditional social science methods that have migrated to the web (e.g. predates the Internet). The latter is 'natively digital', written to work online and capitalise on features of the web (e.g. using hyperlinks and likes to analyse social networks which is not possible 'offline'). Use of digital methods has generated considerable debate about the relationship between digital devices and understandings of the social world, but this falls outside the scope of this short essay format (however, see Burrows and Savage, 2014; Ruppert *et al.*, 2013).

Instead, we offer a few examples of what can be discovered by using 'natively digital' tools. For example, the <u>Google Trends</u>[™] and <u>AdWords Tool</u>[™] compare monthly use queries for different terms globally and nationally, which can be used to analyse interest in topics spatially and temporally (Gaudet, 2012). Another tool is <u>IssueCrawler</u>, which analyses hyperlinks as a way to map social networks and information politics. IssueCrawler has been used extensively to map online actor-networks, especially in relation to a social or scientific controversy. For instance, creating a map of the links between sites (distinguishing between .gov, .org, .com), the IssueCrawler can be informative of the primary influencers of information collection, collation and distribution on online communities (Stansberry, 2015). It looks at a website's URL or set of URL and looks at each sub-page of that website to see where it links to (a search-depth of 1) – it can also then look at the linked websites to see where they link to (which would be a search-depth of 2 etc.). It thus maps networks to see how certain actors on the Web sit within a network.ⁱ

In our own utilisation of these 'natively digital' methods, we turned to the work of the <u>Digital Methods</u> <u>Initiative</u> (hereafter DMI). The DMI has been developing methods and tools since 1999, and some of their tools reflect political science and international relations interests, the background of DMI's director Richard Rogers. Interestingly, the DMI also places high value on information visualisation and this is a common feature in the design and output of these tools. Other sources and lists of digital research tools exist, however, this collection is chosen due to its clear documentation and visibility within the Digital Humanities as a go-to place when it comes to tools.

Where to look? Scanning home improvement blogs

In our quest to find bottom-up utterances of the home, we decided to set up a protocol that allows for a rough explorative comparison between Dutch and British online home improvement forums. A first step was to decide comparative keywords to query Google and to take the top-three forumsⁱⁱ: we searched ['home improvement forum'] on the local domain Google for each country (e.g. .nl and .co.uk). Considering that these forums can hold many posts and responses, a close - reading of each and every post would be an overly time-consuming method to explore key topics. Rather, we used a series of the DMI's tools to capture and visualise 6 forums (three from each country). The steps are summarised in Figure 1, and explained below.

Figure 1: tools used to capture and visualise the 6 home improvement forums

1. Use the <u>LinkRipper</u>, to harvest or collect all the URLs from the chosen forum. Set output to 'Internal links'. Scrape.

2. The results are copied and pasted into the <u>IssueDiscovery Tool</u>. Scrape.

3. The results are copied into <u>RAW by DensityDesign Lab</u> to create a bubble graph. Label two columns of table before pasting as 'keywords' and 'frequency', remove brackets. Choose 'Circle Packing chart'. In 'Map your dimensions', drag the keywords (string) label into the hierarchy box and frequency (number) label into the size box.

First we used LinkRipper to catch all the content of the forums. Some issues arose, for instance that certain programming languages are not scrape-able (e.g. Flash) or that certain forums do not allow for content to be copied. Subsequently, we had to go further down the list of Google results to find other forums because LinkRipper was not able to generate results.

The next step was to discover the sub-topics present in each forum. Since we were interested in the actual user-generated content, we used the IssueDiscovery tool which supplies a list of keywords. This tool looks at word occurrence within a set of URLs in order to discover main topics, issues, or concepts. It is meant to be an indication of 'network substance' with content analysis and other qualitative techniques recommended. In this sense the IssueDiscovery is an exploratory tool. The tool already filters out a lot by itself (e.g. it removes phrases that are on the stop word list such as 'the' and 'an'), depending on how one sets the parameters of the tool, but it cannot remove certain occurrences, especially 'infrastructural artifacts' that deal with making an account or allowing for a search internally on the website. Thus, we had to filter this data manually as well (e.g. the 'subscribe here' or 'login' parts of the websites or menus).

In order to get a better overview of the sometimes very large list of keywords and frequencies, and because of the importance of information visualisation, we also decided to put the results of the IssueDiscovery tool into a bubble-graph (<u>RAW by DensityDesign Lab</u>). The next step is to critically examine our harvest and compare the results between the Netherlands and the UK to the overarching question of everyday futures and the home.

Findings: What are users discussing most on home improvement forums?

This section presents the results from using these digital tools to collect and visualise data on the key topics of home improvement forums. Tables 1 and 2 present the top 10 occurring words of 3 sites for the UK and Netherlands, respectively.

<u>DIYnot</u>	count	Ultimate Handyman	count	DIY-Forums	count
Central heating	136	Laser distance measurer	92	diy raised stone planter	332
Led fairy	60	Uhm	88	wilkinson	220
Planning permission	56	Tools	68	trophy	180
Levelling compound	40	Tool reviews	68	Heath- Robinson	172
plumbing	40	Wallpaper discountposted	64	home improvement	60
Easyfix plasterboard	40	Lounge	56	improvement	60
Scuff	30	chainsaw	56	repair	44
Guttering	26	Tool manuals	56	Hvac	38
Doors	26	proofing	38	statistics	28
Lofts	24	bosch	32	suggestions	28

Table 1. Top 3 UK home improvement forums – top 10 occurring words.

duurzame buren	count	klusvraagbaak	count	renoveerjehuis	count
LED	598	wall covering	16	boiler	794
property tax	494	information	16	Tips	456
ode	478	window frames	12	rebuilding	244
economical	420	paint	12	sources	240
sustainable	410	house	12	painter	238
map	312	extensive	12	plasterer	238
list	312	LED	8	Dormer	236
poger	280	amber roses	8	contractor	232
hedge	178	painting jobs	8	fences	232
heat recovery	84	filling it	8	international license	232

Table 2. Top 3 Dutch home improvement forums – top 10 occurring words.

A first glance reveals that the forums alter in size, but are generally in similar order of magnitude of use (e.g. counts from roughly 100 to 800). The blogs scraped have not been checked for 'liveliness', meaning we did not check for how long they are in existence and how actively they are used at the moment (we are relying on Google here to have taken these factors into account in their ranking algorithm). Content-wise, the tables show some recurring topics, such as LEDs, and tools and tool use. Brand names of either tools or materials are also common, which is in many ways unsurprising in Do-It-Yourself discussions. Another category we can distinguish is talk on some form of profession or professionals, to either see how they do it, or to move certain work from DIY to hiring a professional. There is some topics on both the Dutch blogs on the adminstrative side of things (e.g. taxes, licensing, planning permission). Sustainability does occur, but privacy, surveillance and 'smart' technologies do not make it to the top 10 lists.

So how do the top 10 topics relate to the wider set of topics on the forum? In order to provide a visualoverview, we have chosen to create bubble-graphs of a larger selection of the results of the IssueDiscovery tool. Here we have made choices based on researcher-filtering and choice of cut-off value (i.e. the amount of occurances we intuitively felt made 'sense' to include). Figures 1 to 6 present maps for the forums listed in Table 1 and 2 (UK forums are in red, Netherlands in green).



Figure 1. DIY-Forums (all words under 8 occurances NOT included):



Figure 2. DIYnot (all words under 2 occurances NOT included):





Figure 4. Duurzameburen.nl (all words under 8 occurances NOT included):







Figure 6. Renoveerjehuis.nl (all words under 12 occurances NOT included):



The maps are hard to compare one on one, but the topic-area maps per forum do provide a general 'feel' or 'taste' of what is being discussed. The forums show similar topic-categories on DIY home improvement that relate to work on the home itself and related tools or materials, on regulation and finance regarding home improvement, on technologies on or in the home as a way of improvement that relate somehow to larger themes in other parts of society, such as renewable energy, sustainability and security.

A further analysis of the ways in which these terms are discussed on these forums or a comparison of key discussions in forums compared to advice blogs run by the government or an editor would be a next step. However, rather than focusing on what these key words and bubble-charts reveal about everyday future homes, we wish to reflect more on the benefits and limitations of using these digital tools.

Reflections

A first point of reflection relates to the perceived benefit of analysing 'user-generated' content. The added value of focusing on the experiences of the everyday is that it allows for granular and realistic habits and activities of citizens to enter large-scale predictions and projections. Their daily habits, activities and rituals, we argue, are at the core of where future imaginaries are made. Unlike many other forms of data collection in which the researcher enquires and directs the flow of discussion, online discussions are an extension of casual conversations and reveal householder's own areas of interest and concern (Veen *et al.* 2011). For

example, internet forums are a space in which householders discuss everyday mundane activities in detail and other studies interested in everyday home life have effectively utilised online content such as travel blogs (e.g. describing in detail bathing practices in different countries) (Kuijer, 2014) and Mumsnet (e.g. details of managing thermal comfort beyond thermostat settings) (Royston, 2014).

Online spaces with user-generated content have been called 'the next frontier' in gualitative social science research (Morrow et al., 2015: 526), praised for representing alternative sites of discursive practice (Barr, 2011). However, the dominance of brand names and tools that emerged from our scraping of these websites is an important reminder of the further analysis required by the researcher. This is one of the main criticisms of online methods because there appears to be an assumption that "researchers no longer need to speculate and hypothesise, they simply need to possess enough data to allow algorithms to lead them to important patterns and trends in social, economic, political, and environmental relationships" (Shelton et al., 2014: 168). A counter-argument against this 'data-driven social science is that the researcher does make numerous decisions in the research process, as we have seen in this short essay. For instance, the researcher's decisions on selecting sources (e.g. home improvement forums and user-generated content), applying certain 'filtering' (e.g. removing 'infrastructure artefacts' or deciding the number of key words to include) all importantly shapes the overall findings and conclusions. Data-driven methods, however, can provide new insights in the phenomenon at-hand that can trigger new paths of research that were otherwise un-explored. When looking at our results for example, the over-representation of tools/brand names in the bubble graphs and appearance of 'Heath-Robinson' and 'LED' on the top 10 keywords lists would likely not have emerged in a qualitative content analysis of these same forums because these would not be given as much significance by a researcher. On the other hand, a cautionary reminder here is not to make 'overblown claims' about the ability of digital tools to deduce significant meaning without relying on pre-existing theoretical frameworks (Shelton et al., 2014).

There are many more methodological considerations in using online methods (see Morrow *et al.*, 2015 and Stepney, 2014 for more critical reviews), but we hope this has offered some initial insight into the potential, and challenges, of using this resource to study everyday futures. We have outlined a key debate about the difference between virtual and digital methods; directed researchers to a database for free digital tools developed by and for academics, as well as described and presented the process of using a few tools to visualise data from forums relevant to (near) future homes. This in turn sheds another, maybe more bottom-up heuristic on where and how everyday futures can be found. The home is a key site to understand and intervene in futures-in-the-making, being a critical space of consumption and a place in which everyday practices and norms are (re)produced. Online methods allow a window into the privacy of the home and ease the process of data collection for cross-cultural comparisons, and we hope this short essay inspires further discourse around the use of online methods to inform investigation and steering of everyday futures.

Endnotes

ⁱ See the IssueCrawler hyperlink for some good examples

ⁱⁱ Although there are many drawbacks on 'blindly' trusting a top X via a Google query (one of them being that Google results are influenced by personal search history and location), for the purposes of this paper, it suffices due to Google's indexation on 'popularity'.

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