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Wikis of Locality: Insights from the Open Guides

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ABSTRACT

In this paper we describe an emerging form of wikis - wikis of locality – that support physical rather than virtual communities. We draw on our experience as administrators of the Open Guide to Milton Keynes, one of the Open Guides family of community developed local information guides built using wiki software, and present observations of the potential value and unique characteristics of wikis of locality from a practitioner's perspective. Preliminary findings from a current survey of other Open Guide administrators are presented to highlight types of usage, issues and potential areas for future research.

Categories and Subject Descriptors

H.5.3 Group and Organization Interfaces / Collaborative computing

H.5.4 Hypertext/Hypermedia / Architectures

General Terms

Design, Human Factors

Keywords

wikis, locality, communities, open guides, recommendation, structured data, geolocational services, grassroots, open source

1. INTRODUCTION

This practitioners' report explores the Open Guides community information wikis, derived from our experience in setting up and maintaining the Open Guide to Milton Keynes and a survey of other Open Guides developers. In the first section we describe the phenomenon of wikis of locality: wikis for supporting local social communities, as opposed to online communities of interest. We then consider a specific example, the Open Guides, and report on a survey that we have undertaken with fellow administrators to better understand their motivations. We report on the key findings so far identified, and offer some tentative theorising about wikis of locality. The paper concludes with a description of future work plans.

2. WIKIS OF LOCALITY

Conventional wiki software has been deployed to support a wide range of applications. Probably the most common use is as a shared knowledge repository for a physically dispersed community sharing one or more topics of interest: a 'wiki of topicality'; perhaps the most well known example is wikipedia[1]. A wiki may also serve as a repository for project documentation in software development [1], or as a tool to support a specific event such as a conference where it might support discussion, dissemination, and the making of arrangements[2].

We propose that a third distinct role may be as a community memory for a geographical area, for example, a town guide. Moving from the original focus of wikis as supporting 'virtual' communities communicating largely through online media, and the enhancement of workplace collaboration, we anticipate the growth of wikis supporting "communities of locality" [7], where people bound by local social ties use wikis as part of a broader "ecology of communication" [2] to support their daily interactions within their physical neighbourhoods.

We define communities of locality as communities where the primary characteristic is that of shared physical cohabitation (e.g. people living in the town of Milton Keynes). There will be secondary attributes of interest (e.g. people who like playing football) but these will be affected by the influence of locality. *We see wikis of locality enhancing place based, face to face interactions through the provision of shared online community knowledge specific to the local area.* Much has been written about wikis as virtual communities; however we are interested in investigating wikis for physical communities.

Wikis of locality might be used as community memory tools for small communities with defined membership (e.g. for people in a particular housing estate) or open to large numbers of people (e.g. for whole cities or regions). We anticipate people use wikis of locality to find resources defined primarily by location, and secondarily by interest. I may like eating Indian food, but if I live in Milton Keynes and I can't find a good Indian restaurant, I am more likely to consider a different type of restaurant meal in Milton Keynes, UK, than travel to an Indian restaurant recommended in a distant town, such as Boston, USA.

It is important to emphasize that 'locality' itself is neither new nor the main focus of this article. Indeed, locality underlies the massive success of sites/phenomena like CraigsList[3] and Frappr[4], niche geolocation-aware tools like our own BuddySpace[5], and numerous Google Maps mashups as logged regularly at Google

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[1] http://www.wikipedia.org

[2] e.g. http://kmi.open.ac.uk/events/ci2005/

[3] http://www.craigslist.org

[4] http://www.frappr.com

[5] http://www.buddyspace.org

Maps Mania.[6]. What's different here is the locality-centric nature of a wiki, which somewhat stretches the boundaries of the originally-conceived sphere of influence/interest of wikis themselves.

We envisage a greater number of wikis will come to support this specific kind of community and expect they will evolve in different ways from wikis supporting workplace interaction or virtual communities of interest.

In the following section we will outline our experience with administering a particular wiki of locality, the Open Guide to Milton Keynes, and discuss some of the features that can differentiate wikis of locality from other related tools or services.

3. THE OPEN GUIDES
3.1 Overview
The Open Guides are a network of wiki-based online community guides each dedicated to coverage of a particular city, town, or geographical area. At present, most guides are concentrated on places in the UK, although Austria, Canada, and the USA are also represented. The Guides are all powered by the Open Guides software, an adaptation of generic wiki principles to suit the description of items with a locative element (such as a restaurant, street, or district). Each Guide is managed by one or more administrators; in a few cases individuals may run more than one Guide. Administrators communicate mainly through a developers' mailing list, and an online bug-tracking tool, though in many cases they are in personal contact with each other through other channels, such as informal social meetings.

3.2 Novel Features of the Open Guides Software
The Open Guides software[7] is written in Perl and has a number of specializations to support the locative aspects of entries in the Guide. Any entry (referred to as a 'node') in the wiki can be associated with latitude and longitude data, which enables users to find other items within a certain distance of this location. Specific fields are also provided in the node editing form for information such as an item's address, postcode, phone number, and a link to a map of its location.

Nodes can be assigned to thematic *categories*, and to particular *locales*, which represent specific areas or districts. Assignment of entries to locales enables users to retrieve nodes according to their location rather than simply by category, without needing to know latitude and longitude information. The exact way in which locales are used depends heavily on the topography of the city or area on which a Guide focuses. In the new town of Milton Keynes districts are very well defined and unambiguously named, whereas in an older city such as London there can be considerable variation in how people refer to a place, and more than one valid name for a particular area: for example the same London cafe may be described as being in East London, Hackney, or Shoreditch.

The Open Guides software provides fields for users to enter specific information about an entry in the guide, such as a

telephone number, latitude/longitude, or opening times. By doing this in a structured fashion machine-readable metadata can be automatically exported for use on the Semantic Web [3]. The Open Guides software produces RDF/XML for each node, using vocabularies such as Dublin Core[8], FOAF[9], and ChefMoz[10] to describe specific elements of the entry where appropriate.

3.3 Online Tasks Supported by an Open Guide
In an earlier paper [8], we undertook an in-depth analysis of the different types of tasks users perform online. Of the 11 identified in the analysis, the tasks of *locating*, *exploring*, *grazing*, *monitoring*, *sharing*, and *asserting* are of particular relevance to users of wikis of locality. In Table 1 below we provide definitions of these tasks (reproduced from [8]), along with examples and commentary about how they are manifested and supported in wikis of locality such as the Open Guides.

Table 1. How wikis of locality support online tasks

Locating	Looking for an object or chunk of information which is known or expected to exist; it may or may not have been seen before by the user.
	Example: locating the telephone number of a pizza delivery service in the vicinity of one's home, or the opening hours of a local museum.
	This is facilitated by keyword search on topic or locality, and also by the ability to locate all entries within a certain range of a particular point.
Exploring	Gathering information about a specific concept or entity to gain understanding or background knowledge of that concept or entity.
	Example: developing an impression of different areas within a town or city when looking for housing, by exploring entries from that Locale.
	Grouping entries by Locale aids this process.
Grazing	Moving speculatively between sources with no specific goal in mind, but an expectation that items of interest may be encountered.
	Example: following links within a Guide that spark one's interest.
	The ability to navigate by Locale, Category, and geographic location, in addition to conventional links added by contributors facilitates this activity.
Monitoring	Checking known sources that are expected to change, with the express intention of detecting the occurrence and nature of changes.
	Example: regularly checking an Open Guide to stay abreast of new attractions in a locality, or of new entries in the wiki, irrespective of the topic or

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[6] http://googlemapsmania.blogspot.com

[7] http://openguides.org

[8] http://dublincore.org/documents/dcmi-terms/

[9] http://xmlns.com/foaf/0.1/

[10] http://chefmoz.org

	nature of the change. *This is supported by the Recent Changes pages in the Open Guide.*
Sharing	Making an object or chunk of information available to others. ***Example***: adding photos to a Guide of a particular locale, or providing the phone number of a restaurant in its entry. *The low barrier to contribution provided by the wiki model supports the sharing of information, as does the provision of specific fields in the edit form for information such as telephone numbers or opening times.*
Asserting	Making statements of fact or opinion. ***Example:*** stating that one has had poor experiences with a particular taxi company, or providing a review of a restaurant. *As with* sharing *the lower barriers provided by a wiki reduce the overhead in sharing opinions with others.*

3.4 Functions of Open Guides and Wikis of Locality

Based on our experiences of the Open Guide to Milton Keynes[11], we consider that the Open Guides (and wikis of locality more generally) may serve a number of functions to which conventional city guides or topical wikis may be less well adapted.

- **Low-entry-barrier reviews**: Many sites exist that allow users to rate and review specific types of things such as pubs[12] or restaurants[13]. However an Open Guide allows reviews or information about many types of things (e.g. parks, shops, walks, bus routes) to be accessible in one place, and links to be made between different types of entries. The use of a wiki lowers barriers to users contributing to the Guides, by removing the need for user registration or knowledge of web publishing technologies.

- **Exploiting local knowledge**: local knowledge acquired over years of living in an area can be hard to share online, as there may not be an obvious place to publish it, and an easy means to do so. Wikis of locality provide a possible solution by allowing for easy publishing of any local knowledge.

- **Community focal point:** where a community faces a pressing or controversial local issue, such as construction of new roads or housing, a wiki of locality may provide a single point for the creation and collection of articles or viewpoints pertaining to the issue. By serving as a shared space for the local community, such a wiki may empower people to engage with issues of great importance to their area.

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[11] http://miltonkeynes.openguides.org

[12] e.g. http:// www.beerintheevening.com

[13] e.g. http://www.restaurants.co.uk

In addition to these points a number of further issues became apparent to us during our administration of the Milton Keynes Open Guide:

- how should a wiki of locality be populated?

- should entries be exhaustive or selective?

- should the focus be on reviews and opinions at the expense of factual information?

In order to gain a broader perspective on these questions we decided it would be useful to undertake a survey with other Open Guides developers.

4. SURVEY OF OPEN GUIDES DEVELOPERS

In March 2006, we developed a survey aimed at active participants within the Open Guides community. We sought to understand how our peers viewed the Open Guides and the issues that they have to address, and to enable us to report on the community's activities.

4.1 Methodology

A survey was developed by the authors in March 2006, with 14 open ended questions intended to encourage descriptive and free flowing responses. The questions were divided into 4 sections:

1. Your Open Guide
2. Your role in the Open Guide
3. Publicity and Outreach
4. Future of the Guide

Table 2: Example questions posed to the Open Guide developer community

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Who is the anticipated audience for your
Open Guide? Who are your users right now?

Are there rules and regulations users must
follow? How about your admin team (e.g. how
do you make decisions)?

Have people used the Guide in any ways you
didn't expect? (and has 'vandalism' been a
problem?)
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The survey was designed following a study of internet related interviews in the USA [5,9] and the UK [10,11]. Previous experience [6] suggested that the survey had to be limited to less than 30 minutes response time in order to not be seen as too onerous a task to complete, so an original extended set of questions was reduced and it was decided to follow up positive responses individually with requests for further information if appropriate. In most cases the survey represented our first contact with many of the respondents. The initial intention was to approach key Open Guides developers and carry out a semi-structured interview in person; however time limitations and

advice from a key developer led to us posting the survey on the Open Guides developers' mailing list[14].

Where possible, we also sought to supplement the responses through supporting quantitative data published on the Open Guides themselves: many of the Guides have a publicly accessible statistics page identifying their usage and rate of node creation. This is not provided in a standard format, however, and in some cases we had to email respondents and ask for this data.

4.2 Response to the Survey

Despite concerns that posting on the developers' mailing list would produce a more limited response than making individual personal contact, after an initial delay we received a rapid response from developers representing 10 Guides, just over half of the current live Guides[15] (with further respondents offering responses in the future). All respondents apart from one could be considered the lead administrator of at least one Open Guide; the remaining respondent was an influential developer who had contributed to several Guides but is not identified with a specific Guide at present.

4.3 Summary of the Survey Results

The survey resulted in extensive and informative responses; all respondents completed all the questions in detail. We have identified several key areas of interest.

4.3.1 Early stage of development

All respondents identified the Open Guides as 'under development', however the respondents Guides are between one and three years old, have significant number of entries (e.g. London: 2,404; Boston: 11,711[16]) and report regular access by users. While most software and web projects could be considered never to be complete, it is clear the administrators themselves feel the Guides need considerable improvement before reaching maturity. Key aspects of required development identified were the need to gather more content, development of the user interface to make it more attractive to non-technical users, and an ongoing discussion about functionality.

Table 3: Sample answers from Open Guides developers discussing their goals

> "some areas of the city get much more complete coverage than others, due to having regular contributors living there. I like to think that over time this will improve"

> "I've wondered about 'writeability' in the interface - to what extent can non-geeks feel empowered to contribute, not scared off"

4.3.2 Open Guides' status as an independent information service highly valued

Respondents placed high significance on the role of the Open Guides in providing city guides free of advertising or commercial influence. Commonly expressed sentiments were "free", "non-corporate", and "anyone can edit or update". Respondents valued the Open Guides ability to allow any viewer to edit or create their own entries, to enable community participation and the development of a shared knowledge resource.

4.3.3 Technical as well as social goals

Most respondents noted both technical as well as social goals. A clearly stated goal is to provide a resource accessible to and used by the widest number of people within their target geographical community, and many of the responses were couched in this aspiration. However respondents also articulated specific technical targets. The Open Guides developers seek to provide structured, machine-readable metadata, particularly geodata, that can be consumed by other services or applications to provide new functionality to users. The Open Guides are seen as distinct from other wikis in this particular aspect and the respondents are keen to maintain this specific value.

Table 4: Sample answers from Open Guides developers discussing the value of their guides

> "The main thing is that an Open Guide is freely editable and reusable which gives people the power to do cool things with the content and reuse it in ways we haven't considered before"
>
> "Compared with other wikis, the structured metadata is what sets OpenGuides apart"
>
> "My personal goal was to get more spatial information modelled in RDF into the world"

4.3.4 Few publicity activities

Respondents carry out little activity to publicize their Guides. What is done is mostly through word of mouth in existing social circles, or providing the link on mailing lists within shared communities of interest. A number of respondents suggested that this was because their guides were not yet ready to be more widely used.

4.3.5 Sustainability a potential issue

Most respondents suggest that long term sustainability will need to be addressed as an issue. Guides are generally maintained by a small number of administrators (in several cases a single person) and note that a large amount of time is required to maintain the guide- "dedication" is seen as a key attribute to ensure a successful Open Guide. Most of the Guides rely on a small

number of authors to contribute the majority of the articles. All the respondents saw the maintenance of their Guide as a long term commitment, though several noted that they were likely to work less on their Guide if they moved away, and acknowledged the need to find replacement administrators.
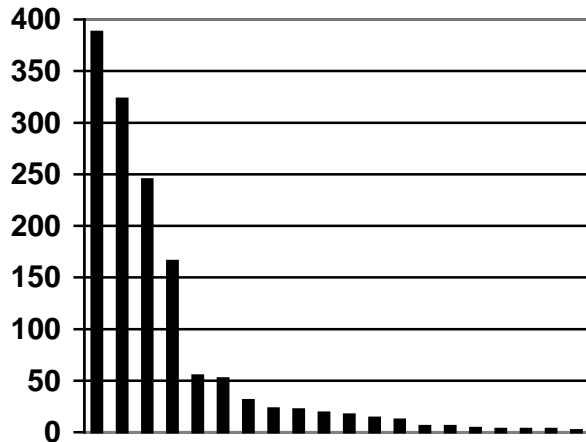

Figure 1: Nodes created by Top 20 Authors in the Open Guide to Milton Keynes (December 2005 - June 2006)

4.3.6 Participation through apprenticeship

In common with many other open source and volunteer projects, administration of an Open Guide is mostly through increasing commitment to the project. Several respondents had previously contributed to another Guide, and had gradually moved from peripheral participation to playing a central role; either by being invited or by appointing themselves as an administrator for a new Guide. The correspondents who have been involved since the beginning of the Open Guides project are very open to new participants, and encourage peripheral participation.

4.3.7 Vandalism an increasing problem

Similar to other wikis, Open Guide developers note an increasing problem with vandalism. This takes the form of both automated attacks (e.g. "viagra spam") and also manual attacks, for example by businesses creating self promotional entries, or defacing competing businesses' entries. The Open Guides developers currently deal with most spam by manually tracking the content in their guides and deleting errant entries, though software solutions are being sought to combat this problem.

5. SOME PRELIMINARY OBSERVATIONS

From the results gathered so far from the survey we have drawn some preliminary observations about the Open Guides and wikis of locality.

5.1 Wikis of Locality are an Emerging Phenomenon

The majority of wikis support virtual communities of interest; however the Open Guides represent the emerging phenomenon of wikis supporting activities within a locality. Survey respondents noted the emergence of other wikis of locality as evidence of the growing trend, and indicated key functional aspects that differentiate Open Guides from existing wikis. We believe this trend will continue in the future and will be complemented by a growing interest in local information services. This is demonstrated by the number of services now available that use the Google Maps API to plot local points of interest on a map of the area[17].

The combination of open editing environment and provision of structured metadata potentially make the Open Guides an ideal contributor to novel services of this nature.

5.2 Open Guides have Specific, Unique Values

Open Guides have specific value within the field of wikis of locality. Survey respondents cited innovations with both technical and social/user aspects. A key functionality is the ability to generate easily repurposed, machine readable data in RDF/XML format. Equally valuable is the ease of content creation and editing afforded by the system.

5.3 Open Guides are a Developing Resource

The Open Guides are still undergoing rapid evolution, though they are already being actively used. The majority of survey respondents reported that their Guides were still being developed and noted particular areas of ongoing work. The respondents seem shy of promoting their Guides too broadly, however the Guides are consistently being highly ranked in search engine results and are consequently drawing wide audiences.
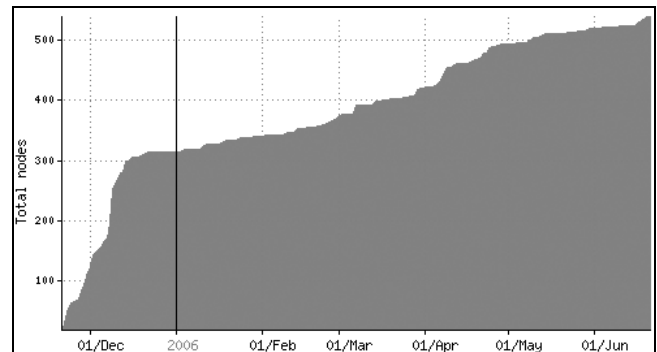

Figure 2: Number of nodes in the Open Guide to Milton Keynes (December 2005 - June 2006)

5.4 Different Types of Contributions

The Open Guides are perceived by the majority of developers and administrators to be oriented towards reviews and rich content

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[17] see Google Maps Mania, http://googlemapsmania.blogspot.com for an extensive list

rather than the provision of universal coverage of services in a geographical area, therefore making them "more Egon Ronay than Yellow Pages".

However, responses to the survey demonstrate that the Open Guides wish to be seen as valued community resources, and they seek to achieve this through different strategies, often by analyzing existing community resources in their locality and seeking to offer a distinct service. Consequently a variety of approaches can be observed within the Open Guides family, ranging from an emphasis on reviews to prioritizing breadth of coverage over depth.

The USA based Open Guides are more easily able to crawl other websites for content and create barebones ("Yellow Pages") style articles because of more tolerant copyright laws, and we see that this is used as a method of seeding Guides to try to achieve critical mass. The administrators of these Guides articulate the hope that by providing barebones entries, interested parties will then populate their own entries with more detail (e.g. church leaders, business owners, community groups).

In the UK, where copyright laws are more restrictive, administrators are wary of web scraping third party guides, and place emphasis on encouraging an active body of contributors, who can add individual rich reviews.

Articles are also being used to reflect on the Open Guides themselves, suggesting future improvements, or identifying gaps in coverage.

Analysis of the Open Guide to Milton Keynes suggests that entries can be classified according to the following typology:

- Factual: emphasizing factual information about something

- Review: emphasizing personal experience/opinion of something

- Placeholder/Stub: skeleton entries added in the hope that others will expand them

- Meta: entries related to the Guide itself, such as suggestions of new features, or messages to the Admin team

An additional interesting aspect of content development has been the breadth in focus of content added to the Open Guide to Milton Keynes. Whereas we expected entries to be purely locational in nature, we have observed the following types of entries:

- physical/geographical: e.g. pubs, restaurants, shops, walks

- historical/cultural: e.g. local inventors, historical events

- issue based: e.g. improvements to transport, city expansion

Therefore as well as specific physical resources the Guides are being used as a means of developing a shared community memory for articles about locality-specific historical and cultural aspects. For example the Open Guide to Milton Keynes has one contributor who is providing information about famous inventors and inventions from the area, and articles have been created covering pressing local issues such as new housing developments.

5.5 Sustainability of Open Guides
Most Open Guides depend on one or two key administrators and a small pool of active contributors, in common with many volunteer-run open source projects. Several respondents noted their awareness of this potential vulnerability, and the need to increase the number of core developers and active content contributors. We hypothesise that this circumstance may be due to two factors: the Open Guides originate from a distinct social network of technical experts that are still capable of undertaking all maintenance and development tasks required, and a reflection of the early stage of the lifecycle of the project. If the Open Guides are to provide a long term public service, this aspect of ensuring sustainability must be addressed.

Related to this is the need to achieve 'critical mass' in usage, as well as staffing. Most of the Open Guides are competing to gain the attention of users in localities where there may be many alternative commercial and volunteer run town guides, and the Guides will need to achieve both enough usage to encourage further contributions, and enough contributions to encourage usage, in order to "self-expand and become self-sustaining" [4].

5.6 Spam is an Emerging Issue
In common with other wikis and online resources, spam is becoming an increasing issue for the Open Guides as they grow and gain more coverage. Spam attacks are both automated and manual, and in common with other resources it occupies a large amount of the administrators' energies. Clearly this is an issue which must be managed if it is not to destroy the credibility or value of the Open Guides. We note the following types of spam present:

- garbage
  - weird (coherent text but rather strange)
  - soapbox (personal rants)
  - unreadable (junk text that makes no sense)
- commercial
  - competitor (competing interest subtly editing a competing business's entry e.g. "…however Pizzas from Company X are nicer")
  - self-aggrandisment (taking over an entry to unfairly promote their company)
  - irrelevant – "Viagra-hijacking" (selling something unrelated)
- character assassination (personal attack)
- link manipulation / Google PageRank optimization

This is a topic that we intend to investigate further in future papers.

6. FUTURE WORK
Preparation of this report has helped us reflect on our own practice, and consider how the Open Guide to Milton Keynes might be further developed. In addition it has prompted some interesting questions about wikis of locality, and wikis in general, that warrant further research. An unexpected outcome was that all but one of the respondents chose to post their responses on the developers' mailing list even though we gave a private email address for responses, indicating their enthusiasm for stimulating discussion of the topics amongst their fellow developers.

It would be useful to carry out a more detailed comparison between the Open Guides and other wikis used to describe a local area, whether or not these are powered by software with dedicated geolocational features. Analysis of the features provided would clarify the value that geolocational features add to a wiki of locality. Similarly, comparisons between Open Guides and conventional online city guides that provide review features

would highlight areas of functionality that are of greatest appeal to users, and potential barriers to contribution by members of the public. Consideration should also be given to how geolocational features could be integrated into conventional wiki software, in order to annotate wiki entries with geolocational data, even where the site is not focused purely on objects that have a physical presence.

A longitudinal study of the Open Guides would highlight ways in which wikis of locality may develop over time. In particular it would be enlightening to observe how sustainable they are, and whether their unique features allows all Open Guides to reach a critical mass, as a number already have.

Such a study would inform wider research into wiki lifecycles. In particular we are interested in investigating the factors that lead to people starting to contribute to an Open Guide, and wikis in general. To what extent do truly anonymous users feel able to contribute to the Guide? Is participation in a face to face community associated with a Guide (such as local Perl user groups) an essential precursor to people feeling able to contribute?

We would like to develop greater understanding of the features that facilitate uptake and usage of wikis of locality amongst the general public, and in particular which features lower the barriers to contributions from users. We believe such findings would be widely applicable to wikis in general. Furthermore, they may highlight a typology of wiki users. We have observed that some users prefer to make many sparse entries to ensure some coverage (*placeholders*), whilst others prefer to make fewer but more complete entries (*completers*), and others still act as *housekeepers* ensuring the completeness of entries and making links within the guide. Such a typology requires further investigation, as it may afford greater understanding of how people use and perceive wikis, and enable the development of interface widgets to support different usage styles.

As the Open Guides become more widely used, we envisage an increase in the amount of spam being added to the guides. From our limited experience of spam in the Open Guide to Milton Keynes we have identified the types shown in section 5.6. Developing a typology from a wider and larger sample may aid the understanding of wiki spam in general, and may also help in the development of tools to combat this issue.

Lastly, as our results above have shown, the collection of structured data that can be easily republished for use on the Semantic Web is seen as one of the key features of the Open Guides software. In the absence of highly usable annotation tools for the Semantic Web, we believe that this feature has great potential as a model for how appropriate markup may be created. It will be interesting to investigate how features being developed in semantic wikis may be integrated into the Open Guide software, and whether the software can be extended to provide an even greater amount of semantic markup.

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