Symlinks as boundary objects

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This talk[1] is concerned with the «lived work» of a web directory's builders [5]. On the Internet, web directories provide lists of addresses of websites grouped by themes. These hierarchically organised directories are presented as an alternative to conventional search engines [4]. They are shaped as trees, with general topics at the top and specialised nodes underneath. Each node covers a thematic field and may comprise either sub-categories or references to external websites (though technically possible empty nodes are deprecated). The name of these tools (directories) refer to the history of file system components.

This paper focuses on a team involved in building such a directory in the spirit of free content projects[2]. Started in 1998 under the name GnuHoo [12], this volunteer-based project aimed to propose an alternate to the leading industry directories. Adopting the Debian social contract, this social organisation aimed to be more efficient than a team of hired employees [6]. One can not say whether the purpose is successfully reached. The project was anyway acknowledged by the industry : Netscape proposed to support the project six months (only) after it was launch and Google adopts it as his own directory before it was two years old. This historical background of the project shows how Rich Skrenta and Bob Truel (its founders) claim to be part of the free software movement [13, 14, 17, 10].

The organisation of the community assumes a social division of labour: each person is responsible for one (or more) category. For this work to be coordinated, members extensively use discussion forums [8, 3, 2]. In the very practical and situated details of their everyday work, members of the community organise the hierarchical database (so the user can easily glance through the database). For this work to be achieved, given the strong constraint of the tree shape, they design horizontal relations across the whole directory. These links are of three kinds: related categories, alternate language and symbolic links.

[1] This is an extended abstract of the conference given in the workshop on *Ethnography of Code* in Lancaster, UK, on March 31th, 2006.

[2] The Open Directory Project (`http://www.dmoz.org/`) is a peer community supported by Netscape.

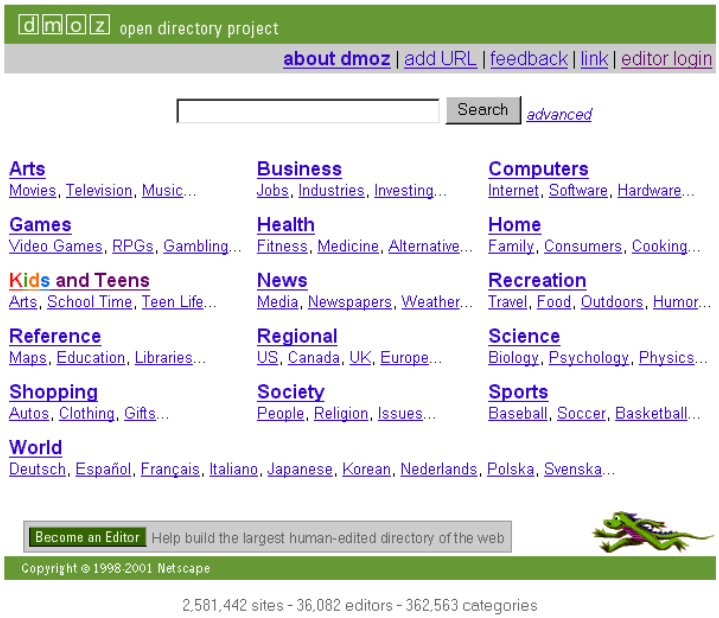

Figure 1: The Open Directory Project homepage

Related categories are links to rubric(s) that could interest the user (sister categories). The full path and name of the target category are featured. The heading of the related categories set is «see also». This device is indeed a reference to the logic of the librarian work practice [1, 7, 9].

Alternate language appears late in 2000 as a consequence of the internationalisation of the Open Directory Project. With more and more members everyday, the need for categories in other languages than English became a big issue. Alternate directories were then created under a (new) category at the top level. Named «world», this proxy comprises all the non-English branches. In the very beginning, the relations between English categories and non-English categories were made with related categories. Then, the alternate language links were introduced for this dedicated purpose. On the directory interface, these links are featured under the related categories field. The name of the target node is replaced by its language. Only one equivalent for each language is permitted.

Symbolic links are of a particular semantics : these relations indicate a category that can be considered as sub-rubrics (child categories). The target category of a symbolic link may or may not belong to the same branch. If it is included in the same branch (ie, if the source category belongs to the path of the target category) the symbolic link is then just a vertical shortcut (this seems to be the reason why this device was introduced [16]). If the source and target nodes belong to different branches, then the symbolic link is a sideways bridge that indicates (as related categories) that another rubric may be of interest and (contrary to related categories) that the target category could be considered as a part, or a child, of the source category. Symbolic links are listed among other sub-categories; they are signalled by a trailing «@» (see «Fruits and Vegetables»

Top: Home: Cooking: Recipe Collections *(669)*

* Brand Name Recipes@ *(166)*
* Fish and Seafood@ *(76)*
* Fruits and Vegetables@ *(58)*
* Soups and Stews@ *(31)*
* World Cuisines@ *(2266)*

* Cookbooks *(25)*
* Directories *(31)*
* Media Recipes *(65)*
* Personal Pages *(302)*

See also :
* Home: Cooking: Quick and Easy *(30)*
* Home: Cooking: Recipe Management *(35)*
* Home: Cooking: World Cuisines *(2266)*
* Shopping: Publications: Books: Food and Drink: Cookbooks *(163)*
* Shopping: Publications: Books: Food and Drink: Cookbooks: Recipes *(4)*

This category in other languages:
Chinese Simplified *(6)* Chinese *(56)* Finnish *(33)*

Figure 2: Extract from the page of a category

on the illustrated example, figure 2). Neither the name nor the path of the target node are featured; instead, another name is included (by the person responsible for the category).

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ln -s /target/folder /path/to/link                    creation
ls -l /path/to/                                  list of a folder content
lrwxrwxrwx user group file                        one common file and
-rw-r--r-- user group link -> /target/folder          ...a symbolic link
```

Figure 3: Creating and exhibiting a symbolic link under Debian Linux

The «symlink» name is borrowed from the constituent function of the Unix [11, 15] Operating System (widely spread since the advent of the free operating system GNU/Linux). These links to folder are dedicated to user convenience and maintenance of the system (such as compilation of new software/kernel). The way they are created and listed is illustred in figure 3. As a conclusion, we could state that the Open Directory community refer to three core business that contribute to define its social identity : search engines, library and free software.

Keywords Knowledge Management, Information System, CSCW, Ethnomethodology, Free Software, Directory, File System, Lebenswelt, Respecification.

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