Web 2.0 as a tool for improving communication among international MeSH translators

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Web 2.0: Pros and Cons

Recently, new potentialities in information and communication field have been developed through the Internet. The concept of Web 2.0 has been defined "architecture of participation", as it implies an active end-user role of sharing and collaboration in the production and dissemination of information on the net. The first phase of growth of the web was based on posting online information on the net and on the development of search tools to ease its retrieval. The current phase, known as Web 2.0, is primarily devoted to the development of links among people. The contribution to participated development and management of the content of a site, eventually produces a change in nature and value of target information. Web 2.0 does not refer, therefore, to a technical standard, but to new ways of exploiting the network, used as a platform for interactive applications. Another expression used to define the Web 2.0 is "social networking", a cooperative scenario that brings together people in a creative and dynamic environment, where users can meet, discuss, share documents, pictures and opinions. The result is "a more socially connected Web where everyone is able to add to and edit the information space" [1].
Web 2.0 technological instruments – social networking sites, social bookmarking, blogs, podcasts, wikis and RSS feeds - beyond offering interesting applications in scientific and medical areas, launch new ethical issues. All these phenomena affect the way we now live, communicate, and work and have a strong impact on our lives, since the endless exchange of suggestions, opinions and reviews by citizens, patients, doctors and researchers, may, through this process of continuous interaction, determine changes and influence the choices and decisions of millions of other people. How can the reliability of websites be guaranteed, if anyone is allowed to modify the contents or to create new ones? The tools so far used in order to assess the quality of health websites, are still valid in a such modified framework? The Web 2.0 world where no one is obliged to identify himself/herself and anyone can disseminate news without taking any responsibility of it, does really create an egalitarian dream, or rather a reign of chaos and an information drift [2]?
In this paper the authors wish to present a new reference tool designed to help translators working on the translation of the National Library of Medicine (NLM) Medical Subject Headings (MeSH). The creation of a dialogue tool for translators scattered over the globe could enhance translation and improve collaboration and exchange of opinions, by exploiting the possibilities offered by Web 2.0 technologies, but limiting the interaction to a restricted group of people, working on the same topics.

The Italian MeSH translation, an early example of cooperative work

The Italian Medical Subject Headings (MeSH) translation, originated from the collaboration between the National Library of Medicine (NLM) and the Istituto Superiore di Sanità (ISS), was conceived in order to join NLM's Unified Medical Language.
The translation work began in 1998 and every year requires the following steps:
- addition of new translated terms, on the basis of NLM yearly update;
- revision of previously-translated terms;
- addition of synonyms (new terms and current ones);

- deletion and modification of terms according to NLM annual update [3].
A recent challenge was to implement on our website a new release of the Italian MeSH translation (http://www.iss.it/site/mesh/) that includes the translation of English Entry Terms, in order to permit multi-entry and easier access to information stored in the MeSH database. So far, approximately 13.000 entry terms have been translated.
The Italian interface includes the translation of all terms (synonyms and preferred terms). Preferred terms in English and in Italian are check-marked, as shown in figure 1

NLM Mesh Browser		Albero in italiano
DNA		DNA
1		
Sinonimi	**Lingua**	**Termini Preferenziali**
B-DNA	ENG	
Deoxyribonucleic Acid	ENG	
DNA	ENG	X
DNA, Double Stranded	ENG	
DNA, Double-Stranded	ENG	
Double-Stranded DNA	ENG	
ds-DNA	ENG	
DNA, B Form	ENG	
DNA, B-Form	ENG	
B-Form DNA	ENG	
DNA	ITA	X
B-DNA	ITA	
ds-DNA	ITA	
Acido desossiribonucleico	ITA	
DNA a doppio filamento	ITA	
Forma B di DNA	ITA	

Figure 1. Entry Term display on the new Italian MeSH translation website.

Translation resources on the net

At the very beginning, Italian sources available for translation were print glossaries and dictionaries. At that time, only the preferred term was translated and the difficulty was the choice of the most significant translation. Later on, term search was made through Internet engines, with all the difficulties of false results, the advice of ISS researchers always being the asset of choice.
The increasing development of the web has disclosed once-hidden resources. A large number of dictionaries and glossaries are now available, free on the net, offering a variety of different tools and products. Some of them are very specific, on-line versions of print editions (e.g. the Italian Thesaurus of Bioethics [4]), while there is a current trend towards a new global approach. Multilingual multidisciplinary collections of terms, conceived and implemented on the net, have been examined.

Wikiwords (http://www.wikiwords.org/) is a collaborative project aimed at creating a dictionary of all terms in all languages, developed and maintained by ProZ.com. As mentioned in the website, "Translators have been helping each other translate difficult terms on ProZ.com using the KudoZ

network since 1999. Many of these translations have been entered into a browsable glossary of terms called the KudoZ Open Glossary (KOG). Created in 2003, the KOG now has term translations in over 900 language pairs. Wikiwords aims to be an extension of the KOG by making it available to a wider group, making it easier to grow.
Wikiwords started off with imports from KudoZ, the KOG and Wordnet".

WordNet® (http://wordnet.princeton.edu/) is a large database of English nouns, verbs, adjectives and adverbs grouped into sets of cognitive synonyms (synsets), each expressing a distinct concept. Synsets are interlinked by means of conceptual-semantic and lexical relations. WordNet is freely and publicly available for download and can be used for computational linguistics and natural language processing. The web interface has been updated to access the 3.0 database. Wordnets have been created in dozens of other languages.

ProZ.com (http://www.proz.com/) is the ultimate site for translators. Apparently, ProZ.com is a commercial site where translators can post their profile and look for a job. Its structure is well designed, scattered through a variety of services such as glossaries, forum, news, events, tools, whatever a translator may need. There is a long list of glossaries grouped by language pairs and divided into specific fields (http://www.proz.com/glossary-translations/), the KudoZ Open Glossary (KOG) and, finally, KudoZ.

KudoZ (http://www.proz.com/kudoz/) is a translation network of mutual help among peers. Anyone can post an answer in almost any source language for translation into a target language. The question may refer to a single term, a few words up to a short sentence. Both questions and answers must be posted according to KudoZ rules (http://www.proz.com/kudozrules), a sort of netiquette created for a better performance of the workplace. The mechanism at the basis of Kudoz is earning points by answering questions, to climb up a translator list for job purposes. This mechanism is highly competitive and feeds back an answer in a few minutes. Each question may have an open number of answers, which can be graded and commented by others: agree + 1 net point, neutral, disagree -1 net point. When you post an answer you have to declare your confidence level 1-5 points; you can also post a reference with confidence 0, without suggesting any translation. The choice of the answer is up to the asker who close the question grading the translation 1-4 points. The question can also be closed without any choice: the best translation will then be system-selected among answers showing at least +2 net points.
The answer is not necessarily the best translation but corresponds to helpful criteria in assessing the translation and also depends on the asker knowledge and experience. Furthermore, answerers may be misleading, if not cheating, or bet on a wrong answer. Questions are posted by language pair and field area: people involved in questions are a limited number and, after a while, you can develop a confidence judgement and trust a peer vs. another. Answers should be supported by as much information as possible, including explanation, example sentence(s), web reference(s). This can add value to your answer but time required to collect information will give you poor chance of answering first, then you can only grade your peer without earning points. However, the activity within the site will grant BrowniZ points, to be spent as currency within the site for a variety of services, e.g. to read an article.
A question can also be posted with the same source/target language for linguistic issues. A discuss button is now also available within the bilingual KudoZ record both for asker clarification and linguistic purposes.
Proz.com also offers a range of discussion forums and the possibility of creating private discussion areas (http://www.proz.com/faq/forums.html).

A workplace for MeSH translators

The experience witnessed on the net in KudoZ highlighted the need for peer environment of international translators for MeSH. Translating is a lonely work, where lack of competitors and revisers slows down progression, while team working magnifies results.
However, nature of MeSH is original and differs from other contexts. The concept structure together with tree dissemination makes each record a single translation unit, like a sentence, having no other equivalent in translation sources.
MeSH translation is someway different from scientific and technical translation, since it involves knowledge organisation. Over the time, involvement in MeSH translation has deeply changed from the mere translation of one term per record to translation of new term full-records, revision of semantic areas with translation of relative missing entry terms, possible revision of previously-translated entry terms, harmonization of translation.
The addiction of entry term translation may create new issues in working on MTMS [5].
Peculiar features of MeSH translation have promoted the creation of a private discussion forum, devoted to MeSH issues (https://portale.iss.it/sites/mesh/). The link is also accessible through the Documentation Service website (www.iss.it/sdoc).
In collaboration with the ISS Information Technology Service, Sharepoint has been selected to create a workplace for MeSH translators.
Sharepoint is a user-friendly Microsoft product. Under its plain, easy-to-use appearance, it discloses a heart of tools and applications for multi-purpose uses. It's the ideal platform for a small group of people that may grow together and create a larger community. Sharepoint was chosen for its possibility of creating discussion forums, while showing the features of a real workplace with its different sections.
Each member can create a personal profile and display his/her knowledge, experience and whatever helpful for the group. Links may highlight specific interests of the community. Calendar and tasks are helpful to remind events, but can be used to organize meetings, preparing together programs and documents in the "shared documents" section.
Official MeSH translators have been contacted and given ID and passwords for private MeSH forum. Many of them showed an interest in our project and joined the forum.

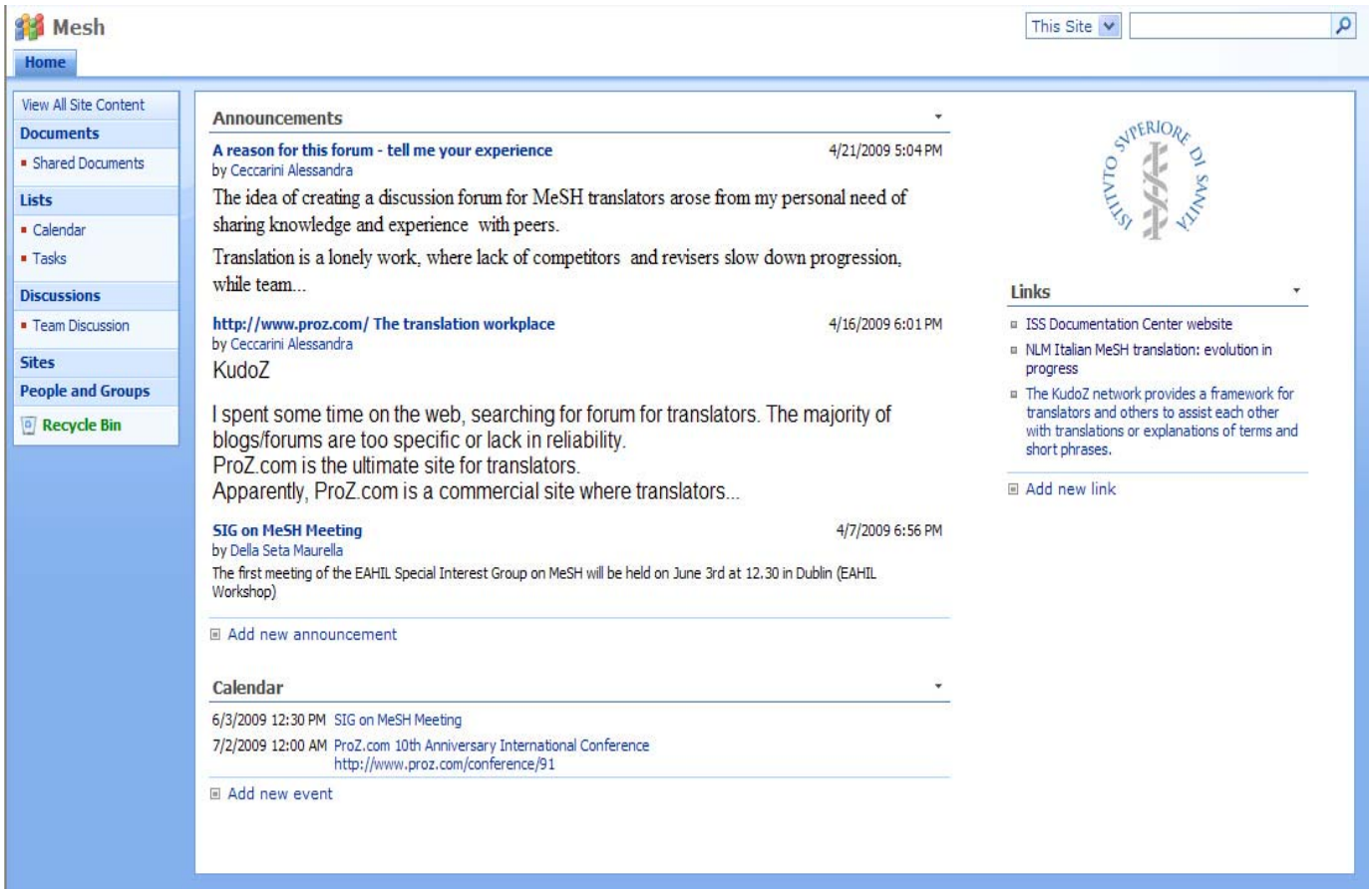

Figure 2. The MeSH translator workplace homepage.

Conclusions

After the group is formed and common interests are set, the members could form an international team of translators with a multi-faceted experience in linguistic areas of different origin. Other issues arising from MeSH translation may develop and create a culture broth for sub-group discussion.
The forum has been conceived as an international on-line tool with the purpose of developing features arising from MeSH translation. Not only a multi-language resource, but a translation KOS-oriented workplace.
MeSH are used in a variety of applications in different areas of knowledge, such as medicine-related fields, informatics applications, multilingual search engines, publishing, and library-oriented activities.
MeSH forum is a new product, its possibilities being all to be investigated and largely depending on members willingness to work together for common goals.

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[1] Miranda G, Gualtieri F, Coccia P. *The revolution of the web 2.0 in the library and information services*. In *Proceedings, 11th European conference of medical and health libraries*. Helsinki, Finland, June 23-28 2008. http://www.terkko.helsinki.fi/bmf/EAHILpapers/Giovanna_F_Miranda_paper.pdf
[2] Metitieri F. *Il grande inganno del Web 2.0*. Bari:Laterza, 2009.
[3] Ceccarini A, Falcone MA, Ferrari P. *NLM Italian MeSH translation: evolution in progress*. Journal of the European Association for Health Information and Libraries. 2008;4(1):3-6.
[4] Gruppo di studio Istituto Superiore di Sanità "Tesauro italiano di bioetica". *Tesauro italiano di bioetica*. Strumenti di Riferimento. 2006;06(S3). http://www.iss.it/sibi/?lang=2
[5] Nelson SJ, Schopen M, Savage AG, Schulman J, Arluk N. *The MeSH Translation Maintenance System: Structure, Interface Design, and Implementation.* In: Fieschi M. et al., editors. *Proceedings of the 11th World Congress on Medical Informatics*; 2004 Sep 7-11; San Francisco, CA. Amsterdam: IOS Press; 2004. pp. 67-69. http://www.nlm.nih.gov/mesh/mtms_medinfo_2004.html