Assessment of the quality of medical wikis and Mighealthnet Wiki using Health Summit Working Group Quality Criteria

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It's being said, that Web 2.0 tools could have significant impact on the future of medicine, because they can change the way the medicine is practiced and healthcare delivered (Meskó, 2008)

Possible impact of Web 2.0 tools in medical and health sciences:

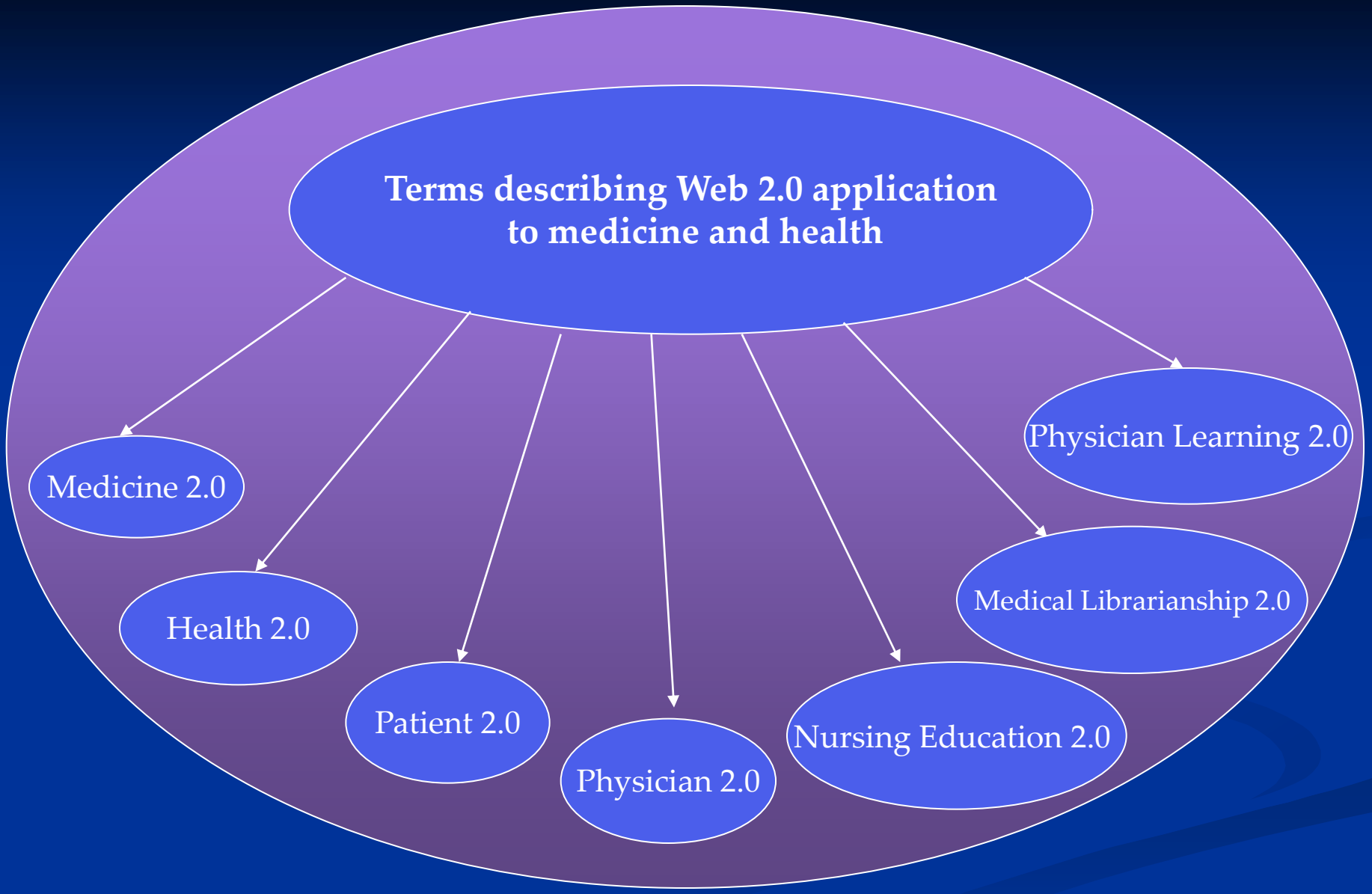
- Redefine the traditional paternalistic model of relationship between doctors and patients by enhancing their connections and changing the way they communicate with each other (e.g. Hello Health, Ask Medical Doctor, virtual medical centers in Second Life)
- Revolutionize the life long education of healthcare professionals from a didactic one way process to a collaborative and participative process (e.g. Medical wikis, social networking, education centers in Second Life)
- Facilitate the work of physicians, scientists, medical students or medical librarians (e.g. bookmarking services, RSS feeds)
- Power the current healthcare reform movement (e.g. web based personal health records)

- Web 2.0 has made it much easier to find sources of medical information not only for medical and health professionals but also for consumers, potentially improving their health and influencing the care they receive.

Web 2.0 applications could also play a significant role in patient empowerment, enabling patient to become an active and responsible partner of medical professionals in his/her own health and wellness management.

Thanks to web 2.0 applications patients can connect with other patients, share ideas, exchange their experiences, find support and learn from each other (e.g.PatientsLikeMe)

"Are you sure I'm getting enough fiber?"


Terms describing Web 2.0 application to medicine and health
Medicine 2.0
Health 2.0
Patient 2.0
Physician 2.0
Nursing Education 2.0
Medical Librarianship 2.0
Physician Learning 2.0

BUT!

There is a growing concern about the quality of Web 2.0 sources

- Their content can be added and edited by anyone, with a significant number of sites being fuelled by lay users (Janne Mayoh 2008)
- Frequently there is lack of clear and complete authorship/editorship information (Boulos, Maramba, Wheeler 2007)
- There is a problem with protecting patient anonymity, when e.g. clinical data and images are posted on the Web
- Copyright problems
- Web 2.0 services are vulnerable to spam and misuse

The question can be pose whether Web 2.0 tools are at all suited to build the sources of MEDICAL and HEALTH information,

where accuracy and authority should be of the highest standards,

and if yes, what kind of security measures have to be undertaken to avoid the danger of unreliability and misuse.

The aim of the study, undertaken at the Institute of Public Health in Kraków was to answer these questions in regard to one of the Web 2.0 application – wiki,

by assessing the quality of existing medical and health related wikis

The medical wikis where chosen from the list of medical wikis created by D.Rothman. 52 Wikis were included in the study

Medical wikis were assessed using the quality criteria (QC) for evaluating the quality of health information, provided on the Internet, developed by Health Summit Working Group

Health Summit Working Group selected, defined, ranked and evaluated 7 major criteria for assessing the quality of Internet health information:

- Credibility (source, currency, relevance/utility, editorial review process for the information)
- Content (accuracy, completeness, disclaimer)
- Disclosure (purpose of the site, private policy)
- Links (selection, architecture, content, back linking)
- Design (accessibility, navigability, internal search capability)
- Interactivity
- Caveats (clarification of whether site function is to market products and services or is it a primary information content provider)

Results:

The assessed medical wikis occurred to be of good quality, if we looked at their design:

Most of the wikis are accessible (98%), easy to navigate (85%) and all of them are searchable (100%)

The quality of the wikis turned out to be poor if we took into account such quality criteria like: credibility, content, disclosure and caveats

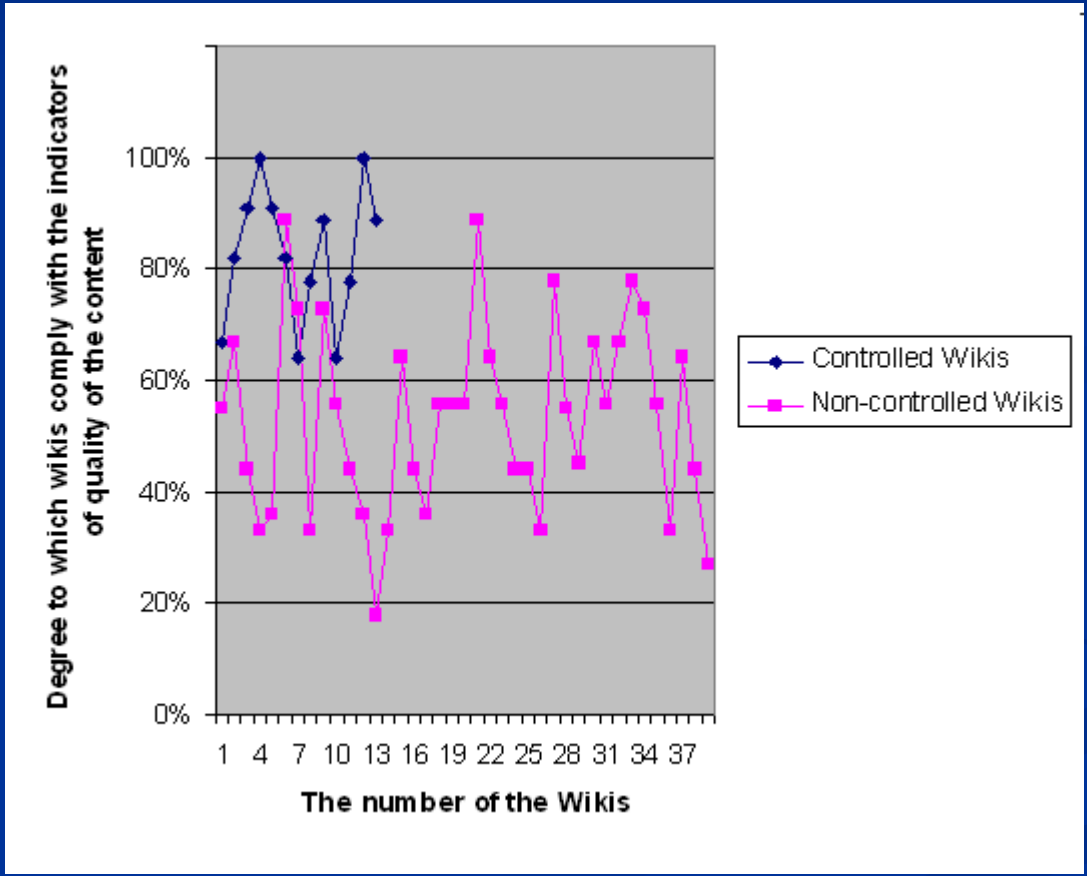
- Only 47% of the assessed wikis indicates the name of the Institution or author responsible for the wikis
- 25% of the wikis complies with the criterion of the editorial-reviewing process
- 46% of the wikis is accurate and 50% complete, 56% provides appropriate disclaimer
- 87% of the wikis describes the purpose of the site, but only 30% describes what kind of information about the users are collected
- Only 15% of the sites clarifies whether a site function is to market products and services

The most important factor influencing general quality of wikis occurred to be editorial reviewing process

Among the wikis which have clear editorial reviewing policy, verify the contributors' credentials or review submitted information, as much as 92% are of good quality (comply with at least 60% of the quality criteria developed by HSWG)

Comparing with a non-controlled wikis, wikis, that have any form of quality control (e.g. moderator) usually do well in regard to other content quality indicators

(source, currency, accuracy, completeness, disclaimer, purpose of the site, private policy, selection and content of the links, caveats):



The best medical wikis (complying with at least 65% of the included quality criteria):

- 1. ECGpedia, Wiki*Doc* 93%
- 2. Wikikidney.org 89%
- 3. PubDrug, WiserWiki, Radiopaedia.org 87%
- 4. Ganfyd.org, NursingWiki, The McGill Global Health Resource Guide 83%
  5. WikiSurgery, DockCheck Flexicon, WikiHealth, WikiHealthCare 80%
- 6. Flu Wiki, Consumer Health Information Service, Welness Wiki 78%
- 7. AskDrWiki.com, UBC HealthLib-Wiki, WebHealth 73%
- 8. EBM Librarian, Radswiki, Wikimd 72%
- 9. MLA-HLS, Human Physiology, OpenWetWare, WikiCancer 67%
- 10. RadiologyWiki 66%

Summary:

- From the technical point of view Wiki can be an appropriate tool to build a medical or health information source
- The assessed medical wikis are not of good quality if we take into account such quality criteria as: credibility, content, disclosure and caveats
- **Higher quality score could be associated with content's control process. The conducted study has indicated, that wikis moderated by experts or peer-reviewed are of better quality than those generated and published by the community of all Internet users**

Conclusions:

In case of sources of information related to health, peer-reviewing and/or controlling the qualifications of contributors seem to be an absolutely necessary safeguard to guarantee the quality of the information, even if such a solution doesn't correspond strictly with web 2.0 philosophy of open, self-controlled web .

MIGHEALTHNET Wikis

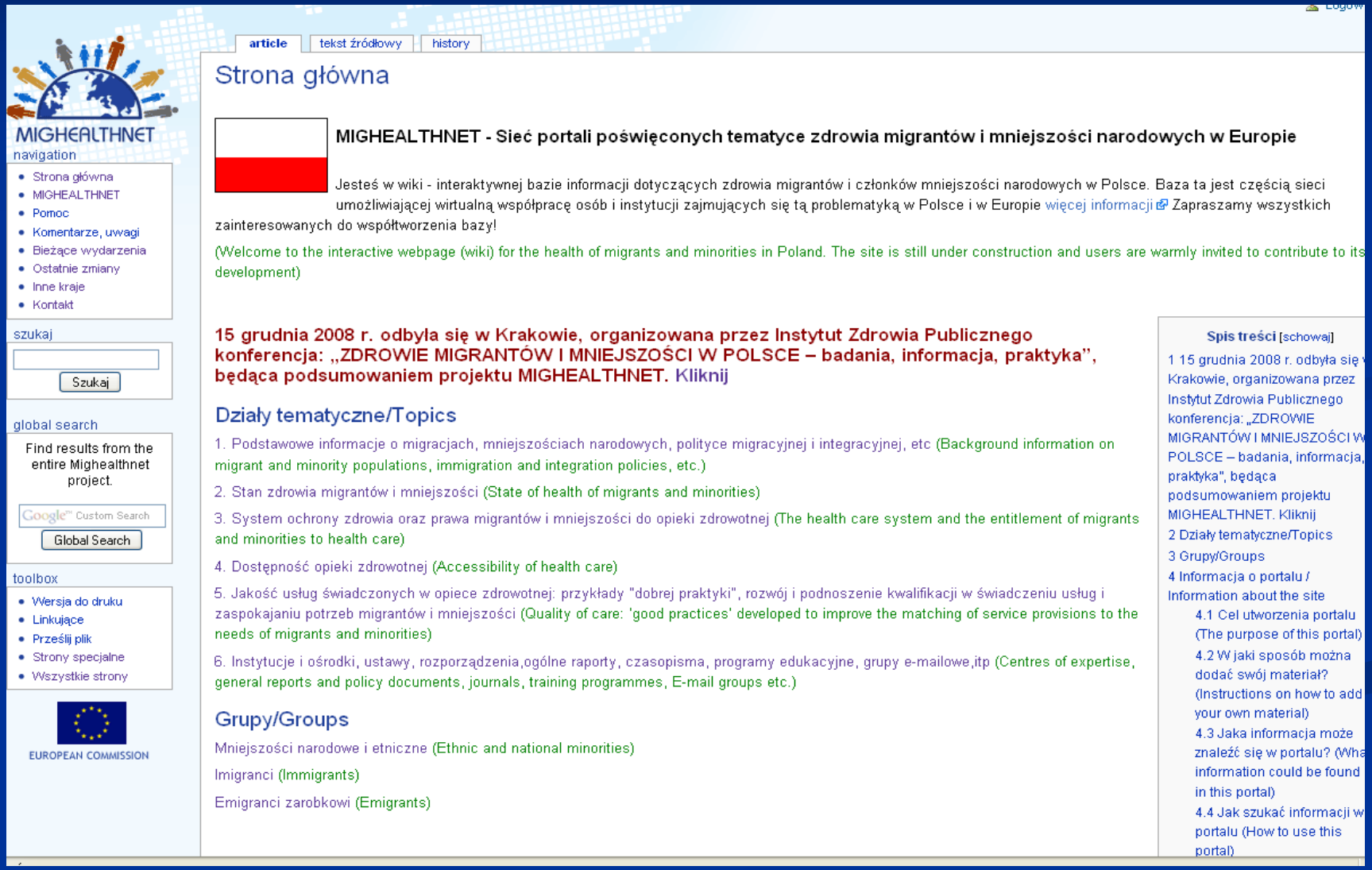
http://mighealth.net/eu/

Our own experience confirm this conclusion!

In 2008-2009 in co-operation with 17 other countries we had created a net of wikis devoted to information about migrants' and minorities' health in Europe.

Although our first assumption was to make this source of information open to all Internet users, very soon we realized that such a solution causes major problems and affects wiki's quality (relevancy of information, clear structure, redundancy of information, completeness etc.)

MIGHEALTHNET project wiki as an example of using wiki technology to build the source of medical information: mighealth.net/pl



The lesson learnt from this experience was that :

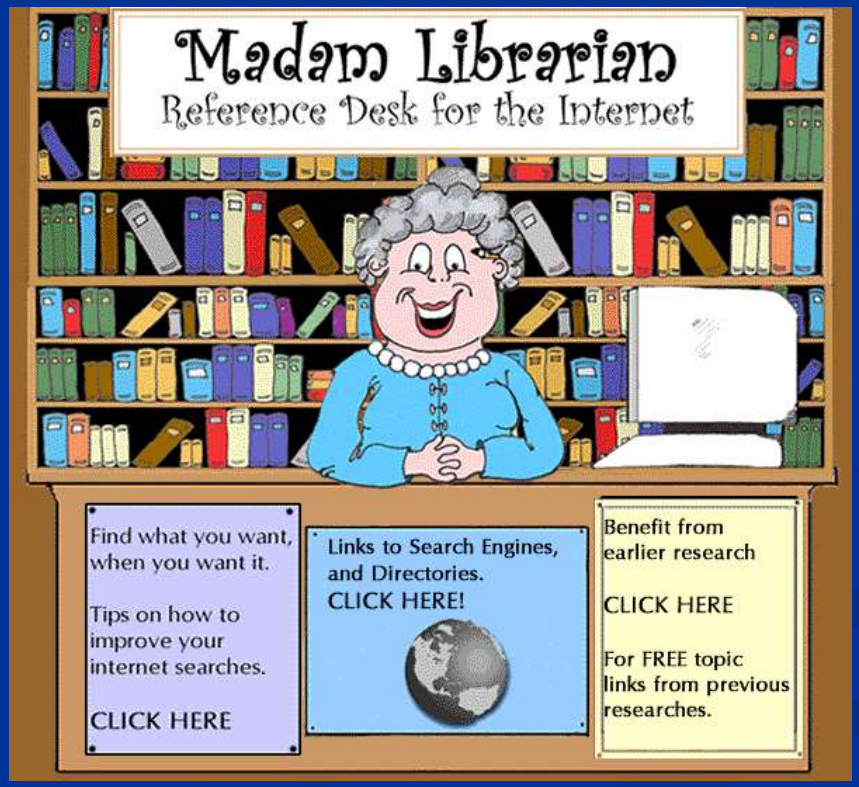
Medical and health related wiki, as a source of sensitive information, to be reliable and safe has to be:

* limited to contributors-specialists
* carefully content-controlled

It cannot be really opened for edition to everybody!

Because in democratic structure of Web 2.0 there is no option to take control over the whole content created by the contributors, a way to decrease the potential risk of misinformation, is to educate the Web 2.0 users how to separate wheat from chaff.

One more task for medical librarians ?



Additional remark:

HSWG quality assessment instrument proved not to be optimal for assessing the quality of web 2.0 tools, because it doesn't take into account its dynamic structure

Thank you very much for your attention!

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