

# Use of the automated quality evaluation system for the comparison of health care web pages



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# Objective

- ✓ Creating automated system for evaluation of a quality of presentation of health web resources
- ✓ Using this system for comparison of web pages of different types of health related institutions

# Criteria

- ✓ Choice of criteria was based on official standards, guidelines and technical rules for publication of electronic information (HON Code, WAI, EC Quality Criteria for Health Related Websites, etc.)
- ✓ Selection of criteria was performed in a way to cover all important aspects of web page quality - Presentation, Navigation, Functions and Credibility.

# List of Criteria

## Presentation

- ✓ Speed of homepage loading
- ✓ Links from homepage
- ✓ Covering of the screen
- ✓ Uniformity of appearance
- ✓ Faults of graphics

## Navigation

- ✓ Number of steps
- ✓ Back links
- ✓ Site map
- ✓ Marking of new
- ✓ Highlighting of links

## Functions

- ✓ Foreign language version
- ✓ Internal search engine
- ✓ Metadata
- ✓ Alternative captions
- ✓ Availability

## Credibility

- ✓ Authorship
- ✓ Date of publication
- ✓ Date of the last updating
- ✓ Dead links
- ✓ Faultlessness of HTML code

# Weights of criteria

- ✓ The particular criteria are not of the same importance and the outcome of evaluation could be biased.

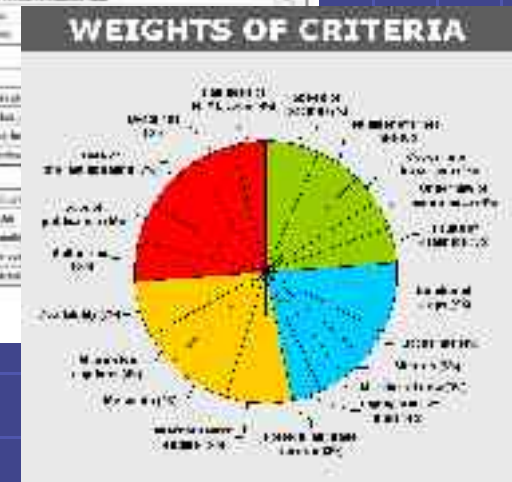
## Estimation trial:

- ✓ 110 medical educated respondents took part
- ✓ Every respondent marked 10 preferred criteria out of 20
- ✓ Weights of criteria were computed as proportion of all answers



The image shows a screenshot of a survey form titled "Weights of criteria". The form is divided into several sections, each with a heading and a list of criteria. The criteria are marked with checkboxes. The sections include:

- Section 1:** "Criteria of criteria" with a list of 10 criteria.
- Section 2:** "Criteria of criteria" with a list of 10 criteria.
- Section 3:** "Criteria of criteria" with a list of 10 criteria.
- Section 4:** "Criteria of criteria" with a list of 10 criteria.



# Automated system: Rankmed

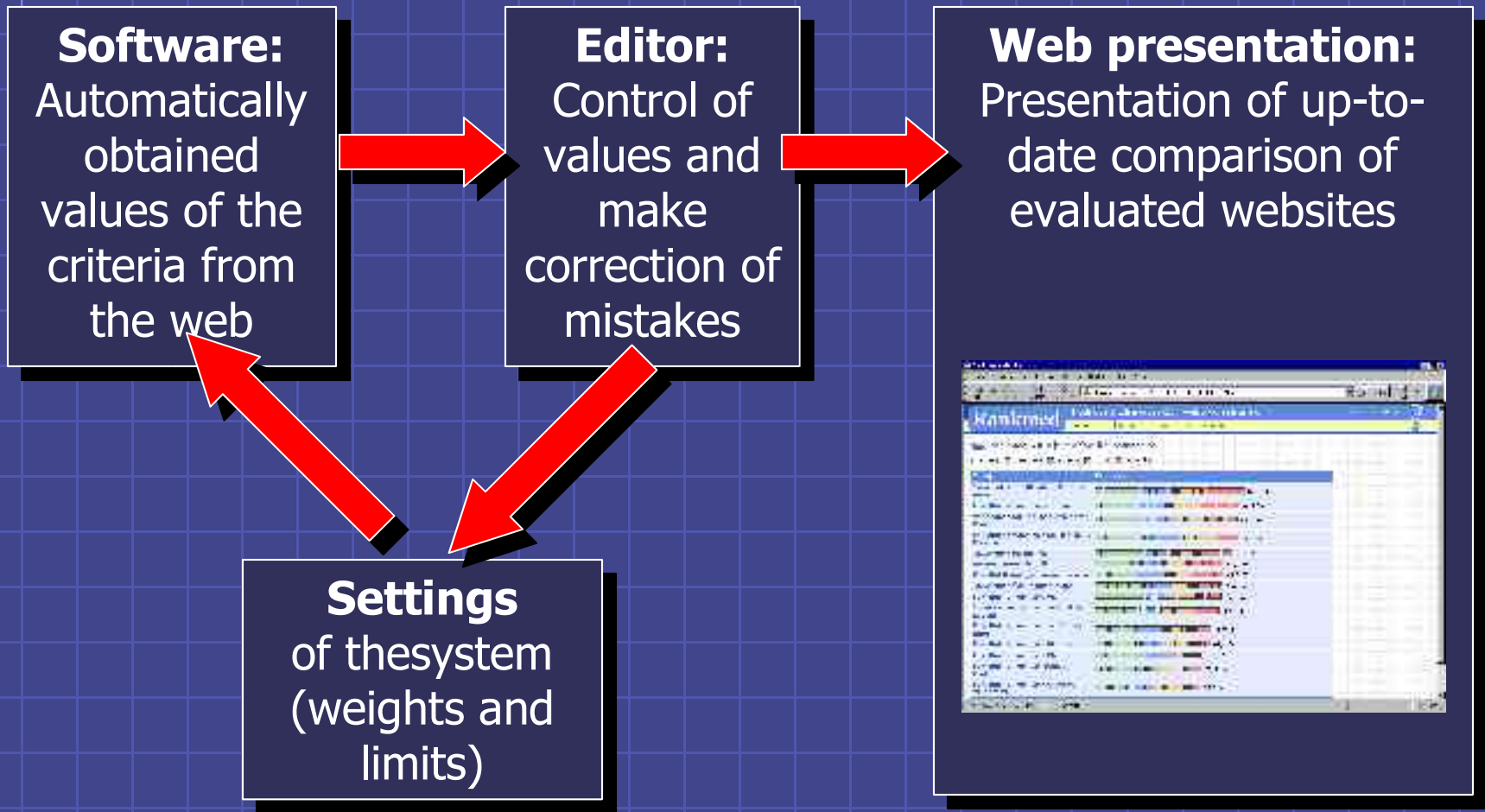
- ✓ Under the patronage of the Ministry of Health of the Czech Republic
- ✓ Automated system for evaluation of a quality of presentation of health web resources were developed
- ✓ 20 criteria with defined weights were used
- ✓ Algorithms for automated assessment were determined
- ✓ [www.rankmed.cz](http://www.rankmed.cz)

# Software

Main functions:

- ✓ The values are automatically obtained from the particular website
- ✓ The values are served to the editor for inspection and correction
- ✓ The evaluation is published on the web

# Workflow



# Checkup and correction

Seznam zdrojů Editace zdroje

Vlastnosti zdroje	Použité hodnoty	Od redaktora
Titulek	Fakulta menších Hradec Králové	Fakulta menších Hradec Králové
URL	http://www.fnhk.cz/	http://www.fnhk.cz/

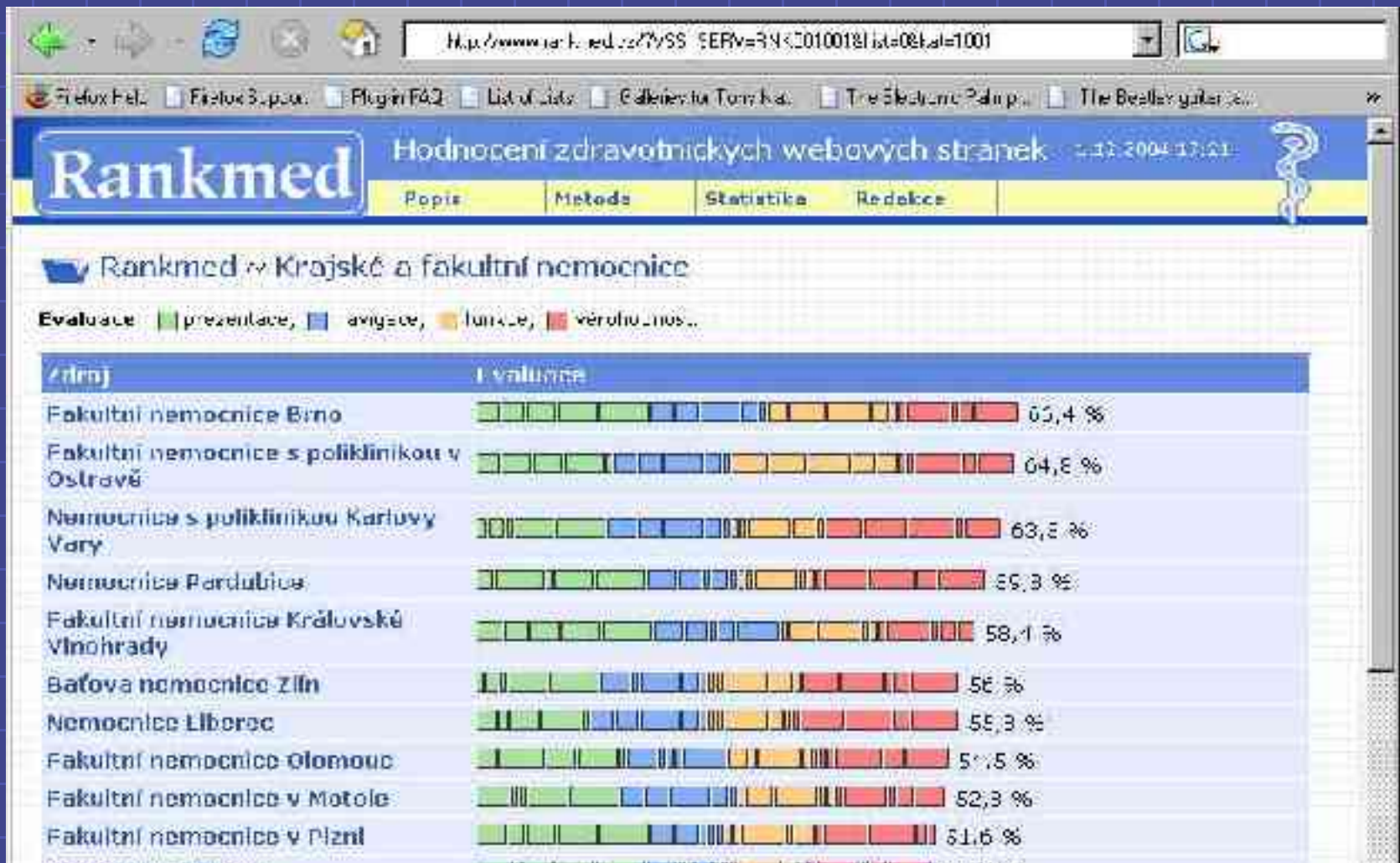
**Evaluace**

Prezentace	Použité hodnoty	Od redaktora	Z ext. služby
Rychlost načtení	13,01	13,01	12,40
Rozsah odkazů	20	20	21
Pokrytí obrázků	<input checked="" type="checkbox"/>	ano	ano
Jednotný vzhled	<input checked="" type="checkbox"/>	ano	ne
Chyby grafiky	1	1	0

**Navigace**

Použité hodnoty	Od redaktora	Z ext. služby
Počet odkazů	2	11

# Web presentation



# Comparison of different types of health related institutions

- ✓ Methodology of Rankmed was used for comparison for different type of health related institutions
- ✓ Health websites could be divided in four groups:
  - health care providers (hospitals)
  - educational (medical schools)
  - health care companies
  - public webpages

# Comparison: Material and Methods

- ✓ 54 health care websites were evaluated  
(17 hospitals, 13 public, 8 medical schools, 16 companies)
- ✓ 20 Rankmed criteria were used
- ✓ Statistical evaluation was used to confirm really existing differences among groups

# Results: Medical Schools

## Positives

- ✓ 100% of foreign language version

## Negatives

- ✓ Most dead links
- ✓ No metatags
- ✓ Lack of alternative captions
- ✓ Most mistakes in uniformity of appearance

# Results: Hospitals

## Positives

- ✓ 100% of uniformity of appearance
- ✓ Expression of date and authorship better than in schools and companies

## Negatives

- ✓ 17% of foreign language version only
- ✓ Lower level of searching function

# Results: Public

## Positives

- ✓ Most inner links from homepage (> 60 optimal splits portals from others)
- ✓ Least dead links
- ✓ Most presence of matatags
- ✓ Expression of date and authorship better than in schools and companies

## Negatives

- ✓ Effort to present everything on homepage causes lowest speed of loading
- ✓ Most overlapping of the screen
- ✓ 0% of foreign language version!

# Results: Companies

## Positives

✓ Most presence of site map

## Negatives

✓ Lowest authorship

# Conclusions:

- ✓ The principles and algorithms for automated evaluation were proposed and used
- ✓ The comparison demonstrates characteristics of different types of websites and also demonstrates the meaningful value of formally measured website parameters



✓ Thank you for your attention