

European Internet Accessibility Observatory

Monitoring Accessibility of Governmental Web Sites in Europe

11th International Conference on Computers
Helping People with Special Needs



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EIAO

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Monitoring of web accessibility

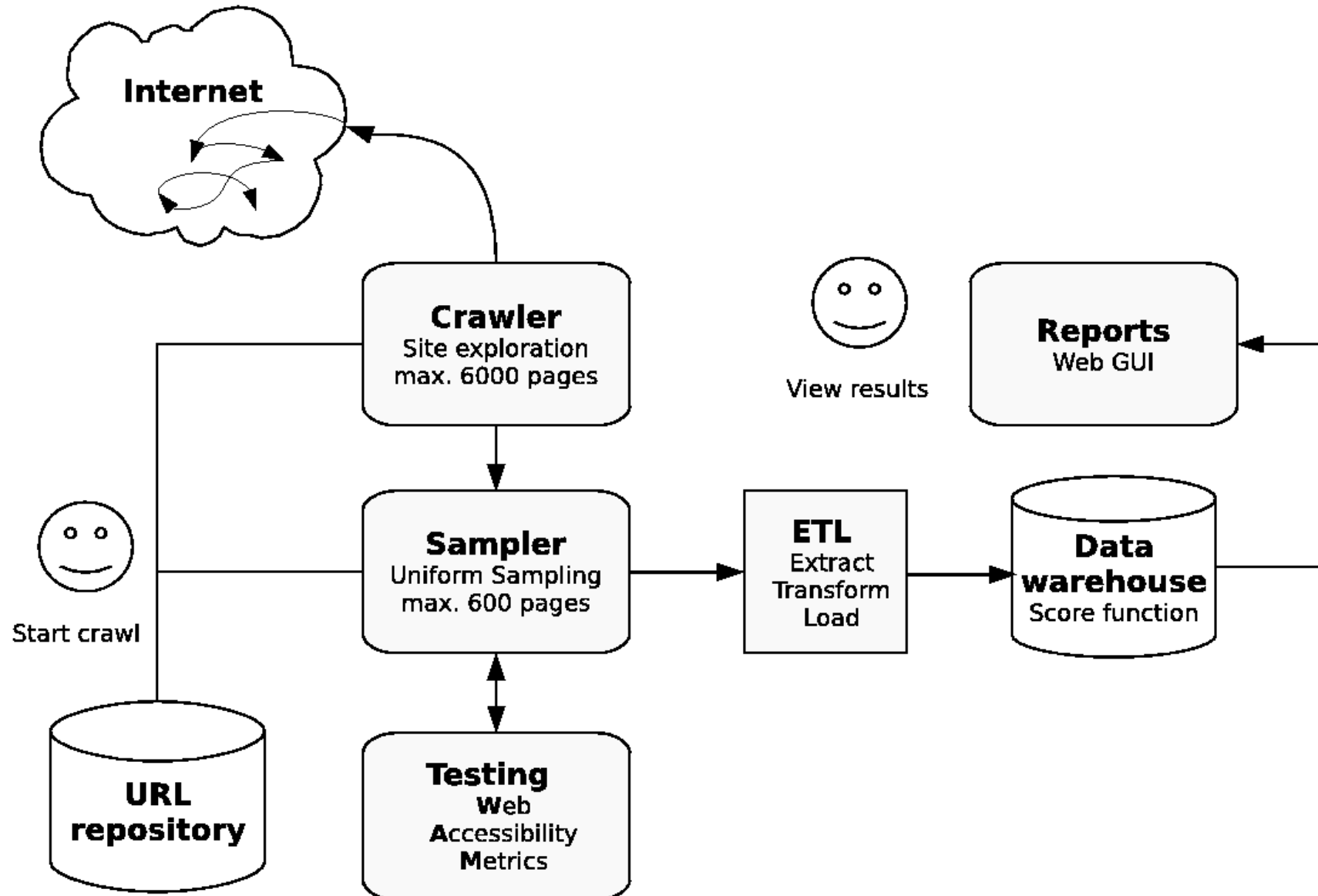
- Web accessibility on the political agenda
 - European i2010 initiative
 - UN Convention on the Rights of Persons with Disabilities
- Measurements of situation and progress
 - Usually conducted as one-off studies
 - Manual assessments are costly and time-consuming.
 - Methodological differences
 - Limited comparability
- Automated monitoring to supplement measurements
 - Enhance results by regular, periodically repeated evaluations

Outline

Comparing results from EIAO,
UK Cabinet Office and MeAc

- **E**uropean **I**nternet **A**ccessibility **O**bservatory (EIAO, 2008)
 - Implementation / Methodology
 - Advantages / Disadvantages
 - Results May 2008
- eAccessibility of Public Sector Services in the European Union (UK Cabinet Office, 2005)
- Measuring Progress of eAccessibility in Europe - MeAC (EC, 2007)
- Comparison
- Conclusion

EIAO Architecture Overview



European Internet Accessibility Observatory







- Implementation of the **U**nified **W**eb **E**valuation **M**ethodology 1.2
- Collection of samples:
 - Crawl and download 6000 pages from each evaluated site
 - Uniform Random selection of 600 pages for evaluation
- Web Accessibility Metrics
 - 26 fully automatable tests from WCAG 1.0 level AA
 - Both (X)HTML and CSS
- UWEM Accessibility Score:
 - Number of *fail* tests over number of *applicable* tests
 - Results presented as score card categories (A-E)

Advantages / Disadvantages

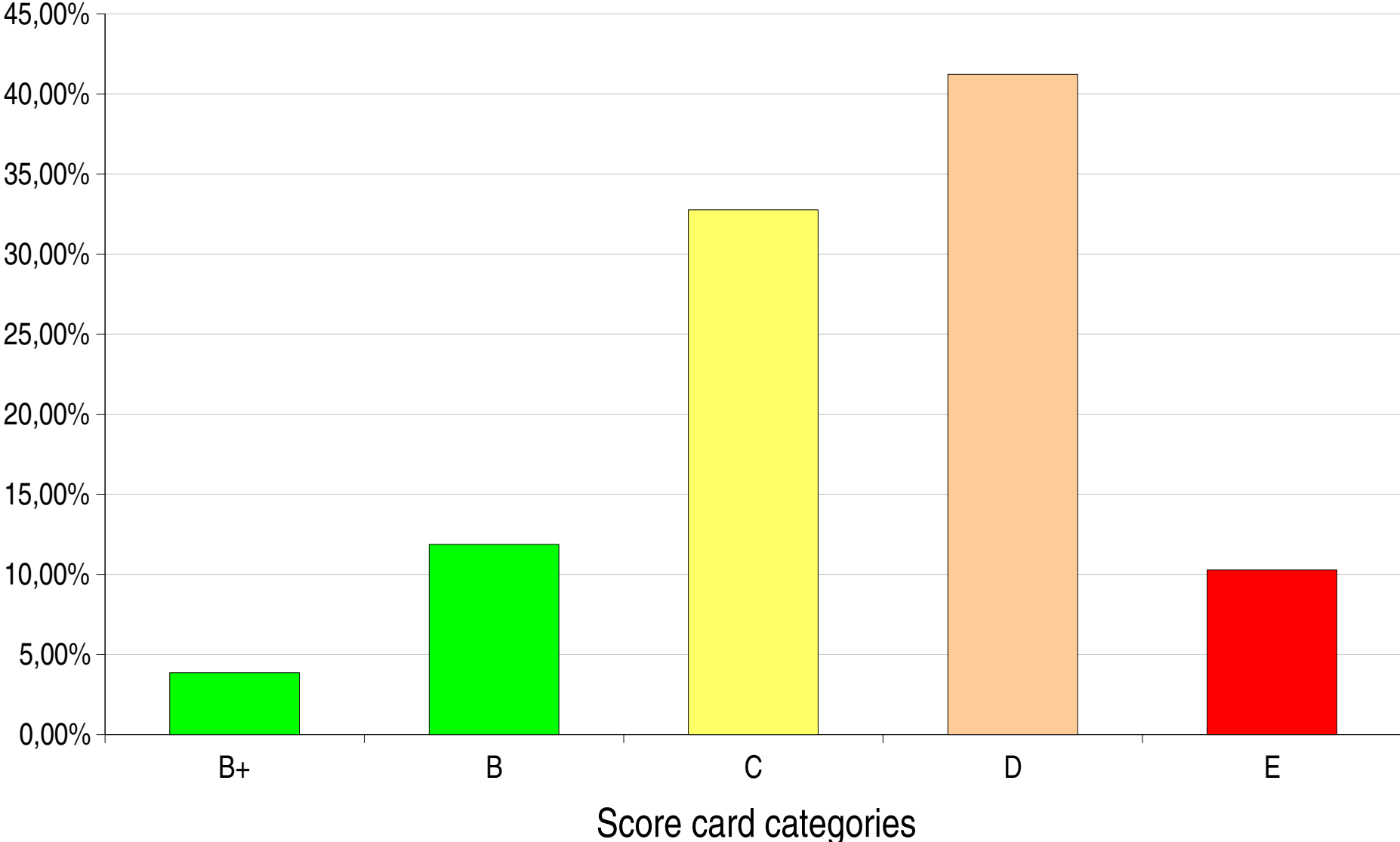
- Disadvantages:
 - Only a subset of the UWEM tests are automatable.
 - Some tests require human judgement.
 - Cannot find hidden web pages automatically
 - Password protected, Require JavaScript/Flash interaction
- Advantages:
 - Process a large number of web sites / web pages
 - Repeatable / Comparable
 - Not influenced by human factors

EIAO Data Collection (May 2008)

- 2883 public European web sites considered.
 - Results from 88.9% of web sites (321 sites not evaluated)
 - Most frequent reason: web site unavailable

Score card		Score value <i>F(s)</i>	Interpretation	Mapping
Letter	Colour			
A		$F(s) = 0$	No accessibility tests failed (expert testing required).	N/A
B+		$F(s) = 0$	No accessibility tests failed (only automatic testing).	Limited Pass
B		$0 < F(s) \leq 0.1$	Few accessibility tests failed.	Marginal Fail
C		$0.1 < F(s) \leq 0.25$	Some accessibility tests failed.	Fail
D		$0.25 < F(s) \leq 0.5$	Many accessibility tests failed.	
E		$0.5 < F(s) \leq 1$	Most accessibility tests failed.	

Score Distribution



European Studies on eAccessibility (1)

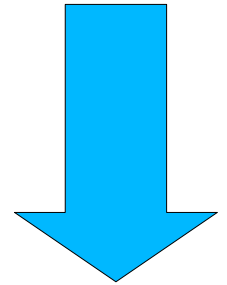
- **eAccessibility of Public Sector Services in the European Union** (UK Cabinet Office, 2005)
 - Automated and manual testing of WCAG 1.0
 - 569 public web sites from 25 EU member states
 - Results from 77% of web sites
 - Fixed sample size (25 pages), crawl starting from home page
 - Results reported in four conformance classes:

Pass	Website passes the test for all applicable checkpoints, including a range of checkpoints to be evaluated manually.
Limited Pass	Website passes all checkpoints that can be tested automatically.
Marginal Fail	Website fails certain checkpoints, but the number of checkpoints failed or of failure instances is below specific quantitative thresholds.
Fail	Website fails multiple checkpoints.

European Studies on eAccessibility (2)

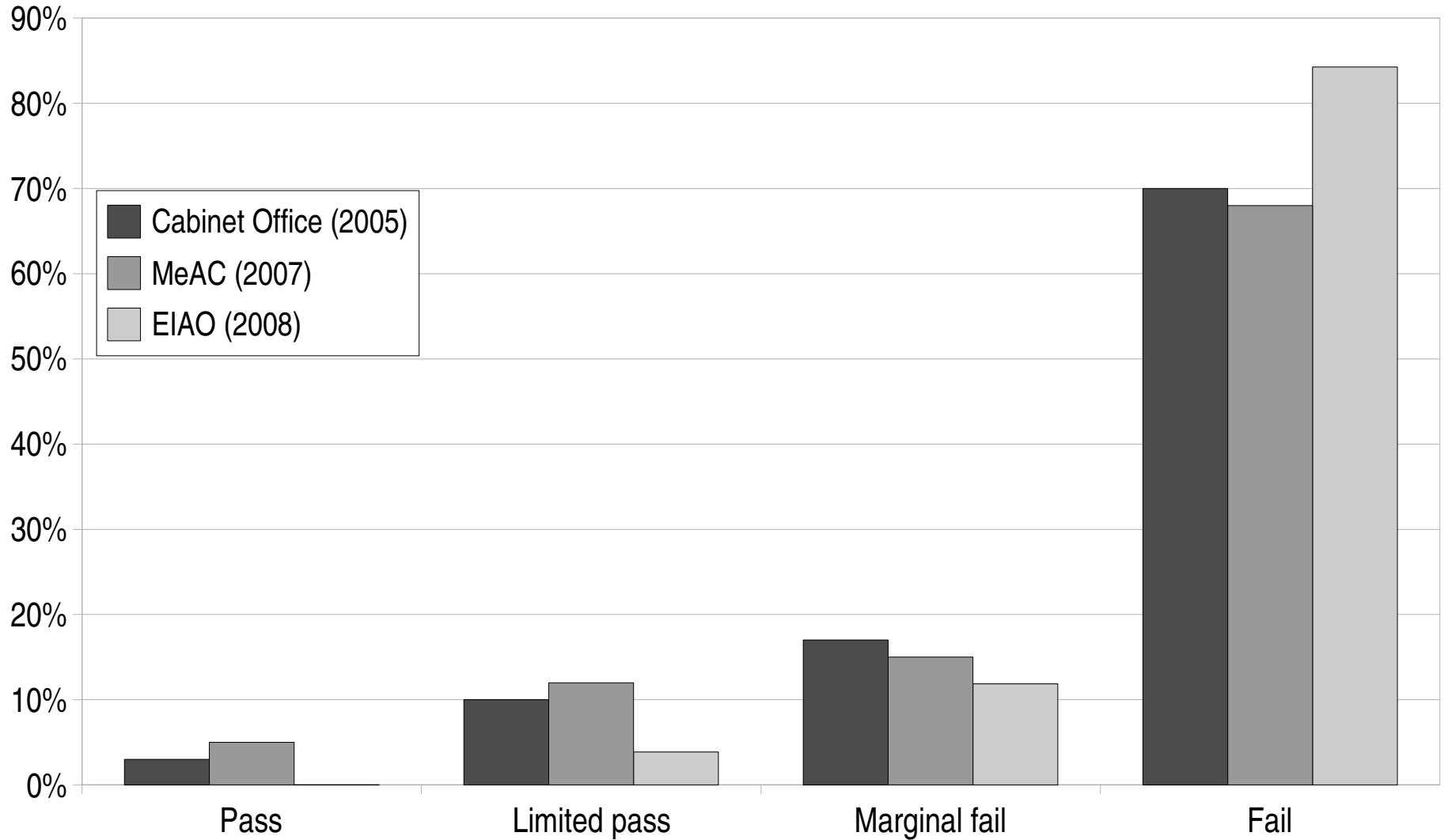
- **Measuring Progress of eAccessibility in Europe - MeAC (EC, 2007)**
 - Policy survey, questionnaire, status of key indicators
 - Variety of ICT products: TV, telephone, computer hardware and software, web sites
 - 336 public and private sector web sites
 - Results from 93% of web sites
 - Automated and manual testing of WCAG 1.0 level A
 - Sample: 25 pages per site, automated retrieval
 - Same conformance classes as in UK Cabinet Office survey

Comparision of results



Score card		Score value $F(s)$	Interpretation	Mapping
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Comparison



Discussion of methodological differences

- Conformance level
 - UK Cabinet Office and MeAC: WCAG 1.0 level A
 - EIAO is based on UWEM, covers WCAG 1.0 AA
- Sample size
 - MeAC: 25 pages per site
 - EIAO: 600 pages per site
- Presentation of results
 - UK Cabinet Office, MeAC: four conformance classes
 - EIAO: UWEM web accessibility score card

Conclusion & Future work

- Combination of manual and automated evaluation is viable.
 - Expert surveys rely increasingly on automated tools.
 - EIAO provides flexible and extensible software system.
- Future work: methodology
 - Collaboration in definition of sampling approach
 - Comparability of aggregated results
- Future work: data collection
 - Seamless integration of results from yearly surveys
 - More frequent monitoring
 - Same set of URLs