

Opponent: dr. Károly Hercegi
10th August 2025, Budapest

**Review for PhD thesis „New Methods and Algorithms for Testing Web Accessibility” by Jinat Ara
(public defence version)**

I already had the opportunity to participate as a reviewer of the pre-defence, so I can state that the work, which was already completed to a good standard for the workplace discussion, has now been developed in the right direction.

The topic is exciting and important. I consider the title to be well chosen.

As an opponent, I focused primarily on the logic, consistency, prudence expected in science, and the formulation and evidence of theses, and my opinion on all of this is generally positive.

Both the Thesis Booklet and the abstract of the Thesis are clear and well organized, so they help the reader understand the complete work.

The overviews of introduction (subchapters 1.1 and 1.2) are appropriately concise and also prudent, with a sufficient number of references.

The research objectives explained in the subchapter 1.3 are relevant and well formed.

The subchapter 1.4 rightly begins with the statement of the research gap, which has motivated the research. Describing the phases are clear as well.

In the subchapter 1.5, the formulation of the research questions and hypotheses was successful. All the research questions are relevant, and each hypothesis really belongs to the question in a good form. By good form, I mean that the hypotheses are formulated as comprehensible statements and are clearly capable of being proved or disproved.

The subchapters 1.6 and 1.7 are similarly useful. This structure of the introduction is exemplary.

The list of definitions in the subchapter 2.1 is useful, but I'm missing a few readable sentences about why this is necessary and how it fits before the following sub-chapters

In the subchapter 2.2, the overview of the accessibility standards is prudent with a sufficient number of references again. However, some sentences on critique of them would be useful: (1) Based on what has been described, the candidate herself can state that, for example, after the general WAI, the creation of ARIA in a separate document makes the

system of recommendations confusing, etc. And (2) it would be useful to collect and refer some papers which criticize the interpretability, practical applicability, nuances, etc. of the recommendations.

The subchapter 2.3 is really important. The appearing details look well chosen.

The subsection 2.3.1.1 on Crowdsourcing has been improved compared to the previous version. However, some questions have remained open: Are e.g., blind users considered as experts in guidelines for web accessibility for blind users? If yes, who are the non-expert evaluators: were not they invited by mistake – or would it have been more useful to select better participants?

I am glad to see that in section 2.3.2 also some limitations, critiques, and issues appear, and the subchapter 2.4 focuses on limitations of the existing solutions in general.

The chapter 3 is well-organized, too. I have recognized that the previously mentioned minor issue has already been corrected.

Subsections 3.1.3.1 and 3.1.4.5: I have to mention that the methods would have been better applied not to general university students, but involving special users such as blind users, users with intellectual disabilities, etc.

Section 3.1.4: The web pages were well chosen!

Subsection 3.1.4.5: It was not a perfect component of the experiment because involving a lot of inexperienced and non-special (non-blind, etc.) experts and users, but it is typical in a real world research – I'm just missing the state the consequent limitations, etc.!

The chapter 4 is clear, too.

The work performed behind the Table 4.1 is significant.

The developed system structures shown by Fig. 4.8 and 4.9 are amazing, well thought out, well worked out. Subsection 4.2.1.2 is amazing, too.

Section 4.2.3: The criteria are good and showing them in this way are useful.

The new scientific results summarized in the subchapter 5.1 are good, and I am satisfied with the way the formulation of the theses has become more precise.

The final forms are clear, vivid and proven.

Thank you for this effort!

(A minor issue that I do not consider the “It would be beneficial...” and “...it can be noted” the best formulae in theses.)

The new subchapter Discussion is useful, important and clear.

The form of the entire dissertation (including the bibliography) is excellent.

The theses show exciting studies with important results. These results came from the candidate's own work. I suggest conducting the public defense.

I can confidently recommend the dissertation with all of its particular theses and subtheses for acceptance!

Based on the dissertation, in case of expected successful completion of the public defense, I recommend awarding the PhD degree.

Sincerely,



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