

MASTER'S THESIS REVIEW

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Thesis Title: **User model for visually impaired older adults**
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Thesis Opponent: doc. Ing. Miroslav Bureš Ph.D.

Assignment

The assignment of the thesis was to analyze the current outcomes of research focused on the specific target user audience of older adults with vision impairments and user modeling methods and psycho-biographical care model. On the basis of the analysis, design a user model that will allow modeling of attributes important for interaction and attributes related to psycho-biographical modeling [1,2]. Furthermore, a prototype of a user interface for the maintenance of the model should be designed and evaluated.

Technical Manuscript

The thesis is written in good English; it is structured into six main chapters. The main content of the thesis is on 78 pages, there are another 84 pages of appendices. There are 49 references (most are scientific papers).

The analytical part of the thesis is comprehensive. It summarizes different context modeling and user modeling approaches. Furthermore, it describes the specifics of older adults with vision impairments and the psycho-biographical model of nursing care. User research was based on an analysis of the previous work and a user study with three employees of a residential-care institution. Follows a specification of non-functional and functional requirements.

The chapter Design comprises the specification of the proposed user model and design of an associated user interface in the form of low-fidelity and high-fidelity prototypes.

Both prototypes of the user interface for user model administration were evaluated with employees of the residential care institution. In total, nine employees participated in the evaluation. The evaluation indicates that the resulting design is clear, effective, and efficient.

The conclusion clearly summarizes how were met the goal of the work and presents the future work.

Implementation

The implementation consists of two prototypes (low-fidelity prototype and high-fidelity prototype). Both prototypes are sufficiently complex for the evaluation of the user interface.

Questions

1. How can the proposed user model improve the care provided to a person with specific needs?

Master's thesis of Petr Bílek is an excellent application of engineering approach and user-centered design [3] method in the field of user modeling. The assignment was very demanding, but Petr Bílek was able to deal with the requirements. The scientific impact is in the connection between classical user modeling and psycho-biographical modeling in one single user model. A scientific paper based on the outcomes of the thesis was submitted to an international scientific conference.

I assess the thesis with mark A (excellent).

In Prague, July 11th, 2019

Ing. Miroslav Macík, Ph.D.

References

- [1] E. Böhm, "Psychobiografický model péče podle Böhma", Mladá Fronta, 2015, ISBN 978-80-204-3197-4
- [2] E. Procházková, "Práce s biografií a plány péče", Mladá Fronta, 2014, ISBN 978-80-204-3186-8
- [3] DIS, ISO. (2009). 9241-210: 2010. Ergonomics of human system interaction-Part 210: Human-centred design for interactive systems.