

Design Recommendations for TV User Interfaces for Older Adults: Findings from the eCAALYX project

Francisco Nunes
Fraunhofer Portugal – AICOS
Rua Alfredo Allen 455
4200-135 Porto, PORTUGAL
+351 220 408 300
francisco.nunes@fraunhofer.pt

Paula Alexandra Silva
Fraunhofer Portugal – AICOS
Rua Alfredo Allen 455
4200-135 Porto, PORTUGAL
+351 220 408 300
palexa@gmail.pt

Maureen Kerwin
Fraunhofer Portugal – AICOS
Rua Alfredo Allen 455
4200-135 Porto, PORTUGAL
+351 220 408 300
mkkerwin@gmail.com

ABSTRACT

The work reported in this paper results from the eCAALYX project, a TV-based system that aims to improve quality of life for older adults with chronic conditions. In addition to remote monitoring tools, eCAALYX provides a simple interface for patients to observe the evolution of their health and interact with their caregivers.

It is widely known that for users to adopt a product it must respect their characteristics and needs; a TV-based system for older adults is no exception. Contemporary older adults did not grow up using computers, so what is a routine piece of technology to the mainstream user may be perplexing or even seem like ‘rocket-science’ to the older adult. Furthermore, many older adults experience some form of age-related condition that impacts their perception, cognition, physical abilities, or socio-psychological situation. An interactive system for older adults must be designed and developed with all of these factors in mind in order to be valuable to them.

Pleasant, usable UIs usually result from a process that includes thorough user research, compliance to device- and audience-specific design guidelines, and evaluation with end users. In newer situations like TV applications for older adults for which specific UI design guidelines do not exist yet, Dumas and Redish recommend applying related Human-Computer Interaction principles to create prototypes, then evaluating the prototypes with users. The results of such evaluations contribute to the formation of guidelines to suit the novel context [1].

Following this advice, the authors began by reviewing related UI design guidelines. With these guidelines in mind, the authors created prototypes, then tested them with older adults and iteratively improved the design to better suit the end-users. The authors later conducted a second evaluation in which they tested the developed system. This paper reports what the authors learned from the eCAALYX design process and presents a set of recommendations for designing UIs for TV applications for older adults, in order to support future work in this area.

There are 13 recommendations, which include references to related guidelines and examples of how each concept materialized in the Health Channel:

1. Minimize the number of steps it takes to reach a given screen
2. Use consistency to facilitate recognition
3. Make error recovery as painless as possible
4. Reduce the information presented so users can focus on a single concept at a time
5. Clearly indicate the current location
6. Show the current selection clearly
7. Use meaningful icons and labels
8. Concentrate information at the center of the screen
9. Use scrolling with caution
10. Use a high contrast color scheme
11. Use large, sans serif, left-aligned text
12. Use simple language

13. Give users time to read

This paper contributes to further work in this area, providing other researchers with a basis from which to begin designing TV applications for older adults. In the future this list of recommendations could expand to include guidelines that cover other input modalities such as audio or gesture.

REFERENCES

[1] Dumas, J.S. and Redish, J.C. A Practical Guide to Usability Testing. Intellect Books, Exeter UK, 1999.