

# Colorado Care Tablet: Designing a Personal Health Record for Older Adults

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## ABSTRACT

This paper gives an overview of design methods used to develop a personal health record application for older adults.

## Keywords

HCI, usability, universal design, older adults, PHRs

## 1. INTRODUCTION

Colorado Care Tablet (CO Care Tablet) is a Personal Health Record (PHR) Tablet PC application that helps older adults during transitions of care coordinate their care among multiple providers and caregivers and learn about the medication they are consuming. Medication errors are prevalent among older adults who are in transition between the hospital, home, or assisted living community [1]. Co Care Tablet empowers older adults to learn about what medications to take when and care providers to understand all medications an older adult consumes.

One of the main challenges with developing the Co Care Tablet is creating a touch screen interface that any older adult can use independent of computer experience or medical knowledge. In this paper, we discuss our use of Rapid Iterative Testing and Evaluation (RITE) method [2] to develop the interface for the Co Care Tablet.

## 2. RITE SESSION 1

In the first RITE session we studied how users navigated and performed specific tasks on three distinct paper prototypes: pictorial, text-based, and abstract. All four participants in this session were male, two having everyday computer experience with the remaining having little to none. Additionally two of the men were physically disabled, one as a result of macular degeneration, which significantly impacted his eyesight and subsequently his interactions during the session. The other suffered from disabilities incurred by childhood polio, which had little if no impact on our study. Throughout the session it was apparent that all participants had difficulty navigating and recognizing what was “clickable”. Although there was no “winning” prototype, various aspects of each were successful such as: help on each screen, visual and textual navigation menu, the concept of medication scheduling clock, and optional levels of complexity. In general users expressed a preference for a visual, as opposed to textual, interface. As a result of this session we plan on combining the successful elements of these prototypes as well

as completely redesigning system navigation and medication reconciliation features.

## 3. RITE SESSION 2

During RITE 2 session we conducted an icon/image study, tested a new combined paper prototype and three interfaces for medication reconciliation management. The four participants in the session consisted of 3 females and one male, all of whom managed their own medication, ranged from 74-86 in age, and varied between regular and very little computer use. During this session most participants had little difficulty navigating the application as well as interpreting the medication scheduling clock. Participants unfamiliar with the computer had difficulty comprehending ambiguous computer terms such as “edit”, “help”, and “save”. Medication reconciliation was still a problem as most users did not understand the concept of a personnel medication list, as addressed by our system, and expressed confusion over why they could edit it. As a result we plan on addressing medication reconciliation in a new way, as well incorporating the results of the icon study into the navigation icons, and correcting the previously mentioned interface problems.

## 4. ACKNOWLEDGMENTS

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## 5. REFERENCES

- [1] Coleman, E. A., Smith, J. D., Frank, J. C., Eilertsen, T. B., Thiare, J. N., & Kramer, A. M. (2002). Development and testing of a measure designed to assess the quality of care transitions. *Int.J.Integr.Care*, 2, e02.
- [2] Wixon, D. 2003. Evaluating usability methods: why the current literature fails the practitioner. *interactions* 10, 4 (Jul. 2003), 28-34. DOI=<http://doi.acm.org/10.1145/838830.838870>

