Pilltender
Automated Pill Dispenser for Seniors with Memory Loss

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Problem

- Call James
- Take Medicine
- Dinner with Alice
- Doctor’s Appointment
- Pick up glasses
- Take medicine
- Drop off Matthew
Problem

• Memory loss is a common problem with aging
Problem

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• Reminders help both seniors and caretakers
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• Forgetting to set up reminders
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|---------||
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| • Difficult to learn new behavior | |
Problem

• Memory loss is a common problem with aging
• Reminders help both seniors and caretakers
• Forgetting to set up reminders
• Difficult to learn new behavior
• Broad solution ineffective
Initial Paper Prototype

- Pilltender machine
  - Scanner
  - Pods
- Specialized cup
Initial Paper Prototype Task 1: Adding Medicine
Initial Paper Prototype Task 1: Adding Medicine
Initial Paper Prototype  Task 2: Taking Medicine

- Point 1
- Point 2
- Point 3
- Point 4
- Point 5

Initial Paper Prototype Task 2: Taking Medicine
Initial Paper Prototype  Task 2: Taking Medicine

PLEASE TAKE CUP AND TAKE YOUR PILLS

PLEASE PLACE CUP BACK
Testing Process

2 heuristic evaluations

3 usability tests
Testing Results

- Flexibility of use
- Visibility of System Status
- Error prevention
Final Paper Prototype

• Scanners in pod
• Larger text and buttons
• Progress bar
• Hidden menu in home screen
Digital Mockup  Task 1: Adding Medicine
Digital Mockup Task 1: Adding Medicine

Open the lid and insert medicine bottle

Medicine bottle detected
Digital Mockup Task 1: Adding Medicine

Scanning medicine... 80%

MED. NAME: Warfarin Sodium Tab 5mg
RX# NUMBER: 106551
INSTRUCTION: 2 Tablets/Day

EDIT CANCEL CONFIRM
Digital Mockup Task 1: Adding Medicine

MED. NAME: WARFARIN SODIUM TAB 5MG
RX# NUMBER: 106551
INSTRUCTION: 2 TABLETS/DAY

Medicine added
Please close the lid
Digital Mockup Task 2: Taking Medicine

Time to take medicine!

OK

SNOOZE

Remind me later in

15 MINUTES

30 MINUTES

1 HOUR
Digital Mockup Task 2: Taking Medicine

Filling water...

Preparing your medicine...
Digital Mockup Task 2: Taking Medicine

Please take medicine
Digital Mockup  Task 2: Taking Medicine

Please place cup back here

CHANGE CUP
Key Takeaways

• Tailoring usability testing methods such as heuristic evaluation to our project is important
• Helpful if usability tests are conducted before every major improvement of the prototype
• Maximizing the variety of participants within a target group helps gain more inclusive insights from usability testing