

Alexa, who?

Echo for Seniors with Dementia

April-July 2018 Jessica Oldiges

Why I care

and why You maybe should

My grandma **struggles to navigate technology** with a mouse, track-pad, or touch screen. My family hesitated when she asked for an Alexa, but she **navigated through conversation with ease.**

Navigating through conversation is second nature but early stages of dementia make remembering the specifics of prompting a voice ai difficult. I want to leverage the capabilities of a voice ai to benefit the daily life of persons with dementia and their care partners.

The project

in summary

A workbook for seniors experiencing early stages of dementia to use Amazon Echo as a daily assistant.

Some definitions

because we aren't experts.. yet

Workbook is a personalized book that can evolve and change over time.

Dementia is an umbrella term for a group of conditions, including Alzheimer's, that impair at least two brain functions (memory loss, judgement).

Procedural Memory is a part of the long-term memory responsible for knowing how to do things and how to perform certain procedures, such as walking, talking and riding a bike.

Alexa is a virtual assistant developed by Amazon.

Echo is a smart speaker device that connects to Alexa.

Alexa Skills are additional capabilities created by developers that enable customers to create a more personalized experience.

Constraints

informing design decisions

Audience 5.7 million Americans are living with Alzheimer's, many more with dementia. Early stages of dementia are characterized by difficulty in planning and organizing. The sooner procedural memory is instilled, the better the progression. Other difficult tasks include cooking, medications, and remembering multiple steps.

Secondary 16.1 million Americans provide unpaid care for people with Alzheimer's or other forms of dementia. Caregivers devote their time and answer questions endlessly. As the disease progresses, caregivers begin to take on responsibilities for everything for their loved ones. The workbook would primarily be for the persons with the disease in early stages and move to primarily caregiver's responsibility in later stages.

Activity Have a conversation with Alexa and be able to correctly prompt it to respond when questions arise. Users need to know how to prompt the device as well as what things to ask. Caregivers able to say commands specific to the senior.

Workbook Format A workbook that allows the user to fill in information in their own handwriting for things like favorite songs, commands and questions. Workbook clearly explains to users how to say commands and ask questions. Should allow for some flexibility in the ordering of pages. Caregivers can quickly pick up workbook and say a commands specific to the user.

Goals

for this thing I'm doing

Ability to prompt and ask questions of Amazon Echo.

Daily Assistant to encourage routine and calm anxieties.

Memory Tool to ease into instances outside of routine.

Independence for persons with disease

Comfort for care partner to have peace of mind and time for self care



Spring Accomplishments

unsequential events

Chose Topic

- Brainstorm
- Identify passions
- Connect

Secondary Research

- Dementia
- Alexa capabilities

Interviews

- Alz Assoc.
- Family & Friends
- Speech Pathologist

Audience Summary

- Visualization
- Day in the life
- Sculpture

Alexa Audit

- Current materials
- Commands & Skills
- Test

Benchmark

- Senior products
- Dementia products

Content and Format

connecting audience to capabilities

Legibility Prototype

- Type
- Imagery
- Amount on page

Content Prototype

- Routine cycle
- Routines with personal inbetween

Let's dive in

audience and device research

Resources

the actual experts



Nancy Boss & Shannan Braun

- Procedural memory
- Early Stage Characteristics of persons and their care partner
- Best communication practices



Family and Friends

- General Characteristics
- Caregiver characteristics



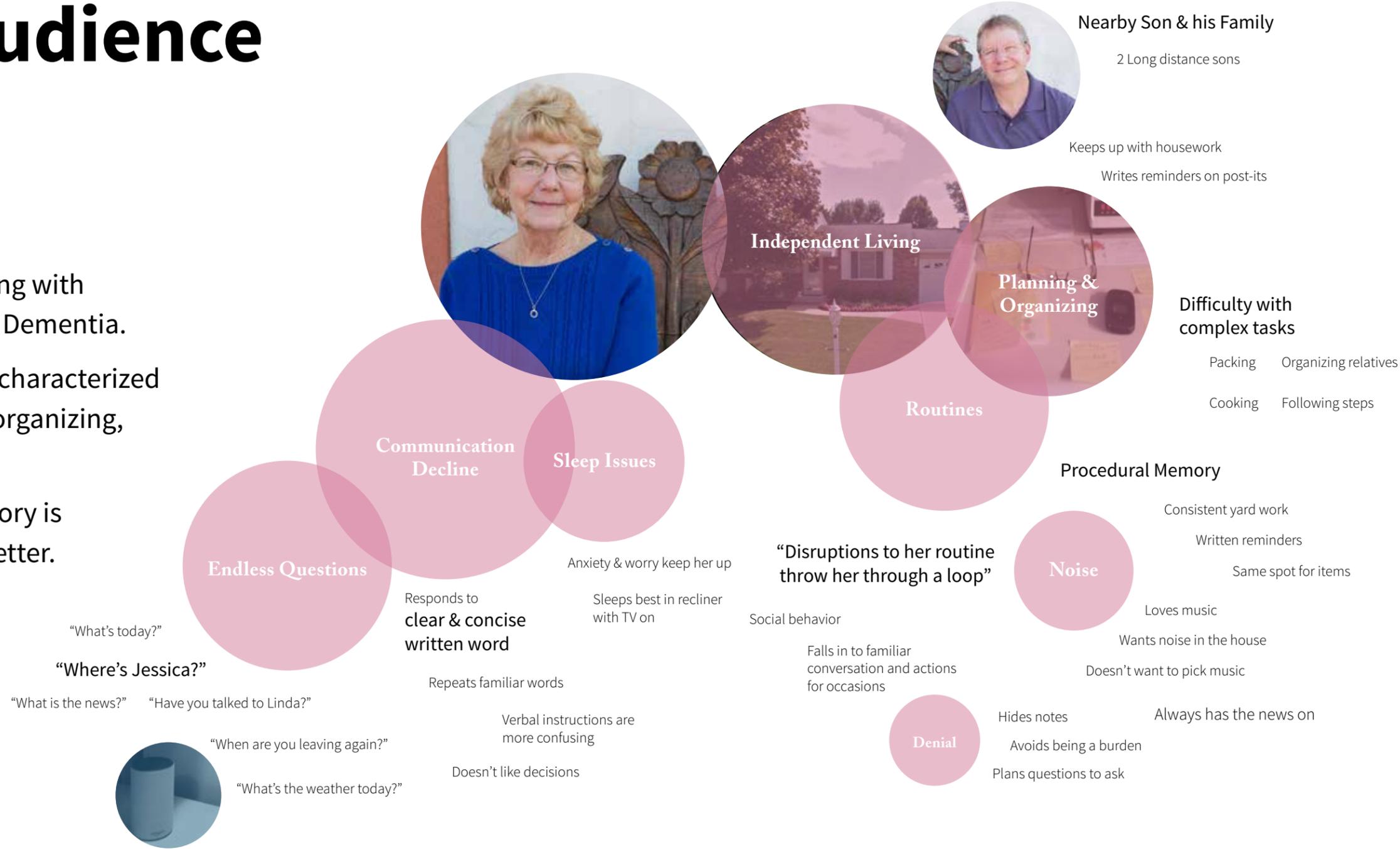
Sandra G. Combs, Ph.D., CCC-SLP

- Best communication practices with format, tone of voice, etc.
- Methods of including in daily life
- Importance of routine

Primary Audience

Mary Lou, 83

- 5.7 million Americans are living with Alzheimer’s, many more with Dementia.
- Early stages of dementia are characterized by difficulty in planning and organizing, and complex steps.
- The sooner procedural memory is instilled in the process, the better.



Sculpture

understanding the audience

I used an assignment in my wheel throwing class to gain a deeper understanding of my audience. Seniors with this disease have impaired brain functions that progresses over time. They often try to hide their symptoms. While their brains might have deformities and imperfections, their spirit is beautiful. The form of my sculpture is deformed with holes, folds, and oddities. The surface treatments show intricate designs beginning to deteriorate. The wire covering the sculpture represents the urge for seniors with this disease to hide and cover their symptoms.



Day in the life

consistency, consistency, consistency

Wake Up

- Naturally at 5am
- Puts day clothes on
- Makes coffee

Relax

- Turns on radio
- Eats Cheerios
- Reads Newspaper

Prepares for Day

- Looks at calendar
- Reads all notes

Activity

- Groceries, mows lawn, lunch date
- Based on notes

Wind Down

- Eats sandwich
- Sits in recliner
- Watches TV

Sleep

- Sleeps in recliner
- Lies in bed

5am

Breakfast

Lunch

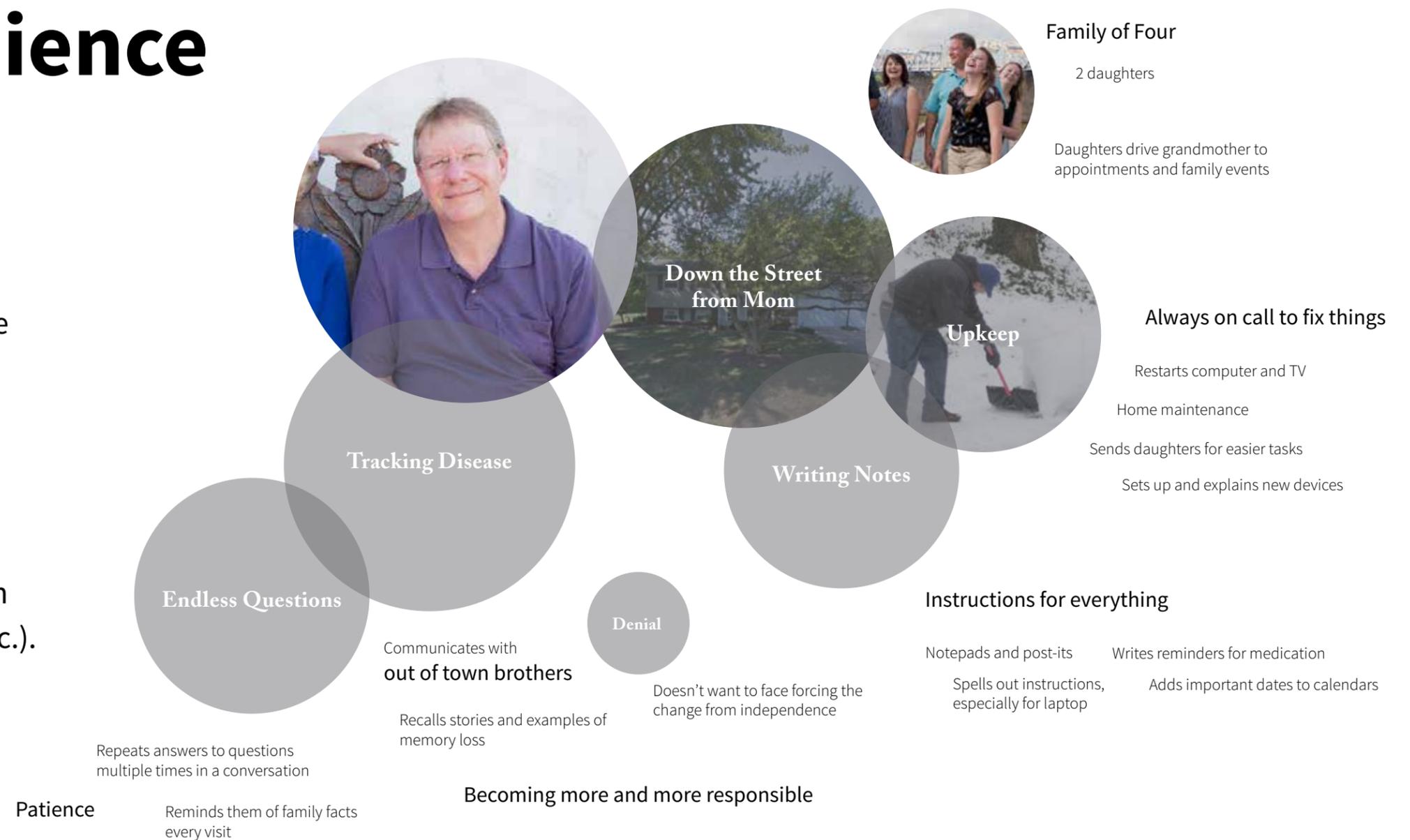
Dinner

8pm

Secondary Audience

Jack, 53

- 16.1 million Americans provide unpaid care for people dementia.
- Answers questions endlessly.
- Tracks progression of disease in order to provide appropriate care and resources.
- Take on all responsibilities for persons with disease (finances, maintenance, driving, etc.).



Shared Experiences

care partner and persons with disease

Questions

- Tone of voice
- Takes burden away
- Less dignity loss

Plan & Organize

- Routines
- Reminders

Social Hesitation

- Shared experience
- Jokes, stories

Isolation

- “Someone” in house
- Give and take
- Company

Anxieties

- Tone of voice
- Answers

Disability

- Vision - sports, music, audiobooks
- Physical - call for help, emergency

Story Eugene feels ashamed for asking his wife what day it is. Betty is frustrated by telling Eugene every couple hours what day it is. Her tone of voice becomes angrier and all Eugene remembers is the feeling behind Betty’s words and not her answer. Betty found comfort in writing the day on a white board and saying to “look at the whiteboard”. This gave control to Eugene, taking the burden off Betty.

Story Eugene feels distant from his grandchildren when they come over because he can’t keep up with conversation in large groups and he can’t articulate his own stories as well as he used to.

Story Eugene’s anxieties become worse when no one is around to answer his questions or requests, especially when his care partner Betty is not around.

Skills

require setup or enabling

Custom Skills



“ Alexa, where is Jessica? ”

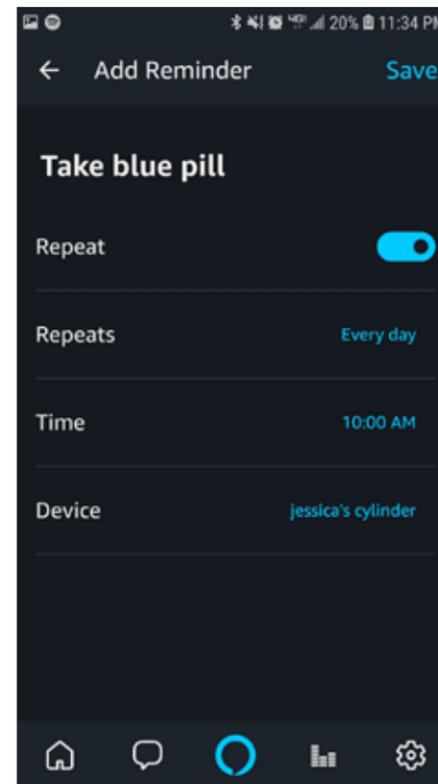
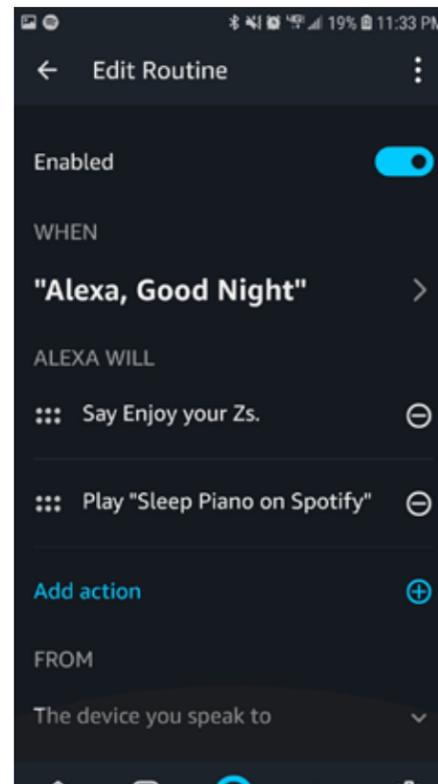
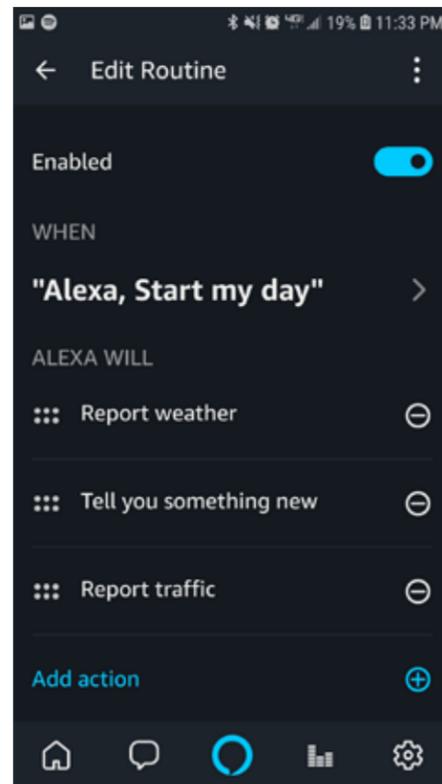
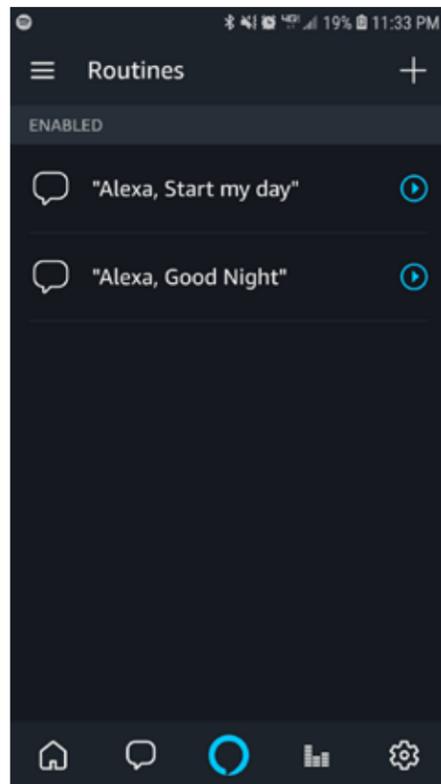
“ Jessica is in Cincinnati until August 6th. ”

Enabled Skills



App Exploration

routines and reminders



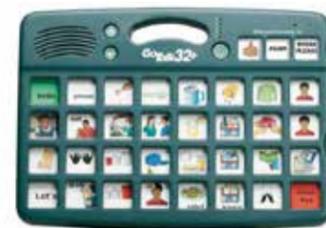
Routines allow a user to sequence multiple commands in to one phrase. This could eliminate many steps for the audience.

Reminders allow a user to set up times and frequencies of a specific message. This could be specifically useful for medication.

Benchmarking

products for dementia

Products feature a gammit of rainbow colors and large sans serif type. Products exist for medication alarms, phone calls, messaging, and memory. Pictures are especially helpful in communicating without written word, often times more than icons or illustrations.



Just for Adults Photo Cards

EMAIL A FRIEND

BEST SELLER



Just for Adults Photo Cards #83150

\$134.75

Availability
In Stock

Add to Wishlist

Add to Compare

Qty - 1 +

ADD TO CART

PRODUCT HIGHLIGHTS

- Use to spark discussion, strengthen conversational skills, and develop cognitive skills
- High-quality, realistic photos
- Cards are divided into five different sections

Cards: Everyday Activities to Sequence #81509

\$67.75

Availability
In Stock

Add to Wishlist

Add to Compare

Qty - 1 +

ADD TO CART

PRODUCT HIGHLIGHTS

- Larger cards are an invaluable tool for working with clients who have neurogenic disorder
- Full-color cards help clients who have difficulty with sequencing and organizational skills

Everyday Activities To Sequence

EMAIL A FRIEND

BEST SELLER

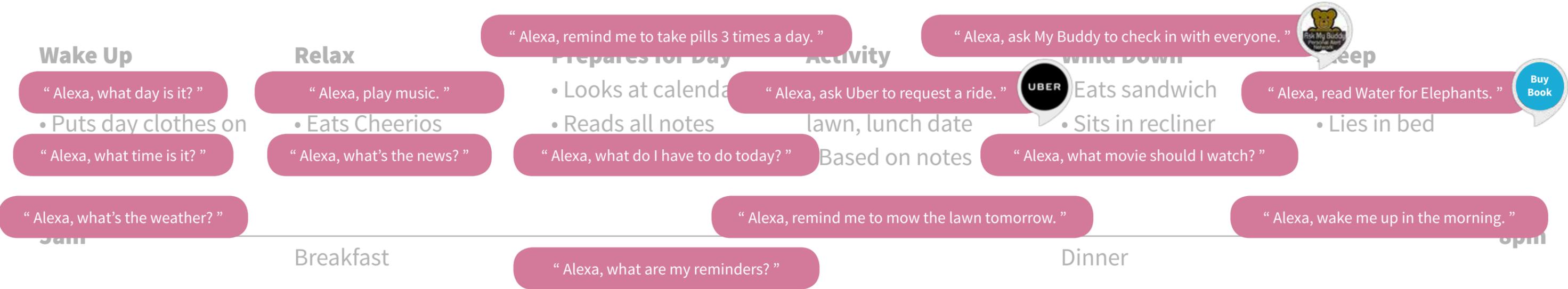


Coming together

matching content to audience

Daily assistant

commands with routine



Content

categorized

ROUTINE

General

“Alexa, what day is it?”

“Alexa, what is the weather?”

Reminders

“Alexa, remind me to (thing) (when or how frequent).”

“Alexa, set a reminder to (thing) (when or how frequent).”

“Alexa, what are my reminders today?”

Media

“Alexa, play music.”

“Alexa, what movie should I watch?”

“Alexa, what’s the news?”



SITUATIONAL

Contact

“Alexa, message (person(s)).”

“Alexa, message (person(s)) that (thing)”

Emergency

“Alexa, Ask My Buddy to alert (person(s)).”

“Alexa, call (person(s)).”



Touchpoints of device

where the benefits are

Questions

- Tone of voice
- Takes burden away
- Less dignity loss

After When Eugene asks what day it is, Betty can say “Ask Alexa” and the device will respond with a consistent and comforting tone of voice.

Plan & Organize

- Routines
- Reminders

Social Hesitation

- Shared experience
- Jokes, stories

After Eugene gathers his grandchildren around the Alexa to ask the device to tell jokes and stories. Everyone can have a shared and joyful experience without the same pressures.

Isolation

- “Someone” in house
- Give and take
- Company

Anxieties

- Tone of voice
- Answers

After Typically, Eugene will be calmed by any response since the device speaks in a consistent tone of voice. When Eugene asks “Where’s Betty” Alexa can respond “She will be back soon”. Regardless of the validity, Eugene’s anxieties will be calmed.

Disability

- Vision - sports, music, audiobooks
- Physical - call for help, emergency

Insights

on how to make this thing

What I just did informs what I do next.

... But what if I'm not sure what I just did?

Aid routine and add clues to help piece together answers.

Format

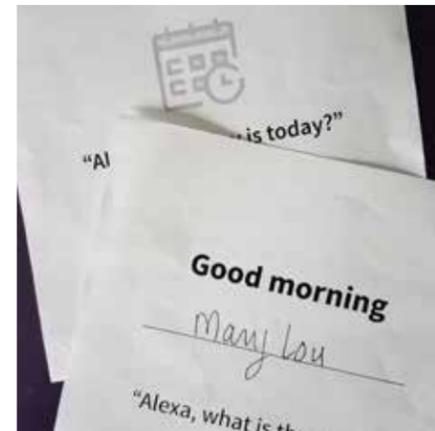
personalized and durable

Typography 14pt minimum, at least 70% contrast with background, heavily legible sans serif.

Material durable and able to change or be updated.

Visible upright and noticeable to jog memory.

Personalized by re-ordering pages, adding in written words for prompts, and swapping out pictures to bring joy.



Legibility Prototype

Dr. Combs confirmed the legibility of black on white in large type. She explained icons will not be meaningful to audience and to use pictures if including imagery.



365 Planner Audit

- Durable covers
- Punch any page to fit discs
- Discs of varying sizes
- Pages easily added or taken out
- Tabs system

Content

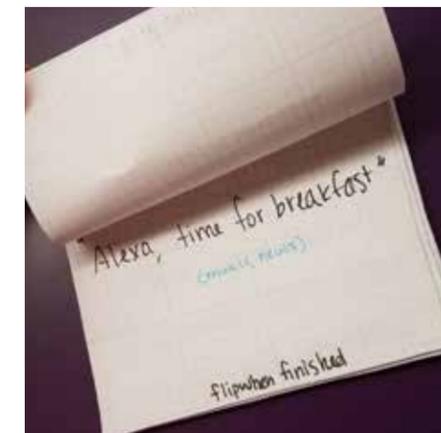
routine oriented

Simple one step at a time with easy and consistent words.

Routine to create healthy daily habits to last through progression .

Personal in order to bring specificity and joy in knowing favorite songs, or facts about family members.

Remind with audible cues set up verbally or through the app to remind of important daily milestones like meals and medications.



Content Prototype

Shannon Braun confirmed the importance of routine and issues with the current lack of meal milestones

Moving forward

after this class

Future Plans

goals are important

HAVE TO

Workbook

- Create
- Test
- Refine

Process Book

- Design
- Refine

WOULD BE NICE TO

Instructions

- Observe
- Create
- Test
- Refine

That's all folks

thank you for reading

Stay Tuned Jessica Oldiges