Allegra W. Smith, Purdue University

DIGITAL AGE:
a study of older adults' user experiences with technology

Who I Am

BA Professional Writing, Gender Studies, Michigan State University, 2013
MA Digital Rhetoric & Professional Writing, Michigan State University, 2015
PhD Rhetoric & Composition (ABD), Purdue University, 2021

RESEARCHER

User experience (UX);
design; online writing
instruction & curriculum

EDUCATOR

Technical &
professional writing;
multimodal composing

ADVOCATE

AARP Tax-Aide
volunteer; rescue dog
parent

My Research Agenda

PEOPLE, TECHNOLOGY, COMMUNICATION

How do intersectional facets of our identities mediate our experiences with technology?

INTEGRATED THREE-PART APPROACH

Design (UX)
Documentation
Education

My Research Combines...

TECHNICAL & PROFESSIONAL WRITING	USER EXPERIENCE DESIGN	AGE STUDIES / LIFE COURSE WRITING	FEMINIST RESEARCH METHODOLOGY

Today's Agenda

DISSERTATION PROJECT OVERVIEW

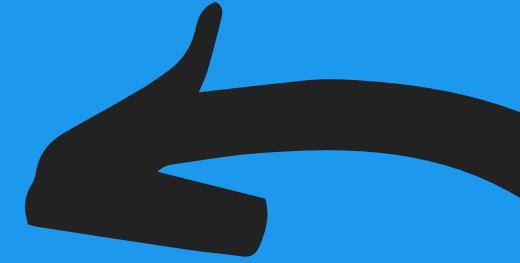EXIGENCY + RATIONALE

METHODS

RESULTS + IMPLICATIONS

RESEARCH AGENDA + TRAJECTORY

QUESTIONS

A CHANGING POPULATION PYRAMID...

Older adults are expected to outnumber children by 2035. This year, over one billion senior citizens are alive on the planet.

BUT AN UNCHANGED RESEARCH LANDSCAPE?

Technical and professional communication (TPC) research overwhelmingly focuses on school and work, though (despite a 2004 call to attend to aging!)

Literature on Older Adults + Technology

TECH COMM

Manifestos + Calls for Action

Lippincott, 2004
Chisnell, Redish, & Lee, 2006
O'Hara, 2004

HCI & UX

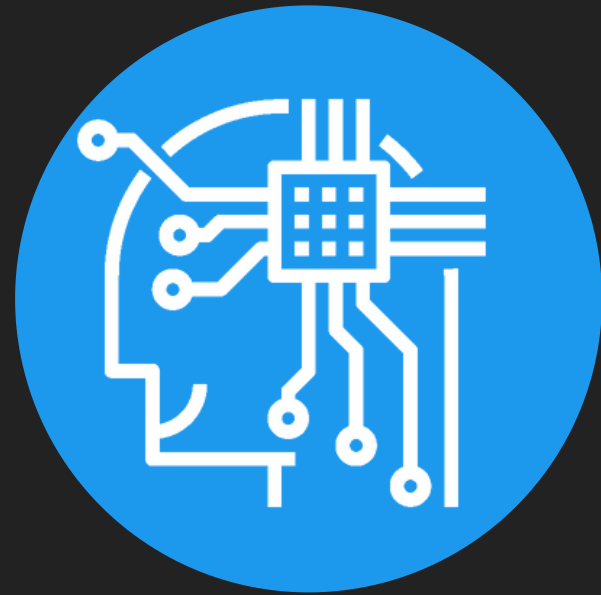Experience Reports + Best Practices

Kang & Yoon, 2008 (mp3 players)
Brajnik & Giachin, 2014 (thermostats)
Johnson & Finn, 2017; Wilkinson & Gandhi, 2015

COMP + LITERACY

Advocacy To Value Older Adult Computing as Literate Act

Bowen, 2011 & 2012
McKee & Blair, 2016
Rumsey, 2009

What's missing?

Users are depersonalized: the human element of HCI is forgotten

No deep dives looking at individual users or communities of users

No work on retirement communities as subjects or sources of data

YAHOO
701 First Avenue
Sunnyvale, CA 94089

February 19, 2015

Attn: Communications Director

Dear Sirs:

I am seeing RED. After 3 days of trying to change my e-mail with your organization with no success I am appealing to Corporate to solve my problem. I recently moved to a senior independent living apartment from my home. I no longer am able to use my former e-mail (djw1492@comcast.net) as they do not service this place for free. My new e-mail is djw1492@aol.com. I have a very "DUMB" phone that does not accept text messages as I have had problems with bad calls So as a result your security won't allow me to make the necessary change in my e-mail. At 83 years old, I am quite able to talk with a representative which now is impossible. Of all the doctors, lawyers, companies, hospitals, and etc. you are the only company that is so unreachable by "DUMB" phone. Please help me to resolve this problem as soon as possible as I would like to participate in your services before I die. Computers are fine but sometimes a person that "talks" is important.

Sincerely,

Doris J. Woodward   (Highsoprano10)
490 Killingsworth Way, #340
The Villages, Fl 32162-2173

DUMB PHONE #352-638-3646   (No service on text)
Home phone 352-674-3882

Just fix it and let me know, PS I am on FACEBOOK if security really wants photo ID

A PERSONAL EXIGENCY

Spring Break visits with Grandma and the "red letter"

Research Site

THE VILLAGES, A CENTRAL FLORIDA RETIREMENT COMMUNITY

The United States' fastest growing city

Population has doubled since 2010 (51,000 to 114,000 residents)

Median community age of 67.4 (research sample median age was 82.2)

Research Questions

1 → What does "everyday" computer and internet use look like for older adults living in a residential senior community?

2 → What are the goals and purposes for technology usage articulated by older adults in this community? What motivations shape these?

3 → What factors (material, infrastructural, embodied, cognitive, cultural, design, etc.) help or hinder older adults from realizing their technological goals?

4 → What recommendations can be generated for a more inclusive experience architecture, given this age cohort's experiences and reflections on technology:?

Methods

1: SEMI-STRUCTURED INTERVIEWS

Answering questions about computing skills, learning, problems
15 participants, 7-30 minutes

2: NATURALISTIC (UNSTRUCTURED) OBSERVATIONS

Walking through "everyday" computer use while "thinking aloud"
7 participants, 10-40 minutes

3. STRUCTURED TASK ANALYSES

Completing a series of tasks to identify pain points
6 participants, 15-45 minutes

ILLUSTRATING RESULTS

Through participant Holly's structured task user experience

Search Strategy
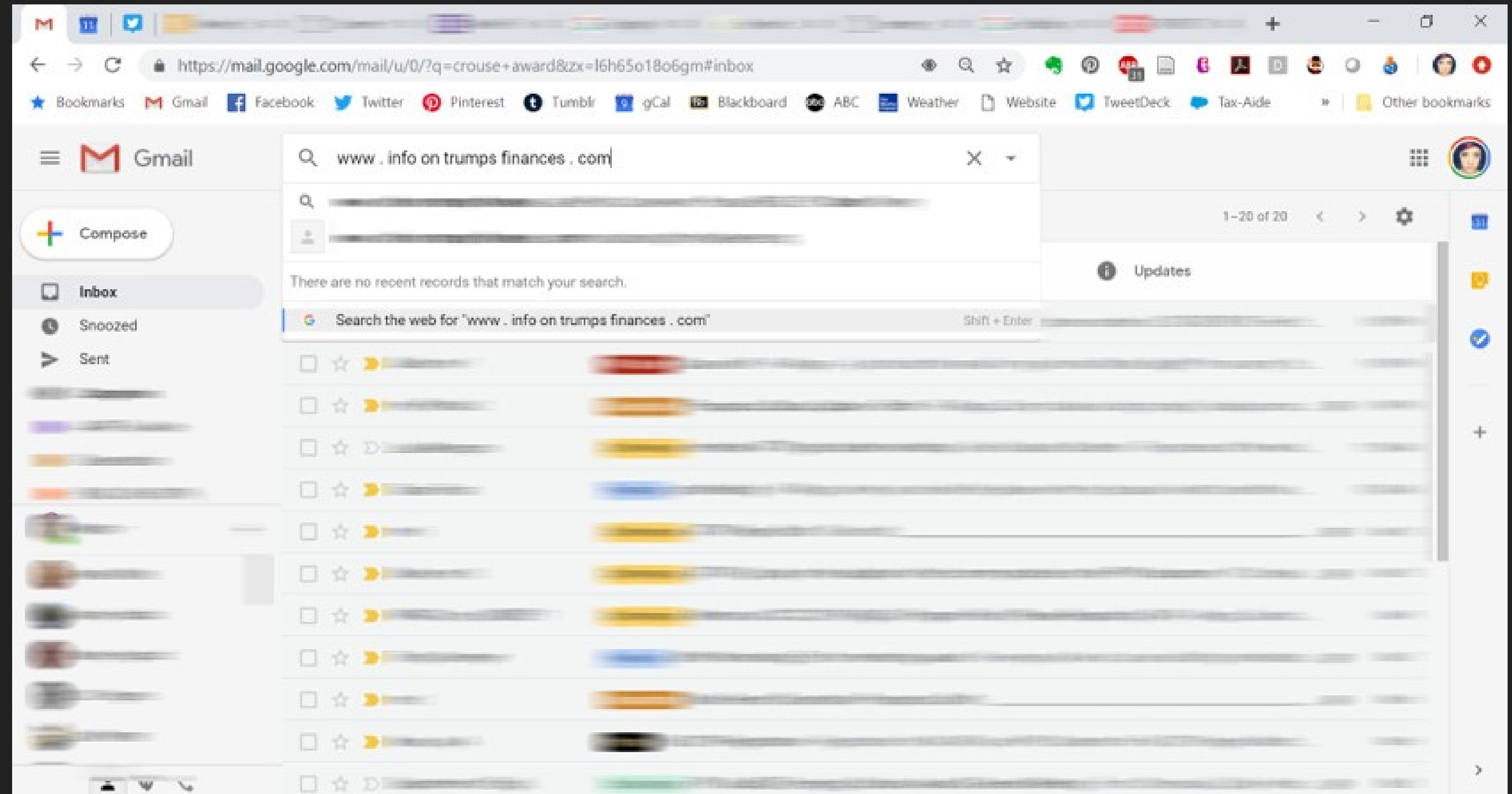
Holly's User Journey

CLICK FIRST RESULT

[AD] Tax Deductible Medical Expenses | Search & Find Quick Results

SPONSORED RESULTS APPEAR

For the same query on a different site, Information Vine (potentially dangerous paid search provider)

SCAN RESULTS, SELECT OPTION

[AD] Medical Expense Tax Deductions - Find Your Answer Today

NEW SEARCH RESULTS APPEAR

Advertisement links to ask.com's results for the same query; lather, rinse, repeat.

Holly's User Journey

Information Vine

deduct medical expenses from taxes driving to doctors appointments

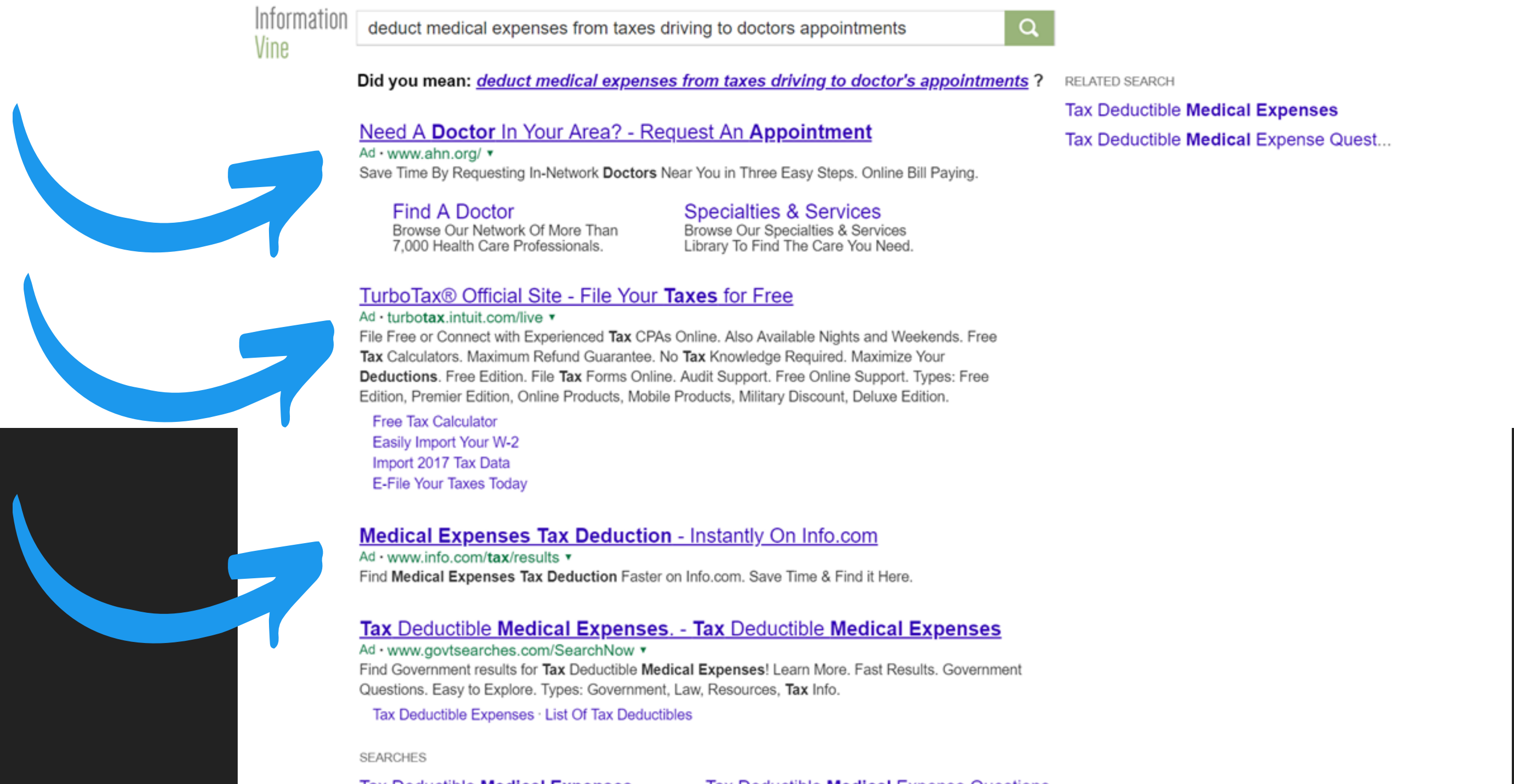**Did you mean:** _deduct medical expenses from taxes driving to doctor's appointments_ ?

RELATED SEARCH

Tax Deductible **Medical Expenses**

Tax Deductible **Medical** Expense Quest...

Need A Doctor In Your Area? - Request An Appointment
Ad · www.ahn.org/ ▾
Save Time By Requesting In-Network **Doctors** Near You in Three Easy Steps. Online Bill Paying.

Find A Doctor
Browse Our Network Of More Than
7,000 Health Care Professionals.

Specialties & Services
Browse Our Specialties & Services
Library To Find The Care You Need.

TurboTax® Official Site - File Your Taxes for Free
Ad · turbotax.intuit.com/live ▾
File Free or Connect with Experienced **Tax** CPAs Online. Also Available Nights and Weekends. Free **Tax** Calculators. Maximum Refund Guarantee. No **Tax** Knowledge Required. Maximize Your **Deductions**. Free Edition. File **Tax** Forms Online. Audit Support. Free Online Support. Types: Free Edition, Premier Edition, Online Products, Mobile Products, Military Discount, Deluxe Edition.

Free Tax Calculator
Easily Import Your W-2
Import 2017 Tax Data
E-File Your Taxes Today

Medical Expenses Tax Deduction - Instantly On Info.com
Ad · www.info.com/**tax**/results ▾
Find **Medical Expenses Tax Deduction** Faster on Info.com. Save Time & Find it Here.

Tax Deductible Medical Expenses. - Tax Deductible Medical Expenses
Ad · www.govtsearches.com/SearchNow ▾
Find Government results for **Tax** Deductible **Medical Expenses**! Learn More. Fast Results. Government Questions. Easy to Explore. Types: Government, Law, Resources, **Tax** Info.

Tax Deductible Expenses · List Of Tax Deductibles

SEARCHES

Tax Deductible **Medical Expense**

Tax Deductible **Medical** Expense Questions

IMPLICATIONS

SO WHAT CAN WE DO ABOUT THIS?

1. <u>Revalue</u> older adults' technology engagement as literate activity
2. <u>Intervene</u> through <u>design</u>, <u>documentation, and instruction</u>
3. <u>Give back</u> to older adults in our regions and communities
4. <u>Incorporate</u> age and aging into the technology design process, <u>considering</u> users different from ourselves

Carliner's (2000) Info Design Dimensions

PHYSICAL
Helping users FIND information

COGNITIVE
Helping users UNDERSTAND information

AFFECTIVE
Motivating users to PERFORM

CONSIDERATIONS SHAPING OLDER ADULTS' UX

1. Embodied / Material
2. Cognitive / Psychological
3. Educational
4. Generational / Cultural

Embodied & Material Dimensions

OPTICAL-VISUAL
Presbyopia, cataracts (make reading small text difficult

AUDITORY
Reduced hearing capacity

MOTOR SKILLS & CONTROL
Touch screen interfaces often preferred; trackpads or mice difficult to use

MOBILITY

DEXTERITY & FLEXIBILITY

ADDRESSING THESE DIMENSIONS IN DESIGN INCREASES THE PRODUCTIVITY & SATISFACTION OF ALL USERS (UNIVERSAL DESIGN)

Cognitive & Psychological Dimensions

COGNITION

Memory, attention, decision-making decrease as age increases

MENTAL FLEXIBILITY

SORTING & FILTERING

Ability to disregard perceptual information that's unrelated to the user's goal

ADDRESSING THESE DIMENSIONS IN DESIGN INCREASES THE PRODUCTIVITY & SATISFACTION OF ALL USERS (UNIVERSAL DESIGN)

I took a night course [in computers] at the high school with a friend of mine, and we were the oldest ones in the class. When they asked our age, we laughed... and that was a very basic course.

MINNIE, 86 YEARS OLD

I didn't work for 25 years [after having children]. The school system asked me to come back, and they had computers. And without the secretary at another elementary school, who helped me out considerably, I wouldn't have had a clue... because it just never entered my lifestyle! Typewriting and all, but not a computer.

HOLLY, 80 YEARS OLD

Cultural / Generational Dimensions

CURRICULUM OF AGING

The set of assumptions about what it means to be old or growing old in a society: in the US now, linked to bodily disrepair, supposed incompetence or inability to learn new technology, etc.

CULTURAL / GENERATIONAL

Single "points of access" for displaying content or achieving user goals

CULTURAL / GENERATIONAL

Security Questions.

Select three security questions below. These questions will help us verify your identity should you forget your password.

Security Question | What was the name of your first pet? ▼

Answer | [   ]

Security Question | What is your dream job? ▼

Answer | [   ]

Security Question | In what city did your parents meet? ▼

Answer | [   ]

Language & Identification

"The" computer or "my" computer?

INDEFINITE ARTICLES

Allegra: 9 (30%)
Participants: 52 (75%)

POSSESSIVE DETERMINERS

Allegra: 21 (70%)
Participants: 17 (25%)

MEANING?

Obtrusiveness is a key factor shaping technology perceptions and adoption for older adults!

Working with Older Adults
(Methodological Considerations)

GIVE DOUBLE TIME

Budget extra time into your interview, observation, interaction sessions

STORIES ARE GENERATIVE

Listen to tangents; map the experiences, motivations, and cultural logics that underlie them

DO CONTEXTUAL INQUIRY

Meet participants where they're at (literally and figuratively)

RECIPROCITY & GIVING BACK
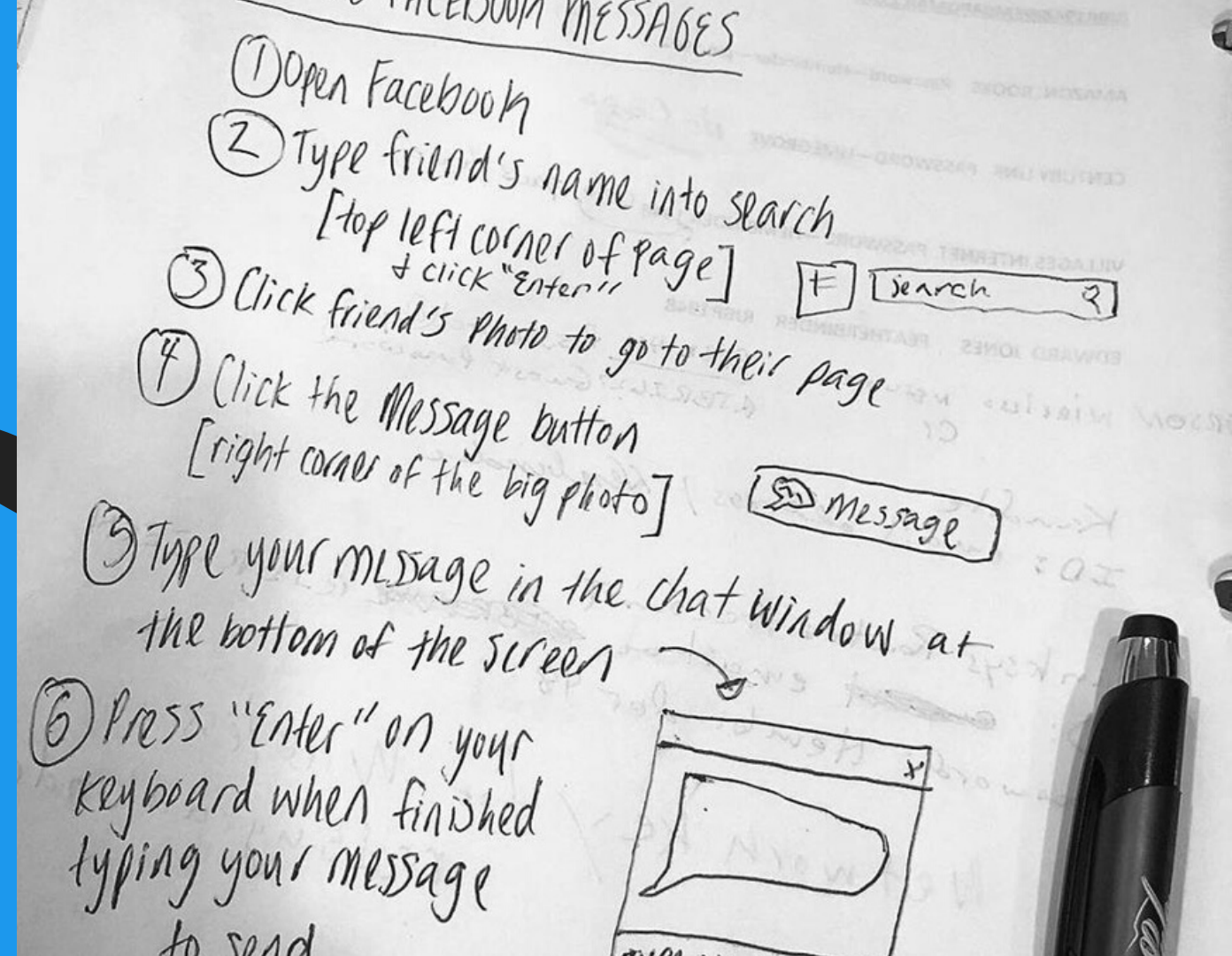
PROVIDING TECH SUPPORT & LO-FI DOCUMENTATION
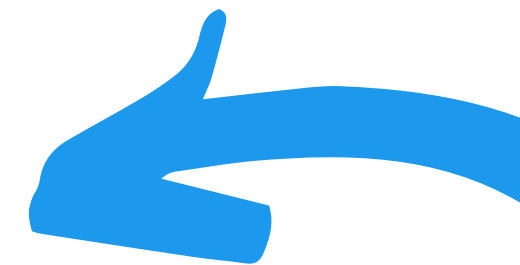
Research Agenda

→ **SEARCH / INFO LITERACY**

Article in Technical Communication (for scholars and practitioners)

→ **RHETORIC OF HEALTH & MEDICINE**

Patient experience design (PxD) interventions made by older adults

→ **STUDENT USER JOURNEYS**

TPC program/curriculum development

→ **SOCIAL ENTERPRISE**

JBTC article on business writing class grounded in social justice

LEARNER EXPERIENCE DESIGN

Emergency contact: Local: ▬▬▬▬▬▬ (Son) ▬▬▬▬▬

Medical Record for: ▬▬▬▬▬▬▬   MC& BCBSFL   Edited 3-15-18
Primary Care: ▬▬▬▬▬▬

Lady Lake, FL 32159   Prescriptions: M.O.-90 day Express Scripts /Walgreens 205-7010 Colony

CURRENT MEDICATIONS:
Ranitidine 150mg 1 twice daily (substitute for zantac 150 mg)
Clopidogrel 75 mg 1
Carvedilol 12.5 mg   1 tab twice a day   (3 stents placed 12-18-15)
Niacin 500 mg ER 1at bedtime
Isosorbide Mononitrate 30 mg ER   1 per day
Injections in both eyes with Lucientis about every 6 weeks.

Over the counter:
Multi vitamin 1 per day, Bone Maximizer III (Calcium, Vitamin D+other minerals) 3 per day, Preservision
Areds2 1 per day (eyes),L-Lysine (cold sores) (500 mg) l per day, 81 mg aspirin l per day , Zyrtec 10 mg
1 daily, Red Yeast Rice 2 a day .D3 4000 mg, 2 per day, DJD Factors: Manganese, MSM, Glucosamine,
Chondroitin Sulfate, Green Lipped Mussels 1 per day , Iron Plus 1 per day, Vit. C 4000 1 per day,
Omega Mono Pure 1300 2 per day. CoQ10 200 mg.1 per day, Vit B complex 1 per day, Acidophilus 2
tablet daily.

HIGH DOSE FLU SHOT – September 26, 2017 Pneumonia shot - 2-4-10, Prenevar 13, 2015,

ALLERGIES & Drug reactions:
Food: Cantaloupe, strawberries & Mango – throat swells shut // dust, mold, pollen
Medicines: Azithomycin-throat and mouth swelled & red ,cephalexin – throat & tongue swelled,
Metoprolol ER Succinate 50mg, diarrhea and disorientation. Augmentin- GI destress, tongue and throat
swelled and red. Erythromycin –violently ill to stomach, Zoloft, Vioxx, Celebrex, Fosamax, Welchol,
Pravachol, Cefadroxil , Boniva – Stomach queasiness and pain, Morphine – vomiting and TAPE – tears
skin off , Mobic put me to sleep.(Note taken off of Zocor for muscle weakness and bad liver function
).Lumigan eye swelling, Timolol(heart palpitations)Darvoset upset stomach and throat
swelling.Gabapentin extreme drowsiness & problems with coordination. Flunisolide Nasal Solution
burning in nose, throat
Azopt-Irritated eye lids, Zetia-upset GI Tract, Advance Liquid tears (eyelid redness).Polysporin-
redness/rash

CURRENT PROBLEMS Cellulitis rt. Leg 6/17 ,.. Falls on 5-26-17, Pain in left axilla, leaking heart valve,
Stomach irritation due to ???, Upper GI endoscopy Dec.2016
Low back pain/ right leg
Tremors in right arm & head when tired or stressed.
Arthritis: S.I. joints, feet, knees, hands, shoulders, back
Pain in face & teeth on right. (Shingles in the past left jaw and sinus congestion)
Both eyes: macular degeneration, glaucoma Osteoporosis ,hemorrhoids, anal fissue
Broken right wrist 12-29-17 ,
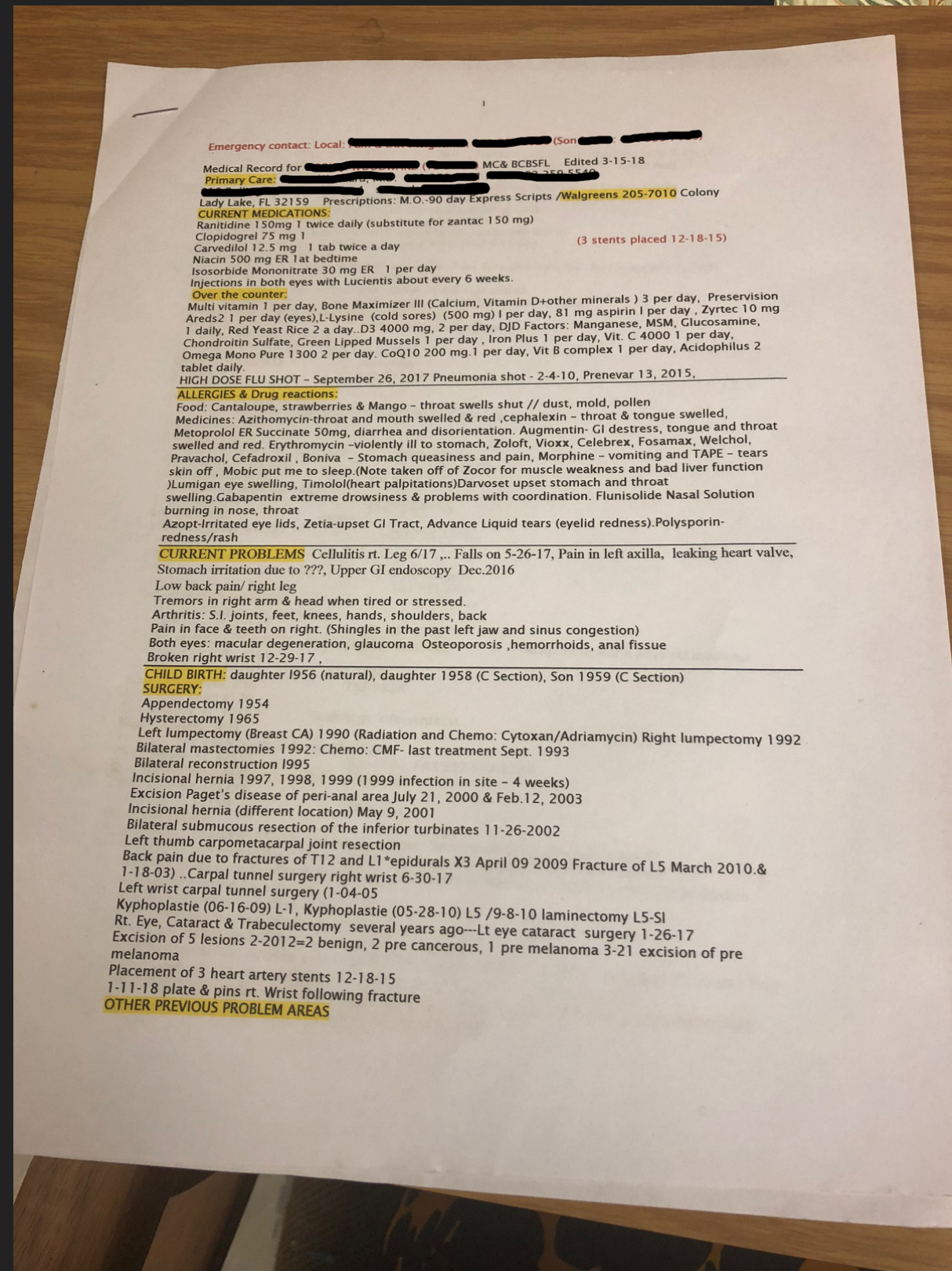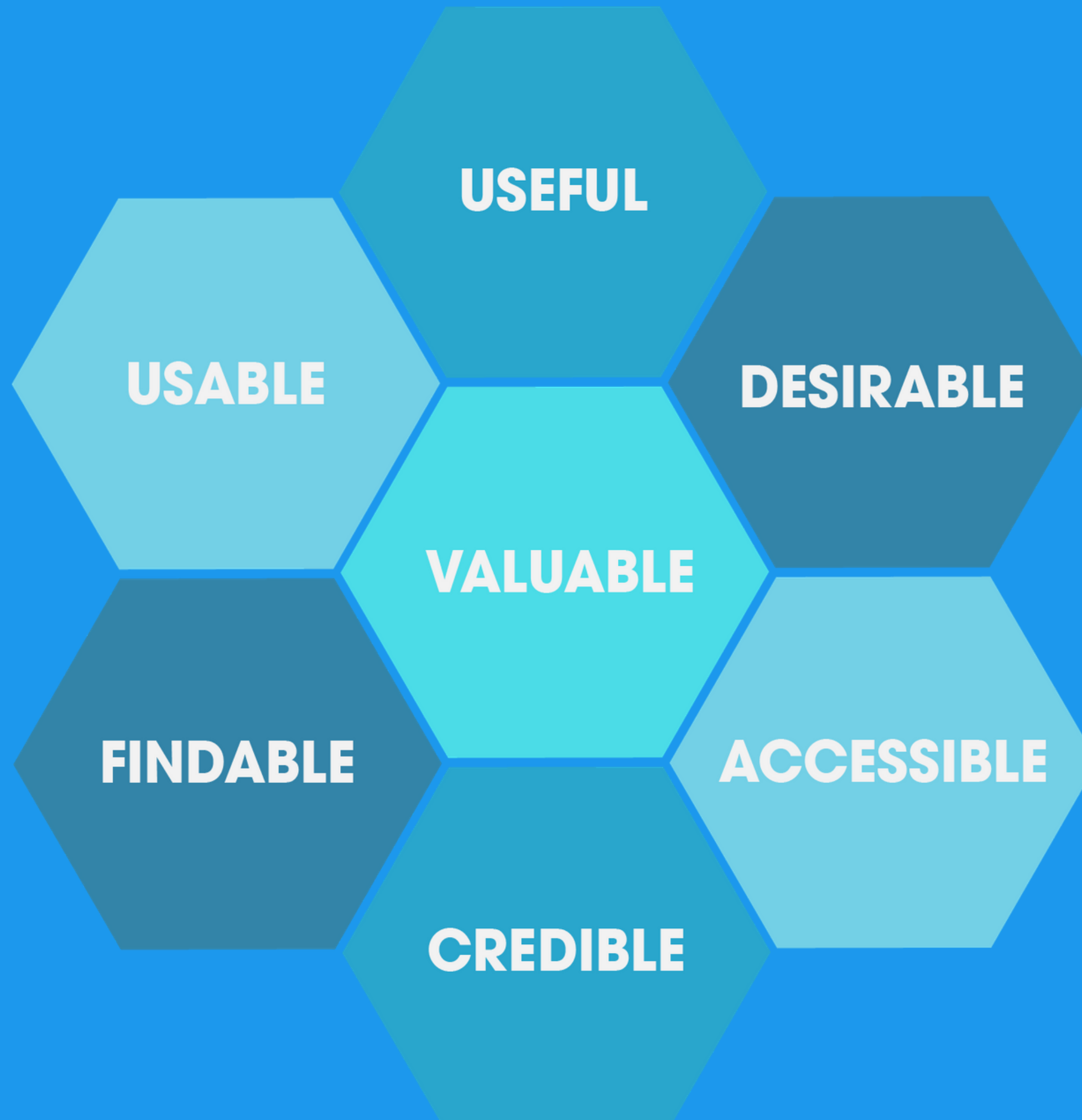
CHILD BIRTH: daughter l956 (natural), daughter 1958 (C Section), Son 1959 (C Section)
SURGERY:
Appendectomy 1954
Hysterectomy 1965
Left lumpectomy (Breast CA) 1990 (Radiation and Chemo: Cytoxan/Adriamycin) Right lumpectomy 1992
Bilateral mastectomies 1992: Chemo: CMF- last treatment Sept. 1993
Bilateral reconstruction l995
Incisional hernia 1997, 1998, 1999 (1999 infection in site – 4 weeks)
Excision of Paget's disease of peri-anal area July 21, 2000 & Feb.12, 2003
Incisional hernia (different location) May 9, 2001
Bilateral submucous resection of the inferior turbinates 11-26-2002
Left thumb carpometacarpal joint resection
Back pain due to fractures of T12 and L1*epidurals X3 April 09 2009 Fracture of L5 March 2010.&
1-18-03) ..Carpal tunnel surgery right wrist 6-30-17
Left wrist carpal tunnel surgery (1-04-05
Kyphoplastie (06-16-09) L-1, Kyphoplastie (05-28-10) L5 /9-8-10 laminectomy L5-Sl
Rt. Eye, Cataract & Trabeculectomy several years ago---Lt eye cataract surgery 1-26-17
Excision of 5 lesions 2-2012=2 benign, 2 pre cancerous, 1 pre melanoma 3-21 excision of pre
melanoma
Placement of 3 heart artery stents 12-18-15
1-11-18 plate & pins rt. Wrist following fracture
OTHER PREVIOUS PROBLEM AREAS

USEFUL
USABLE
DESIRABLE
VALUABLE
FINDABLE
ACCESSIBLE
CREDIBLE

PROGRAMMATIC AND CURRICULAR DESIGN

Applying methods and frameworks like the UX honeycomb (Morville) to the design of academic programs, services, experiences, and supports by prioritizing user narratives and journeys

The Next Five Years →

2021-22

Older adult + technology journal articles

Initial IRB and pilot work on TPC student study

2022-23

Dissertation monograph: older adult user personas?

CPTSC/ATTW grant for student study

2023-24

Preliminary result article(s) from TPC student study

Fan studies retrospective article (20 years)

2024-25

Feminist research methodology special issue or webtext article

Long-term result article(s) from TPC student study

QUESTIONS?

Allegra W. Smith
allegra.w.smith@gmail.com

Thank you for listening!