

Dr. Allegra W. Smith
Jacksonville State University



DIGITAL AGE: **studying 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, Purdue University, 2021



RESEARCHER

User experience (UX);
design, online writing
instruction, internships



TEACHER

Technical & professional
writing; design of
communication

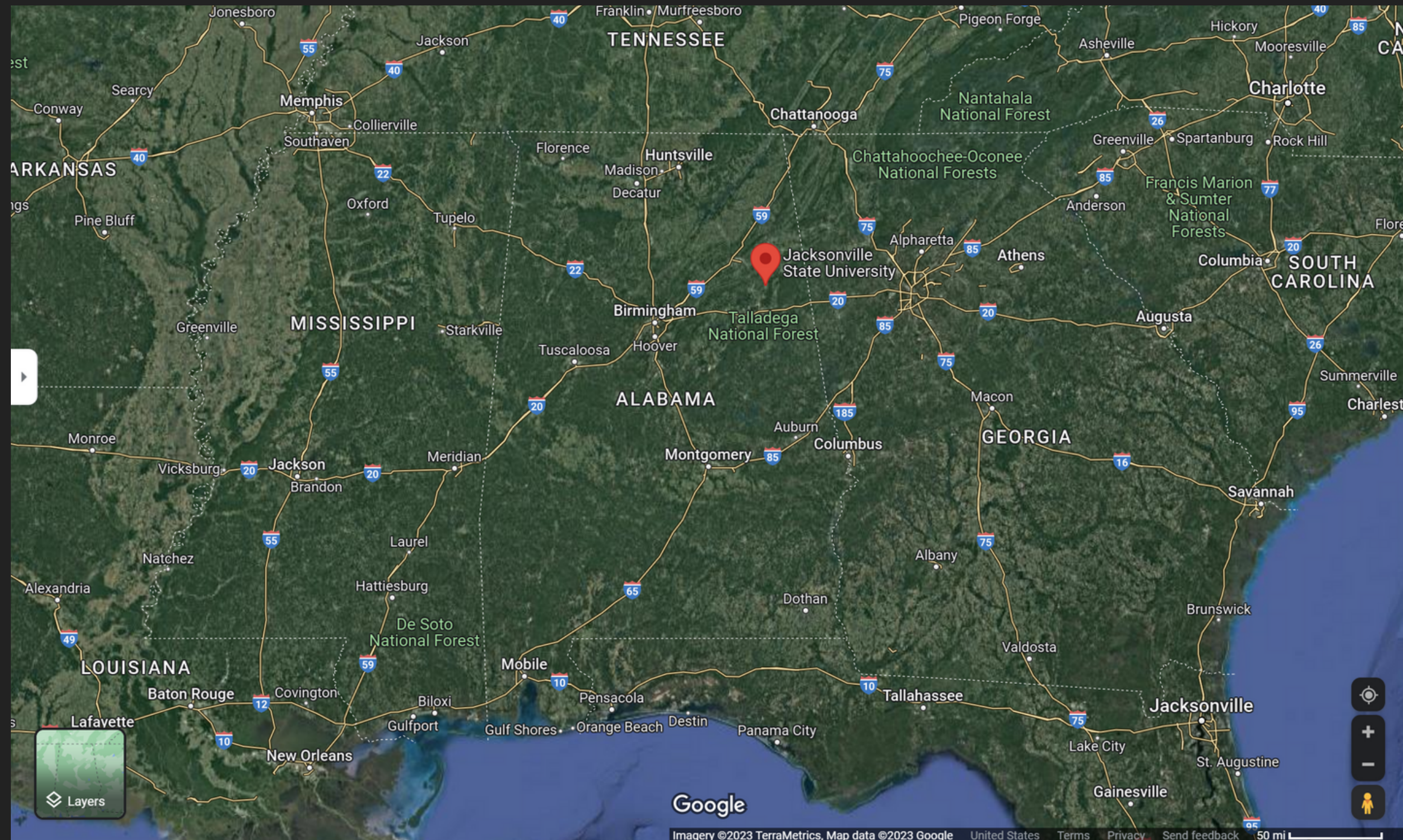


ADMINISTRATOR

Online & F2F writing
programs; curriculum dev +
design; teaching of teachers

Where I Am

Jacksonville State University (Jacksonville, AL)



JSU Profile

- Regional comprehensive university serving 7-county area in eastern Alabama and western Georgia
- Large first-gen population
- 9500 students (8000 UG, 1500 grad)
- English department largest on campus (all students take at least 4 classes in English: speech, FYW 1 + 2, literature survey)



Popular programs: nursing, applied engineering, early childhood education, integrated studies, kinesiology, emergency Management

My Role(s) at JSU

- Assistant Professor of English in Professional Writing
 - Courses: Speech, Technical Writing, Writing for Social Media, English Internship, Creative Collective
- Department of English Recruitment and PR Chair
- English Internship Coordinator



My Research Focus

PEOPLE, TECHNOLOGY,
COMMUNICATION

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

How does that in turn
influence our communication?



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



STUDY OVERVIEW

EXIGENCY + RATIONALE

METHODS

RESULTS + IMPLICATIONS

RESEARCH AGENDA + TRAJECTORY

QUESTIONS

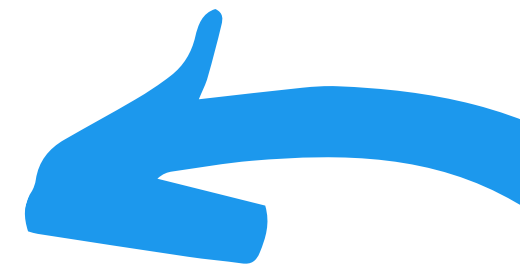
A CHANGING POPULATION PYRAMID...

Older adults are expected to outnumber children by 2035. By 2020, over one billion senior citizens were alive on the planet.



BUT AN UNCHANGED RESEARCH LANDSCAPE?

Technical and professional communication (TPC) research overwhelmingly focuses on school and work (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

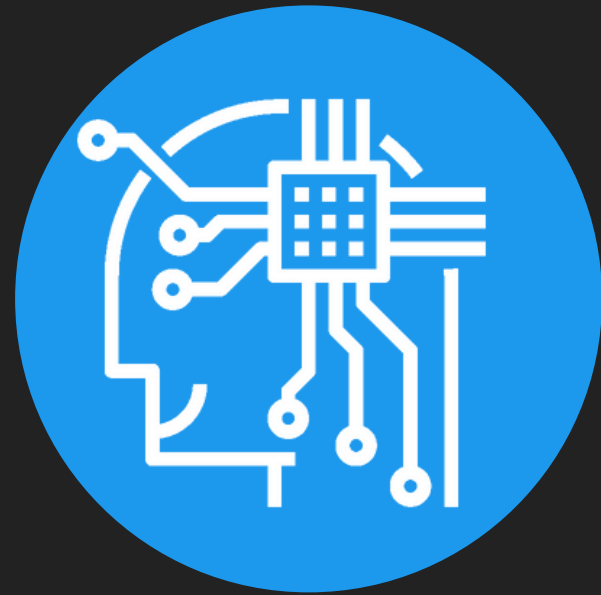
Kang & Yoon, 2008
(mp3 players)
Brajnik & Giachin,
2014 (thermostats)
Johnson & Finn, 2017;
Wilkinson & Gandhi,
2015

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

Research Questions

1
→

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

2
→

What goals and purposes for technology usage are 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 with 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

YAHOO

701 First Avenue

Sunnyvale, CA 94089

February 18, 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,

Joris L. Woodward (Highsuprano10)

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, P.S. I am on FACEBOOK if security really wants photo ID



PERSONAL CONNECTIONS & 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)

Interviews and observations conducted in
an independent living apartment facility

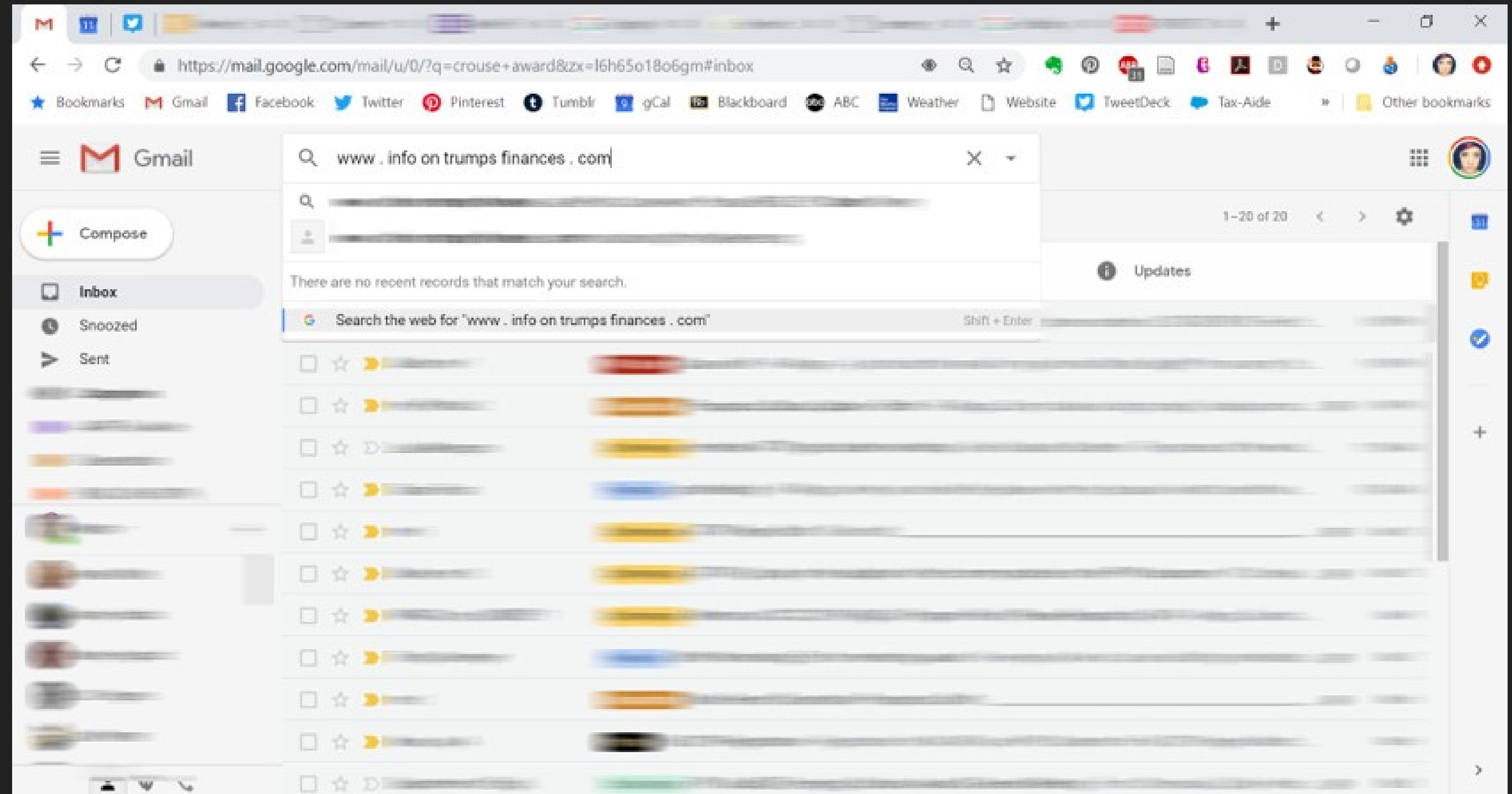




ILLUSTRATING RESULTS

Through participant Holly's user experience in the structured task analysis

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 1ST 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](#)

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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 Expenses](#)

[Tax Deductible Medical Expense Questions](#)

IMPLICATIONS

SO WHAT CAN WE DO ABOUT THIS?



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

Carliner's (2000) Information 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); colorblindness

AUDITORY

Deafness or hearing loss

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 decline, supposed incompetence or inability to learn new technology, etc.

(Bowen, 2011, 2012)



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Home phone 352-674-3882

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

CULTURAL / GENERATIONAL

Single "points of access"
for providers to display
content or users to
achieve their 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

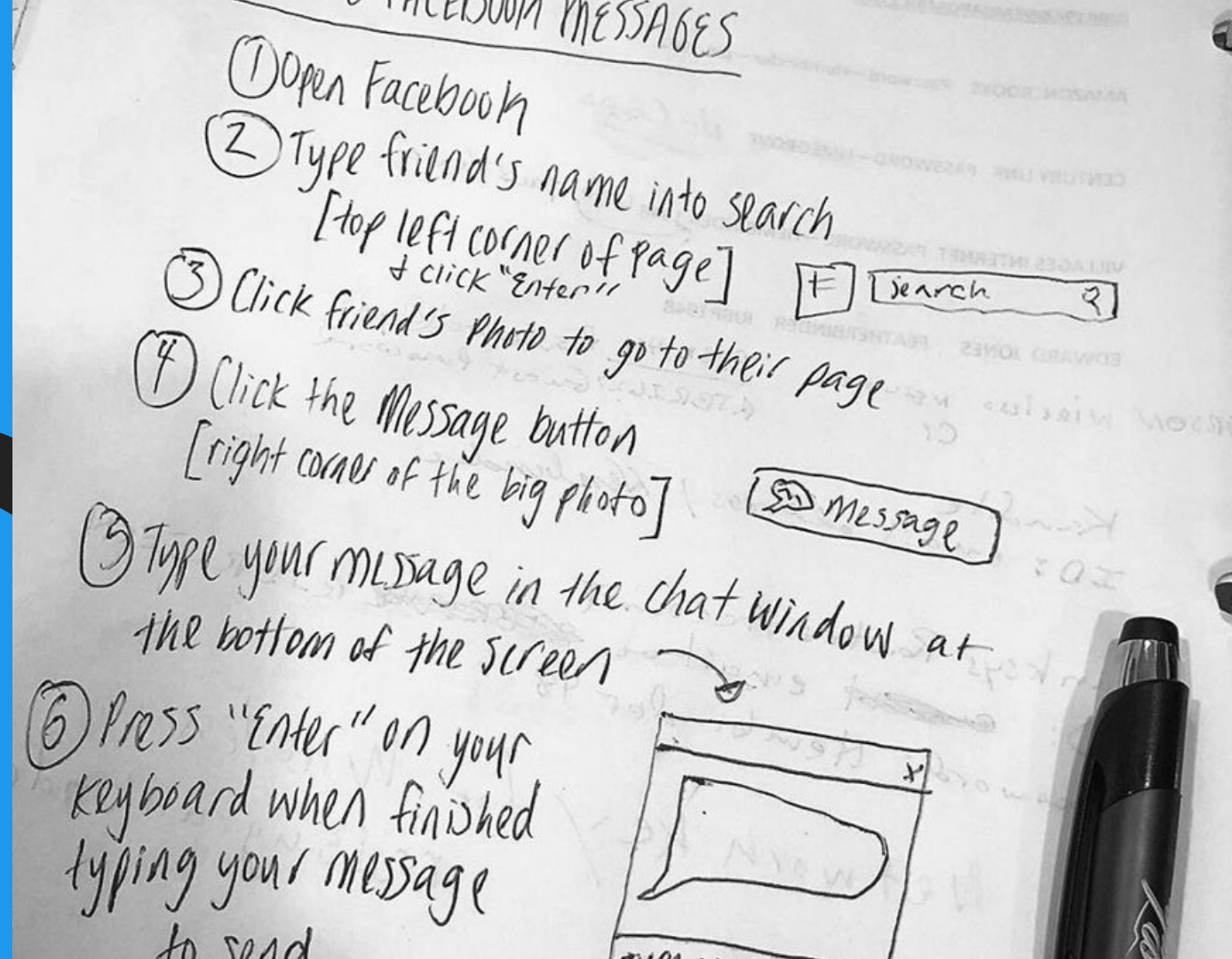
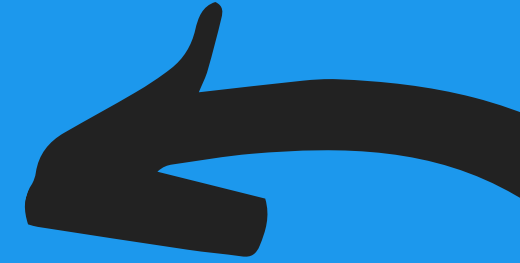
Listen to tangents; map
the experiences,
motivations, and
cultural logics that
underlie them



DO CONTEXTUAL INQUIRY

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

RECIPROCITY & GIVING BACK



PROVIDING TECH SUPPORT & LO-FI DOCUMENTATION



Research Agenda

USER EXPERIENCE ADVOCACY FOR AGING POPULATIONS



OLDER ADULT TECH DESIGN

Article in Technical Communication (for scholars and practitioners); monograph proposal forthcoming



RHETORIC OF HEALTH & MEDICINE

Patient experience design (PxD) interventions made by older adults



HIGH-IMPACT TEACHING PRACTICES

Forthcoming OA article on internships; future collection



RESPONDING TO STUDENT USER JOURNEYS

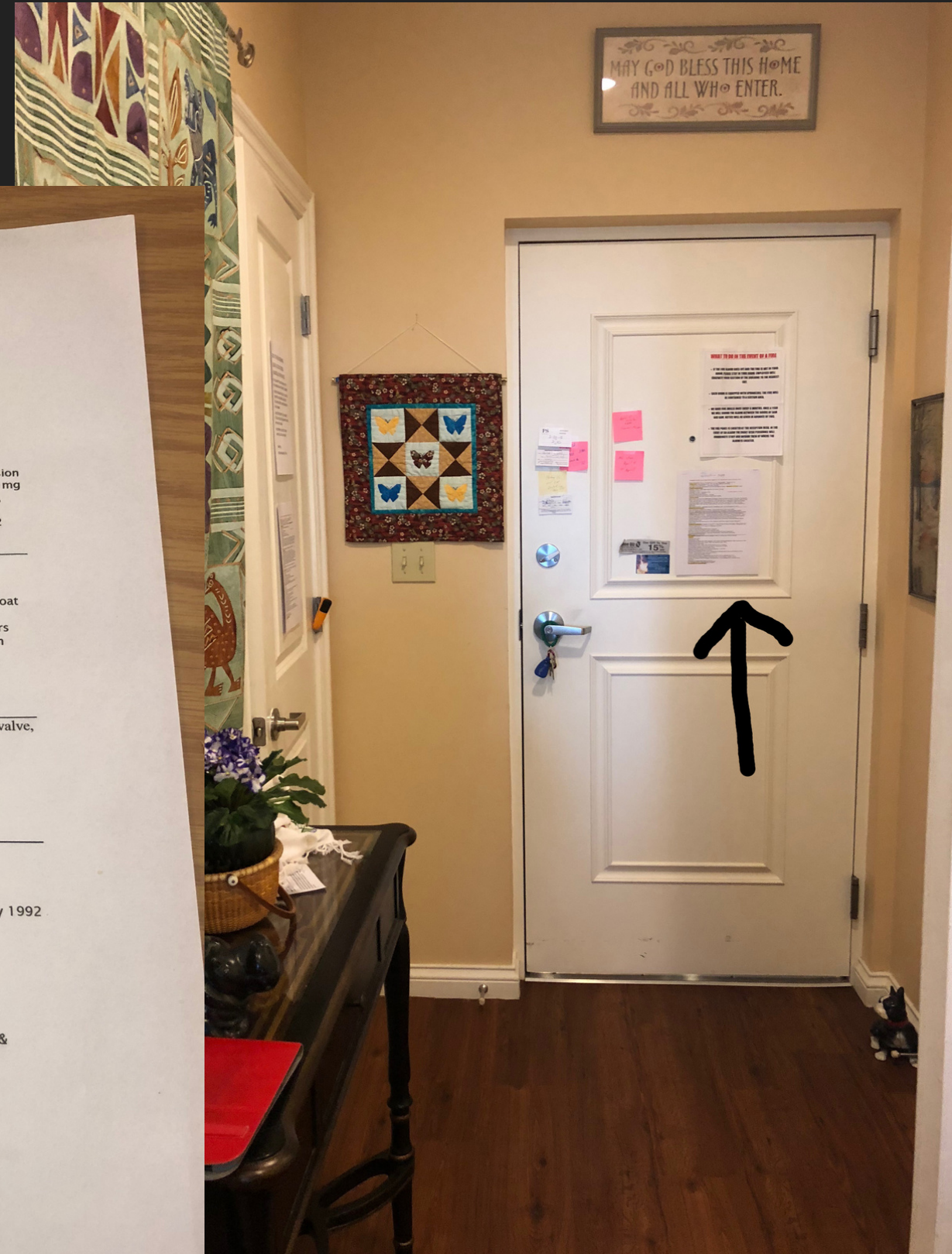
Longitudinal student study for TPC program + curriculum development

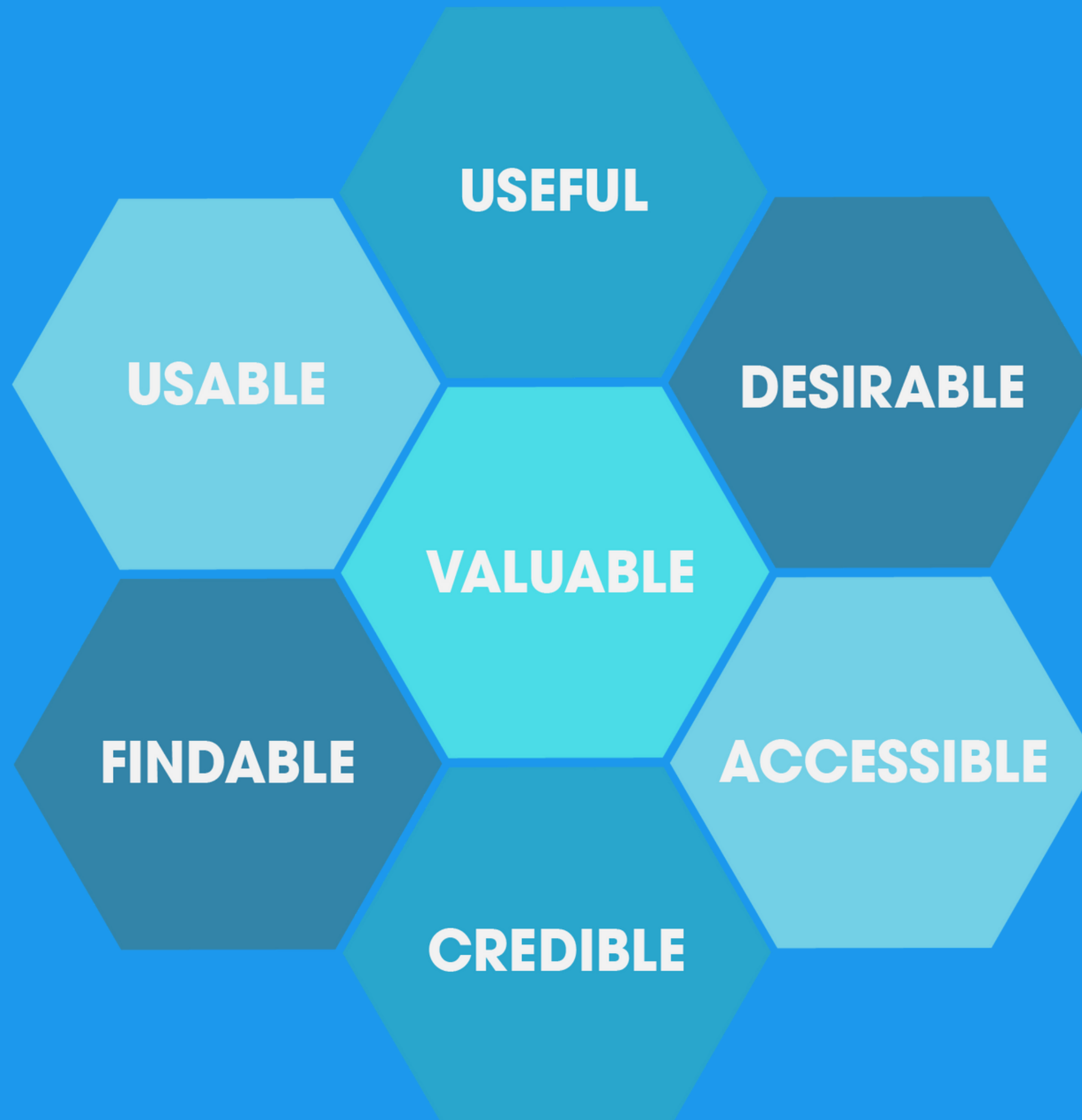
LEARNER EXPERIENCE DESIGN

OLDER ADULTS AND MEDICAL WRITING



Emergency contact: Local: [REDACTED] (Son) [REDACTED]
Medical Record for [REDACTED] MC& BCBSFL Edited 3-15-18
Primary Care: [REDACTED]
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 1 at 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) 1 per day, 81 mg aspirin 1 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: Azithromycin-throat and mouth swelled & red, cephalexin - throat & tongue swelled,
Metoprolol ER Succinate 50mg, diarrhea and disorientation, Augmentin- GI distress, 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 fissure
Broken right wrist 12-29-17 ,
CHILD BIRTH: daughter 1956 (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 1995
Incisional hernia 1997, 1998, 1999 (1999 infection in site - 4 weeks)
Excision 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-S1
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





PROGRAMMATIC AND CURRICULAR DESIGN

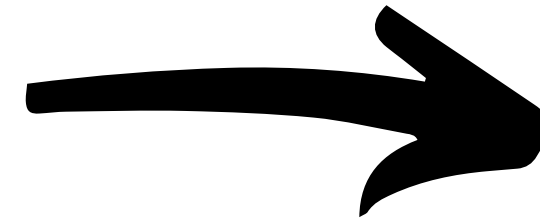
Applying methods and frameworks like the UX honeycomb (Morville) to the design of academic programs, services, experiences, and supports by prioritizing user narratives and journeys

PAST/CURRENT PROGRAMMATIC WORK:

- Designed Purdue's first online FYW course for 8- and 16-week asynchronous delivery (impacting 5000+ undergrads)
- Standardized JSU technical writing curriculum
- Created 15+ internship opportunities for JSU English students
- Awarded two \$2500+ grants from state of Alabama for students to create social media content and strategy for statewide campaign



5+ year plan



2023–24

Internship article in
JUTLP

Monograph
proposal

IRB and pilot for
TPC student study

2024–25

Dissertation
monograph (ATTW
series?): older
adult user
personas

CPTSC/ATTW grant
for student study

2025–26

Preliminary result
article(s) from TPC
student study

High-impact TPC
teaching practices
collection

2026–27

Feminist research
methodology
special issue or
webtext article

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

CORE SCHOLARLY VALUES

1

ACCESS

- Ensure access to and availability of resources
- Provide multiple points of access into content
- Make transparent methods, outcomes, assessment, etc.
- Foreground user-centricity from beginning of design process

2

EQUITY

- "Start with what you know" (for me, that's language and pedagogy)
- Remove exclusionary or harmful language and policy
- Meet students, participants where they're at
- Solicit feedback and practice reciprocity

3

DESIGN

- Of technology, curricula, classrooms, systems
- "Engineers are not the only professional designers; everyone designs who devises courses of action aimed at changing existing situations into preferred ones" (Herbert Simon)

QUESTIONS?

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



**Thank you
for
listening!**