

ALLEGRA W. SMITH / #MLA2021 #583

# ***AGING BODIES AND MINDS***

***IN THE DESIGN OF TECHNOLOGY AND COMMUNICATION***

# ***RESEARCH BACKGROUND***

## **STUDY SITE**

Independent living apartment facility in an age-restricted retirement community (central Florida)

## **PARTICIPANTS**

26 older adults aged 70-96 (median 82.2 years), diverse tech experiences (from novice to expert)

## **METHODS**


Semi-structured interviews, naturalistic observations (ethnography/contextual inquiry), structured task analysis

“ If you're 75 or 80 years old, **you can do other things with your time than become proficient with the computer.** And probably enjoy them more, you know. I'm a fairly spiritual guy: I spend a lot of time reading and writing religious stuff, and **I don't find the computer as much fun as I do an old book to read.**

”

(Gerald, 80 years old)





“ I use the research part of it. My wife showed me a picture of a couple of parakeets sitting on some wooden branches. She said she was pretty and she wanted a painting of it, but I didn't like the arrangement **so I got on the computer and punched in 'parakeets' and got about a million pictures of parakeets** in all different positions and shapes and sizes.

”

(Donald, 92 years old)



“ I use the computer to download quilting designs, put them on a flash drive, and insert them into my sewing machine... I also have a program on the computer which allows me to change the colors of the designs and run a stitch simulator, so I can see what's gonna be there... but I hesitate to change things on the computer sometimes. If I'm downloading a program, I try to be very careful, because I don't always understand all the technical language.

(Minnie, 86 years old)

”



***NOTICE ANYTHING?***

***I DID, AND IT GAVE ME A HYPOTHESIS...***

75%

25%

## INDEFINITE ARTICLES

e.g., "the" computer, "a"  
smartphone, "that" virtual  
assistant

## POSSESSIVE DETERMINERS

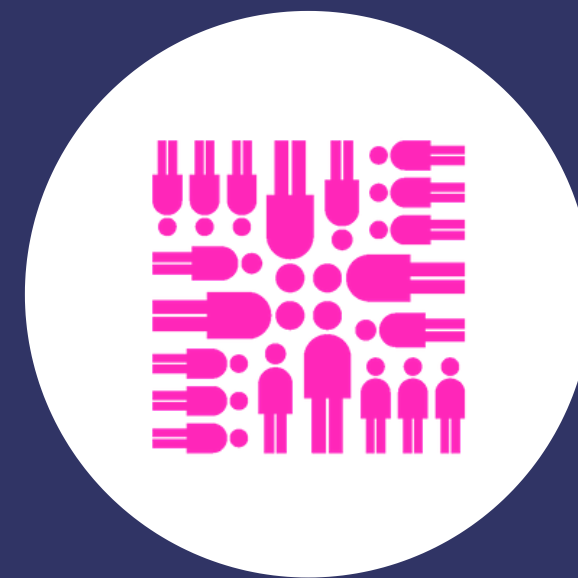
e.g., "my" computer, "our" virtual  
assistant, "his" smartphone,"  
"your" laptop

...older adult participants' language separated themselves from their devices!

# ***WHY THIS SEPARATION?***



Obtrusion &  
Intrusion



Generational  
Logics / Norms



Exclusionary  
Design



A photograph of a woman with blonde hair, wearing a dark beanie and a dark jacket, sitting at a wooden table in a restaurant. She is looking down at a smartphone in her hands. On the table, there is a small white napkin holder with a folded white napkin, and two small white salt and pepper shakers. The background shows a window with white curtains. The image is overlaid with a semi-transparent pink filter.

# ***OBTRUSION / INTRUSION***

## **SMARTPHONE USE DROPS OFF SHARPLY AFTER AGE 60.**

Participants repeatedly told stories about "**young people using smartphones at the dinner table,**" and explained that they weren't interested in trying mobile devices. This is NOT indicative of ignorance, luddism, or technological illiteracy; it's about intrusion..

# ***OBTRUSIVE TECH***

**STICKS OUT, IS NOTICEABLE OR  
PROMINENT (PHYSICAL / COGNITIVE)**

# ***INTRUSIVE TECH***

**CAUSES DISRUPTION IN THE LIVES OF  
USERS (PSYCHO / SOCIAL / CULTURAL)**



# ***OB**→**INTRUSIVE MANIFESTATIONS***

## **PHYSICAL**

Sticks out or is aesthetically displeasing; obstruction or impediment in space; noisy; causes discomfort or strain

## **FUNCTION**

Sub-optimal performance, lack of usefulness, affordability (material resources), demands on time and effort

## **PRIVACY / ROUTINE**

Interferes with daily activities, violates personal space, invades personal information, compromises security

## **RELATIONAL**

Detrimental effects on relationships, disrupts human interaction or connection, symbolizes something about the user

# ***CULTURAL AND GENERATIONAL ELEMENTS***



## **ACCOUNTING FOR CULTURE**

Research methods that privilege the material do so at the expense of disregarding or flattening the cultural

## **GENERATIONAL NORMS AS CULTURAL LOGICS**

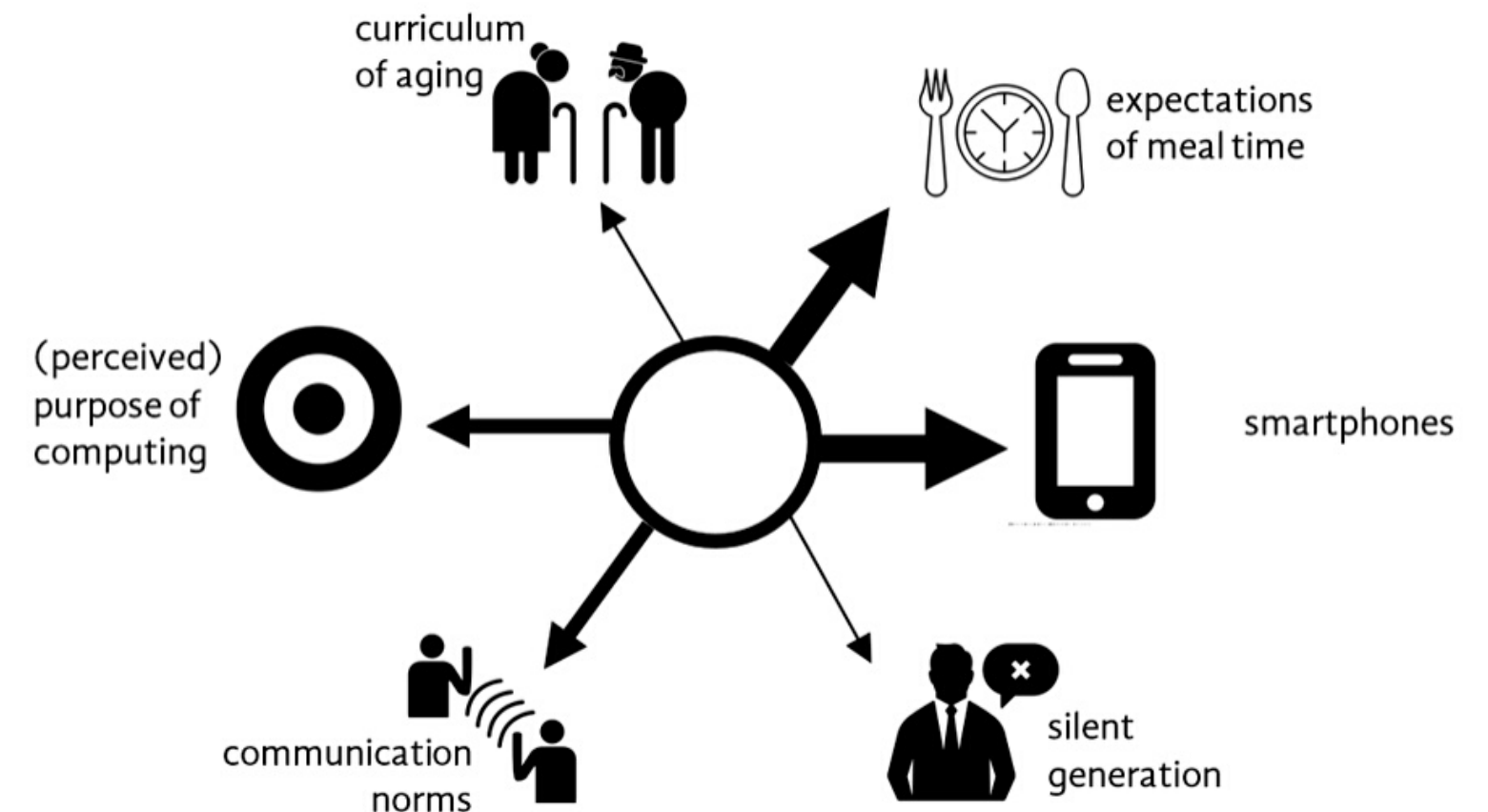
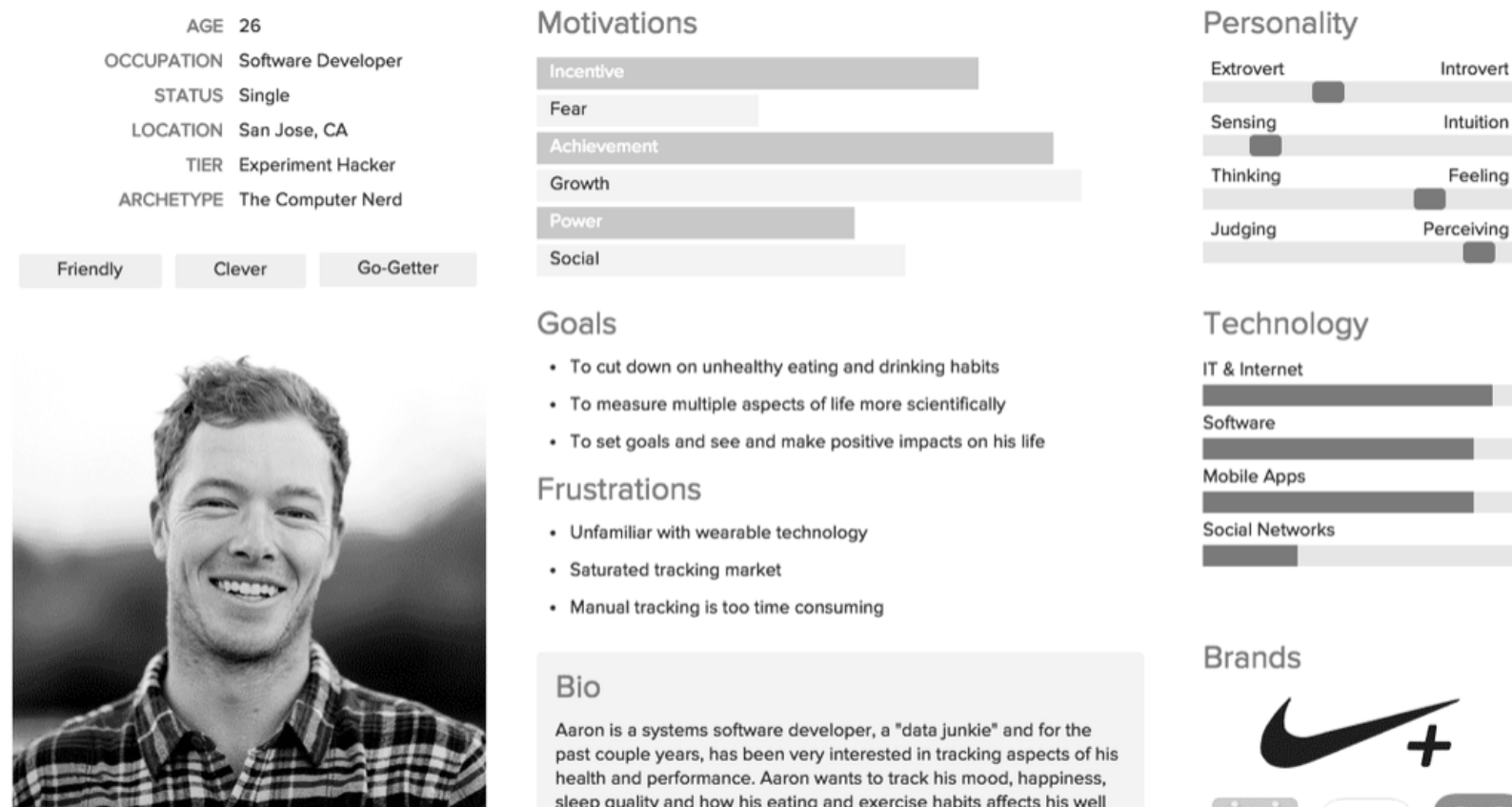
Generations are cultures in and of themselves; think of the cultural debates and divisions between...

- Boomers
- Generation X
- Millennials
- Gen Z / "Zoomers"



# MAPPING

One way to account for these differences is visualizing them when researching or designing. Latourian actor-network theory (ANT) does not account for non-physical actors; Adele Clarke's situational analysis provides a culturally responsive counter.



# PERSONAS

Creating personas (aggregates or representations of users) grounded in research / data (not stereotypes!) also grounds the design process in a prospective end user. This is a good writing classroom activity for thinking about audience too ;)

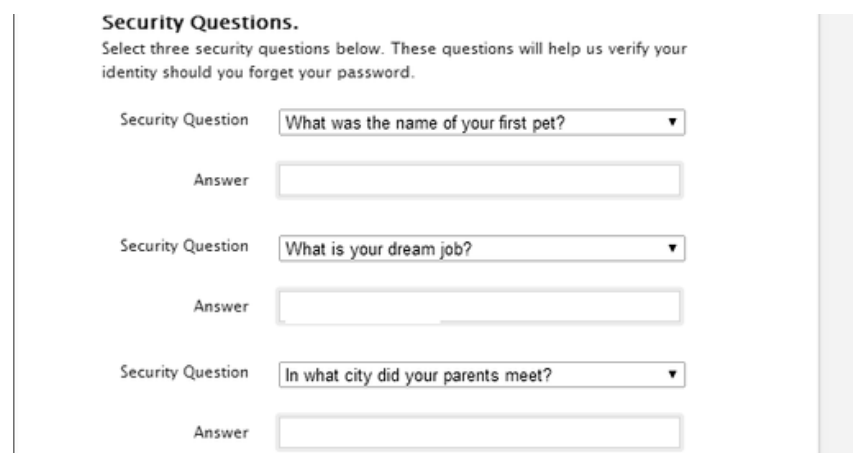
ULTIMATELY...

***INCLUSIVE DESIGN***

***ATTENDS TO CULTURE, RATHER THAN ERASING IT***



# *EXCLUSIVE DESIGN IS INACCESSIBLE*



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

Security Question:

Answer:

Security Question:

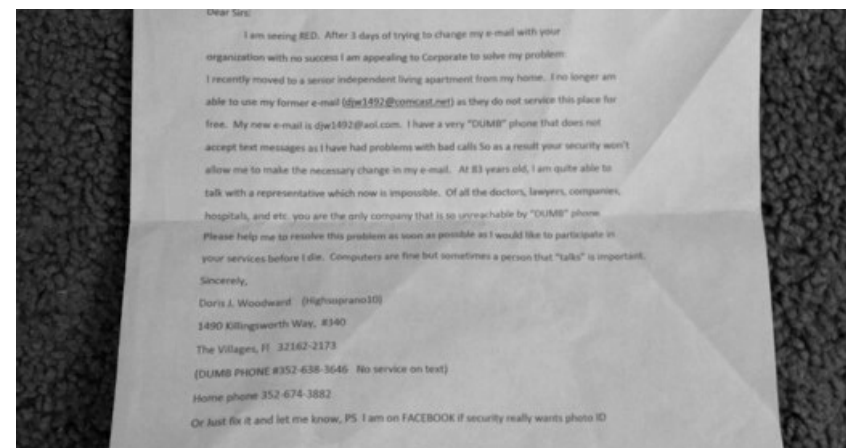
Answer:

Security Question:

Answer:

## **SECURITY QUESTIONS**

Loaded with assumptions about the end-user (gender, family, status, education...)



## **ACCOUNT PROCEDURES**

Two-step verification can exclude smartphone non-users; text chat can be impersonal or pose security risks (perceived or real)



## **OTHER LIMITS**

Space, format, modality... if there is only one way to complete a task or access the information, then the interface is fundamentally inaccessible

# ***INCREASING ACCESS FOR OLDER ADULTS***

## ***ASSESS***

Audit technology for ageism; what assumptions are being made about the target user(s)?

## ***INVOLVE***

Diversify the design team, engage in participatory design, user test with individuals from across generations

## ***UNDERSTAND***

Familiarize yourself with the unique physical and cognitive characteristics of older user cohorts

## ***ACCEPT***

Recognize that the desire might not be there for building more tech skills (remember Gerald?), but this doesn't mean ignorance or stubbornness



**ALLEGRA W. SMITH**

PhD Candidate, Purdue University

**WEB / TWITTER**

allegra-w-smith.com / @argella

**EMAIL**

allegra.w.smith@gmail.com

***THANK YOU!***