Female age 65, Muriel

Background
- ❖ Muriel is retired, lives alone,[1] and has a kid and grand kids who seldom visit.[2]
- ❖ She lives comfortably, with savings & pensions plentiful for living costs.[3]
- ❖ In her free time, she enjoys watching dramas on TV with a cup of tea.

Technology she is comfortable with
- ❖ Muriel uses a regular landline phone to call her families,[4] and she loves to chat with her grandchildren.[5]
- ❖ She bought an iPad[6] and tried to learn how to use it, but wasn't able to figure it out until her granddaughter helped her [7].
- ❖ Muriel also goes on the web[8] to check the news.[9]
- ❖ She wrote letters when she was younger[10] and enjoyed receiving handwritten letters from friends [11].

Attitude Towards Technology
- ❖ Interested in modern technology but doesn't know where to start with learning new technology.[12]
- ❖ It takes a long time for her to learn to use new technology.[13]

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[1] 32 percent of senior citizens that are women live alone. [Source 10].

[2] The primary reason senior citizens go online is to communicate with their family. From this we assume that they do not see their family as often as they wish. [Source 11].

[3] ⅓ of older adults living alone say they are financially comfortable. [Source 10].

[4] In the 65 to 69 age band row, 39% of responders indicated the lack of smartphone ownership. Additionally, 23% of senior citizens do not use cell phones [Sources 3, 7].

[5] Multiple sources show that senior citizens primarily use the internet and technology to email or communicate with family [Sources 3, 9, 11].

[6] Some 27% of seniors own a tablet, an e-book reader, or both, while 18% own a smartphone [Source 7].

[7] 48% of seniors say that this statement describes them very well: "When I get a new electronic device, I usually need someone else to set it up or show me how to use it" [Source 4].

[8] Today, 67% of seniors use the internet – a 55-percentage-point increase in just under two decades [Source 4].

[9] Some of the main activities seniors do online is checking the news. Elderly folk are interested in technology dealing with email, communication, news, and entertainment [Sources 3, 8].

[10] Letter writing was the dominant form of communication until the advent of the telephone. Even then, letters were still commonly written until the internet boom in the late 20th century [Source 13]

[11] The physicality of a handwritten letter creates a stronger bond between the sender and receiver. Psychiatrist Roland Jouvent says "With handwriting, we come closer to the intimacy of the author". We reason that this would make receiving handwritten letters enjoyable and heartfelt [Source 12, 13].
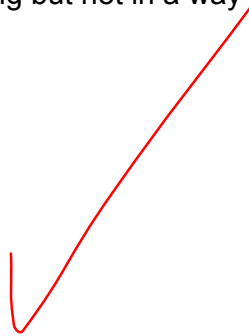
[12] Among the primary reasons why seniors avoid using the internet are the attitudes that technology is for the younger generation, and that the internet is difficult to understand and has limited benefits. Additionally, seniors desire a person to walk through the new technology with them. Studies also found that improved training would encourage internet use [Sources 4, 11].

[13] 45% of seniors showed behaviors that indicated they were uncomfortable trying new things or hesitant to explore. For example, when they failed in their first attempt at a task, some seniors were

- ❖ Muriel is interested but hesitant to learn new technologies[14], and gives up quickly due to low confidence[15], blaming herself when things don't work exactly how she wanted on the first try.[16] She gives up very quickly if the results are not what she expected.[17]
- ❖ She needs someone to set up the environment and demonstrate the features for her.[18]
- ❖ Muriel is motivated to use the web to connect with her family.[19]
- ❖ She would like to send mail & photos faster to communicate with more immediacy.[20]

Physical difficulties
- ❖ Due to her age, Muriel's eyesight isn't very good, she can't read words that are too small.[21]
- ❖ She also finds it difficult to perform actions like double clicking.[22]
- ❖ She's not good at hearing but not in a way that affects her everyday life.[23]

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hesitant to try alternate paths. Additionally, many older people are not familiar with the underlying mental models and they make take longer to learn new skills [Sources 6, 8].

[14] See the above footnote.

[15] 34% of older internet users say they have little to no confidence in their ability to use electronic devices to perform online tasks [Source 4].

[16] Seniors were almost twice as likely to give up on a task. Among all users who quit a task without completing it, seniors gave up 30 seconds before the younger users did [Source 8].

[17] When users had problems, seniors blamed themselves 90% of the time, compared to 58% of younger users [Source 8]. See footnote 12.

[18] See footnote 7.

[19] See footnote 5.

[20] Elderly people are most interested to technologies about how they can read and send email messages, browse for news or entertainments, and phone or video chat with family members [Source3].

[21] Cataracts, or clouding of the lens, may begin to affect your vision when you reach your 60s. Long-term exposure to sunlight increases the risk of cataracts [Source 2].

[22] Older people made more mistakes compared to younger users, and they had difficulty with fine motor control tasks such as double clicking. Grip strength and active range of motion of wrist is indicative of users' performance with a variety of pointing devices like mouse, trackball, touchscreen and stylus. Studies found that both Indian and EU populations lose their grip strength with age which negatively impacts their use of standard computer peripherals [Source 5, 6].

[23] About a third of people who are 60 or older have some hearing loss. This condition, known as presbycusis, may be due to the loss of sensory receptors in the inner ear [Source 2].

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[8] Jakob Nielsen. 2013. Seniors as Web Users.

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[12] Susan Reynolds. 2015. Fire Up Your Writing Brain. [16-18]

[13] Kathryn Burke. 2005. Letter Writing in America

Female age 21, Elizabeth

Background
- ❖ Elizabeth is a college student majoring in Marketing.
- ❖ She is currently Living two roommates
- ❖ Elizabeth comes from from an upper middle class family and was born and raised in the suburbs.
- ❖ In her free time, Elizabeth spends her time outdoors and in coffee shops.

Technology she is comfortable with
- ❖ Elizabeth uses computer everyday. She has a strong background in technology from her usage of social media, school work, and work.
- ❖ She owns the latest iPhone and uses it to check the news and media outlets several times a day.

Attitude Towards Technology
- ❖ Elizabeth has a lot of confidence in her ability to use technology and would always like to try something new. She often uses her smart phone for its apps and communicate with her friends and loved ones.
- ❖ She has a strong grasp on how to use text editing and presentation making software on her laptop for school.
- ❖ During her marketing internship she also gained a strong background in using spreadsheets and basic graphics software.
- ❖ She loves technology iPhones and has a passion for seeking out and trying new and innovating applications.
- ❖ Elizabeth uses mostly her phone to check on social media for any updates from her friends. She loves to know what everyone is experiencing at the every moment.
- ❖ She also uses her computer to do her school works, the instructions & hand-in systems are online as well.

Physical difficulties
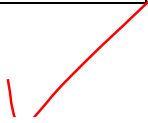- ❖ Elizabeth has no major physical difficulties, she has great eyesight and average dexterity.

Attributes and Concepts

Attributes	Concepts
Technology they are comfortable with	Handwritten address on Envelope
	Dragging photos to attach to email
Physical Difficulties	Menus with visible options
	Bigger buttons and text
	Drag & drop
	Read out text for users
Attitudes toward Technology	Video tutorials
	Step by step guide
	Auto-helper

* Concept sketches will be uploaded separately.

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