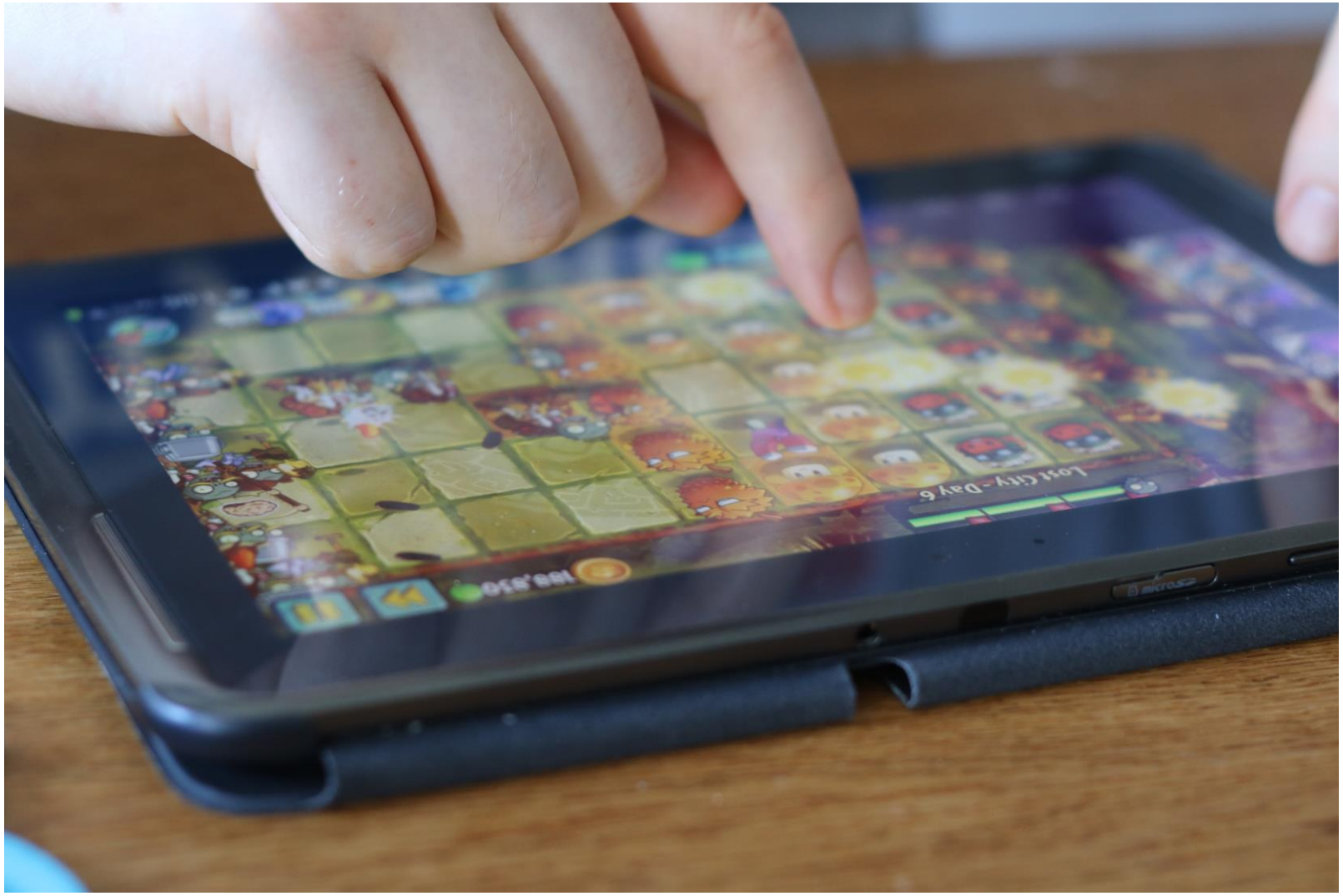
HCI: Personas

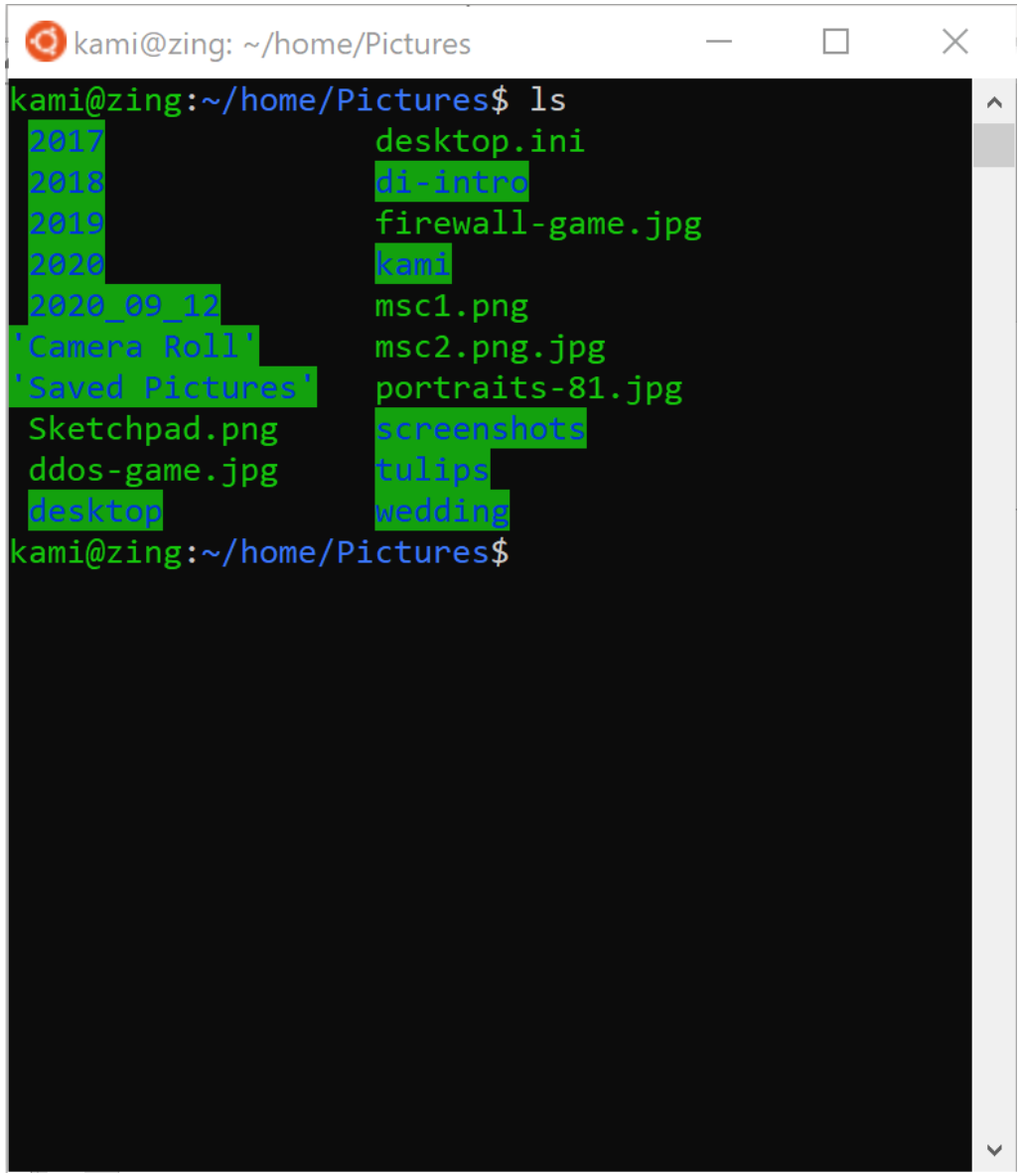
Dr Kami Vaniea

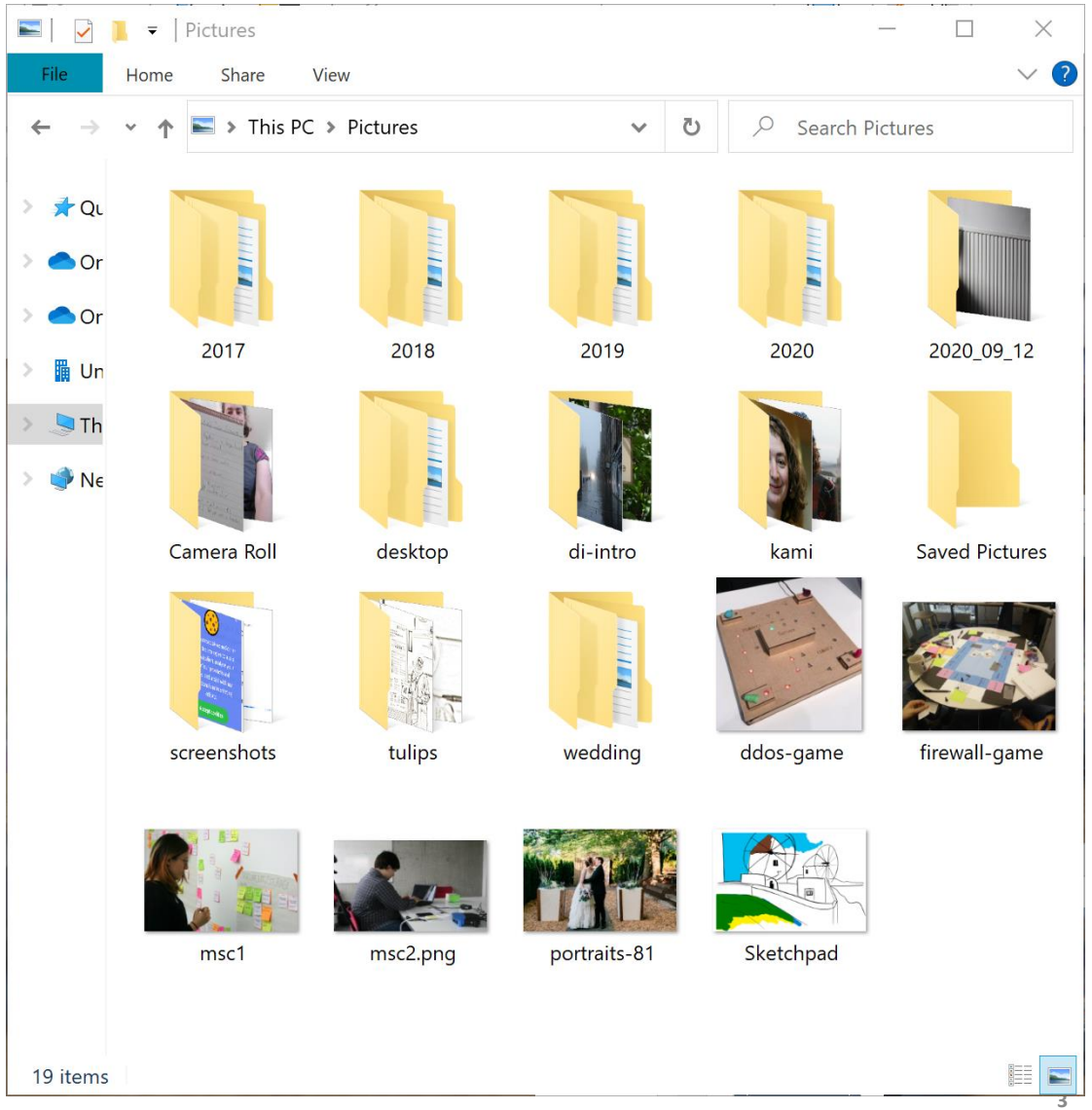
September 2020

Usable for whom?



Usability is different for different people



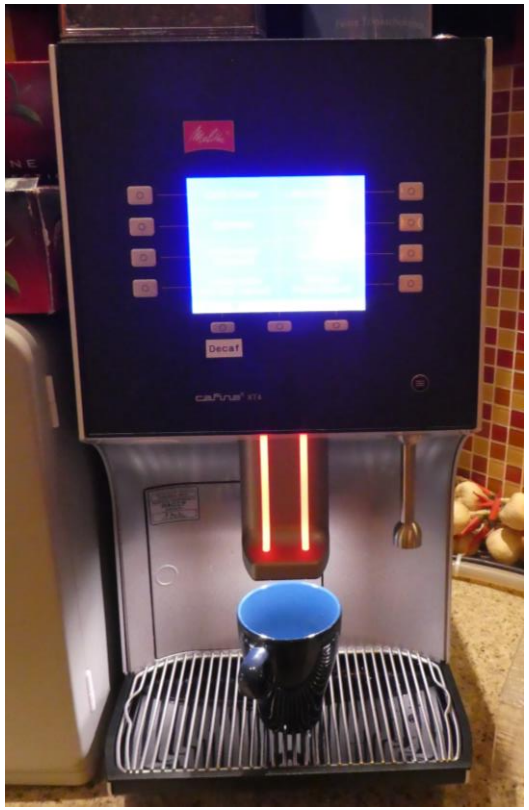


Persona

- A short representation of a fictitious user that describes a reasonably large segment of your intended user population.
- Several uses:
  - After requirements gathering to represent outcomes to others.
  - During design to help envision the user.
  - During heuristic evaluation to envision the user's goals and abilities
- Pros
  - Easy to understand
  - Good for communicating of who the user is
- Cons
  - Can ignore less-common user types

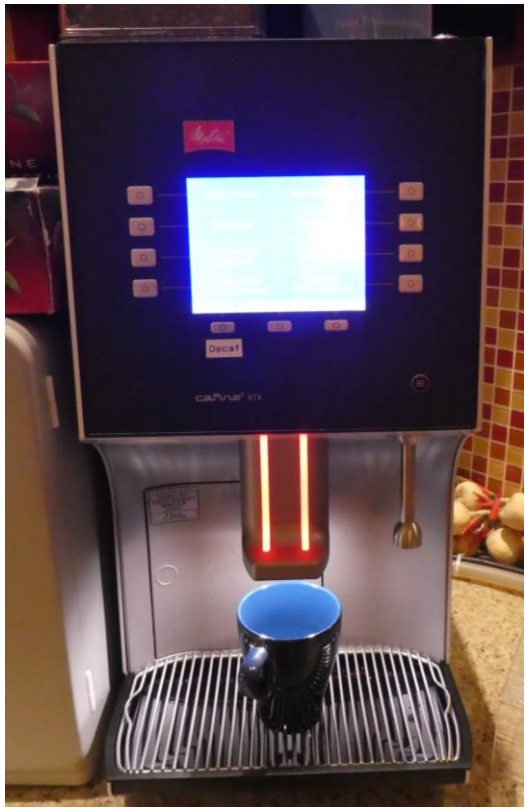
Alecia

- Alecia is a Masters student in Design Informatics
- She has been using technology most of her life and is very comfortable using it
- She is an avid coffee drinker and uses coffee machines all the time



Jordan

- Jordan is an Undergraduate in the Business School
- He has been using technology most of his life and is very comfortable using it
- Jordan is an avid tea drinker and never uses coffee machines



Making findings accessible

"We've identified five different *cognitive styles* people bring to their use of software."

"One of those differences in style is how people *process information*. For example, when trying to figure out how to accomplish a task in software, we've observed that men often prefer to choose the *first promising option*: processing information *selectively* with an *incremental* style. In contrast, in our studies women often prefer to gather information about *many options* before choosing: processing information *comprehensively* with a *"burst-y"* style."

https://medium.com/csforall-stories/no-girls-allowed-in-your-schools-software-fc58d4102e0c

"No girls allowed" in your school's software?

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May 28, 2019 · 5 min read ★

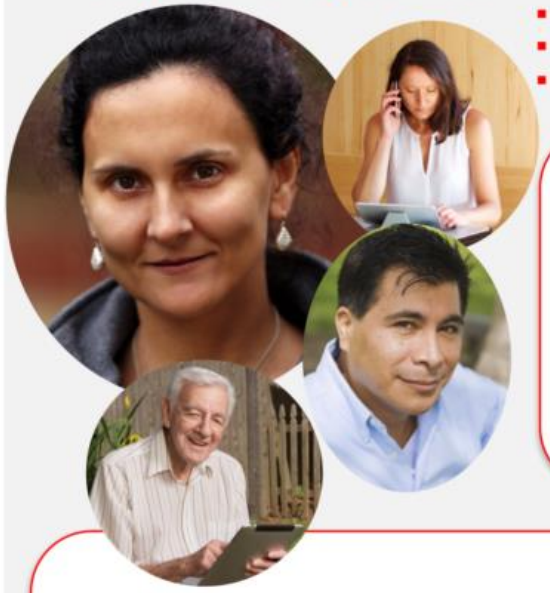
Margaret Burnett, Ph.D / Distinguished Professor of Computer Science, Oregon State University; ACM Fellow; NCWIT AA Advisory Board

Some students don't seem to "get" computers as well as others. Unconscious biases *in software design* are sometimes to blame.

How does biased software affect women and girls?

Students of different genders often use software differently, but most software is made by people who identify as men. Unconsciously, men often make software that tends to be "cognitively optimized" for other men. This

Pat (Patricia) Jones[1]



- 43 years old
- Employed as an Accountant
- Lives in Cardiff, Wales

Pat loves public transportation and knows at least three routes to get there from home. When she arrives at work, she scans all her emails first to get an overall picture before answering any of them. (This extra pass takes time but seems worth it.) Some evenings she plays computer puzzle games like Sudoku before bed.

Background knowledge and skills

- Pat works as an accountant in a consulting firm. She just moved to this employer 1 week ago, and their software systems are new to her. She describes herself as a "numbers person". She is not a professional programmer but she writes and edits spreadsheet formulas in her work.
- Pat has a degree in accounting, so she knows plenty of Math and knows how to think in terms of numbers. She's never taken any computer programming or IT systems classes.
- Even though she's an accountant and deals with numbers all day at work, she likes working with numbers in her free time, too. She especially likes Sudoku and other computer games that involve puzzling.

Motivations and Strategies

- ***Motivations***: Pat is proficient with the technologies she uses. She learns new technologies when she needs to, but she doesn't spend her free time exploring technology or exploring obscure functionality of programs and devices that she uses. She tends to use methods she is already familiar and comfortable with to achieve her goals.
- ***Information Processing Style:*** Pat leans towards a *comprehensive information processing style* when she needs to gather information to problem-solve. That is, before following any option that seems promising, she first gathers information comprehensively to try to form a complete understanding of the problem before trying to solve it. Thus, her style is "burst-y"; first she reads a lot, then she acts on it in a batch of activity.

Attitude to Technology

Pat is generally comfortable using familiar technology, but she does not get a big kick out of obtaining the latest gadgets or learning how to use them. She prefers to stay with the technologies for which she has already mastered the peculiarities.

- ***Computer Self-Efficacy***: Pat has medium computer self-efficacy, meaning that she has some self-confidence in performing computing tasks other than the ones she is familiar with. This has a variety of impacts on how she uses software. For example, she will keep on trying to figure out how to achieve what she has set out to do for awhile; she doesn't give up right away when computers or technology present a challenge to her.
- ***Attitude toward Risk:*** Even so, Pat is risk averse when she uses computers to perform tasks. When confronted with new software features, Pat worries that she will spend time on them and not get any benefits from doing so. She prefers to perform tasks "the safe" (ie, familiar) way if possible, even if less familiar features might promise a more direct solution.
- ***Willingness to Explore and Tinker***: When Pat sees a need to learn new technology, she does so by trying out new features or commands to see what they do and to understand how the software works. When she does this, she does so purposefully; that is, she reflects on each bit of feedback she gets along the way to understand how the feature might benefit her. Eventually, if she doesn't think it will get her closer to what she wants to achieve, she will revert back to ways that she already knows will work.

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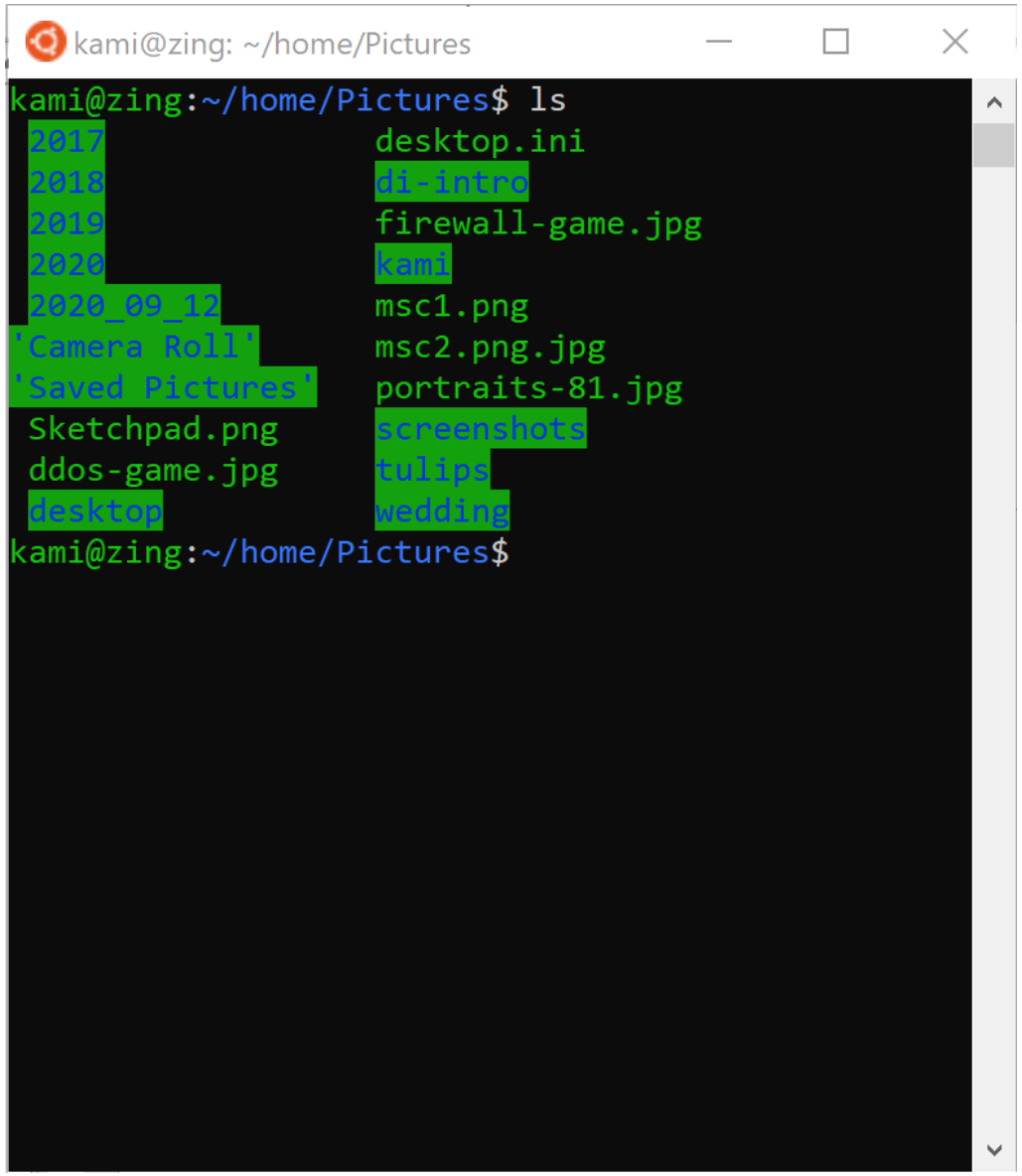
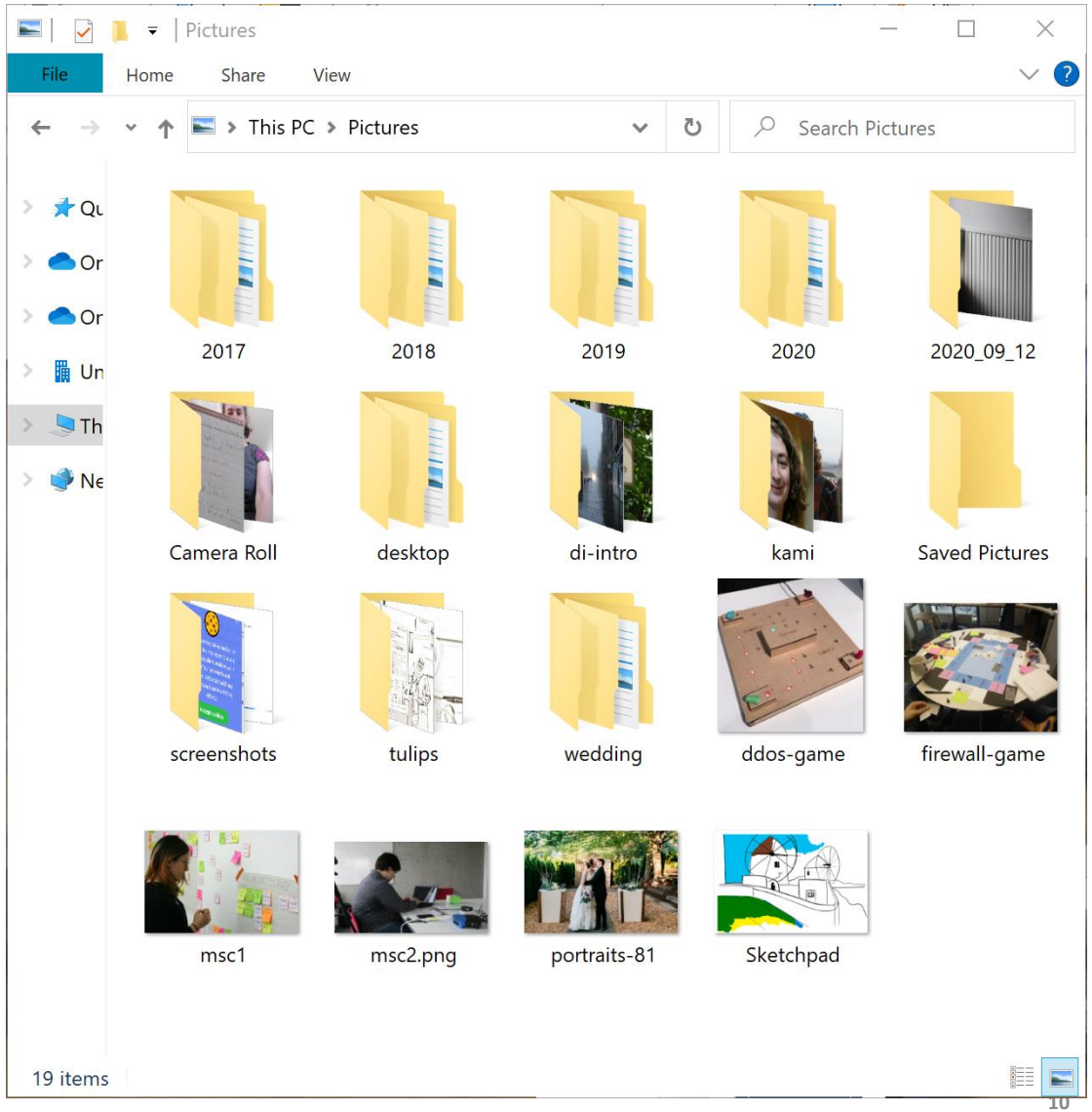
Usability is different for different people





Frank Kreuse

Cyber Analyst, EOBU (a defense industry supplier)

Background:

Frank has a B.S. in Information Systems. He specialized in technical writing and has CISSP certification. His training, experience and certification establishes him as an expert computer user.

Work Environment and Information Management:

Frank has access to sophisticated data capture tools but better analytic tools are still lacking. Much of the data that he works with is generated by state-of-the-art network scanning tools. However, he primarily relies on Excel to keep track of the data that is of interest to him so that he can perform analyses such as "what if" queries.

Duties:

Part of Frank's duties is to produce risk analysis reports based on test results derived from system assessment tools such as Tivoli Netview and DISA SRR.

Stoll, Jennifer, et al. "Adapting personas for use in security visualization design." *VizSEC 2007*. Springer Berlin Heidelberg, 2008. 39-52.

User Data			Features
Frank ***Cyber Analyst***	***Terry*** ***Intelligence Researcher***	***Rob*** ***Consumer Safetry Officer***	
"Frank is not always the person required to respond to intrusions. ...he must be aware of and be able to access information about how each incidenct is being handled by the team. ...network monitoring information comes from a variety of tools so Frank needs to know where the information came from."	"Terry must perform her analysis in a highly collaborative environment and the data she receives from the Intelligence support staff comes from many varied sources. ... at times she must do quality control on the information she receives from the newer support staff by making sure they are coming from credible sources."	"Rob works for an agency that utilizes antiquated computer and information systems. One of the daily challenges that Rob faces is keeping track of the many alerts he receives about food safety incidents to be investigated. He relies on where the alert came from to determine priority for investigation."	1. Functional: Need a summary of the metadata about the information being used in analysis.

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Features	Persona Weights			
	Frank (weight = 40)	*Terry (weight = 40)*	*Rob (weight = 20)*	*Weighted Priority*
1. Functional: Need a summary of the metadata about the information being used in analysis.	**2**	**2**	**2**	**200**
2. Non-functional: Need information change alerts to be rapidly customize-able.	**2**	**1**	**0**	**120**

weight = percentages totaling to 100% or on a scale such as 1-5
score = -1 harms persona
0 does not matter to persona if the feature is there or not
+1 helpful to the persona
+2 is a must-have feature for the persona

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