Introduction to Three People
A Brief Description of their Culture and Technology Experience

Pam, Me, Technical Professional

History I went back to college at 30 to study computer science. I'm over 50 now and have worked as a programmer, software development manager, and user support manager for 15 years. The first PCs and other failed personal computing devices became part of my repertoire. I learned the ins and outs of PC hardware, software, and network configuration on the job. Through the years I have created good and bad user interfaces, worked directly with the user, listening to their complaints, and have evolved a user centered design philosophy. I have selected software with and without user help and input, studied GUI standards and created standards for the development team.

Current Events Just recently, I started my own business designing websites. I am constantly taking classes for professional reasons and personal satisfaction. I am pursuing certification in HCI.

Internet Experience My experience level on the internet includes purchasing software, hardware and gifts online, and using ebay auctions. I have researched medical conditions, used webopedia and similar dictionaries, used search engines and yellow pages to find store locations, participate in distance learning, and web-based training. I have a digital camera and help my husband post photos of ebay auction items. I maintain several websites. I pay bills and do other banking online.

Ergonomics I have tried to make my computing experience and environment as enjoyable and stress-free as possible. As a result of my age and long hours at the computer, I suffer from repetitive stress injury to my right wrist and am beginning to have problems on the left as well. I wear elastic braces whenever on the computer. I have an ergonomically correct work area with a wave keyboard. I use a standard scrolling mouse now, but have used a touch pad previously. I wear glasses for reading and different glasses for computer work.

UI interaction and Tolerance With my background, I consider myself tolerant of UI's in general, and have a good sense for what might work. I'm willing to spend a goodly amount of time learning an interface if the result is worthwhile, such as a new IDE for html. This is similar to investing time to learn a new programming language. It can be worth spending time to save time.

Cost of Computing I have some software that is one or more versions behind because it is less expensive to acquire. I have a computer less than a year old, but it

	wasn't at the cutting edge of technology, just the most economic for it purpose.
Learning Methods	I learn by trial and error whenever possible, but am also willing to read any manuals or reference manuals available – a dying tradition. I am a manual reader, and that makes me a little unusual among my circle. I read the manual to the new garbage disposal we just installed.
Motivation	I use software and the internet to get a job done, and only experiment when the interface is new, when trying to do a new type of task, or when the fancy strikes me and I want to learn something new for the fun of it.
Technical Expertise	I consider myself technically savvy, grew up with poor interfaces and command line interface such as DOS. These required time and dedication to learn, but once learned were very fast. As a programmer, I probably understood the design methods.

What are culturally derived characteristics?
Willing to explore, tolerant of poor design, confident in self, have a habit of continuous learning, recognize and appreciate good design.

Linda, Different Culture, Professional Artist

History	Linda is a clay artist who creates fanciful pottery painted with caricatures and imaginative creatures. She is director of the local arts association, and has worked with volunteers in many situations including a university faculty group.
Current Events	She has no current training in technology. Her professional training is acquired as she works with other artists and master artists, showing pottery techniques, creating art objects, and experimenting with variations. She will get a new computer at work in the next few weeks and she has interest in taking formal computer classes to learn graphics.
	As director of the arts association, she prints the checks and keeps the books on an ancient MAC using Netscape 3 for her email interface. She thinks she isn't technical enough to make things work correctly. I noticed on her desk a list of questions to ask the fellow who donated the latest old computer. One question was how to copy from the hard drive to the back up hard drive, and another was what a certain error message meant. She doesn't realize that her setup is very complicated: two serial printers on a switch box running through Appletalk, a second hard drive running off the parallel port, and an external modem with a switch for the telephone.
Internet Experience	Her internet experience consists of visiting websites, sending email, and occasionally downloading a file. She hasn't installed Acrobat Reader, even

when prompted and knows she won't be able to view or print various items such as the budget reports I sent her. She doesn't order anything on line and artists of her acquaintance don't either. She believes many artists are almost ready to have websites, and she can see good reasons to have one herself. Her husband initiated the computer and internet usage at home.

Ergonomics I only know of her workplace, and the setup is adequate, with a 17 inch monitor, one button mouse and standard keyboard. She can sit properly for typing. The desk has an extension on the right, and with the clutter, the mouse has to be used a little further away from the keyboard than normal. Since she spends as little time as possible at the computer, this is not important to her.

UI interaction and
Tolerance She is not afraid of trying something new, but is quick to give up in frustration which shows high interest, low self-confidence with technology, but resilience to keep coming back to try again. When the organization gets a new PC, she feels she won't have any problem adjusting to the differences from the Macs she uses at home and work. She uses older software programs that have become familiar to her. But she understands the shortcomings from discussions with other people. She endures UI's and believes she isn't technical enough to know how to best use them.

Cost of
Computing Her decisions related to technology seem to be based on whether it will improve her quality of life rather than saving her time. She uses an older Mac at home, and an ancient one at work to maintain address listings, write text, use the internet and send email. Professionally, she uses what is provided by the non-profit organization, a very old Mac (OS 7.1 with Netscape 3.0). Monetary investment in technology is not high in her priorities.

Learning
Methods She uses interfaces to get the job done, usually in a prescribed step-by-step method. She calls someone for help, but it usually is someone she feels comfortable with who won't make her feel dumb instead of someone who might be able to fix the problem quickly. She learns better with someone standing over her shoulder giving positive reinforcement.

She has experimented with making reports of financial transactions, but wasn't able to transfer that knowledge to making a more complex and better report. For instance, she knows how to get all transactions for a specific vendor for a specific period of time (they are default fields in the quick report screen), but couldn't conceive on her own how to run a report of transactions for a specific event using a different (non-default) field and some keywords.

Working with Linda, I realize how far computers have come. Both software and hardware interfaces have been made simpler to the user. Newer technology means we don't have to turn on the printer or deal with printer buttons and settings. Sending email to multiple people is a nightmare for her. If the list is 12 people, such as the board of directors, even though it appears that you could send copies and blind copies, that option doesn't work (or she can't figure out how to make it work) and she can only add a single address in the box. That means she has to send the message 12 times. She recently tried to attach a text file of the minutes to the last meeting to her email. Nobody could open it in a readable format. There were a lot of garbage characters at the top and throughout. This was either due to the text software being too ancient or her inability to attach a readable file.

Motivation	She is interested in trying some computer graphics. She would very much like to be able to produce the association newsletters and brochures herself and learn how to maintain a website. In my opinion, she has the ability to learn, but may resent the time and dedication required since she has never used any computer graphic programs.
	Newer software will add more features and should be easier to use than what she has now. These may help overcome the mental models by lowering the risk of frustration and wasting time. It may also give her positive reinforcement. She needs to overcome barriers of timidity, frustration, and embarrassment with sufficient rewards.
Technical Expertise	She has little technical knowledge. She can follow directions and step-by-step procedures for weekly and occasional operations – which are tacked around the office.
	She has little experience to bring to a new program, and a very big step to take to upgrade to new software.

What are culturally derived characteristics?
Doesn't have underlying understanding of how computers or software work. Didn't grow up with computers, slow to accept online purchases. Is visual rather than logical. Has poor self-confidence to master technology.

Laura – Younger, Same Family, Business Woman

History	Laura is thirty something, a successful entrepreneur, college-educated, ambitious, and technically savvy. She becomes a super user of many software programs, expects a lot and pushes the software to produce. When she sees examples of finished products she wants to emulate, she usually can. Recently she purchased Quicken for Small Business, is using trial versions of online newsletter software, tested software to create pdf files, was very hands on creating her business website, and is using

software for a newly found interest in genealogy. Professional experience included several years as HR Director for an technology company, and she hired technology professionals. She grew up with computers, used them as entertainment and to play games. Now she uses them for organizing her time, has a pda, emails extensively, and learned to expect instant gratification.

Current
Events   She is now a consultant in the HR sector, and current professional training consists of networking, sharing experiences with colleagues, and working with several mentors. She has some interest in graduate certification in her field, but no interest in formal training in software.

Internet
Experience   She keeps in touch with her friends, family, colleagues, and clients, via email. She has no qualms purchasing gifts, long distance telephone, and personal items online. She buys and sells on ebay, and does personal banking online.

Cost of
Computing   She feels that the investment in technology is essential to her business success and adds value to her personal life. She has the resources to invest in what technology has to offer her.

Ergonomics   She still has very good eyesight, and as a result, her website uses small characters. She works with a large format laptop at home with an external keyboard and monitor. She has a desk designed for computer work.

UI interfaces and
Tolerance   She is intolerant of interfaces unless they are intuitive, offer affordance from previous versions or other applications, are consistent, and do what is expected. She expects things to work and is impatient with the product, rather than with herself. She has self-confidence that she can be successful with computers.

Learning
Methods   She has schema from other interfaces that give her a jump-start on new programs. MS programs are easier to use. She is willing to try new things if they apply to the task to be accomplished or special personal interests. She learns online using trial and error.

Laura would not be afraid to try a new feature or new software. She has learned to save documents at appropriate intervals, gets upset with herself if she forgets to do that, and doesn't inappropriately blame the computer or software. She is curious about what software can do and will go through short tutorials or demos on her own. She will try installations several times before resorting to outside help when they fail. She has a large circle of friends, peers, and family who can help her. She feels comfortable in conversations about technology.

Technical

Pamela P. Cote

Expertise   She grew up with computers, video games and computer games. She is competent to install software using wizards and agents, and has installed her hot sync devices on her own. She often changes preferences to customize her computing environment.

What are culturally derived characteristics for Laura?
Speed counts. She uses technology as easily as walking or reading. She believes that technology can make more time for life. She shares the characteristics of willingness to explore, confidence in self, and belief in continuous learning.

Comparison And Contrast Of Cultural Affects
Things We All Share
We are all female, have college degrees, have nurturing personalities, need computers to do our "work". We all use email. We are married with no children at home, and self motivated. We are all creative to a certain extent. Our spouses have a relatively competent level of technical expertise.

Things That Are Different
The artist creates with her hands, is very outgoing, somewhat emotional, and allows creative interest to rule her average day. The young career woman is outgoing, industrious, ambitious, makes lists which she follows through on. I am not so outgoing, moderately ambitious, set goals and make lists of tasks whose due dates may get changed depending on whether or not I feel like doing them. But I tend to be driven to complete jobs.

Two of us use computers for the majority of our office work. The artist uses it only for accomplishing certain tasks, although she is interested in expanding the use into creating newsletters and brochures, she hasn't taken any positive steps to accomplish this.

Comparison Of Specific Interactions And Reactions To Interfaces
Scale   1 yes, use all the time, or preferred method
2 use occasionally, or often
3 no, don't use, or not preferred method

Activity	Me	Artist	Career Woman
Use Logical And Textual Cues More Than Visual Cues	1	3	1
Believe Technology Improves Quality Of Life	1	3	1
Believe Technology Adds To Time To Enjoy Life	1	2	1
Use Technology Daily	1	2	1
Use The Internet For Specific Research	1	2	1
Blame Poor Interface Design Instead Of Self	1	2	1
Ask For Help From Immediate Circle Of Friends And Family	2	3	1

Play Computer Games	2	3	2
Play Computer Games Online	3	3	2
Use Up-To-Date Versions Of Software	2	3	2
More Than 10 Years Experience With Computers	1	3	1
Self Confident Learning New Interfaces	1	2	1
Under 50	3	3	1
Ergonomic Computing Environment	1	2	1
Taken A Computer Class In Last 2 Years	1	3	3
Believe Formal Training Is Worth The Investment In Time And Money	1	3	3
Use PDA	3	3	1
Use Cell Phone For Business	3	3	1
Makes Good Use Of Software Features	1	3	1
Technology Gap **The Higher The Score, The Further Behind In Technology Acceptance**	**30**	**51**	**26**

Discussion Of Culture And Interface Requirements

Artists   Based on the interview with Linda and knowledge of other artists, I will generalize the culture. Artists are attuned to the senses – especially visual or audio. They are lagging in applying technology to their daily lives. They have an outlook that features quality of life that enjoys the beauty and richness of the journey rather than investment in time saving devices. Speed is not important in the grand scheme of things. They tend to blame themselves for technological problems, and if they use technology it is to add value to life, not time. They rely on their technical friends and others in the art community to solve technical problems rather than learning to solve them. They are slow to adopt new technology.

For these reasons an interface needs to be visual to appeal to the senses, have built in positive feedback to bolster confidence and promote discovery, intuit as much as possible to save time, and suggest solutions whenever possible. Icons should be prominent and do what their images suggest.

Technically
Savvy   Based on my interview with Laura, and my own experiences, I will generalize the technically savvy career woman. We seem to be very busy. We use the internet and integrate other technology into our daily lives. We are intolerant of slow transactions, tend to blame software or poor design rather than ourselves. We research and ask advice about the features we want related to purchases of and upgrades to technology, do research, cost comparisons, and ask friends for recommendations. If we see a need

that is best filled with technology, we don't hesitate to use it to add time to our lives.

For that reason, user interfaces need to be consistent to appeal to the logical, contain affordance to save time, be tiered for beginner, intermediate, and expert users, and allow user customization to conform with individual requirements.

Young Technically
Savvy   Based on my interview with Laura, the younger technically savvy career woman has, in addition, less tolerance for poor design, is astute regarding investment of both time and money, and has the economic resources to use the latest or best versions as needed.

For these reasons, an interface must be quick, easy to learn, do what it says it will do, and fill specific requirements.