1) My Phone: Samsung Glyde touchscreen

The phone is mainly used to talk to people, so call quality is the absolute first thing designers should think about. This was the case, and the call quality is great. Having a touchscreen means that it is the main way to navigate menus, so this should be absolutely flawless. Unfortunately someone neglected this key design feature, making it harder than it should be to use.

The Good:

1) The phone works great as a phone. The call quality is the best out of any phone I have ever owned.
2) The size of the phone is very good. It is not too big and not too small. Any smaller the keyboard would not be usable, and any bigger and it would be uncomfortable in my pocket.
3) The phone is very durable. I have dropped it several times in the few months I have owned it, and it still works like the day I got it.

The Bad:

1) The touchscreen is flaky at times. Sometimes the phone does not register that you touched it in the spot that you did. I believe this is a software issue and something that Verizon dropped the ball on.
2) They keyboard takes a little getting used to. The buttons are a little small, but if they were any bigger, the phone would have to be bigger.
3) The navigation buttons (especially for the browser) are extremely large for the screen size. They take up half of the screen, leaving only a small space to view content.

My Telephone at work

This is again a phone, and since it is a workplace, it should be extremely easy to talk to people. The sound quality is great, but the button layout and labeling is not the easiest thing to learn. It usually takes several button presses to accomplish most tasks, and some buttons are not even labeled. This makes the phone very hard to use.

The Good:

1) Voice quality is great.
2) The volume is completely adjustable. If someone is speaking quietly you can turn it up so they are easily audible, and if they are speaking loudly, you can turn the volume down to make it comfortable to hold a conversation.
3) The phone has all the features you need in a phone and more, such as hold and call transfer.

The Bad:

1) It is very counter intuitive to use all the features on the phone. The only thing that is not confusing is putting someone on hold, because there is a huge red hold button. Everything else does something other than its labeling.
2) Some of the phones do not have a shoulder rest on them that allows you to easily rest the phone on your shoulder while keeping your head upright. Being on the phone for most of the time makes it very uncomfortable if the phone does not have one of these.
3) The phone is still corded. This makes it very difficult if someone wants to speak to a supervisor. It would be much easier if the phone could be moved over to that person to increase efficiency.

**iPod**

It is not necessary to use this device as it is supposed to be a convenience to have. However, when something that is supposed to a convenience does not work as expected, it becomes something that is a mere nuisance. Fortunately, the designers of the iPod got most everything right, making it very pleasant to use.

*The Good:*
1) I could listen to different music for almost a month without listening to the same thing twice.
2) The sound quality is great, and you can customize how music sounds with equalizer presets.
3) The brightness of the screen is more than sufficient to use the device in direct sunlight, which is sometimes required.

*The Bad:*
1) When you first use the device, it is hard to figure out how the spinning of the dial translates to vertical and horizontal movement on the screen.
2) The quality of the earbuds could be significantly better. The included headphones are economy quality, and there are far better headphones available elsewhere.
3) The battery life of the iPod is good, but not great. It is fairly annoying to have to charge it more often than Apple claims.

2) Kelly:
The user’s screen goes black on her laptop. When the screen is moved a certain amount, the screen turns off. Gateway could make the design of the screen position hardware more robust to fix this problem. I’ve known a few people with Gateway laptops who have had this problem so it is fairly common. She does not like Microsoft word 2007. It is too hard to find all the tools she needs. The layout does not work for her. Having a more traditional layout would be easier, instead of learning something unfamiliar. Last, her universal scroll does not work on her touchpad. It is there to save time, but because it doesn’t work it just wastes time. Anyone that uses the laptop believes it works, but when they try to use the universal scroll it just doesn’t
work. One would assume that if you install an operating system with the manufacturer's CD, everything the computer needs would be installed, but they aren’t.

Jason:
When booting Windows, it takes two to three minutes for his computer to boot up. This is pretty frustrating for him, especially if work needs to be done. This wastes a significant amount of time, which could be used doing something productive. He believes this is Windows’ fault, and more could be done to make the operating system more compatible with hardware to make boot times faster. He also expressed a dislike for the search function within Windows XP. Searching for files or folders within Windows is really slow. This also wastes a lot of time when he needs to get work done. This is much faster under Vista, but the search function like Vista’s does not exist for XP. It would be nice if Microsoft added the feature into XP, but that would detract from the attractiveness of upgrading to Vista. He runs a 64 bit version of XP, which is not compatible with all software. A big problem with the operating system is searching for workarounds to get software to work with the operating system. This wastes much more time than the previously stated problems, because searching for workarounds to get software installed takes several hours at least, and when something can’t be found to fix whatever is wrong, work cannot be done.

Matt:
Storage filesystems like NTFS, FAT, and ext3 are different from operating system, and most operating systems cannot read the filesystems of others. This creates a large problem when sharing data between computers, or even sharing data between operating systems on the same computer. This wastes time because data either needs to be saved externally to something like a flash drive, or a new partition needs to be created on a hard drive that both operating systems can read. This is frustrating because work needs to be done before work can get done. This could be fixed by having a standard filesystem that all operating systems can use. This would save a lot of time and work. Since he does quite a bit of photography, transferring pictures to a computer is a big deal. A problem with Windows is that it cannot read SD cards bigger than 1GB. Anything over that cannot be read, and a cable between the camera and the computer needs to be used. This is much slower than putting a card in a card reader, and again wastes a lot of time. The last problem he has is with his laptop. He has an older IBM Thinkpad that does not have a Windows key on the keyboard. This is a huge design flaw, since he is an experienced user who uses keyboard shortcuts on a regular basis; many of them involving the Windows key. It looks as though there is no room on the computer itself, but some buttons could be moved, or the spacebar could be made smaller to accommodate the Windows key.
I used the java program given to us on the web board.
4) \( RT = k \cdot \log_2(n + 1) \) Since \( a \) and \( b \) are empirically determined constants which I do not know how to calculate, I used the Hick's law formula found at: 
http://www.usabilityfirst.com/glossary/term_266.txt

a) Approximate the time it takes to select an item from a menu with 12 items.
   \( n = 12, k \sim 150 \text{ms} \)
   \( RT = 150 \cdot \log_2(12 + 1) = 555.1 \text{ms} \)

b) There are 4 items in the first part of the menu and 8 items in the second part.
   To find choice time for each menu, calculate choice time for the first part and second part separately, multiply by the probability, and add the two.
   \[ \begin{array}{ll}
   \text{First part of menu} & \text{Second part of menu} \\
   n = 4 & n = 8 \\
   k = 150\text{ms} & k = 150\text{ms} \\
   RT = 150 \cdot \log_2(4 + 1) = 348.3 \text{ms} & RT = 150 \cdot \log_2(8 + 1) = 475.5 \text{ms} \\
   \end{array} \]
   For 50/50 \( (.5)(348.3) + (.5)(475.5) = 411.9 \text{ms} \)
   For 75/25 \( (.75)(348.3) + (.25)(475.5) = 380.1 \text{ms} \)
   For 90/10 \( (.90)(348.3) + (.10)(475.5) = 361.02 \text{ms} \)
   The minimum choice time for this dynamic menu is 361.02ms, and the probability choice split that causes the maximum choice time is 50/50

c) One of the limitations of Hick's law is that as a list grows very large, it takes much longer than a log base 2 function can represent. Given a very long list, the user may not even choose anything at all. The reason this problem was simplified was because error free behavior and knowledge of the target item can not always be achieved, making Hick's law much harder to compute in some situations.