Why does a person need to know anything about how a computer system works? Have decisions about acquiring computer systems become easier or more difficult over the years?

Different people need to know different aspects of how a computer system works. There is so much to know about computers, so much complexity, that specialization of knowledge is crucial for any organization using computers. This is why we have hardware, software, applications development, networking, etc, etc divisions of labor in any organization.

For applications development, programmers don't have to know machine language anymore, but knowing machine language can give them additional insights. For instance, when JavaScript mangles their floating point variable, they could get away with just chalking it up to a bug in the language, but if they understand that the issue results from JavaScript having to store and retrieve the floating point in eight bits, and this conversion throws off the number value, they comprehend the issue on a deeper level.

Decisions about acquiring computer systems have gotten easier in some respects. I know that I can buy the cheapest laptop and that it will run everything I need out of the box because even the base-level hardware is more than sufficient for all. Hardware has become "black boxed" for most of the world, where in the past I could spend weeks trying to find new drivers for my soundcard after upgrading to Windows 98. The flexibility software provides also makes things easier, how comprehensive much open-source has become, the ability to set up virtual machines, object oriented programming, and all the Web 2.0 APIs out there are making it easier to do far more and more quickly.

At the same time, fully customized solutions are becoming much more complex, because all of these features that make life easier for the rest of the world must be developed into our solutions. Custom-built software must provide the APIs, the SOA solutions, the loose coupling between application layers, and now online versions that work like compiled software for cloud solutions. This doesn't even touch the complications this software flexibility causes for hardware, where servers must support a much wider variety of applications running on different platforms communicating with each other, oftentimes with unexpected results.

I don't think the average person needs to know the difference between a Mac and PC anymore, and soon they won't need to know the difference between these and Ubuntu. So long as all of these systems are using standard file formats and software to manipulate those files, the only thing people need to know is what system they think is prettier and more appealing to use.

Soon it really won't matter, as cloud computing is going to make Operating Systems

completely irrelevant. Everything is going online, so all we will need is a netbook to access an online word processor, e-mail, photo albums, etc.

Back when people needed to know how a computer worked, Windows was king, now people just need an easy interface, so Mac is the cool kid on the block (like that wonderful Pogue TED talk video demonstrated (Thanks for posting that!)). Now everything is going online, the OS may be just a way to get online, so the free OS Ubuntu is the rising star.