INFO 1500 Intro to IT Fundamentals

Technical Foundations

Tutorial 4
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Outline
1. Interactive session
2. Review Questions

Interactive Session Technology:
New To The Touch

Read the Interactive Session and discuss the following questions

1. What problems does multitouch technology solve?
2. What are the advantages and disadvantages of a multi touch interface? How useful is it? Explain.
3. Describe three business applications that would benefit from a multi touch interface.
4. What management, organization, and technology issues must be addressed if you or your business was considering systems and computers with multi touch interfaces?

1. What problems does multitouch technology solve?

- Multitouch technology allows people who can’t grasp a mouse to access the functionality of a traditional PC by using a finger or a stylus instead.
- “Haptic” touch gives users the feeling and sensation of pressing a button on a screen. That’s helpful for the hearing impaired or blind people.
- Multi-touch gestures are easier to remember than keyboard commands.
- Touch Smart technology developed by HP has helped a 14-year old autistic student to speak and communicate with others for the first time in his life.
2. What are the advantages and disadvantages of a multitouch interface? How useful is it? Explain.

- It’s already evident that touch has real advantages on devices where a mouse isn’t possible or convenient to use, or the decades-old interface of menus and folders is too cumbersome.
- HP’s TouchSmart computer lets people use two fingers at once to manipulate images on the screen or to make on-screen gestures designating specific commands without using cursors or scroll bars. Sliding a finger up and down or sideways smoothly scrolls the display. For some users that will increase the speed at which they can perform functions. For others, it may make computing slower.

The TouchSmart makes it possible for home users to engage in a new type of casual computing – leaving written, video, or audio memos for family members, quickly searching for directions before leaving the house, or putting on music while preparing dinner. Casual computing uses will open up a whole new world of applications. Touch-enabled PCs appeal to elementary schools seeking an easy-to-use computer for students in early grades.

3. Describe three business applications that would benefit from a multi touch interface.

- “There is an untapped potential for touch technology in the business marketplace to engage users in a way that has never been done before,” says Alan Reed, HP’s vice-president and general manager for Business Desktops.
- Users can hold video chats with remote workers through a built-in Webcam and microphone, access e-mail and the Internet, and manage contacts, calendar items and photos.
- Hotels can use touch screen kiosks for guest check-ins. Airlines already use touch screen kiosks for passenger and baggage check-in. Touch screens allow customers to connect, select and interact with vendors and each others.
- Customers place orders with a retailer, conduct virtual video service calls, or utilize social networking for business.

4. What management, organization, and technology issues must be addressed if you or your business was considering systems and computers with multitouch interfaces?

- **Management:** Training users to adapt to the new technology will take time and effort—people don’t like to change their habits even if the technology is easier to use. Users will experience some frustration switching back and forth between the old technology of using a mouse and keyboard and the new multitouch technology.
- **Organization:** Purchasing new hardware and software that uses multitouch technology will be expensive and time-consuming. Writing new user policies for multitouch technology will take time. Making the multitouch technology cost beneficial to the organization is a serious consideration
- **Technology:** Writing new applications to employ multitouch and rewriting old applications will take time and effort. Some applications will be easier than others to adapt.

**Review Questions**
1. List and describe the components of IT infrastructure that firms need to manage.

- IT infrastructure includes hardware, software, and services:
  - Computing platforms: Includes mainframes, midrange computers, desktop and laptop computers, and mobile handheld devices – anything that connect employees, customers, and suppliers into a coherent digital environment.
  - Telecommunications services: Data, voice, and video connectivity between employees, customers, and suppliers.
  - Data management: Store, manage and analyze data.
  - Application software: Includes enterprise resource planning, customer relationship management, supply chain management, and knowledge management systems.
  - Physical facilities management: Develop and manage the physical installations for computing, telecommunications, and data management.
  - IT management: Planning and developing the infrastructure, coordinate IT services among business units, manage accounting for IT expenditures, and provide project management.
  - IT standards: Policies that determine which information technology will be used, when, and how.
  - IT education: Employee training in system use and management training for IT investments.
  - IT research and development: Research future IT projects and investments that can help the firm differentiate itself from competitors.

2. Describe the evolving mobile platform, grid computing, and cloud computing.

- **Mobile platform:** More and more business computing is moving from PCs and desktop machines to mobile devices like cell phones and smartphones. Data transmissions, Web surfing, email and instant messaging, digital content displays, and data exchanges with internal corporate systems are all available through a mobile digital platform. Netbooks, small low-cost lightweight subnotebooks that are optimized for wireless communication and Internet access, are included. The mobile platform is expanding to include tablet computers (iPad) and digital e-book readers.
  - **Grid computing:** Connects geographically remote computers into a single network to create a “virtual supercomputer” by combining the computational power of all computers on the grid. Since most computers use their central processing units only about 25 percent of the time, they can be used for other tasks.
  - **Cloud computing:** A model of computing where firms and individuals obtain computing capacity, data storage, and software applications over the Internet, rather than purchasing their own hardware and software. Data are stored on powerful servers in massive data centers, and can be accessed by anyone with an Internet connection and standard Web browser. Public clouds are maintained by external service providers while private clouds are restrained inside a proprietary network or a data center.

3. Explain how businesses can benefit from autonomic computing, green computing, and multicore processors.

- **Autonomic computing**
  - Benefits of autonomic computing include systems that automatically do the following:
    - Configure themselves
    - Optimize and tune themselves
    - Heal themselves when broken
    - Protect themselves from outside intruders and self-destruction
    - Reduce maintenance costs
    - Reduce downtime from system crashes

- **Green computing**
  - Businesses can minimize their impact on the environment by adopting better practices and technologies for designing, manufacturing, using, and disposing of computers, servers, and other computing devices. Reducing power consumption in data server centers is the leading practice in the green computing movement.

- **Multicore processors**
  - Benefits of multi-core processors:
    - Cost savings by reducing power requirements and hardware sprawl
    - Less costly to maintain as fewer systems need to be monitored.
    - Performance and productivity benefits beyond the capabilities of today’s single-core processors.
    - Run applications more efficiently than single-core processors – giving users the ability to keep working even while running the most processor intensive task in the background.

4. Define and describe Web services and the role played by XML.

- Web services offer a standardized alternative for dealing with integration across various computer platforms. Web services are loosely coupled software components based on XML and open Web standards that are not product specific and can work with any application software and operating system. They can be used as components of Web-based applications linking the systems of two different organizations or to link disparate systems of a single company. Web services are not tied to a particular operating system or programming language. Different applications can use them to communicate with each other in a standard way without time-consuming custom coding.
  - Businesses use Web services to tie their Web sites with external Web sites creating an apparently seamless experience for users. The benefit derives from not having to re-create applications for each business partner or specific functions within a single company.
  - XML provides a standard format for data exchange, enabling Web services to pass data from one process to another. It performs presentation, communication, and storage of data whereas HTML simply describes how data is presented on Web pages. XML allows computers to manipulate and interpret data automatically and perform operations on data without human intervention.