PERVASIVE COMPUTING

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What is Pervasive Computing?

“Pervasive Computing means convenient access, through a new class of applications, to relevant information with the ability to easily take action on it when and where you need to.”
How do I get them to do what I want?!
PC Aim..

“Computing available wherever it is needed”

Making our lives simpler through the use of tools that allows us to manage information easily.
PC Visions

1. Mobile Computing
   - Universal connectivity (Anytime Anywhere)
Accommodate heterogeneity of networks and communicators

Ubiquitous intelligent environment

2. Nomadic Computing (Computing + Communication)
3. Easy user interaction

No need of MANUALS any more
History of Pervasive Computing

Pervasive computing is the third wave of computing technologies to emerge since computers first appeared:

- First Wave - Mainframe computing era
- Second Wave - Personal computing era
- Third Wave – Pervasive (initially called ubiquitous) computing era
Difference between a traditional networking and a pervasive computing?

“Communication over networks such that people do not directly monitor the communication between machines and programs”
The new devices will have the following characteristics:

- Uses small, inexpensive processors with limited memory.
- No intervention of users.
- Connected by wireless networks.
Pervasive Computing application at present

- Wearable Computers
Wearable Computers

- Wearable computers are computers that are worn on the body.
- Useful for applications that require computational support while the user's hands, voice, eyes, arms or attention are actively engaged with the physical environment.
Minority Report 2002
SWAN: System for Wearable Audio Navigation
Example of Wearable Computer

Students at the MIT Media Lab have developed a wearable computing system.
Other are........
Wrist pen drive
Driver mood sensor
Carpet alarm
Pill cam

Inside the PillCam
1. Optical dome
2. Lens holder
3. Lens
4. Illuminating LEDs (light-emitting diodes)
5. CMOS (complementary metal oxide semiconductor) imager
6. Battery
7. ASIC (application-specific integrated circuit) transmitter
8. Antenna

Figure 1. Components of the PillCam system by Given Imaging Ltd. (Yoqneam, Israel).
Advantages of PC

1. Tools to manage information quickly, efficiently, and effortlessly

2. Enable people to accomplish an increasing number of personal and professional transactions using a new class of intelligent and portable appliances or "smart devices" embedded with microprocessors

3. Pervasive computing simplifies life by combining open standards-based applications with everyday activities.
How is this next generation going to look like?

1. Health monitoring.
2. Amplifiers will be implanted and used in the inner ear.
3. New machines that scan, probe, penetrate and enhance our bodies will be used.
4. Smart Refrigerators
5. Cars finding open parking space or the nearest restaurant for their owners.
6. Wrist watches will monitor our sugar.
Conclusion

Pervasive computing provides an attractive vision for the future of computing. It is rapidly finding its way into every aspect of our lives. Whether it’s how we shop, how we get from one place to another or how we communicate, technology is clearly woven into the way we live. Indeed, we are hurtling "towards pervasive computing".
References

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THANK YOU!!!!!