

## Information System Technology

### Group Presentation



**Artificial Intelligent and  
Robotic Functions Technology**



## Artificial Intelligence (AI)

- ⤴ Artificial intelligence (AI) is defined as intelligence exhibited by an artificial entity.
- ⤴ AI relating to intelligent behavior.
- ⤴ Examples of intelligent behavior are controlling, planning and scheduling, the ability to answer diagnostic and consumer questions, handwriting, speech, and facial recognition.
- ⤴ AI engineering focuses on providing solutions to real life problems.
- ⤴ AI systems are now in routine use in economics, medicine, engineering, and the military, as well as home for personal use.



## Artificial Intelligent and Robotic Functions Technology



## Robotic Functions

- ⤴ The term robotics has its origin in a science fiction novel by Isaac Asimov in the 1940s.
- ⤴ Robotics is the science and technology of how robots are made and function via electronic and mechanical processes.
- ⤴ It is also about understanding the software applications that control their movements.
- ⤴ Robots are essentially machines that perform tasks. R2D2 from the Star Wars movies is an example of a robot.
- ⤴ Robots are controlled remotely by human beings while others have what is called artificial intelligence.



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Can be divided into 2 category



Home Robot



Business Robot



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## Current Robotic Functions

1. Cleaning
2. Automated Hauling
3. Security
4. Alarm Clock
5. Home Automation
6. Entertainment
7. Education
8. Hazard Detection

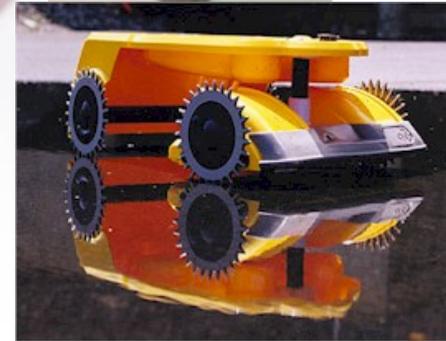


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## Robotic Cleaner : Cy3

1. Can Vacuum the House
2. Entertaining
3. Educational
4. Programmable
5. Expandable



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## Robotic Friend : PeopleBot

1. **PLAY** sound files or synthesized speech
2. **LISTEN** for phrases or sounds it recognizes
3. **RESPOND** to requests or conditions it senses
4. **NAVIGATE** without running over toes or into furniture
5. **FIND & FETCH** objects it recognizes
6. **FOLLOW** colors
7. **TRANSMIT** video images to surveillance monitors
8. **COMMUNICATE** with other robots
9. **CONNECT** to PC's via the Internet or LAN
10. **RUN AUTONOMOUSLY**



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## Robotic Eldercare : CareBot 3.4

1. Can watch over Grandma
2. Automatically follow her around
3. Family servant
4. Home security monitoring
5. Verbally reminds of important events



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## Robotic Pet : Sony Aibo (Dog)

1. Behave similar to a living Dog
2. Interact with people and recognize faces
3. Evolve in six stages from baby to adult
4. Take pictures you can view on your PC
5. Learn 75 words and communicate verbally
6. Be custom-programmed by its owner
7. Accept preprogrammed mini-applications by Memory Stick



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## Future Robotic Functions

1. Fetching
2. Plant Watering
3. Pest Control
4. Advanced Hazard Detection
5. Advanced Home Security and Management
6. Child Care
7. Driving



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## Introduction to Business Robots

1. Computers capable of performing human tasks will be everywhere example Hospital, Business Office and Car Industry.



2. Medical breakthroughs achieved in hospitals include brain pacemaker implants and distance surgery.



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## Knowledge on Brain Pacemaker

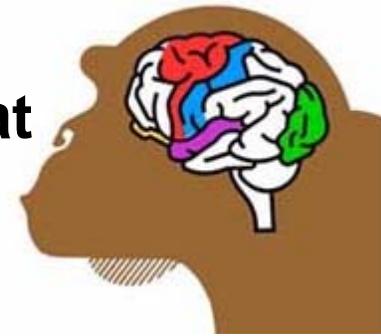
1. Scientists working with monkeys and studying how brain cells interact are perfecting a type of pacemaker to implant in the brain and send brain waves directly to the robot
2. One practical use is for reading the brain waves of people with seizure disorders, anticipating a seizure, and delivering drugs or electrical impulses that can stop or prevent a seizure.

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## Research Example

Research involving monkeys is helping researchers record brain cell activity. When the monkeys perform a learned task, their neurons generate brain waves that are transmitted to computer via wires implanted in the monkeys' brains. The computer decodes and sends the data to the robot that replicates the monkeys movements.



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## Distance Surgery

1. The next generation of health care will promote the use of robots to perform surgeries.
2. The robots' precise skills and small sizes – less than one-fifth the size of instruments – make surgeries less invasive and recovery times less prolonged.
3. Surgeons view three-dimensional images of internal organs on large monitors and can control the robots' actions through voice commands.



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## Distance Surgery (continues...)

1. Robots-aided surgeries help surgeons remove brain tumors.
2. Information regarding the precise location of the tumor is displayed on the monitor and fed into the robot's computer.
3. Robotic surgeries result in minimal damage to the surrounding brain tissue.
4. Operation rooms will undergo another dramatics change when surgeons practice telemedicine.
5. Through the use of videoconferencing and satellites, doctors can perform surgery when they are in locations other than the operating room.

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## Business Monitoring : Spy-Cye

1. We can use remote locations using the Spy-Cye in the office.
2. We can program the robot to dial into the internet at scheduled times, and then log onto the web-bots.com web site at those times to see the Spy-Cye more to specific location.
3. We can see and hear the events in our office environment with the Spy-Cye personal robot.
4. As you move your mouse pointer, the Spy -Cye responds by navigating in the same direction.
5. The robot will operate for two hours before needing recharging.



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## Further Development

1. The Researches are still developing more Robotic functions to Perform Real-world Tasks.
2. Sophisticated robots soon will be commonplace as these products become easier and less expensive to manufacture.
3. Robots developer kits include controls for mobility, speech recognition and synthesis, decision making and vision.

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## The Past is not The Future

In future, the Artificial Intelligent and Robotic Technology will take their strong position in simplifying our lives. On the other hand, the intelligence of these robots might cause the human beings to be dummies if compared to these robots.

The one to be blamed is not the engineers, not the robots, not you and of course its not me. Its just technology. Peoples are competing to develop higher technologies as days goes by.



In general, these artificial intelligent robots will take over human beings and promising to be very useful for all of us.

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## Collected from various source

- ⌘ Aibo Wallpaper (Modified),  
<http://www.jp.aibo.com/clubaibo/wallpaper/index.html>
- ⌘ Artificial intelligence definition,  
[http://en.wikipedia.org/wiki/Artificial\\_intelligence](http://en.wikipedia.org/wiki/Artificial_intelligence)
- ⌘ Robotic definition,  
<http://www.abouthobbies.org/Robotics.php>
- ⌘ Robotic functions,  
<http://www.pioneernet.net/johnc/actuallydo.htm>
- ⌘ Cye Robot details,  
<http://www.pioneernet.net/johnc/cyemain.htm>
- ⌘ Cye photo gallery,  
<http://www.pioneernet.net/johnc/cyegallery.htm>
- ⌘ PeopleBot details and photos,  
<http://www.activrobots.com/ROBOTS/peoplebot.html>
- ⌘ CareBot 3.4 details and photos,  
<http://www.geckosystems.com/products/carebot3.php>
- ⌘ Sony Aibo features,  
[http://www.g4tv.com/techtv/vault/features/44094/Sony\\_Aibo.html](http://www.g4tv.com/techtv/vault/features/44094/Sony_Aibo.html)

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