Who Sets the Ethics for Robots?

Summary of the Issue

The rise of the Internet of Things means that more embedded computers and robotics are being included in devices every year. Personal robots in households are not far off. But who controls the ethical constraints by which robotic machinery operates?

Automobiles now contain sophisticated robotic systems to exercise control over the vehicle and respond faster than humans can. Using radar, accident-avoidance systems can apply the brakes and even change lanes to help drivers avoid accidents. In the coming years, these systems may exercise even more control of your vehicle.

Consider this scenario: You come up over the crest of a hill. A school bus is disabled in your lane and you are traveling too fast to brake in time to avoid hitting it. To the left is a lane of oncoming traffic. To the right is a large grove of trees. A robotic system controlling your car has three options: (1) Apply the brakes to slow the vehicle. You will hit the school bus but at a lower speed. You will survive, but some occupants of the bus may be killed. (2) Swerve to the left into oncoming traffic to avoid hitting the school bus. You may hit another car, but the risk of loss of human life is limited to just the occupants of two vehicles. (3) Swerve to the right into the trees. Only you are at risk of being killed if your car hits a tree. So which scenario does the robotic system controlling your car choose?

At this point, automobile manufacturers program robotic devices when they build the cars. But should owners have a choice of overriding the programming in their vehicles and adjust the ethical parameters of the robotic systems? If an owner was selfless, he or she could program the car to always make decisions that resulted in less harm to others (option 3 above). Alternatively, he or she could program the car to choose option 1, which minimizes his or her chance of injury.

And what would you as a manufacturer do until laws are passed regarding robotic ethics? If you program the car to protect the driver's life at all costs and the accident described above results in children on the bus dying, you could be sued by the families of the bus occupants. On the other hand, if you programmed the car to minimize harm to others, you could be sued by the driver's family when the car swerves into the woods and crashes into a tree killing the driver.

What is best for society as a whole? The answer is not very clear cut but is one we will need to wrestle with in the coming years.

Questions to Think About and Research

1. Who should be responsible for controlling the ethics of robotic systems? Why?
2. If a collision avoidance system in an automobile takes control of the vehicle to avoid an accident and a death results, who is responsible—human or machine?
3. When do the benefits of robotic controls outweigh the risks of the technology taking ethical decisions out of the hands of human beings?
4. Does relying on robots to make ethical decisions make us less human?