The Case of the Killer Robot

Author(s): Richard G. Epstein

The Case of the Killer Robot consists of newspaper articles, a journal article, and a magazine interview. This scenario is intended to raise issues of computer ethics and software engineering.

The people and institutions involved in this scenario are entirely fictitious (except for references to Carnegie Mellon and Purdue universities and to the venerable computer scientists Ben Shneiderman and Jim Foley). Silicon Valley was chosen as the location for the accident because it is an icon of high technology. All of the persons and institutions named in Silicon Valley are purely fictitious.

Richard G. Epstein

Author(s): Richard G. Epstein

Permission is granted to copy this material for use in classroom instruction at a college or university. This material may not be copied for any other purpose without express written permission of the author.

The following article provides the rationale behind the design of computer ethics scenarios such as this one and suggests how they can be used in other courses:

Epstein, Richard G. "The Use of Computer Ethics Scenarios in Software Engineering Education: The Case of the Killer Robot." Software Engineering Education: Proceedings of the 7th SEI CSEE Conference, San Antonio. Ed. Jorge L. Diaz-Herrera. Lecture Notes in Computer Science 750. Springer-Verlag, 1994.

An expanded version of the Case of The Killer Robot can be found in Richard G. Epstein's book of the same name, published by John Wiley and Sons in 1996.

Citation: Richard G. Epstein "Silicon Valley Programmer Indicted For Manslaughter: Program Error Caused Death by Robot" Online Ethics Center for Engineering 2/16/2006 8:43:21 AM National Academy of Engineering Accessed: Tuesday, September 04, 2007 www.onlineethics.dnsalias.com/CMS/computers/compcases/killerrobot/article-1.aspx

The Cast of Characters

Alex Allendale

Attorney, hired to defend Randy Samuels.

Jan Anderson

Former programmer and analyst at Silicon Techtronics. She opposed the use of the waterfall model on the robot project and was fired for her honesty.

Turina Babbage

President of the Association for Computing Machinery (ACM). She announces an investigation by the ACM into violations of the ACM Code of Ethics by employees at Silicon Techtronics.

Robert Franklin

Reporter for the Silicon Valley Sentinel-Observer. He interviewed Professor Harry Yoder in order to see how an ethicist would view the developments in the killer robot case. The interview was published in the Sentinel-Observer's Sunday magazine.

Horace Gritty

Professor of computer science and related concerns at Silicon Valley University. He sees poor interface design as a primary cause of the killer robot tragedy.

Sandra Henderson

Graduate student at Silicon Valley University. She assisted in an investigation into quality assurance procedures at Silicon Techtronics.

Ray Johnson

Robotics division chief at Silicon Techtronics. He was driven by the division's need for a successful robot.

Martha

Anonymous newspaper source. She is the insider at Silicon Techtronics who gave the Silicon Valley Sentinel-Observer information about the group dynamics on the Robbie CX30 robot project.

Bart Matthews

Robot operator. A faulty computer program caused a Robbie CX30 robot to strike him dead.

Roberta Matthews

Widow of Bart Matthews.

Jane McMurdock

Prosecuting attorney for the city of Silicon Valley. She brought the manslaughter charges against Randy Samuels.

Mabel Muckraker

Reporter for the Silicon Valley Sentinel-Observer. She was put on the killer robot story because of her reputation as an effective investigative reporter.

Bill Park

Professor of physics at Silicon Valley University. He confirmed that Randy Samuels misinterpreted the robot dynamics equations.

Randy Samuels

Programmer. He wrote the program code that caused the Robbie CX30 robot to oscillate wildly, killing the robot operator, Bart Matthews.

Sam Reynolds

CX30 Project Manager. Although background was in data processing, he was put in charge of the Robbie CX30 project, much to Ray Johnson's chagrin. He was committed to the waterfall model of software development.

Robbie CX30

The robot. Robbie never had an unkind thought about anyone, yet he turned into a savage killer.

Wesley Silbe

Professor of software engineering at Silicon Valley University. He conducted a review of software quality assurance procedures at Silicon Techtronics.

Sharon Skinner

Professor of software psychology at Silicon Valley University. She saw Randy Samuels as a task-oriented person who was overly sensitive to criticism.

Valerie Thomas

Attorney, hired by Sam Reynolds

Michael Waterson

President and CEO of Silicon Techtronics. He placed Sam Reynolds in charge of the Robbie CX30 project as a cost-saving measure. He contributed generously to Jane McMurdock's re-election campaign, and hired Dr. Wesley Silber to conduct an investigation into software quality assurance at Silicon Techtronics.

Max Worthington

Chief security officer for Silicon Techtronics. He monitored electronic mail communications among the employees and thus exposed Cindy Yardley.

Ruth Witherspoon

Programmer analyst and spokesperson for the Justice for Randy Samuels committee. She defends Randy Samuels on the grounds that Silicon Techtronics was legally obligated to deliver a safe robot.

Cindy Yardley

Silicon Techtronics employee and software tester. She admitted to faking software tests in order to save the jobs of her coworkers.

Harry Yoder

Samuel Southerland Professor of Computer Technology and Ethics at Silicon Valley University. He examines the tension between individual and corporate responsibilities in an interview published by the Sentinel-Observer's Sunday magazine.