

CS 152: Programming Languages

DGG note: what follows are sections to be added to the existing entry for CS 152

Assigned Readings:

- Chloe Rose Stuart-Ulin (2018), "[Microsoft's politically correct chatbot is even worse than its racist one](#)"

Marginal comment for this reading: This reading is intended to be paired with the alternative class activity described below.

Alternative Class Activity:

This activity focuses on a case study in which an AI-based software system behaved in unexpected and ethically problematic ways following launch: Microsoft's Tay Twitterbot (which was manipulated by Twitter users into posting discriminatory messages).

After briefly discussing the case study, students are asked to break up in small groups and discuss (1) what features of Tay's behavior are morally significant and (2) what programmers could have done to prevent this behavior by the system. Afterwards, we introduce a simple framework for anticipating potential ethical issues with a software system: first, identify as many groups of stakeholders that might be affected as possible; second, consider how the behavior of the system might affect the rights and interests of the individuals in those stakeholder groups. This framework is used to debrief the small group discussion of question (1), followed by a discussion of how the ethical issues the students identify could have been addressed during the software development process.

Later in the class, we repeat the activity just described with a follow-up case study: Microsoft's Zo Chatbot, which was launched after Tay's failure and designed to avoid controversial or potentially offensive topics of conversation.

Alternative Assignment:

In this follow-up assignment, students collaboratively analyze a more detailed case study concerning the design of semi-automated weapon systems. Students are presented with a fictional scenario in which their employer gives them the task of coding a function for semi-automated weapons. The task is framed by a series of legal, technical and ethical requirements that the system's behavior ought to respect.

In a follow-up in-class discussion, the Embedded EthiCS fellow and the course instructor guide students through a discussion of the case study. Students are prompted to discuss their answers to the assignment and consider how they weighed ethical requirements against technical and legal ones. Lastly, they are prompted to consider how ethical requirements may be addressed by incorporating technical specifications into the function.