

Ethics in Software Development

CS-370: Software Design and Development

Robert Bruce

Why ethical guidelines in software development?

- Software is ubiquitous.
- One must consider the impact of software on our day-to-day lives.
 - Has software ever been developed for nefarious reasons?
 - Has software ever been developed without sufficient testing?
 - Has software ever been exploited resulting in data breaches of personal information?

Software causing harm to society

- Fraudulent diesel-powered engine emissions: the Volkswagen emissions scandal.
<https://www.epa.gov/vw/learn-about-volkswagen-violations>
- The Boeing 737 Max had software defects resulting in multiple plane crashes and passenger deaths:
<https://pmc.ncbi.nlm.nih.gov/articles/PMC7351545/>
<https://spectrum.ieee.org/how-the-boeing-737-max-disaster-looks-to-a-software-developer>
- John Deere's Right-to-Repair restrictions on their tractors:
<https://www.ftc.gov/news-events/news/press-releases/2025/01/ftc-states-sue-deere-company-protect-farmers-unfair-corporate-tactics-high-repair-costs>
- Facebook (now Meta) misusing user data.
<https://www.sec.gov/newsroom/press-releases/2019-140>
<https://www.ftc.gov/news-events/news/press-releases/2019/07/ftc-imposes-5-billion-penalty-sweeping-new-privacy-restrictions-facebook>

ACM Code of Ethics and Professional Conduct

- The Association for Computing Machinery published ethical guidelines for software developers at <https://www.acm.org/code-of-ethics>