COLLABORATION, COLLUSION AND PLAGIARISM IN COMPUTER SCIENCE

Bob Fraser
Why Computer Science?

- “The computer is a relentlessly unforgiving arbiter of correctness” (Roberts, 2002)
- Computer science asks students to find the correct solution or method
- Stanford study: 37% of cheating cases are CS, 7% of students are CS (Roberts, 2002)
Outline

- Collaboration
- Collusion
- Plagiarism
- Mitigating dishonesty
Collaboration

- Generally to be encouraged
- Discussing course material with peers is a primary aspect of active learning
- Line must be drawn so that collaboration doesn’t become excessive and negatively affect learning
Collusion

- Excessive collaboration
- Definition is set by the course instructor

- From Waterloo’s OAI:
  - “Clearly indicate if group collaboration is acceptable (and the level of collaboration permitted) or if students must do all work independently.”
Plagiarism

- Literary theft
- Encompasses copying whether the original author is aware of it or not
- In computer science, the best solution is often unique, exacerbating the problem
- Many honest students err to heavily on the side of caution to avoid plagiarism
Student A doesn't know how to start the assignment and so he asks student B who helps him by showing him his own work. Student A writes up the assignment in his own words but there are some similarities with student B's work. (Barrett & Cox, 2005)
Mitigating

- Make the rules clear – the onus is on you

Methods:
- Appeal to their maturity
- Detect & punish cheaters
- Emphasize ILOs
- Improve tutorials
- Regular quizzes
Appealing to Maturity

“cheating isn't bad because it only hurts you at test time”

Palazzo et al. (2010)
Students are less likely to cheat if they believe that they may be caught and punished (although zero tolerance is too far).

Many professors have looked the other way for various reasons.

Waterloo encourages the use of Turnitin.
Intended Learning Outcomes

- Emphasize the value of the assignment and how it fits in the course
- Students who see the purpose and value of their work are less likely to cheat
- It may be worthwhile to explicitly state the ILOs on the assignment
Conclusions

- Students should be encouraged to collaborate
- Students should be given a precise definition of what is acceptable behaviour
- Courses can be improved to reduce cheating and improve learning
Points

Bob Fraser -> publications


Key References


- University of Waterloo Office of Academic Integrity
  - http://uwaterloo.ca/academicintegrity/index.html