Academic Dishonesty in a High-Tech Environment

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Abstract

Advances in computing and telecommunication technology provide abundant new opportunities for academic dishonesty. Anecdotal evidence suggests that students are far more aware than faculty of various mechanisms for cheating on exams, plagiarizing assignments, and soliciting work for pay. Fortunately, technological advances also provide the alert instructor with some tools for combating such academic dishonesty.

In this session, we will present information on how calculators, cell phones, beepers, and other handheld technology may be used to cheat on exams; how the Internet is used to match students with sources for solutions to their assignments; and existing tools and services for the faculty member.

The intention of this session is to inform faculty about various ways that students may commit academic fraud; and tools and approaches that are available to reduce their effectiveness. We also hope to gain further information from other faculty and/or students in attendance. We do not intend to debate whether these activities should be allowed due to the ease with which they are committed, as is often discussed.

We will provide a bibliography of articles about high-tech academic dishonesty, software tools and services for detecting plagiarism (including shared code in programming assignments), and Internet resources.

Categories & Subject Descriptors

Classroom Management, Courseware, Ethics, Information Technology

General Terms

Management, Security, Legal Aspects

Keywords

Academic Dishonesty, Cheating, Plagiarism, Detection, Tools

Special Session Description:

1   Overall objective of the session

The intention of this session is to inform faculty about various ways that students may commit academic fraud; and tools and approaches that are available to reduce their effectiveness. We also hope to accumulate examples and responses to academic dishonesty at other institutions from other faculty and/or students in attendance.

Few things are more important to educators than the integrity of their courses. Academic dishonesty undermines course integrity by making grades and other assessments of learning unreliable. Perceptions of widespread academic dishonesty can affect students' attitudes about courses. Many faculty are unaware of the both the extents to which students will go to use other people's work and the wealth of resources available online for students intending to cheat.   Extensive plagiarism has a demoralizing effect on a class: students who do not cheat are often aware that some of their colleagues are "getting ahead" by cheating. They expect their instructor to take steps to combat such cheating, but this can only occur if instructors are aware of how their students may cheat and what resources are available to them to detect such cheating. It is to the instructor's advantage to be well-informed.

This special session offers the appropriate mechanism for both presenting the results of our experiences with plagiarism detection and prevention and for eliciting the experiences of our colleagues in this area.

2   Outline of the session

I. Overview of the problem
   A. High-tech devices in the classroom:
      calculators
      cell phones
      beepers
      pagers
      handheld devices
      wireless connections
   B. File theft
      intercepted email, passwords, or other electronic
        transmissions
   C. Plagiarism
      i. from other students taking the same class

copying a written assignment
copying a computer program
    complete copy
    copying a portion of code
    modifying a complete or partial copy:
    renamed identifiers
    modified comments
    reordered subprograms

    ii. from other sources
        copying a written assignment
  D. Subcontracting an assignment
    third party provides solution for multiple students
    soliciting code on newsgroups
    soliciting code on commercial websites

II. Fighting back
  A. Plagiarism detection tools
    Copyfind, WCopyfind
    Eve
    WordCheck
  B. Plagiarism detection services
    Moss
    JPlag
    TurnItIn.com/Plagiarism.org

III. False positives

IV. Results of our own usage of plagiarism detection

V. Audience discussion

3   Expectations

This session is of potential interest to anybody who teaches a class.

We expect to inform the body of educators about the current state of the art of academic dishonesty in the advancing technological world in which they are now teaching. We expect that most attendees – including ourselves – will learn something from hearing the experiences of others. Cheating undermines the educational process in numerous ways: it affects the performance of the cheating student and of that student's colleagues. Honest students feel discouraged when they feel their colleagues are "besting" the system by plagiarizing; they may feel pressure to cheat also to compete; the class as a whole may lose its faith in the instructor's capabilities if they feel cheating is rampant and the instructor is unaware of it and/or unable to control it. Learning how students may try to cheat and effective ways of stopping these behaviors is crucial to improving the learning process for all students.

Our experiences with freshman programming courses suggest that if students know that plagiarism detection is in use, and learn how good the detection systems are, they will avoid future instances of code duplication. Thus, usage of plagiarism detection can be beneficial to students' learning.

We will provide a detailed bibliography of articles, services, and web sites for those attending.

We will also present summary information solicited from the SIGCSE mailing list for faculty's own experiences

- ways in which they have heard of students committing academic dishonesty

- actual instances in their own classes (how the cheating was done, how they detected it, how they responded to it)

We will provide discussion time for attendees to inform us of their experiences with academic dishonesty.