Best practices for reducing academic dishonesty using gesture biometrics and a modified code of conduct.

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The Influence of the Student Code of Conduct On Academic Integrity

"If it is so easy it can't be wrong"

Background

This quote may very well sum up how students feel about cheating in online courses and maybe their thoughts for all courses. Typically there are few if any deterrents to prevent students from engaging in academic dishonesty. Beyond using a pin or password which is easily circumvented, schools generally do not announce their policies, highlight the penalties for academic dishonesty, even define what academic dishonesty means.

Many students are exposed to other students who speak about using essay mills, or other methods of cheating. A recent article appearing in the November 12, 2010 issue of the Chronicle titled the "The Shadow Scholar" suggests that the business for academic dishonesty is booming. It is just not essays that are paid for. Students now provide these companies with their passwords and user names to access key documents and online exams. The authors also stated they are also increasingly asked to contribute weekly to online discussions with other students as these contribute to final grades. So the moral majority of our students see these other students getting better marks, spending less time studying and not getting caught. In some ways it may be perceived that the schools are allowing this to happen, so maybe I should do this also? They certainly don't want to be left behind. Over time without strong deterrents and constant exposure to cheating friends even this moral majority will be tempted to cheat.

Academic integrity concerns are real amongst administration and faculty. Several recent studies described by McNabb and Olmstead within the University of Texas campuses found that:

- 76 faculty members with experience teaching both on-campus and online were surveyed. Forty-three percent indicated a belief that undergraduates cheated often or very often, and another 43% thought they cheated occasionally. Additionally, 68% believed graduate students cheated at least occasionally.
- About one-half of faculty members said they believed that the likelihood of a cheating in an online course was the same as in an on campus course. Nevertheless, 26% of faculty members thought that undergraduate students were more likely to cheat in an online course, and 13% believed the same about graduate students.

Looking at online courses versus campus courses, Olson and Hale surveyed 51 administrators at five campuses within the UT System in 2000, and 26 at the same campuses in 2006. Their survey explored attitudes toward online learning, including academic integrity. In both studies, more than 60% of administrators indicated they were more concerned about controlling cheating in online courses than they were for on campus courses.

An example of the level of serious cheating found by self report from the McCabe and Trevino (1993) research and in their 1997 update is found in Table 1:

TABLE 1
Self-Admitted Cheating—Summary Statistics

			1990–1991 (%)		1995–1996 (%)	
Variable	*1963[a] (%)*	*1993[b] (%)*	*No Code[c]*	*Code[d]*	*No Code[e]*	*Code[f]*
Serious test cheating[g]	39	64	47	24	45	30
Serious cheating on written work[h]	65	66	56	32	58	42
All serious cheating	75	82	71	44	71	54

[a]n = 452. [b]n = 1,793. [c]n = 3,083. [d]n = 3,013. [e]n = 1,970. [f]n = 2,303. [g]Serious test cheating includes students who have engaged in copying on an exam—with or without another student's knowledge—using crib notes on an exam, or helping someone else to cheat on a test or exam. [h]Serious cheating on written work includes students who have engaged in plagiarism, fabricated or falsified a bibliography, turned in work done by someone else, or copied a few sentences of material without footnoting them in a paper.

It is interesting to note the influence of a student code of conduct on cheating, showing it reduces serious cheating from 71% to 54% in the latest reported analysis. This difference of nearly 30% and 17% over two time periods show that schools with a code of conduct have less academic dishonesty. These schools usually publish their student code of conduct in student handbooks and make it available in their web sites. In these schools, because most students will not read the code of conduct, the impact of reducing dishonesty by creating this moral obligation is non-existent. A significant impact can be realized only if the school has their students read and then sign a contract agreeing to abide by the code of conduct. There has to be an affinity, an association between the student and the school's code of conduct. The following research confirms why all schools should be using a process where students must read and then sign a code of conduct.

Current environment

In concepts advanced by Dr Dan Ariely the (James B Duke Professor of Psychology and Behavioral Economics Duke University, best selling author and researcher in the field of dishonesty) the reasons why dishonesty occurs is multi variant. The mere fact of presenting a student code of conduct was enough to remind students at the right time of their moral obligation. Dr Ariely suggests the following:

Assumption 1: Almost everyone cheats a little - Enron, Worldcom, Madoff, cheating on taxes, employee theft, academic dishonesty and financial aid dishonesty, insurance fraud, illegal downloading of music and software and more…

Assumption 2: If we understand the motive, we can develop strategies to reduce/eliminate dishonesty in distance education/online courses.

His work suggests that ***at least two reasons*** exist why people cheat. These include:

1. **External rewards/rational model**

    - Exist when there's greater rewards, (more money, more self enhancement) than risks

The solution to reduce cheating for these students includes:

- Raising the risk of getting caught by increasing the probability of getting caught or increase the severity of getting caught:
    - In DE, we must create the highest possible deterrent and announce this so students know there's a system in place. For example the use of gesture biometrics using the BioSig-ID software system has proven to be effective at authenticating student ID and preventing un-authorized access in numerous studies.
    - Schools have to increase the knowledge that enforcement of academic cheating and financial fraud exists

2. Psychological/internal social norms model

- Cultural/socialization and lack of self awareness. Everyone seems to do it why not me? It is acceptable, I don't know any better, and I know people who have cheated so it's OK…
- Degree of Proximity – the degree to which they identify with "those others" (Wenzel et al 2004) - as the information becomes more ambiguous and proximity gets further away dishonesty increases.

The solutions to reduce cheating for these students include:

- Reach out to get closer with students, deliver more touches and interventions (e-mails, live chats, surveys, feedback, post your picture, texting…) (also a recipe for retention)
- Draw attention to moral standards/enhance the social norm - have them sign the student code of conduct

Dr Ariely developed several experiments that offer practical methods to reduce academic cheating:

#1 Method n=229 students involving 2 tasks in a booklet

- In the first task, respondents wrote down either the names of ten books they had read in over the summer (no moral reminder) or the Ten Commandments (moral reminder).
- The second separate task consisted of two sheets of paper: a test sheet and an answer sheet.
- At the end of the math test, the experimenter verified their answers on the matrix task and wrote down the number of correctly solved questions on the answer sheet in the booklet.
- Participants indicated the total number of correctly solved answers on the answer sheet and then tore out the original test sheet from the booklet and placed it in their belongings (to recycle later), thus providing them with an opportunity to cheat. They were paid on the number of correct answers by self report.

- Results = No cheating versus cheating = significant difference p < .023

2 Method n=207 students 2 tasks, repeat of the conditions used in Method # 1

Except: instead of the students writing down the 10 Commandments they were asked to sign a statement in which they declared their commitment to honesty by reading and then signing a student code of conduct.

- Participants printed and signed their names below the statement

- Results = a higher statistical significant difference $p < .001$ between cheating versus no cheating in the groups that signed honor code

Best practices using gesture biometrics and uSignOnline:

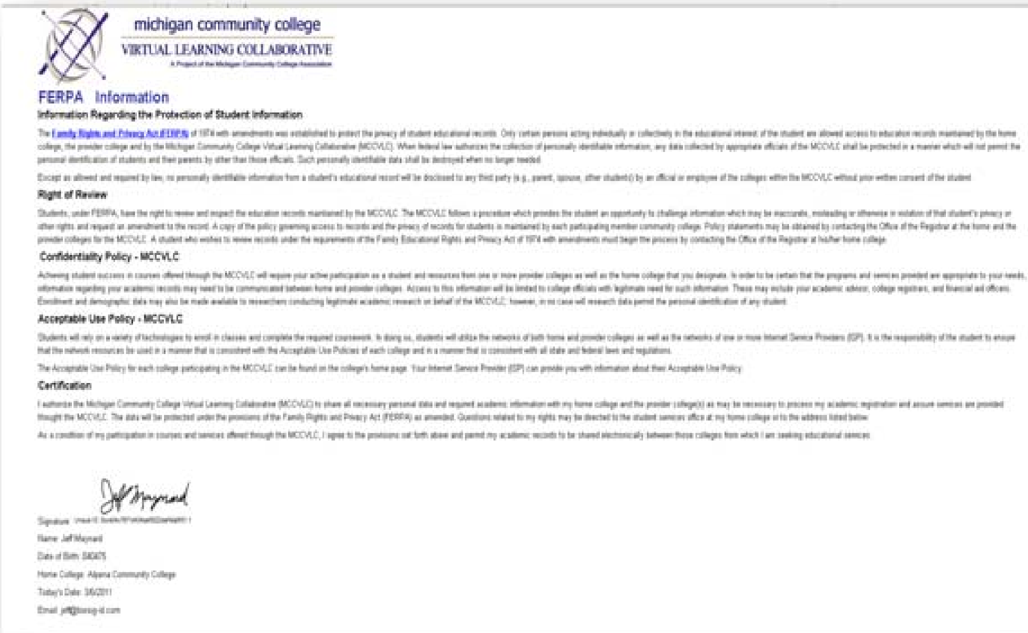
Best practices really involve a combination of two technology solutions.

1. Producing the highest possible deterrent to reduce academic dishonesty by ensuring only the right student gains access to the materials, discussion rooms or exams. This is accomplished by the use of an authentication solution such as gesture biometrics. Biometric Signature ID has proven their BioSig-ID™ solution works to authenticate students from remote locations from prestigious schools like University of Maryland University College, 9 campuses within the University of Texas systems, all colleges within the Houston Community College District and 6 colleges within the EduKan consortia. Students, who completed user surveys indicated they had a 98% positive experience, enjoyed using the product with 45% even finding it entertaining to use. Independent lab tests of the BioSig-ID confirm that the accuracy of BioSig-ID is 99.97% and exceeds the national NIST standard by a 3 fold factor.

2. Have all the students sign their commitment to student honesty by signing a student code of conduct. Statistically significant reductions in student dishonesty will be the result. The school will now have a legally binding contract for future follow up if necessary. Biometric Signature ID has developed a customized solution called **uSignOnline™** that allows all students to sign a code of conduct online from the schools web site in seconds.

   This unique solution permits the school to place their student code of conduct on their web site and have their students sign a web form using their regular mouse or touchpad. This simple process takes on average 2-3 minutes (reading and signing) and creates a PDF contract that is as legal as using pen and paper signatures. A copy of the signed form is auto e-mailed to the student and to the school or instructor with the time and date stamp, IP address, unique user ID and web session ID as proof of acceptance of the terms of the contract.

   USignOnline can also be used to authorize acceptance of next actions or contract terms for many other documents. For example, getting students to commit to signing up for online courses, signing FERPA forms etc... UsignOnline saves up to 80% of the time and resources that is required compared to more traditional methods of scanning faxing or mailing signed documents.



michigan community college
VIRTUAL LEARNING COLLABORATIVE

FERPA Information

Information Regarding the Protection of Student Information

The Family Rights and Privacy Act (FERPA) of 1974 with amendments was established to protect the privacy of student educational records. Only certain persons acting individually or collectively in the educational interest of the student are allowed access to education records maintained by the home college, the provider college and by the Michigan Community College Virtual Learning Collaborative (MCCVLC). When federal law authorizes the collection of personally identifiable information, any data collected by appropriate officials of the MCCVLC shall be protected in a manner which will not permit the personal identification of students and their parents by other than those officials. Such personally identifiable data shall be destroyed when no longer needed.

Except as allowed and required by law, no personally identifiable information from a student's educational record will be disclosed to any third party (e.g., parent, spouse, other student(s)) by an official or employee of the colleges within the MCCVLC without prior written consent of the student.

Right of Review

Students, under FERPA, have the right to review and inspect the education records maintained by the MCCVLC. The MCCVLC follows a procedure which provides the student an opportunity to challenge information which may be inaccurate, misleading or otherwise in violation of that student's privacy or other rights and request an amendment to the record. A copy of the policy governing access to records and the privacy of records for students is maintained by each participating member community college. Policy statements may be obtained by contacting the Office of the Registrar at the home and the provider colleges for the MCCVLC. A student who wishes to review records under the requirements of the Family Educational Rights and Privacy Act of 1974 with amendments must begin the process by contacting the Office of the Registrar at his/her home college.

Confidentiality Policy - MCCVLC

Achieving student success in courses offered through the MCCVLC will require your active participation as a student and resources from one or more provider colleges as well as the home college that you designate. In order to be certain that the programs and services provided are appropriate to your needs, information regarding your academic records may need to be communicated between home and provider colleges. Access to this information will be limited to college officials with legitimate need for such information. These may include your academic advisor, college registrars, and financial aid officers. Enrollment and demographic data may also be made available to researchers conducting legitimate academic research on behalf of the MCCVLC; however, in no case will research data permit the personal identification of any student.

Acceptable Use Policy - MCCVLC

Students will rely on a variety of technologies to enroll in classes and complete the required coursework. In doing so, students will utilize the networks of both home and provider colleges as well as the networks of one or more Internet Service Providers (ISP). It is the responsibility of the student to ensure that the network resources be used in a manner that is consistent with the Acceptable Use Policies of each college and in a manner that is consistent with all state and federal laws and regulations.

The Acceptable Use Policy for each college participating in the MCCVLC can be found on the college's home page. Your Internet Service Provider (ISP) can provide you with information about their Acceptable Use Policy.

Certification

I authorize the Michigan Community College Virtual Learning Collaborative (MCCVLC) to share all necessary personal data and required academic information with my home college and the provider college(s) as may be necessary to process my academic registration and assure services are provided through the MCCVLC. The data will be protected under the provisions of the Family Rights and Privacy Act (FERPA) as amended. Questions related to my rights may be directed to the student services office at my home college or to the address listed below.

As a condition of my participation in courses and services offered through the MCCVLC, I agree to the provisions set forth above and permit my academic records to be shared electronically between those colleges from which I am seeking educational services.

Signature

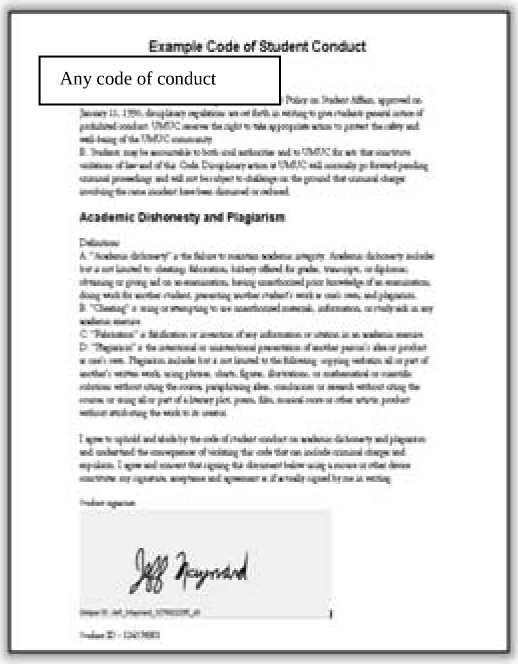
Name: Jeff Maynard

Date of Birth: 5/6/75

Home College: Alpena Community College

Today's Date: 3/6/2011

Email: jeff@bsisig-id.com



Example Code of Student Conduct

Any code of conduct

Academic Dishonesty and Plagiarism

Definitions

I agree to uphold and abide by the code of student conduct on academic dishonesty and plagiarism and understand the consequences of violating this code that can include criminal charges and expulsion. I agree and consent that signing this document below using a mouse or other device constitutes my signature, acceptance and agreement as if actually signed by me in writing.

Student signature

Baltimore City Community College

ACADEMIC HONESTY PLEDGE

On my honor, I, Jeff Maynard, will be academically honest in all my course work and will not tolerate the academic dishonesty of others.

Signature

Date 9/8/2010

NOTE:

The BCCC's Student Code of Conduct defines academic dishonesty and misconduct as the following:

a) Cheating on an examination.
b) Plagiarism-presenting the works or ideas of others without giving credit (proper citation).
c) Collaborating with others in work to be presented, contrary to the rules of the course.
d) Submitting a paper or assignment as one's own work when part or all of the paper or assignment contains ideas or research of others without appropriately identifying the source of those ideas.
e) Stealing examinations or course materials.
f) Submitting work previously presented in another course, if contrary to the rules of a course.
g) Tampering with laboratory experiments or computer programs of another student.
h) Knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.
i) Removing materials from the library without proper authority.
j) Infringing on the rights of other students to fair and equal access to academic resources.
k) Duplicating course materials expressly forbidden by the instructor.
l) Using tape recorders or other recording devices in a classroom when not specifically authorized to do so by the faculty member.
m) Ignoring or willfully violating class or laboratory instructions or policies.
n) Academic misconduct is not limited to course work.

By signing this document with my mouse or other device I agree it constitutes acceptance and agreement as if signed by me in writing using pen and paper.

UsignOnline Reports

uSignOnline™ Audit Trail Log

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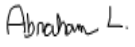
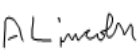
Following is the record of when an individual user(s) completed a document or agreement using signatures created with uSignOnline™. These records form an electronic signature and record compliant to the Electronic Signatures in the Global and National Commerce Act, Section 101, indicating the users acceptance of the terms and conditions.

On 3/3/2011, the BSR Server stored the signatures for the user with User Name: Jim Helans, Unique ID: 7fc6eafae6de452eb124ace1e0a83ee1 at IP Address: 71.123.195.70 from the webserver: fe80::c18e:f72f:5d4e:ec56%12 with SessionID: 5h3tks450lv043j5asxplszz.

Individual Signature Report

From: 3/1/2011 **To:** 4/26/2011

User Name: Abraham Lincoln (carol.eaton@biosig-id.com)

ser Name	Signature Date	Document Name	Signature Data	Filter
braham Lincoln arol.eaton@biosig- .com)	4/18/2011 7:47:59 PM	Student Ferpa Form		Alpena Community College
braham Lincoln arol.eaton@biosig- .com)	4/19/2011 9:26:10 PM	Student Ferpa Form		Alpena Community College
braham lincoln arol.eaton@biosig- .com)	4/20/2011 6:50:51 PM	Student Ferpa Form		Alpena Community College

BioSig-ID Reports

User Name	Time Stamp	Signature Data	Server IP	Client IP	IPTrace Route	Context	Action	Success	Accuracy
jeff1024@biosig-id.com	3/1/2011 4:25:05 AM		fe80::c18e:f72f:5d4e:ec56%12	71.123.195.70	71.123.195.70: [...	Enroll	CreateUser	True	0
jeff1024@biosig-id.com	3/1/2011 4:25:19 AM		fe80::c18e:f72f:5d4e:ec56%12	71.123.195.70	71.123.195.70: [...	Enroll	CreateProfile	True	100
jeff1024@biosig-id.com	3/1/2011 4:25:29 AM		fe80::c18e:f72f:5d4e:ec56%12	71.123.195.70	71.123.195.70: [...	Enroll	CreateProfile	True	71
jeff1024@biosig-id.com	3/1/2011 4:25:40 AM		fe80::c18e:f72f:5d4e:ec56%12	71.123.195.70	71.123.195.70: [...	Enroll	CreateProfile	True	68
jeff1024@biosig-id.com	3/1/2011 4:26:21 AM		fe80::c18e:f72f:5d4e:ec56%12	71.123.195.70	71.123.195.70: [...	Validate	ValidateProfile	True	74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The author, Mr. Jeff Maynard is the CEO and founder of Biometric Signature ID (www.biosig-id.com). He is the creator of several patented inventions using handwriting biometrics and image pattern technologies to verify identity. He is a former CEO running 2 divisions using biometrics in healthcare for a publicly traded company. He was a partner in a software firm that created predictive modeling software for large healthcare clients. Mr. Maynard received his undergraduate degree from York University, Toronto and completed executive training at Harvard/MIT, and the Kellogg School of Business. He is a committee member for the INCITS/NIST "Study Report on Biometrics in e-authentication 2007, member of the Center for Ethical Identity Assurance (www.ceiaglobal.org). Mr. Maynard has been a guest lecturer at University of Texas-Dallas Business School, a judge for the UTD Business School-Idea Competition, a keynote speaker at 5 conferences, a speaker at the Texas Technology Executives Network, the Technology Executive Network Group, CEO Net Weavers Group of Dallas, COIT Association for the Oklahoma Universities and Colleges and is a co-star presenter at UNT division of MIS graduate studies. He is a contributing writer for Blogger News.com, has published works on biometrics, in the trade journal-Smart Card and Identity News entitled "Click Click Who's There?", in Biometrics Technology Today and white papers "Student Identity Proofing Solutions" "Internet Based Identity Proofing"", "Online signing technology using uSignOnline™" "The Influence of the Code of Conduct to reduce academic dishonesty" and a speaker on the application of dynamic biometrics. He has created value for his present company by having Biometric Signature ID being awarded the "New product innovation of the year in North America for biometrics" and having the company awarded as a breakthrough technology company with the State of Texas Emerging Technology Fund.