The Goldilocks Test

FINDING THE “JUST RIGHT” STUDENT AUTHENTICATION SYSTEM

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WCET CONFERENCE, OCTOBER 12, 2016
Presentation Roadmap

Updated requirements for verification of online student identity

UMKC authentication pilot design, criteria, and tools

Pilot testing, data, and outcomes

Conclusions and looking ahead
The Big Picture
The New Cheating Economy

By Brad Wolverton | August 28, 2016  PREMIUM

fifteen credits were all he needed. That’s what the school district in California where Adam Sambrano works as a career-guidance specialist required for a bump in pay. But when he saw the syllabus for a graduate course he’d enrolled in last year at Arizona State University, he knew he was in trouble.

Among the assignments was a 19-page paper, longer than anything he’d ever written. The idea of that much research worried Mr. Sambrano, who also spends time as a Guard.

Before the class started, he enlisted the service of a Ghostwriter for $1,000 — less than half of the $2,200 he was receiving that year. Sambrano hired a friend, who had several years of experience in academic writing. He transferred $500 upfront, “From Adam for ASU,” according to a receipt obtained by The Chronicle.
“Culture of Cheating”

Study 1
73.6% of students surveyed felt that it was easier to cheat in an online class.

Study 2
21% students report engaging in one or more serious forms of test or exam cheating.

Study 3
In a study of 635 undergraduates and graduates, 32.7% admitted to cheating in an online class at some point while in college.
Student Aid Fraud Is Driving Identity Authentication

From 2009 to 2012, taxpayers lost $187 million to online identity fraud.
Academic Cheating Defined

- Purchasing a paper, assessment, or other assignment
- Paying for someone to take a course or test for you
- Using notes or other resources when not instructed to
- Using someone else’s work without attribution
- Falsifying data
- Copying someone else’s answers
- Using a false excuse to get a time extension
Legislative Requirement to Authenticate Online Learners

2008 HEOA Reauthorization

U.S. Department of Education

Regional Accrediting Bodies

Postsecondary Education Institutions

"the institution establishes that the student who registers in a distance education or correspondence education course or program is the same student who participates in and completes the program and receives the academic credit."
Other Federal and C-RAC Requirements

Institutions must also:

• Establish in writing that methods protect student privacy.
• Notify students at enrollment or registration of any additional costs.
Accepted Verification Methods

Secure logins and passwords

Proctored tests

Effective ID technologies and practices
  • Knowledge-based authentication (KBA)
  • Biometrics
  • Web video recording
Pilot Setup
UMKC Quick Facts

Public urban research university
Main and Health Sciences campuses
Enrollment: 14,820
Entirely online students: 1,136
Students taking at least one online course: 3,327
Online programs: 11
Next HLC accreditation site visit: 2019
# UMKC’s Online Authentication Solution

## Overall Considerations
- Central university implementation
- Authentication separate from assessments
- Integration with Blackboard, Shibboleth, PeopleSoft

## Specific Criteria
- Accuracy and security
- Integration, management, and scalability
- Persistent student profile
- Ease of student use
- Cost
Tool Review and Selection
Getting Started

- Contract negotiations
- Security review
- Vendor relations
- Installation of software
- Training and development of materials
Pilot Structure

Evaluated 1 tool each term during 3 consecutive terms

Recruited faculty volunteers (ranged 130-320 students per pilot)

Ideal to have a variety of courses from different programs (averaged 6 courses per pilot)

Phase 1: Students set up profile and/or practice using tool

Phase 2: Test the authentication process multiple times

Phase 3: Feedback collected from students and faculty
Tool Evaluation
Evaluation of Accuracy – How Does the Verification Process Prove Identity?

**Examity: Level AA - Auto-Authentication**
Students take pictures of their ID and face, answer challenge questions, and enter a biometric keystroke signature to verify identity.

**ProctorU: UCard**
A live proctor checks the student’s ID and takes control of the computer to take a photo to keep on file before the student answers challenge questions to validate his/her identity and provide a biometric keystroke.

**BioSig-ID**
Students create a unique hand-drawn biometric password that can be used to validate student identity each time a course is accessed, entering an exam, and/or at periodic points in the course using adaptive release.
Evaluation of Integration/Scalability

- Static Link + E-mail Reminders
- Course Intercept + Test Intercept
- Specific Authentication Links Placed in Weekly Folders
Evaluation of the Management of Tools

Overall Dashboard View
- Easy to use
- Aggregate view
- Individual student activity

Data Management
- Exported
- Filtered
- Sorted
- Reporting tools

Help Desk Support
- 24/7
- Tracked
- Communicated to institution
## Examity Admin Dashboard

### Authentication Status Table

<table>
<thead>
<tr>
<th>Authentication ID</th>
<th>Student First Name</th>
<th>Student Last Name</th>
<th>Time Stamp</th>
<th>Status</th>
<th>View</th>
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<td></td>
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<td>View</td>
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<tr>
<td>Name</td>
<td>Term</td>
<td>Instructor</td>
<td>Type</td>
<td>Test-Takers</td>
<td>Status</td>
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<tr>
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<td>Ucard</td>
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<td></td>
<td>Ucard</td>
<td>5</td>
<td>Active</td>
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</table>
BioSig-ID Admin Dashboard

Server Activity
- Server Requests Over Time

Sessions:
- Admins watching: UMKC, Lara
- Last 24 hours: 1059 requests, 0 hours, 219 requests (avg)

Specific Student Activity

Real-Time View of Session Activity

Last 7 days
- 9/4/2016, Sunday
- 2 sessions
- Time: 3:05 PM, Shawnee, KS, United States
- OS: Win10, Browser: Firefox v47
- Course: PSYCH 5521 0001 - Advanced Social Psy
BioSig-ID Reports

- Student Reports Sent to Faculty Weekly
- IP Address and Location Checks

Partner: Blackboard

<table>
<thead>
<tr>
<th>Account: UMKC</th>
<th>IPs</th>
<th>Users</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>373</td>
<td>308</td>
<td>1.257</td>
</tr>
</tbody>
</table>

Users by State/Region (Top 20):
- MO - 230
- KS - 47
- Unknown - 20
- GA - 9
- CA - 8
- IL - 6
- IA - 5
- CO - 4
- MI - 3
- OH - 2
- TN - 2
- AL - 2
- TX - 2
- OK - 2
- FL - 2
- NV - 1
- MN - 1
- WY - 1
- AE - 1

Users by Region:
- MO 238
- KS 47
- Unknown 20
- GA 9
- CA 8
- IL 6
- IA 5
- CO 4
- MI 3
- OH 2
- TN 2
- AL 2
- TX 2
- OK 2
- FL 2
- NV 1
- MN 1
- WY 1
- AE 1
Ease of Student Use

- Persistent student profile
- Student survey
- Talk with the faculty
- Keep in mind student concerns for privacy
## Pilot Results

<table>
<thead>
<tr>
<th>Criteria</th>
<th>BioSig-ID</th>
<th>Examity</th>
<th>ProctorU</th>
</tr>
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<tbody>
<tr>
<td><strong>Accuracy and Security</strong></td>
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<tr>
<td><strong>Integration, Management, and Scalability</strong></td>
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<td></td>
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<tr>
<td><strong>Ease of Student Use</strong></td>
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</tr>
<tr>
<td><strong>Cost</strong></td>
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</tr>
</tbody>
</table>

**So, What Is the “Just Right” Solution?**
Lessons Learned

- Do a comparison of different tools
- Allot adequate time and resources to run the pilots
- Develop awareness of other institutional stakeholders
- Set the stage early for faculty involvement
- Be clear in all communications with students, faculty, and administration
## Challenges Ahead

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Policy development</td>
<td>• Related to required use of authentication tool, monitoring, disciplinary measures, etc.</td>
</tr>
<tr>
<td>Revisions to existing honor code</td>
<td>• Language addressing online cheating and possible penalty for violations</td>
</tr>
<tr>
<td>Final tool selection</td>
<td>• Evolving tools</td>
</tr>
<tr>
<td>Deployment</td>
<td>• Scalability</td>
</tr>
</tbody>
</table>
Questions
References


Appendix Slides

RESULTS OF PILOTS
Examity: Pilot Results

Total Students Completing Examity Pilot Authentication Process

- AA Process Complete: 36
- AA #2: 38
- AA #1: 66
- Profiles Set Up: 115
- Total Students: 132
Examity: Survey Results (50% response rate)

**Question:** How confident are you that the process was effective in establishing your identity?

**Question:** How easy was the Examity enrollment and validation process?
ProctorU: Pilot Results

Total Students Completing ProctorU Pilot Authentication Process

- Total Process Complete: 11
- Validation #2: 27
- Validation #1: 21
- Profiles Set Up: 88
- Total Students: 137
ProctorU: Survey Results (58% response rate)

**Question:** How confident are you that the process was effective in establishing your identity?

**Question:** How easy was the Examity enrollment and validation process?
BioSig-ID™ Enrollment Information

As part of our initiative to improve student success and academic integrity, all on-line students are required to verify their student identity. Federal regulations require that all institutions must verify that the student who registers in an on-line learning course is the same student who participates in and completes the course.

As an on-line student, you will be asked to create a biometric password using a tool called Biometric Signature ID (BioSig-ID™). This password cannot be replicated by someone else.

You will be asked at various points throughout the course to validate your identity. Look for the BioSig-ID™ Image in your weekly learning content or when you are prompted automatically.

Please Note: All BioSig-ID™ activity takes place in the Blackboard courses.

BioSig-ID™ Enrollment Process:

1. Watch the process explained visually in the following video

Optional view the BioSig-ID™ enrollment video in a new tab.