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Test Security

An Open Letter to the Testing Industry

from Dr. David Foster
CEO of Caveon Test Security

Hi there,

In just a few short weeks, the COVID-19 pandemic has upended nearly every aspect of our lives, including the way important testing is done. For those students, teachers, professors, candidates, testing organizations, and vendors who are cautiously and bravely navigating this uncharted territory, I offer this message of optimism. Your exams can still be taken and administered securely, even during a pandemic.

Nationwide social distancing measures have made it so we can no longer take tests in classrooms, at testing centers, or in other locations. To solve this problem, testing organizations are quickly introducing new solutions that will allow individuals to test online from their own homes. These methods often rely on the use of online proctors to keep those tests secure.

I am a wholehearted advocate for this type of online testing and for the use of online/remote proctoring. In fact, I introduced the concept of online proctoring at the 2006 annual conference of the Association of Test Publishers. However, I need to add a word of caution. Online proctoring is far from the security panacea we are often led to believe. Although well-designed proctoring systems—online or on-site—provide useful security features, your tests remain vulnerable to a number of significant security threats that will undermine their validity and trustworthiness.

I repeat—when you put your exams online, even if you are using a competent method of remote proctoring, the two *most dangerous* test security threats remain: proctors cannot detect when individuals are stealing your test content, and they cannot stop individuals who are cheating by using pre-knowledge. If these threats cannot be detected by online proctors or proctors working at testing centers, then they are free to do extensive damage.

Let me explain these threats in more detail.

#1: Theft of Test Content.

The first of these threats is the sure theft of test content (your test questions and answers) by individuals using hidden cameras. These are the kind of cameras that can be concealed in a button, the frame of eyeglasses, a lapel pin, or simply appear to be part of the fabric of a shirt. They are capable of recording an entire test session in high-resolution digital video. They are inexpensive, widely available, and easy to set up and use.

Even though a proctor might be closely monitoring an individual taking an exam, if that individual is motivated to steal test questions (to share with a friend or sell online), they will be able to easily steal the entire test —with no risk of being caught! That information can be easily shared with someone in the neighboring room, apartment, or even on another continent.

#2: Cheating Using Pre-knowledge.

The second threat that cannot be detected by proctoring is cheating on the test using pre-knowledge of the test content. The term "pre-knowledge" is used to describe any information gained about the content of the exam prior to testing. For example, a test taker could purchase the answers to test questions online and memorize them before taking the exam. This form of cheating follows the theft of content described above.

A person with access to the stolen content can cheat confidently and effectively, knowing in advance all the questions and their answers. No proctor, however diligent, can tell the difference between an honest test taker and one who has gained an unfair advantage through pre-knowledge.

To be clear, I believe online testing is the future of this industry and has tremendous potential, but only if it is done *securely*. I simply want to help make this transition as painless as possible by making you aware of the very dangerous threats that jeopardize your exams *before* they arise. I also want to help you understand that viable solutions do in fact exist.

I want to now talk about the practical and actionable ways you can protect your exams and your program from these threats.

While we at Caveon believe that every testing program should have a comprehensive and robust security program, we understand the real-world limits of budget, staff, and other resources. With that in mind, here are what I consider the eight most *impactful and actionable* security steps that every testing program that is switching to online testing should implement today.

CHECKLIST

THINGS YOU CAN DO RIGHT NOW TO IMPROVE SECURITY FOR YOUR ONLINE TESTING PROGRAM

VET YOUR ONLINE TESTING SOLUTION

Make informed choices about the security and quality of your online testing tools and partners. Ensure that your solution comes equipped with the features necessary to protect your tests.

CREATE A SECURITY PLAN

Establishing your test security policies and procedures will ensure long-term success. Take time to ensure your security policies for online testing are useful, fair, and widely understood by your staff.

LEVERAGE SECURE ITEM TYPES

The design of your items and tests is critical in defending them from the effects of theft and pre-knowledge. Whenever possible, convert your multiple-choice items to DOMC or embrace adaptive designs.

PUBLICIZE YOUR SECURITY MEASURES

Deterrence is an under-rated, yet powerful, security tool. Broadcast to your test takers the steps you are taking to secure your tests and the consequences for cheating.

CONDUCT A QUALITY ASSURANCE CHECK

If you are using vendors to help with test security, evaluate their performance on a regular basis. This will provide you with valuable feedback and actionable insights to improve your security.

SEARCH THE WEB FOR TEST CONTENT

Search the web to find out if any of your test content has been stolen and shared online. Work to get that content removed, and employ watermarking to be able to track the source of the exposed content.

REVIEW YOUR TEST DATA

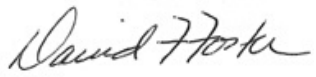
Test results contain clues to whether cheating and theft are occurring. Conduct regular psychometric reviews and conduct some form of data forensics analysis on a regular basis.

TURN YOUR ITEM POOL INTO AN ITEM OCEAN

Ultimately, test security hinges on the quality and quantity of available content. Utilize technology innovations like AIG or SmartItems™ to ensure you have a large, or even immortal, item bank.

For all of you who are making sweeping and sometimes scary changes to the way you give and take tests, I applaud you. Keep moving forward, keep searching for solutions. But while you do, please keep in mind the dangerous risks posed by online test administration and know that that real, affordable solutions exist to address them.

Sincerely,



David F. Foster
Chairman & CEO
Caveon Test Security