Webinar - Software Secure Remote ProctorNow

Presented by Mark Musacchio

My name is Mark Musacchio and I am business development manager with Software Secure. Software Secure is a company dedicated to exam security, academic integrity, and focusing on online proctoring solutions. Melissa has invited us to provide a demonstration and presentation on Remote Proctor Now solution which Clemson has been piloting this semester. Hopefully anyone who is on the call today has had a good experience with it and if not please let us know, we are always looking for feedback. If there is anyone on the call today who has any questions or would like to talk about your experience please feel free to chime in whether over the phone or over chat.

So what I want to do today is give you a quick summary of the company, a little bit about who we are and what we do. Then show you how the Remote Proctor Now system works to enable online and distance learning students to take a proctored exam from home, anywhere anytime with integrity. Software Secure was founded in 1999 so we have been around for quite awhile, based in Nuke, Massachusetts, which is about 10 miles west of Boston. We are really considered a pioneer and market leader in secure computer based testing solutions, founded with a mission to facilitate the innovative and responsible use of technology in education and training. Our main markets are, our bread and butter, is really in higher education as well as the k-12 space and a growing interest from professional certification organizations, corporate eLearning and training institutions and other areas in the corporate world that are offering either internal employee exams or partner and customer exams.

Back in our early days, late 90s and early 2000s our focus was on providing exam security for the classroom. We were the first company to develop and go to market with technology now known as lock down browser software. Lock down browser software simply will take control of the student’s computer during an online or computer based exam and prevent them from doing anything else on their computer other than taking the test. It really does turn a student’s computer temporarily into a secure testing terminal. Then as the market began to shift toward distance learning and online learning we had to figure out what the implications and challenges were for students now taking tests at home. Simply locking down a student’s computer is no longer going to stop them from cheating. They could get someone else to take their test for them, use books and notes on a closed book test, use a second computer that is not secured, these days everyone walks around with full little computers in their pockets using smartphones. As an animator in the market we were the first company to develop remote proctoring technology using webcams.

Fast forward a little bit to today, the focus is still on remote proctoring exam security, but we decided to build in cloud based solutions, the ability to authenticate students identity and build a robust recorded review service to allow students to take on demand tests anytime simply using a webcam and reviewing those videos to look for suspicious behavior for instances of cheating.

That has been our focus ever since, in in our online proctoring solutions and we have two different products. We have Remote Proctor Pro, which is known as a gold standard in the market, it uses a proprietary hardware device with a 360 degree webcam, a fingerprint biometric scanner, a microphone and that same lockdown browser software. We’ve also come out with Remote Proctor Now, which is a more lightweight and scalable solution using a standard webcam and relying on the student’s existing webcam. Then we have our secure exam software, which is a lockdown browser application and a product called Secure Exam Student, which is basically an electronic bluebook, allowing students to take an essay or spreadsheet based exam online in a completely locked down environment on a personal computer. So again our focus is in exam security, academic integrity, student identity verification, and insuring convenient access to students anywhere anytime using simply webcam.

Some of the challenges that face institutions today that we’re trying to deal with and help out with are student authentication, so making sure that Mark is really Mark or that Melissa is really Melissa, and that Mark is not pretending to be Melissa to take her test for her. Exam Security, how you make sure that students are taking their exams honestly, there has been a lot of data in analysis lately and a lot of numbers thrown around that somewhere around 76% have admitted to cheating whether in high school or college so those numbers are pretty staggering. Convenience, how do you offer flexible and secure options at the same time? Sometimes you have to balance those two things and sacrifice security to provide convenience or vice versa. We feel that we have been able to really meet the highest potential in both security and convenience without sacrificing anything. The cost, how do you make sure that this will fit into your organization’s budget and it won’t be a burden on students or the school in terms of financial obligations.

That brings us to the product Remote Proctor Now. Quite simply using the student’s webcam and microphone to allow them to take a test anytime they want. They can be in their test answering their first question in a matter of minutes. Again, no scheduled appointments, completely on demand testing. We record videos of students taking tests through their camera, through their microphone, and on their computer screen to watch them just as a proctor would in a classroom or a testing center, cost effective model for online proctoring. A lot of other options out there including testing centers, the more traditional models of driving to campus or driving to a nearby organization or institution that offers proctoring comes with a higher cost. There if fuel, there is parking, taking time off of work, scheduling appointments, all of these things add up to big bucks. Of course we are able to insure the same level of integrity as that proctored exam environment at home by relying on our process of multiple certified reviews, each student will be proctored by multiple proctors independently to make sure that we are accurate. It can work with any delivery platform at Clemson, there is the use of Blackboard, there is McGraw Hill Connect, My Math Labs, there are several other Publisher applications and online tools that are used by different faculty members that can all be proctored by Remote Proctor Now. Again, a company focused on exam security, we build a lot of those features into Remote Proctor Now platform to make sure that students are not using their computers to cheat in an online exam.

The way the product works is very simply, there are four steps to using the Remote Proctor Now system. You will see this demonstrated very clearly when I get to the real student experience. Step 1 the student has to access our software it is a web application, they just get to it online and run a web app. Step 2 is to select your exam, so you identify yourself, you identify what school you are with, what course you are taking and what exam you want to take. Then we ask you to verify your identity and then you are on to taking your exam. Again each of these exams are recorded and proctored after the fact by multiple sets of eyes, so its not just one proctor watching each student, its two or three proctors watching each student. We are able to look for suspicious behavior, violations of rules, students doing things they shouldn’t be doing or certainly students taking tests for other people. Again I mentioned it can work with virtually any online testing system. If you were ever to decided to switch from Blackboard to something else, you could continue to use Proctor Now seamlessly throughout that transition. We try to solicit feedback from students whenever possible and we have heard some really interesting and amazing stories from folks in terms of how Remote Proctor Now system was able to help them out in their situations.

We are able to save students time, they can take their exam whenever they want, avoid traveling to campus or testing centers and it allows them to do everything from home where their comfortable. It is very easy to use. Students rarely have problems using the technology. If they do they can contact us via our 24/7 tech support. Again, a very low cost model depending on if the school is paying or if the student is paying we’re trying to limit those costs as much as possible. In my four years here for all of our products we have never one raised our cost we have only lowered them. Privacy, students are concerned about privacy, especially when it comes to using technology in their home. We are able to ensure student privacy, ensure that they are comfortable with everything we are doing and be very upfront about the technology. This is just a sample list of some of the customers we have worked with today. Again very focused on higher education, we also have that marked in the k-12 space as well professional certification organizations. We work with about 200-250 schools at this point offering remote proctoring as either a mandatory requirement or voluntary option for students.

It is not only online proctoring that is going to ensure integrity, however it is a big piece. There are a few primary steps you can use to get there. 1. You have to explicitly state the expectations, tell students and remind students of the rules, reinforce your academic integrity policy or your honor code if you have one 2. Be consistent and follow through with consequences. If you find someone cheating use your rules and regulations to follow through with the consequences. There is nothing worse than a scare tactic that doesn’t work, if you tell someone that when they cheat they fail and then they cheat and don’t fail, it empowers them to do it more and tell other students that they are not going to do anything about cheating here. 3. Utilize assessment designs, this is very important as well. Make sure you are using your learning management system to its fullest potential. Larger question base, randomization of questions, randomization of answers, and of course create a learning environment that minimizes cheating opportunities, that is where we come into play. Eliminating a lot of online or electronic resources to cheat, focusing on proctoring and prevention, and also the detection of cheating through the video proctoring.

Why Software Secure? We are found to be more convenient for students, any time testing completely on demand 24/7 without scheduling. More affordable, we can save students a tremendous amount of money by eliminating other options like as I mentioned, getting in a car, paying for fuel, paying for parking, paying for testing centers. More secure, we proctor 1 to 1 whereas other proctor centers may proctor 1 to many. Think about a classroom setting, one teacher or proctor in the front of the room, an auditorium full of students, we feel we can do a better job in many cases than even the traditional ways.

That is just the quick summary of the company, our technology, now I want to turn around and show you how this really works. I’m going to show you the full experience for a student taking and online-proctored exam in Blackboard. The first step for the student will always be to check their system, to make sure they have the proper components, a webcam, a microphone, and a reliable Internet connection. This is the website you would direct students to for online testing. Lets see what happens when I run my system check, it has found my camera so that’s me at my desk, hello everyone. Now its going to look for my microphone, it is going to pick up my microphone, play a short sound clip, and make sure that the microphone is on and can listen to or hear sounds. Lastly it is going to check my Internet speed or bandwidth. It is going to process that information and tell me if I passed all three components. In this case I have, if not there could be a red X through one or multiple individual units, the microphone, the camera and the Internet speed with information below it on what went wrong. If we can identify specifically what happened, trouble shooting tips, information on how to contact our 24/7 support group. Because I passed I can go onto the next step, which is to actually run the Remote Proctor software, we also have on this page a quick video tutorial, if the student wants to take a peek at the process for using the proctor system they can play a video. There is a PC version and a Mac version and it works equally as well on both applications. I’m going to click on the icon for the PC software and it will ask me to run this file, so this is running this file, the Remote Proctor Now software for mini browser, so it is browser independent. It can run from a PC, it can run from a Mac, run from any web browser and in the end our software becomes a browser, so you can see here the green shield with the check mark is the Remote Proctor software. Now students will use this interface to select their destination to take their exam, students would click on the drop down and they would pick Clemson, I’m actually going to use our demo school here to demonstrate the technology, then they will pick their teacher. They will see a list of teachers offering online proctored exams, then they will pick the available exam for that student at that time. Then you have to tell us who you are, name, email, and phone number and this is used primarily for technical support purposes as well as the next step, which is our id check.

The id check is really 3 steps. 1. Is to take your camera, scan your room to demonstrate that there are no unauthorized materials in your work space. We are going to show the student a visual aide to help them through the process and some instructions on top, lets say please start scan, pan the camera around the desk or table. I will pick up my camera and show you my messy desk. This would be a bad example of a student work space. I’ve got books and notes out, I’ve got my iPhone out, I’ve got sticky notes all over the place, I’ve got all kinds of things that might be considered an incompliant exam requirement. 2. Now the student is asked to take a picture of themselves, we will show you an example of what an acceptable user photo looks like. Smile and say cheese and now the student is verifying their identity by saying yes this is me, it is clear and centered and can be used to confirm my identity. There is a retake photo button in case it were blurry or the lights were down too low and you couldn’t really see anything. 3. The last step is to do the same thing with a photo id card. This could be a drivers license, government issued id, passport, or school id. It is really up to you to decide what type of id you would like to use. I hold my license up to the camera, focus in for a second, click take photo, and again there is a retake photo button in case it were blurry or you couldn’t read the id or see the picture well enough, I’ll confirm the photo and now I’m onto the exam.

Our software is basically a browser so we bring the student directly to their Blackboard login page or maybe this is McGraw-Hill Connect or My Math Labs, or Wylie Plus, or any other system you might be using. There are some simple instructions here. There are four exams that require a password, you must use the insert exam password button at the top of your screen. Some systems don’t use exam passwords so if they don’t just continue on as normal. I’ll click ok and log onto my Blackboard system. This is all being proctored through video so students’ exams are being recorded and our proctors are going to watch these videos after. I’m going to go to my American History 101 course, find my assignments, go to my early American history quiz, if you remember I selected early American history quiz, in that third drop down menu, now Blackboard asked me for the password, instead of typing it in I use this insert exam password, students are not given the password but they do have to use our application to get the password to then get into the exam.

Now I’m in my test, I can answer my questions. Who was the third president? Which state was not one of the original 13 colonies? Who was the first Vice President? The webcam is recording, my microphone is recording, my screen is being recorded and the security would be turned on to block applications from running we don’t want students using during a test. One such application is Go To Meeting, I’m using a version of the software that does not block Go To Meeting, in order to be able to offer online demos. If you think about what Go To Meeting is doing, I am broadcasting my exam to a group of people online and we want to block those types of incidents from happening, that’s how the security feature works. Then we’re able to focus on through the video the student’s behavior, any sound or communication in the room or any online or electronic behavior that we can see on their computer screen to make sure that we are accurately and efficiently report to you on any potential incidents of cheating. I am going to save and submit my exam. I am now done with the test, the last thing I have to do is close out of the software to end the proctored session. A pretty simple process there for students to take their online proctored exam from home anytime, anywhere using just a webcam and a personal computer.

Are there any questions on the Remote Proctor solution student experience? I know that some people might be on mute so feel free to use the built in chat tool to ask questions. Anyone in the conference room there with Melissa?

Suppose you have exams that are 2 hours long and the student has to use the bathroom?

Great question, when you create exams in the LMS, in Blackboard, or any other system, you can create one long exam, you can create two individual exams, and then in our system you can specify rules for the test, specifically to inform our proctors on what is allowed and what is not allowed. If for very long exams you can either break them up into two shorter exams and give the students time in between to use the restroom or take a break or get a cup of water or a cup of coffee. Or you can tell us through our portal that students are allowed a 10 minute break anytime during the exam. You could say students get one 10 minute break that they can use whenever they want but they must speak into the microphone saying that they are taking their one allowed break so when our proctors are reviewing videos, they know that that is exactly what is happening, that it is allowed and that they can time the students and make sure they are back within that 10 minute window. It does provide a lot of flexibility for you to design your exams however you want. You can create any types of rules as long as you tell us the rules, those are the rules we will use while reviewing the videos. You could say students can use one blank sheet of paper to write down notes or equations and formulas and then they must show both sides of the paper to the camera before the test so we know it is blank and after the test so we can see the images as well.

Next question. Can the system handle 600 students in one hour.

Yes, our technology, the infrastructure is cloud based, so there is unlimited server capacity in the cloud, where depending on the load at any given time we can automatically on the fly start up a new server or multiple new servers to accommodate the spike in current users. On the technological side there is, there should never be any concern about load balancing or any type of scalability issues.

Next question. Does the exam have to be multiple choice?

Good question, the answer is no, it can be any type of exam. The exam does have to be delivered through an online system like Blackboard or like a McGraw-Hill Connect, or any of those other systems. You can offer essay exams and ask a student to through Blackboard, open up Word, write an essay, and upload that file to Blackboard into the grade book or Dropbox. It is very open to any type of assessment. As long as you make it clear to us through our exam registration website, exactly what the expectations are for that test.

Next question. Are the proctors human?

Yes, the proctors are human. We do not use technology to proctor, we’ve built this process and application to utilize people or humans where they can be most effective and that is in watching the videos.

Next question. So if you have tests where students have to work through problems and show their work what would be the best way to administer these exams?

I assume this means that there are, the might be math exams. This is a really good question. We can make some recommendations on the best way to handle this but there are a few options, we’re engineering ok. The simple answer is that depending on the way the student is working through the problem, whether it is handwriting or using an application like Microsoft Excel for instance, if it is handwriting, you can do a few things, you can limit the students to one or two or a few sheets of blank paper that they must show to the camera before the test so they can prove that there were no calculations before the test, nothing was prewritten on the paper. Then when they are done with the exam they will have to show both sides of each paper to the camera. Again so we can see that the work was done while sitting for the exam. We do have customers that actually have students in front of the camera put those papers into an envelope and mail them to the teacher, take a picture of them with their smart phone and email the pictures to the teacher or physically shred or destroy the papers in front of the camera. These are great questions and we can tell you how other customers handled these types of exams in different scenarios. I think that depending on what type of work you need to see after the exam you could have the students scan papers and email you a scanned version of those papers, so you can use that not only while grading but to prove that they did come up with their answers the right way and worked out the problem the way you want them to. It also helps to make sure that you can tell what they were doing during the test because the camera will be focused on the student’s face or upper body, not on their desk where they might have the paper that they are writing on. That’s a very good question, it is one of the more difficult questions that we have to deal with because of the complexity around showing your work and how to prove that the student was doing their own work and got to the answer the way that you want them to. I would add to the answer to that question that our proctors are not and will never be subject matter experts. The fact that they showed us the paper through the camera does not necessarily mean that we can verify that they did the work the right way.

If we have a test that is 2 hours, can instructors have a 24-hour window?

Yes, that is correct. The dates of availability for the exam are completely controlled by Blackboard. If you set the window to be one hour then all students will have to log in basically at the same exact time to complete that exam within the hour window. We have schools that are completely self paced, exams are open indefinitely and they can log in whenever they want to take the exam within a year’s time frame. That is all controlled by Blackboard, that is correct.

That is correct, on average its about three days turnaround for the reports, we actually guarantee it within 5 days. We are usually right in the middle of that 5 day window, about 3 day time frame.

I can certainly show an example of recording capability looks like. Great question, I’m glad you asked. Here is a sample report that you might see coming from Software Secure. Dear Customer, Please find a link to the confidential video review for this exam for this teacher, click here to view exam report. You can see this is a hyperlink. These reports can either go directly to a teacher or to a school administrator. They are protected behind a secure website so only authorized personnel are ever able to look at these. I will login and show you what a report looks like. In this case this example is an early American history quiz, had three students taking the quiz and you can see here that we found two that demonstrated suspicious behavior. Suspicious means very likely cheating. When you scroll down you can see exactly who they are and what they did, so my colleague Brendan was flagged down for browsing websites, did not provide an exam room scan, did not show an id and was using the phone. I myself was browsing other websites, I left the room, I was using reference material on a closed book test, they found the reference material in the room scan and I was using the phone. Now you read what they did, you can think about the types of incidents but you can also see what they did by clicking on the student and going right to the video. These have been proctored by our proctors. There are comments here that you can read that coincide with the summary report. Now what we can do is look at the comments, see that they are flagged here on the video and I will start playing the video. This is a video I made awhile back so I had a beard at the time. Lets say you want to see Mark using the phone or you don’t want to sit here and watch an hour long video, to get to the point where he uses the phone click on the play button in the comments, that brings you right to the flag where Mark was using the phone. Right now I’m looking down, I’m dialing, I put the phone up to my ear and in a moment I’m going to ask my friend “Did you take your test today?” “What did you get for question number 2?” You probably can’t hear it through my laptop speakers but we do capture audio and some very clear audio signal, you can tell exactly what he is saying. Now I can click on this, where I left the room and immediately come back to the last flag of that reference material. Likewise we have the desktop video where we see everything on the student’s computer. Here we can see that the student was flagged for browsing other websites. When I hit play, you will see that very quickly when I get to my test after I login to Blackboard I’m going to copy my question, who was the third president of the United States, go into Google, paste it into Google, and look up the answer on Wikipedia, so that’s the easiest thing in the world for us to catch and we do catch a lot of people doing that, somewhat surprising. As you can see here, the rules explicitly explained by the teacher were closed book test, no notes, browsing other websites, student reference material, students are not allowed to leave the room once the exam begins. I violated pretty much every rule in the book here by using the phone, leaving the room, using reference material, and browsing other websites.

Next question. What if the students are texting or surfing the web with their phone out of the view of the camera. That’s a great question.

Each of our customers, Clemson included, has a standard exam policy. The standard exam policy would be the most strict version or interpretation of your exam rules. Likely it says that students are not allowed to use books or notes, electronic devices, phones, tablets, other computers. They are only allowed to have a computer with a webcam on their desk unless otherwise explicitly allowed. I can’t think of any situations where an exam rule would be that students are allowed to text or use their phone for any reason during an exam, now the only reason a student should use the phone is perhaps to call our tech support. If we do see a student using a phone, it will be flagged and reported back to the school. Obviously we can’t see what they are doing on their phone, it could be an important text, that their loved one is sick or on the way to the hospital in which case we totally understand the reason why you would answer a phone call or text like that. Otherwise my recommendation to students is to put your phone outside the view of the camera and don’t touch it unless it is an emergency. The one thing that we sometimes see from customers that we try to steer them away from is using phones for calculators. If you want to allow a calculator for use during an exam, we recommend for you built in calculator in your computer or a specific built in calculator in the actual exam delivery system, if you use something like My Math Labs they have a built in calculator. Hand held calculators can look a lot like phones from time to time so it would be difficult for us to determine whether the device in their hand is actually a calculator or actually a smart phone. We would typically steer you away from allowing hand held calculators unless it is specifically a graphing calculator in which case we would ask you to ask the students to show us that calculator early on during the exam or the room scan. That’s a very good question.

Any other questions from the folks there in the conference room with Melissa?

Could you have a tablet laptop?

The answer is, no, unfortunately. The reason is the webcam. If you think about how people use iPads, if you having it laying down in your lap or sitting down on top of the table the camera is likely only looking at the ceiling so in order for us to accommodate mobile devices, iPhones or tablets, we would probably have to force students to use both some sort of stand where we can position the camera right at the student as well as in that case, an external keyboard for the iPad. Something we are very keen on exploring but today is just not a very likely scenario due to the fact that the camera will constantly be moving because of the handheld device. Let me see if I got that question right. A convertible laptop with a stylus, I think potentially the camera is an external camera that is plugged in through a USB, which can be stood up on a mount or a tripod so that the student if they have the device in their lap, the camera is still looking head on or face on from the mount or tripod. Two cameras will not work in most cases because the software will access the primary camera and try to block any secondary cameras because we don’t want the students in some cases using two cameras in case one of the cameras is pointed at the screen and trying to record the exam. Scanners to scan in their work, absolutely if that’s what you want to do the students can use a scanner to scan a paper document, notes or something like that and upload a file into Blackboard, that is A ok and highly recommended for exams that we talked a little about earlier where you want students to demonstrate or show their work.

I hope I was able to answer the questions, ok more questions coming, great.

I do appreciate everyone’s time and I am your representative here so if you do have any questions at any time feel free to reach out. Melissa has my contact info, my email is just [markm@softwaresecure.com](mailto:markm@softwaresecure.com) so pretty easy to remember or write down. Thank you everyone for you time, thank you everyone for your support, we are very excited to work with you. Yes, I will send you the link with the videos so thank you for reminding me. Alright everyone well thank you very much and I hope you enjoy the rest of the distance learning week, we will talk soon, thanks again.