



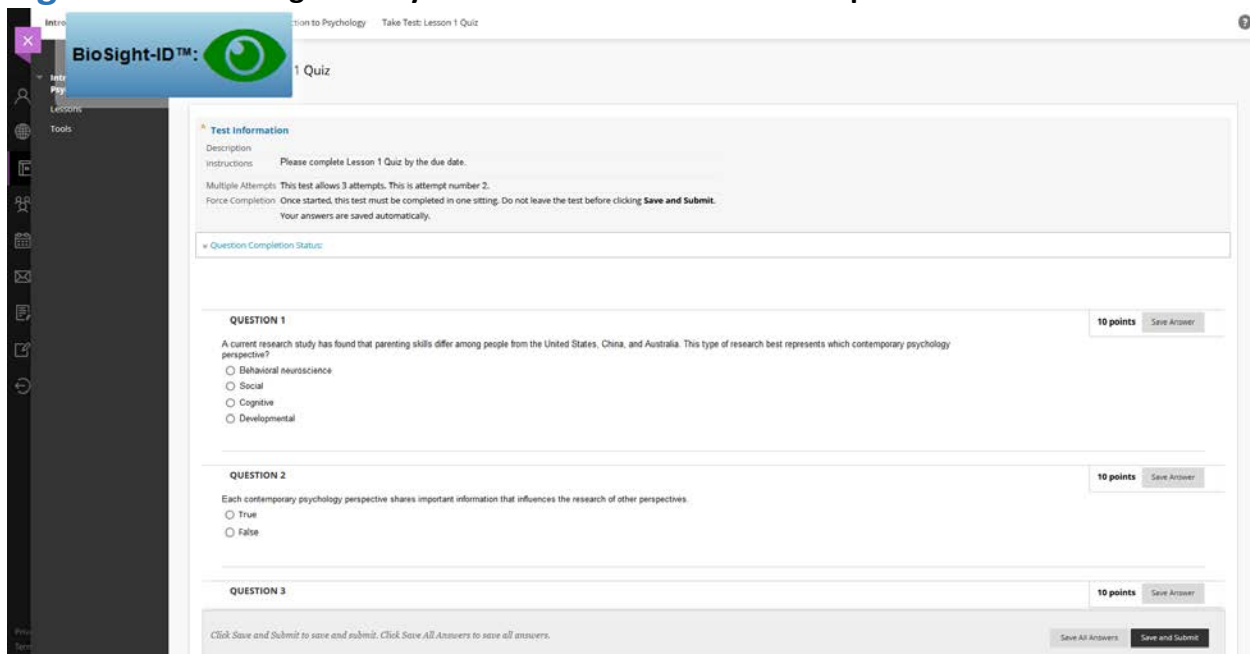
BioSight-ID Infractions Overview

Rev 8-10-2021

BioSig-ID™ our premier software technology that we invented and patented, uses gesture biometrics where students draw a password when they log in before they can access any test or exam. Since helpers have to duplicate the drawing pattern, BioSig-ID is used to block access and prevents friends or helpers at different locations from accessing. It is integrated with all the major learning management systems like Canvas and Blackboard and uses conditional release to add an authentication challenge before any gradable event. This technology has a 98% user satisfaction rate, is age and language agnostic and avoids privacy, racial bias and consent issues that the use of other biometrics have to deal with.

BioSight-ID™ our exam monitoring solution is different because it uses new “Face Anonymization”. Instead of exposing images of the students, we blur the face to make it un-recognizable. Then we use a frame (like when you take a picture) to focus on a face then add a confidence level there is a face in the frame. We can still see whether its’ male/female, # persons in frame, noise levels and head and hand movements to capture cheating. We also have our “Eye” that determines if a student is “out of frame” which is an infraction (see Figure 1). The Eye stays green when student is in the frame, yellow if there is an indication of infraction, red if the infraction is longer than 5 seconds. The grace period allows certain events where student is out of frame like a stretch and reduces false positives. These infractions are presented to the instructor in the dashboard and pinpoints the time, severity of infraction for easy review.

Figure 1: The BioSight-ID “Eye” from the student web cam captures infractions



A short note: Capturing your true image with current facial algorithms are known to mis-identify up to 35% of people and this “Inequality” is a major student issue. We take this off their list of concerns thus avoiding student unrest, racial bias, privacy concerns even lawsuits.

With the methods described above BioSight-ID can usually detect whether a student is showing unusual eye or head movement and other indicators that a student is looking at something off

screen (notes, another device etc.). Example, try and read something in your hands or off to the side without moving your head, eyes, hand, or neck. In Figure 2 see how the frame % drops down from 77.2% to 57.2% when student is looking down.

Figure 2- Typical Infractions and Frame Confidence Levels

- * Note faculty can zero in on the “red” colored bars to view the frame infraction
- * Note BioSight-ID knows “who” the student is because they have to authenticate their ID with BioSig-ID before accessing the exam. The web cam records the person who uses BioSig-ID, so seat changes are revealed.

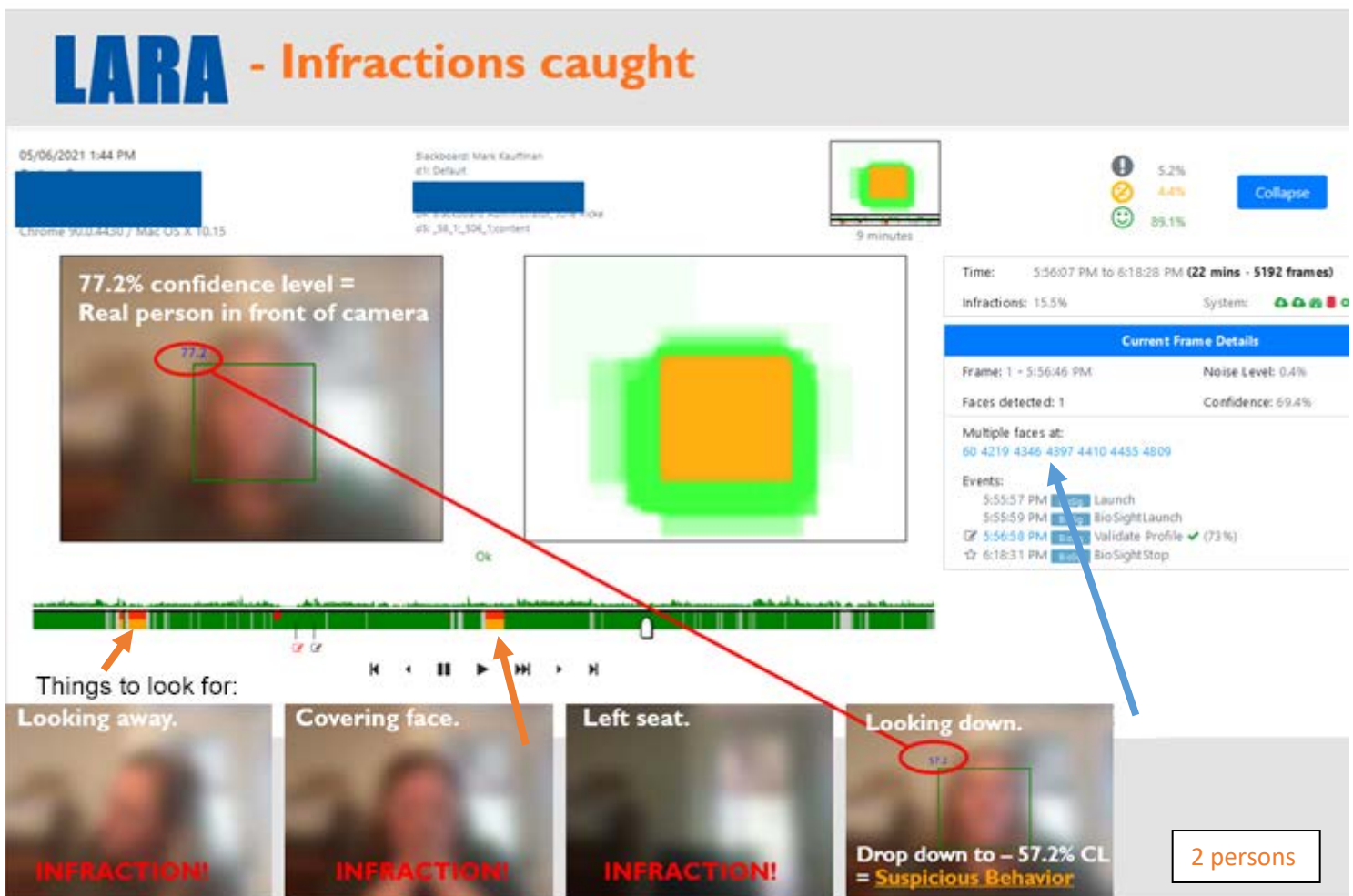


Figure 3- Dashboard - Faculty can zero in on type and level of infractions

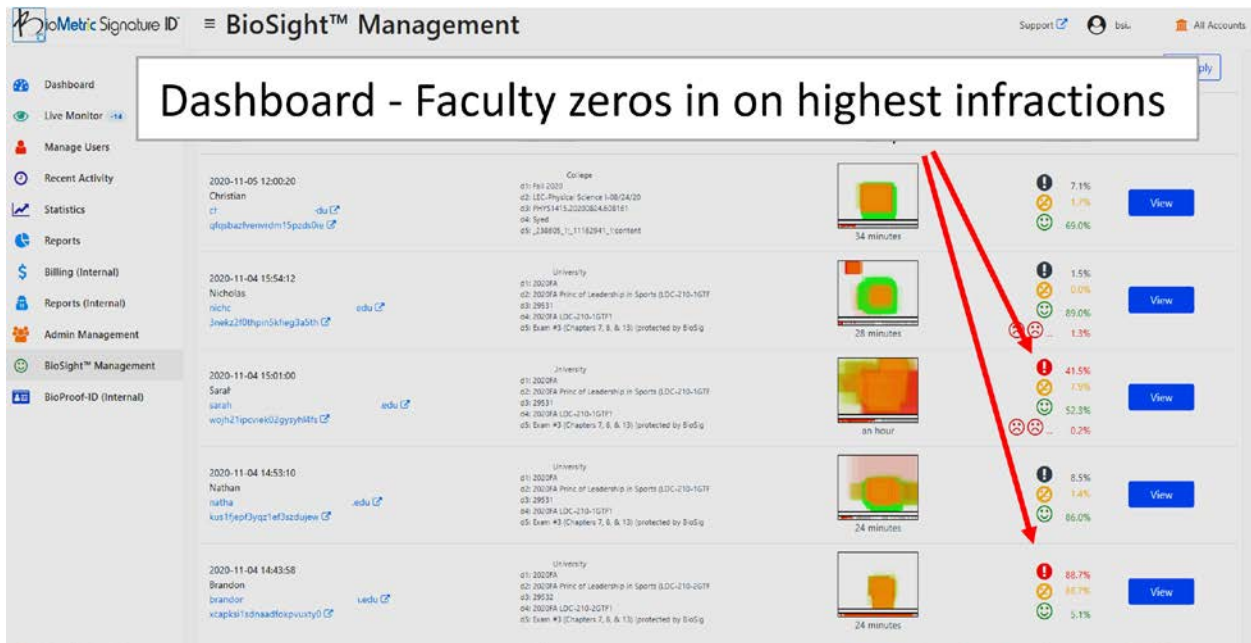


Figure 4- Filters by date, course, and quiz

