DISTANCE LEARNING EFFICIENCY MEASUREMENT SYSTEM

Distance learning is by no means a new concept. The legendary leader of South Africa, Nelson Mandela, and renowned science fiction writer H. G. Wells are among the alumni of distance learning programs. Distance learning provides the means and a personalized schedule for people who want to advance in their careers or keep learning despite the pace and the everpresent anxieties of modern times. Thanks to distance learning, people can gain new credentials and skills without having to relocate or spend most of their investments and savings for a degree.

Until recently, distance learning was a method used largely in tertiary, or in other words, post-secondary education. However, with the advancement of technology and influence of current circumstances, distance learning became a widespread method used in K-12 education as well. Moreover, there is the possibility that distance learning may become the norm for tertiary education sith the mere exclusion of applied sciences. The prevalence of distance learning at such a scale requires the students' self-disciplining skills to improve to allow them to learn effectively in an environment that does not necessarily connote learning. One of the parameters to determine the efficiency and effectiveness of distance learning is the self-management skills of the students. The lack in self-management and irregularities in assessment criteria and monitoring may lead to an incompetent mass' flooding the workforce, causing systems to break in every sector and division.

It is clear that in these days which the world is battling with a global pandemic, distance learning is the most viable alternative to prevent disruptions to educations. To ensure the continuity of education amidst quarantines and curfews, authorities worldwide are adopting new methods and models in an effort to show that education is about an individual's desire and will to learn rather than location.

Papilon is one of the actors working to prevent any disruption to education and any loss of time on the part of the students. Distance Learning Efficiency Measurement System is designed to help students easily adapt to the distance learning methods and provide in-class discipline at home.

At the moment, most K-12 classes are transferred to online video-conferencing applications. However, the average class size poses great challenges to both students and educators with this method. One particular problem is the impossibility of monitoring the whole class from one screen or worse, having to constantly change screens. Not to create a cacophonic atmosphere, the teachers have to carefully plan and execute a participation system that involves dull tasks such as choosing a student's name to invite them to respond, muting and unmuting microphones and a lot more. In addition, in the absence of a physically present authority, students can easily be distracted. Although educators sacrifice their personal time to divide the classes into blocks, this may not always solve the problems.

Papilon designed its Distance Learning Efficiency Measurement System to help the educators and students overcome these problems with the aid of technology. The system answers questions such as which kind of material the students respond to the most, what is the demographic profile of students who benefit from distance learning, and in what age ranges students adapt more easily to new education techniques. This means that the system will aid education policymakers, educators, and curriculum builders about how to build a classroom experience that is marginally more effective and offers a smooth transition between traditional methods and the new norm.

The system is equipped with superior Papilon technology. Our real time face recognition software SnapFace, recognizes the students' faces from the footage taken with the camera od the device which the student uses to join the lesson.

SNAPFACE ensures that the individual who logged into the lesson is the student himself or herself, and performs a digital attendance count. To use the system, the student turns the camera to his/her face and SnapFace automatically scans and runs the image taken.

A large part of efficiency defined within education is the students' attention and engagement with the presented material.

Papilon's body tracking, skeleton analysis, and gesture recognition software SEEMETRIXdetermines more than one hundred points on the human face, and taking the muscle movements at these reference points as references, recognizes the student's facial expressions and eye movements.This allow helpful analysis of student attention to be performed from facial expressions. If a student frowns during a certain part of the lesson, the system takes note of that. If the student's eyes are unmoving and, so to speak, are locked onto the screen, the system interprets this as engagement and notes this as well. At the end, the emotionally reflective portion of the students' gestures are used to determine which kind of material attracts the students' attention, between which age ranges the students are more receptive to the visual or vocal stimulants, between which age ranges do the students move smoothly to a newer education style, and what percent of the students following the same module are between a certain age range or members of a gender. But that's not it.
The new system requires a new assessment method that will both make sure that the disciplinary code is observed by the students and measure allow the curriculum builders to measure the efficiency of their systems in realistic terms.

PAPILON'S SMART ASSESSMENT SYSTEM authenticates the student's identity with biometric means in addition to an ID and password combination. That way,in cases of data theft, the people who possess the student information will not be able to access the student's records, but more importantly, cheating on the exam will be history. The system monitors the students via mobile or web-cams during their exam session. The students' internet access is limited by the system and an online proctor checks up on them multiple times during a session. That way, the quality and the integrity of the exam process are quaranteed, and it is shown that distance learning is more of an intellectual challenge with a self-discipline dimension rather than a concession for the hard times. Thanks to our Smart Assessment System, the educators can feel assured that the first subjects of this educational revolution will be well qualified when they enter the workforce.

Optionally, to explore alternatives and discover the scope which distance learning may take after the habituation period, our system allows the educators to experiment with the system. For example, the teacher's silhouette can be turned into an avatar, an animated drawing to engage younger students. To converge the experience of distance learning to an organic, or traditional one, 3D cameras can be placed in front of the teachers to detect their movements and transfer them into the virtual space. That way, the students do not lose their familiarity with the school atmosphere and their sense of responsibility is further solidified. On the other hand, this application allows the teachers protect their privacy.Our systems are designed by engineers with high social awareness and great respect for human rights.

Thus, our systems always take additional steps to safeguard the user's rights, data, and privacy. However, since the topic here ,s children and the youth, we take greater care of their rights and data. All the data collected by Distance Learning Efficiency Measurement System is deleted right after the essential informations and statistics are taken. The system does not store the student's biometric or demographic data.

As Papilon, we believe there is an organic bond between children and innovation for what we dream today will be their realities or goals tomorrow. This is why, we try to create solutions that will help them reach their goals and dream for future generations. We invite all the educators and education authorities join us in this endeavor.