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Face recognition technology
for gaming security and business intelligence

On June 2, 2017, a 42-year-old man entered the Resorts World casino in Manila with an M4 rifle and bottles of gasoline on his person.

The day was only a few minutes old when the gunfire started. By the time morning broke over the Philippine capital, 38 lives had been lost, including that of the attacker; mostly due to the fire the perpetrator had started at 1:30 am. A further 70 people were injured, either by flames, through smoke inhalation, or in the stampede as people desperately scrambled to safety.

Terrorism was quickly ruled out. "He did not shoot anybody," Manila's chief of police said later, "[and]

burning the casino could be a diversionary tactic for his escape." Eventually, a motive was established. Jesse Javier Carlos was heavily in debt and had planned to rob Resorts World. The robbery was botched, but with horrific consequences.

The most chilling detail in this extremely tragic case: the incident could have been prevented. Carlos was a prolific gambler, frequently betting way beyond his means. As a result, family members requested that the Philippine Amusement and Gaming Corporation bar him from all casinos; a ban which was enacted in April 2017, two months before the attack in Manila.


The biometric safety net

The Manila incident represents an extreme example, the worst nightmare of anyone involved in the gaming industry. Mercifully, such devastating events are incredibly rare.

In any case, it is increasingly critical for casinos, pubs and clubs to monitor and control who is using their facilities. They are private spaces and not public concourses, and therefore management can permit

and refuse entry, providing their processes are in-keeping with the law of the territory they operate in.

In terms of public safety, owners are obligated to provide such 'duty of care'. Gaming venues may not be a public service, but they serve as spaces for the public to enjoy themselves and relax. Under the legal codes of most territories across the globe, the safety of guests and staff is the owners' responsibility.
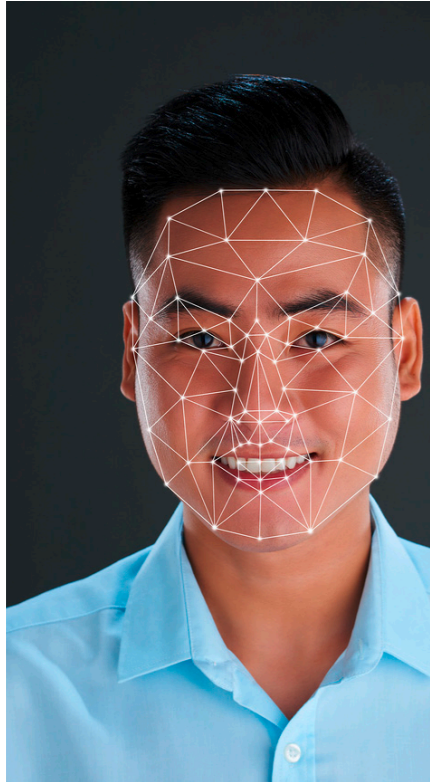
Biometric facial recognition can play a big part in supporting physical security measures. Every day of the year, at a major casino, thousands of people stroll through the door. This puts huge pressure on the door staff and security team who are tasked with protecting the safety of patrons and staff, and also with safeguarding eligibility and decorum standards.

Implementing face recognition procedures can relieve the pressure for security teams and other staff members, and establish a far more effective set of protocols.

At a glance, face recognition technology provides a range of different insights.

Casinos use the software primarily to run high-speed comparisons of the customer's face to ascertain whether they appear on any banned or excluded lists.

These lists are usually held within a central database; so, if patrons are banned from one casino and such data is shared, their face can be flagged by the system at another location. In the case of the Resorts World Manila tragedy, early warnings upon casino entry about a banned patron may have prevented the loss of many lives.

Such databases are also manually searchable. If members of your team encounter a suspicious person, they can run a quick background check.

A multitude of use cases

Your security guards cannot be expected to remember, identify and take action on every photo they have seen of a person of interest. Furthermore, human error will result in wrong identifications.

With several groupings of people entering casino facilities, different actions can be taken based upon their potential intent. Alert messages and photos can instantly appear on the monitoring screen or be sent to smartphones when:

1. a person is on a list of banned patrons, was previously caught as a defrauder, vandal, etc.
2. an unwanted person, who may hassle other patrons by soliciting schemes or distractions, is identified.
3. the law enforcement agency identified the person as a risk, such as a potential terrorist.
4. the system found a VIP to whom you might want to provide special privileges.
5. the visitor's age estimate falls below a certain limit for possible minors and therefore requires an ID document check.
6. a staff member enters the venue at unexpected times.
7. the known VIP expects special services and offers, e.g., this person collects watches, inform him about new Rolex models available at the hotel store.

8. persons, or staff, are seen in off-limit areas.
9. the system identifies a self-regulating problem gambler who wants to be prevented from entering, or to be monitored for the time spent in the casino.
10. a person has spent too many hours gambling, and the casino has a regulatory responsibility to ask them to 'move on'.

Other ideas? We will work with you to explore and develop solutions for other use cases!

Beyond security: business intelligence from the casino floor

Security and safety are certainly the two primary concerns for any casino owner, but the casino as a business also demands operational decisions and strategies. As such, a gaming facility must be driven by knowledge and insight.

A significant portion of this knowledge comes from customer analysis.

What times of day, month, or year does the casino experience the most lucrative traffic?

Who are the big spenders?

When do they usually visit, what is their age profile?

Who is responding well to advertising campaigns, and how can we improve the efficacy of these campaigns?

People counting, and breaking down count statistics by age, gender and location, provide critical insights into which areas of your business are more attractive to consumers than others.

Implementing software with anonymous facial analysis can provide valuable activity data, both on an individual level and en masse.

For example, a casino launches a new feature—such as a new bar or restaurant area, or a promotional deal—and wants to examine demographical changes and interest. Facial recognition compiles and collates highly useful data which will enable owners to evalute the success of the new feature and develop their strategies going forward.

A casino deals with consumers on several tiers, ranging from casual patrons to high rollers. The high-value VIP customers need additional nurturing and special treatment. If the host staff do not pick up on the VIP's arrival, this could result in the loss of a valuable account.

Facial recognition systems are a significant step toward gathering insight and understanding on both micro and macro levels. The reward is a confidently run business, agile enough to remain one step ahead of the competition.

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Comprehensive solutions

While face recognition can support security and safety measures, or provide users with a wealth of patron information and datapoints to develop future business strategies, the modern gaming industry requires a comprehensive solution.

Cognitec's FaceVACS-VideoScan product, currently in use in casinos across the globe, employs sophisticated algorithms to extract and store a high-resolution image for each frame of an appearance before the camera, and performs matches against databases.

Anonymous analysis of all facial images over time allows the software to compute people count, demographical information, people movement in time and space, and to detect frequent visitors and crowds.

In short, Cognitec's facial recognition system combines the multi-faceted aims of security and business insight in one comprehensive solution.

Face recognition also doubles as your upgrade path from people counting devices. Traditional devices simply count the number of people walking past. Cognitec's technology can exclude staff from counting, counts an individual only once, and alerts if a person appears multiple times or if too many people congregate in an area.
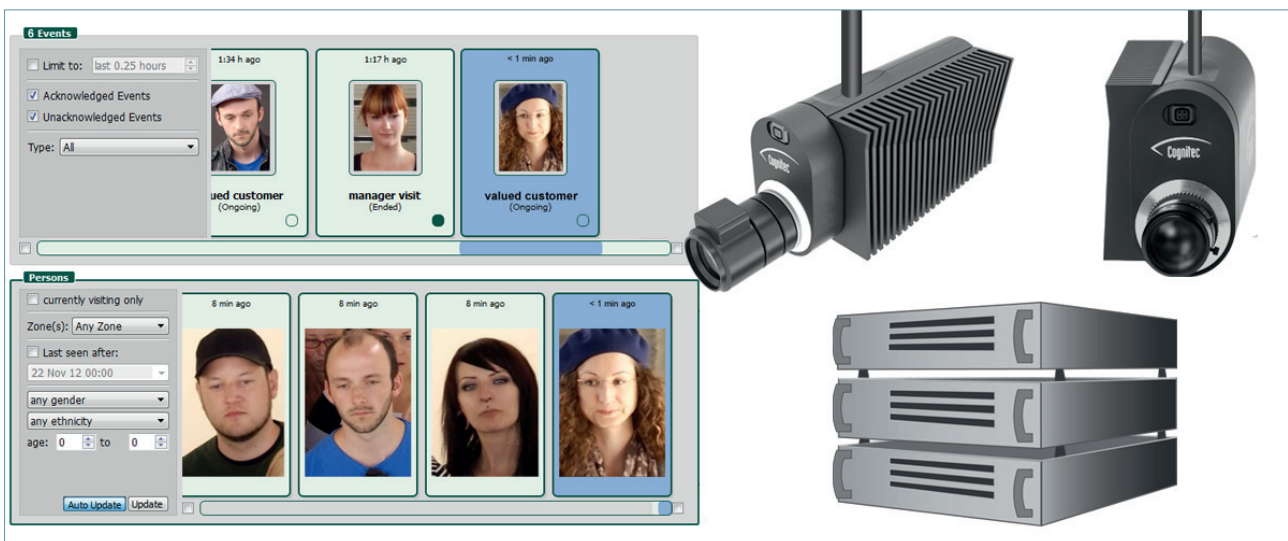
But the software alone won't produce optimal results. Casinos are looking for a cohesive, integrated system that combines hardware, software, and services, and that integrates seamlessly into their existing systems and operations.

Types of cameras, their positioning and tuning; high performance server choice; setting up an optimal network infrastructure; configuration of the solution; funding and deploying the system—all these components play an important part.

Making them work together, and supporting their continuous operation and maintenance, needs a specialist face recognition company with a proven track record in the gaming industry.

Security may be the top concern for a casino or club when selecting a face recognition system, but a safe environment for all customers and employees, a profitable business, and support from the community will provide true rewards for investing in this leading-edge technology.

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