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TECHNOLOGY IN GAMING

Introduction

When the modern era of gaming began in Nevada in 1931 (after roughly two decades of being prohibited), the notion that every person would someday have a casino in their back pocket was inconceivable. Yet, less than 100 years after Nevada set itself on the path to be the gambling mecca of the U.S., that is a reality. As the technology sector innovates, the gaming industry has always seized on those opportunities and found new ways to entertain gamblers. New technology also comes with new risks that were not contemplated when gaming was first legalized in the various jurisdictions. This article explores some of the technological developments and regulatory responses in commercial gambling. It is not meant to be exhaustive but rather highlight some of the technology that shaped an industry that continues to reinvent itself.

Evolution of Technology in Slot Machines

Early Mechanical Machines

The earliest devices used in gaming operations were a far cry from the high-tech machines in casinos today. If necessity is the mother of invention, the first slot machines certainly embody that mantra. In the 1880's, poker was extremely popular across the United States, particularly in "poker-infatuated San Francisco."¹ The first slot machine, produced in 1891 by Sittman and Pitt, was a mechanical device consisting of springs, reels and a lever designed to allow individuals to play a mechanized version of the much loved game.² Known as the "one-armed bandit" because of its pull down lever that started

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1. Roll the Bones: The History of Gambling, Pr. 187.
2. <https://www.delasport.com/history-of-slot-machines/>.

the game, the device brought poker into establishments that hadn't previously offered the game. From 1894 through 1908, several advancements were made which allowed the early slot machine to accept coins and pay out winnings automatically.³ While those may seem like minor changes, it meant more time spent playing the slot machine for guests, and less time spent by the proprietor or employees of the establishment in maintaining the operation of the machines. Through these early years of slot machines, most laws were ambiguous as to the legality of mechanical gaming devices. Given that gambling and slot machines were not legal in all jurisdictions, often times the payout was not money; it was typically some type of good otherwise sold by the shop, such as gum, candy, cigars, or similar items.⁴ The justification being that because it was not offering money or a significant prize for winning, the machine was not a gaming device, and not in violation of anti-gambling laws.

In 1909, California and Nevada both passed laws making gambling illegal. For Nevada, this law went into effect October 1, 1910. It was briefly repealed in 1911 and reimposed in 1913. It was not until 1931 that Nevada passed laws once again allowing gambling.⁵ From approximately 1910 through 1931, legal gambling was almost nonexistent in the U.S. Not surprisingly, there were not as many technological advancements in gaming during this time, and those that did come during this period were mechanical improvements geared toward reducing slot cheating scams and staying "one step ahead of ingenious tricksters."⁶



Slot machine players. Las Vegas, Nevada. United States Nevada Clark County Las Vegas, 1940. Mar. Image courtesy of the Library of Congress.

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3. <https://www.delasport.com/history-of-slot-machines/>.
 4. Roll the Bones: The History of Gambling, Pg 188.
 5. Study of Gaming, Legislative Counsel Bureau Bulletin No. 93-4 published September 1992, Page 3.
 6. Roll the Bones: The History of Gambling, Pg.189.
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Electromechanical Machines

The next major advancement in the slot machine industry came in 1963, when Bally Manufacturing Company introduced the first entirely electromechanical slot machine, Money Honey.⁷ Money Honey introduced two important advancements in the slot machine industry, a “reliable electronically controlled construction and the incorporation of a ‘bottomless’ motor-driven payout hopper capable of automatic payouts of up to 500 coins without the use of an attendant.”⁸ Making the slot machine fully electromechanical also meant that the iconic lever was no longer necessary to operate the slot machine. Although Money Honey still provided the lever, over time the handle of the one-armed bandit was phased out and was replaced with buttons as the means for starting a game.⁹

Video Slot Machines

In 1976, the first video slot machine was manufactured in Kearny Mesa, California.¹⁰ This machine used a modified Sony television for the display and replaced the old mechanical reels with graphic reels using a computerized display.¹¹ This new video slot machine was first installed for field trial in the Las Vegas Hilton and was ultimately approved for statewide use by the Nevada Gaming Commission.¹² The new video display screen resulted in a vast expansion of the number and types of symbols that could be displayed. As computer processing and display technology has advanced, the possibilities have proven endless, and include multimedia and interactive features.¹³ Moving away from mechanical devices to electromechanical also introduced the need for a computerized means of randomizing the results.

While some limited gaming, such as card games, bingo and sports pools, has been legalized in Montana since 1973, in 1983 the voters defeated an initiative which would have established a Gaming Commission and expanded authorized gambling in the state to include “blackjack, punchboards and certain electronic or mechanical gambling devices.”¹⁴ A

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<https://web.archive.org/web/20090930001018/http://ballytech.com/company-information>.

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<https://web.archive.org/web/20090930001018/http://ballytech.com/company-information>.

9. <https://www.delasport.com/history-of-slot-machines/>

10. <https://www.delasport.com/history-of-slot-machines/>

11. <https://www.delasport.com/history-of-slot->

12. <https://www.delasport.com/history-of-slot->

13. <https://www.delasport.com/history-of-slot->

14. https://sosmt.gov/wp-admin/admin-ajax.php?juwpfisadmin=false&action=wpfd&task=file.download&wpfd_categ

1984 Montana Supreme Court ruling gave another blow to legalized gaming when it held that electronic poker machines were illegal slot machines as defined by Montana law.¹⁵ The decision relied in part on a finding that the computerized version of poker, which relies on a random generating pattern to display cards, was not the same as playing the game of poker as defined by the Montana Card Games Act.¹⁶ This decision ultimately led the legislature to pass the Video Poker Machine Act in 1985, allowing for poker machines and keno machines in certain licensed establishments.¹⁷ Montana is in the company of Nevada and Oregon as one of the only Western states to allow any form of slot machine in an establishment other than on tribal lands; in Oregon these are called video lotteries, which are overseen by the Oregon Lottery.¹⁸ Alaska, by contrast, does not permit slot or video poker machines even in tribal gambling establishments.

In 1996, WMS Industries Inc. released "Reel 'Em," which was the first video slot machine with bonus rounds on a second screen.¹⁹ The invention of the second screen bonus round, which later became known as a "bonus game" or an "extended feature" would auto initiate when a certain outcome was achieved. These games reinvigorated the popularity of slot machines and soon this new type of machine dominated the Las Vegas casino floors.²⁰ With the popularity of the new games came a new challenge for regulators in the form of patron disputes. In 2001, the significant increase of patron disputes led the states of Arizona, Colorado, Michigan, Mississippi, Nevada, New Jersey, and New Mexico, and the province of Ontario, to each issue a similar policy governing auto-initiation of bonus games and extended features by a gaming device.²¹ While cooperation amongst gaming regulators is not unusual, this cooperative effort which led to the issuance of coordinated policies by so many jurisdictions was unique and underscores the substantial number of patron disputes concerning these types of games.

Progressive Slot Machines

The lottery has long been viewed as competition to casino gaming, and one only has to observe the gaming industry's opposition to a legal lottery in

ory_id=24&wpfd_file_id=57534&token=98b20a1029e313e33b1092b9792e8cf7&preview=1.

15. Gallatin Cty. v. D R Music Vending, Inc., 208 Mont. 138, 676 P.2d 779 (Mont. 1984).

16. Gallatin Cty. v. D R Music Vending, Inc., 208 Mont. 138, 676 P.2d 779 (Mont. 1984).

17. 23-5-603, MCA.

18. ORS 461.215 and 461.217.

19. <https://www.delasport.com/history-of-slot-machines/>.

20. <https://www.delasport.com/history-of-slot-machines/>.

21. Nevada Gaming Control Board Industry Notice on Bonus Game Operation – Initiation of Bonus Feature, posted 2/13/2001 (<https://gaming.nv.gov/modules/showdocument.aspx?documentid=4653>).

Nevada to understand the depth of that rivalry.²² In 1985 the first interstate lottery was approved, allowing anyone in Maine, New Hampshire and Vermont to play a combined lottery, thereby increasing the prize pool.²³ Seeing this expansion of single-state lotteries into multi-state lotteries, the gaming industry soon responded with its own opportunity to win a multi-location prize pool. International Game Technology released Megabucks, an industry-changing progressive jackpot slot machine in 1986.²⁴ The idea behind the progressive jackpot was to accumulate the prize pot over multiple linked slot machines, with the eventual winner taking the pot from all slot machines, not just the single machine at which the patron was gaming. There are three types of progressive slot machines used across the various jurisdictions, the stand-alone progressive machine, which accumulates the jackpot at a single device and is not linked to any other device; the multiple gaming device progressive, where multiple devices are linked to offer a common jackpot; and multi-site progressive slot machines where gaming devices are linked across more than one casino and offer a common progressive jackpot across all linked sites.²⁵ It was not until 1995 that Nevada gaming laws were revised to account specifically for this type of game, which was defined and regulated as “inter-casino linked system.”²⁶ Slot machines now account for \$8.98 billion for the U.S. gaming industry.²⁷

Table Game Advancements

In addition to the advancements in slot machines and related systems, new technology in table games also developed over the years. The invention of the card shuffler, a device which is capable of randomly rearranging a deck or multiple decks of playing cards prior to use in a game, and the card shoe, which holds the playing cards for distribution by a dealer, made dealing cards less prone to human error and ensured a more even randomization of cards within the deck(s). Even casino chips have now gone high-tech, using radio frequency identification (RFID) technology to tag and track chips used in the casino. One of the newest advancements in table game technology is the use of RFID chips in playing cards and corresponding RFID technology in poker tables, allowing for the tracking of the exact location of all playing cards in a poker game. This technology is on display during live poker tournaments,

22. Minutes of the Meeting of the Assembly Committee on Legislative Operations and Elections, April 4, 2023, Pgs. 35-39

(<https://safe.menlosecurity.com/doc/docview/viewer/docNDB7C8E92DB49af56137e92860902417a28113045b0be10563c5f691b923d5b06a179b8971ca9>)

23.

<https://www.pbs.org/wgbh/pages/frontline/shows/gamble/etc/cron.html>.

24. <https://www.delasport.com/history-of-slot-machines/>.

25. GLI-12 version 2.1: Progressive Gaming Devices in Casinos, Release date September 6, 2011, Pg. 11.

26. NRS 463.01643.

27. <https://www.americangaming.org/resources/aga-commercial-gaming-revenue-tracker/>

such as the World Series of Poker and the World Poker Tour, allowing the audience and announcers to see which cards are held by which players.

Data Systems and Monitoring

In 1976, Bally exemplified the technological advancements of the gaming industry by creating a new division, Slot Data Systems (SDS). As the first fully computerized data-collection system, SDS ushered in a new era of electronic slot management, slot accounting, and slot security previously unheard of in the casino industry.²⁸ Similar systems are now offered by numerous gaming equipment manufacturers and have grown to include data collection and monitoring for all aspects of the casino, not just the slot machines. In addition to systems which monitor casino activity, the machines and devices themselves are also now frequently connected to internet or intranet connections to allow updates as well as ongoing monitoring to ensure the proper function of the devices.

From the 1990s through the 2000s, regulatory agencies also began to embrace what new technology could offer and started requiring certain automated slot accounting and administrative tools be installed in gaming equipment and systems. These tools allowed for real time tracking of events and data, from machine performance to floor performance. Individual player activities could be electronically tracked for the first time if a player card was used and allowed in the jurisdiction (see discussion below concerning loyalty programs). During these years, many regulatory agencies also began to update internal controls to account for technological advancements. In 1999, Montana passed House Bill 109 to authorize use of automated accounting and reporting systems to simplify the reporting of video gambling machine data, including revenue reporting, to increase efficient recordkeeping and reduce regulatory costs.²⁹ Nevada Gaming Regulation 6.045 requires certain gaming licensees to maintain an online slot metering system, which required installation starting in 2005.

Another development that has been a natural outcome of the technological advancements already mentioned is server-based gaming. Historically, each gaming device was a standalone computing terminal and all computing, from game logic to the random number generator and gaming configurations, were performed on the machine. This is no longer the case and some or all of the computing functionalities may take place on a remote server, not within the gaming device on the casino floor. This type of remote processing is generally broken down into two classifications, the server based game system, or a server supported game system. In a server based game system, "the entire or integral portion of game content resides on the [remote]

28.

<https://web.archive.org/web/20090930001018/http://ballytech.com/company-information>.

29. <http://leg.mt.gov/bills/1999/billpdf/HB0109.pdf>.

server.”³⁰ With a server supported game system, the entire control program and game content are capable of being transferred to the gaming terminal, allowing the gaming terminal to operate “independently from the system once the downloading process has been completed.”³¹ The game outcome is still determined by the gaming device itself and not by the system. Regulators started taking a closer look at how these systems were operating, including Nevada which has established basic system architecture and other technical requirements for system based and system supported gaming devices.³²

The collection of data had another significant advantage for the casino operators and players - customer loyalty and rewards programs. The programs gave casinos a way of more closely monitoring the gaming activities of its players, and players who participated were rewarded for their play with free play credits, dining rewards, free hotel rooms, and more. Most states have remained somewhat permissive on the collection and use of player data, but Montana did not take a hands-off approach to regulating customer rewards programs. Use of a player tracking and/or player rewards system had been prohibited in Montana until quite recently. A prior attempt to authorize this type of player tracking system was vetoed by the Montana governor in 2019, citing problem gambling, a competitive advantage for large operators over small operators, and a concern that the bill had not been reviewed by the state’s Gaming Advisory Council.³³ The following legislative session, in 2021, Montana’s legislature approved player reward systems.

Cashless Wagering Systems

While slot machines continued to get smarter and more advanced, the underlying casino systems and corresponding regulations had to advance to keep pace. While the bottomless hopper, first introduced with Money Honey, was seen as revolutionary at the time, even more groundbreaking was the idea of the cashless wagering systems. Introduced in the early 1990’s the “ticket-in, ticket-out” system, came to be known as TITO. Cashless wagering systems allow a patron to use a paper voucher, printed with a barcode or other electronically readable indicator of value and move credits from one machine to another without having to handle large amounts of coins. When the patron is done playing at a machine, they print a paper ticket to remove the remaining credits from a machine. The patron moves to the next machine, inserts the paper voucher, and the machine is then credited with the value remaining on the voucher. While being more convenient for the patron, it also

30. Gaming Laboratories International, LLC Standard Series GLI-21: Client-Server Systems, version 2.2, Release date: Sept 6, 2011, Pg.10. (<https://gaminglabs.com/gli-standards/>)

31. Gaming Laboratories International, LLC Standard Series GLI-21: Client-Server Systems, version 2.2, Release date: Sept 6, 2011, Pg.10. (<https://gaminglabs.com/gli-standards/>)

32. Technical Standard 1.080, Nevada Gaming Commission (<https://gaming.nv.gov/modules/showdocument.aspx?documentid=2919>).

33. Office of the Governor State of Montana, Letter dated May 10, 2019 (<https://leg.mt.gov/bills/2019/AmdHtmH/HB0579GovVeto.pdf>).

eliminates significant overhead for the casino by reducing labor costs and wear and tear on machines because they no longer have to handle large volumes of coin.³⁴

Regulation and Testing

Oversight of the gaming industry requires regulatory evolution in conjunction with technological developments. Public policy dictates that state gaming regulators safeguard the fairness and integrity of the gaming industry. Regulatory responsibility requires expertise in technology be developed or outsourced to ensure proper oversight. For each type of gaming device, associated equipment, and system, regulators have set technical standards for the proper operation and security of the device or system. These technical standards set forth the minimum criteria required to obtain approval or certification for the device or system being proposed for gaming activity within the jurisdiction. With some limited differences in jurisdictions which offer tribal gaming only, the testing and approval of devices and systems is typically handled in three ways: (1) the gaming regulator handles the testing itself; (2) the testing is outsourced to an independent testing laboratory (lab); or (3) a combination of the two.

By way of example, in Arizona, the Arizona Department of Gaming uses an independent testing lab to test and certify devices before the device or technology can be submitted to the Arizona Department of Gaming for testing and verification.³⁵ In 1998, the Washington State Gambling Commission established the Electronic Gambling Lab, where equipment is tested and approved before it can be used in "house banked card rooms, authorized electronic raffle locations, and tribal casinos."³⁶ Conversely, in California, "[g]aming devices must be approved by an independent testing laboratory licensed by a tribal gaming office and certified by the state gaming agency."³⁷ The use of independent testing labs was not a new concept for other states, but Nevada's Electronic Services Division (later renamed the Technology Division) has its own state run laboratory capable of testing and validating most gaming devices, systems and equipment in-house. In 2001, following the increased use of cashless wagering systems, the Nevada Gaming Control Board announced its intent to use qualified testing labs to test slot machine-to-system interfacing for cashless wagering systems.³⁸ Other than limited

34. Nevada Gaming Law Practice and Procedure Manual 2016 Edition, Pg. 9/10

35. <https://gaming.az.gov/tribal-gaming/compliance-enforcement>.

36. <https://wsgc.wa.gov/games-equipment/equipment-and-software-testing-electronic-gambling-lab/about-electronic-gambling-lab>.

37. https://us-west-1-02900067-view.menlosecurity.com/safeview-fileserv/tc_download/cd10e7753deabeff2cc5b8ff88a19e62c572b7020953c0edf0113b44d3065ad7/?&cid=NB55D130B88BE_&rid=489341815ee67d1e185f274aafd4e5fa&cl=4CTCXXAIFGa.

38. Nevada Gaming Control Board Industry Notice – Outsourcing of Certain Cashless Wagering System Testing; posted November 16, 2001.

testing conducted by the independent labs, it was not until 2011 that the Nevada legislature authorized the Gaming Control Board to “utilize independent testing laboratories for the inspection and certification of any gaming device, associated equipment, cashless wagering system, mobile gaming system or interactive gaming system, or any components thereof.”³⁹

Server-based gaming, cloud hosting, and other technological advancements have resulted in casinos increasing reliance on third party technology vendors that have not historically been part of the gaming industry. Regulators have grappled with issues like determining whether gaming data, including patron data, gaming hardware, and similar data, can be stored at sites not licensed for gaming operations, whether such data can leave the jurisdiction in which it is operating, and what level of service can be provided by an un-licensed third party. Nevada adopted laws specifically addressing hosting centers and service providers in 2011, and many other states have followed with varying outcomes on how those critical questions are to be answered.⁴⁰

Interactive, Online and Mobile Gaming

Interactive gaming is defined as exposing gambling games for play through communications technology which allows a person to use a computer to assist in the placing of a bet or wager and corresponding information for the purpose of gaming.⁴¹ In short, interactive gaming allows casino games to be offered using computer and internet technology. Nevada first authorized interactive gaming in 2001,⁴² at the time giving the Nevada Gaming Commission authority to adopt regulations for interactive gaming after it determined whether such activity can be done in compliance with Nevada’s laws governing gaming and that systems used for interactive gaming would be reliable. These regulations were not adopted until 2011, when the Legislature removed the requirement that the Commission make those findings public.⁴³ Assembly Bill 258 of the 2011 Legislative Session opened the door for interstate interactive gaming if a federal law authorizing interactive gaming was enacted or the United States Department of Justice notified Nevada in writing that such interactive gaming would be permissible under federal law.⁴⁴ On December 22, 2011, the Commission adopted a new Regulation - 5A, governing the operation of interactive gaming, by setting the regulatory framework for internet poker to be offered by licensed gaming operators.⁴⁵

39. NRS 463.670(7).

40. NRS 463.673 and 463.677.

41. NRS 463.016425

42. NRS 463.750

43. 2011 Statutes of Nevada, Pgs. 1669 and 1670 (CHAPTER 302, AB 258).

44. 2011 Statutes of Nevada, Page 1670 (CHAPTER 302, AB 258) .

45.

<https://gaming.nv.gov/modules/showdocument.aspx?documentid=15427>.

In 2013, Nevada's Legislature took interactive gaming one step further by removing the dependency on federal action to operate interstate interactive gaming and affirmatively requiring the Gaming Commission to adopt regulations authorizing the Governor to enter interstate compacts for interactive gaming.⁴⁶ This legislation was effective immediately and permitted Nevada's governor to pursue interstate compacts, thereby allowing Nevada residents to play online poker with residents of other states which had entered such compacts. The Multi-State Internet Gaming Agreement (MSIGA) was first signed by Nevada and Delaware. Taking effect on February 25, 2014, the MSIGA allowed Nevada residents to begin playing poker on Delaware's interactive gaming websites.⁴⁷ To date there are five states in the MSIGA, Delaware, Michigan, Nevada, New Jersey, and West Virginia.⁴⁸ Pennsylvania is the only other state which currently offers interactive gaming but is not a member of the MSIGA.⁴⁹ Rhode Island, in 2023, passed legislation that will allow operators to offer online table games; however, the legislative changes are recent and interactive gaming is not yet available in the state.⁵⁰

Online and interactive gaming introduced new challenges by way of payment processing, identity and age verification, and geolocation. The federal Unlawful Internet Gambling Enforcement Act prohibits the processing of certain payment methods for unlawful internet gambling sites or the banks which represent such sites.⁵¹ In the early days of legalized interactive and online gaming, many banks, card brands, and payment processors were reluctant to assist with payment processing for these new lawful websites. Although more providers are willing to facilitate payment today, there are still several hurdles that a legal gaming website or app must jump over before processing certain payment types. For example, most payment processors and card brands will require the gaming site to obtain an independent legal opinion of the legality of operating in the jurisdiction and manner intended for the gaming site. Even after the gaming site is successful in establishing payment processing methods, many credit and debit card transactions are still being declined due to the nature of the transaction. In testimony before the Nevada Committee to Conduct an Interim Study on the Impact of Technology Upon Gaming, it was reported in 2013 that only 44 percent of credit card transactions for online gaming sites were approved by the

46. 2013 Statutes of Nevada, Page 5 (CHAPTER 2, AB 114).

47. <https://news.delaware.gov/2014/02/25/governors-markell-and-sandoval-sign-multi-state-internet-gaming-agreement/>

48. <https://wvlottery.com/media-center/west-virginia-joins-multi-state-internet-gaming-agreement-msiga/>.

49. <https://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&ttl=04&div=0&chpt=13B>

50. <https://rhodeislandcurrent.com/2023/06/08/amended-igaming-bill-wins-in-r-i-senate/>

51. 31 U.S.C. §§ 5361, 5362, and 5363.

consumers' banks.⁵² This problem has been largely resolved since the early days of legal online gambling, due in part because there are more options available for making deposits into and processing withdrawals from online wagering accounts, but also due to the fact that online gaming has become legal in more jurisdictions since Nevada first allowed it.

The technical requirements for interactive gaming systems require that an interactive system be capable of geolocating the player's physical location within a specified confidence radius to ensure that the player is physically present in the jurisdiction in which the system is approved to operate. Prospective players must have their identify successfully confirmed before they are allowed to play a game on an interactive system. This includes minimum authentication of the legal name, address, and date of birth. Both of these functions are frequently outsourced to third party service providers who specialize in that field of regulatory compliance.

In its 2018 decision in *Murphy v. National Collegiate Athletic Association*,⁵³ the U.S. Supreme Court turned the online and mobile gambling law on its head when it struck down as unconstitutional the Professional and Amateur Sports Protections Act of 1992 (PASPA),⁵⁴ which generally prohibited sports betting in the U.S. With the overturn of PAFSA, online gambling in the form of sports wagering became widely accepted in the United States. Thirty-eight states and District of Columbia, as of November 7, 2023, have live sports betting, with most states having some form of online/mobile app sportsbook(s). Nevada's exclusion from the PASPA prohibitions meant that it had mobile sports wagering even before the 2018 overturn of the law.

Cybersecurity

Cybersecurity and the risks of technology infrastructure failures has been a topic of regulatory concern in all industries. U.S. states have long had data breach notification rules requiring all businesses to disclose certain breaches of personally identifiable information, and some states also have minimum technology requirements for businesses which hold personally identifiable information about consumers. Gaming regulators have long incorporated system and equipment requirements in their technical standards and apply minimum internal controls and standards to gaming operations and certain gaming equipment, including some limited specifications for cybersecurity requirements. As the online, mobile, and interactive gaming options continue to grow, many jurisdictions are now realizing that technology standards directed at only a single device or system are missing the bigger picture of how all systems and devices connect to each other. For example, if several systems, each of which was independently

52. Minutes of the Nevada Committee to Conduct an Interim Study on the Impact of Technology Upon Gaming, pg.5

(<https://www.leg.state.nv.us/App/InterimCommittee/REL/Interim2013/Meeting/4639>).

53. 138 S. Ct. 1461 (2018)

54. Pub. L. No. 102-559, 106 Stat. 4227 (1992) (codified at 28 U.S.C. §§ 3701–3704 (2012))

tested and approved, are used in a manner in which the systems are all connected, there may be vulnerabilities that were not evident when testing isolated systems. Similarly, the overall technology infrastructure on which these systems and devices are being operated along with the security implemented on those networks may not be subject to gaming regulatory approval or may have vulnerabilities that are not identified by gaming technical standards. In December 2022, the Nevada Gaming Commission adopted comprehensive cybersecurity requirements and breach reporting.⁵⁵ The new Nevada cybersecurity regulation does not limit its applicability to gaming systems, it covers all gaming operator information systems. Pursuant to Regulation 5.260, a gaming operator is required to establish cybersecurity best practices, perform ongoing risk assessments, and report cyber-attacks. In addition, certain licensees are also required to designate a qualified individual to be responsible for its cybersecurity program and perform certain annual audits.⁵⁶

Future Technologies

It seems technology news is inundated with stories discussing cryptocurrency, and not always painting the technology in a flattering light. Several Nevada casino operators offer cryptocurrency ATMs on or near the casino floors, allowing customers with crypto wallets access to those funds while at the casino. It was recently announced that Bitline will roll out a new technology to utilize blockchain technology to provide casino patrons worldwide with casino chip access on the gaming floor, directly from their cryptocurrency or digital assets.⁵⁷ One of the controversies surrounding the use of cryptocurrency in gaming is the problem with ascertaining source of funds and conducting customer due diligence, as required by the Bank Secrecy Act⁵⁸ and gaming regulation. To combat this criticism, Bitline said it has formed a strategic partnership with Everi Holdings, a well-known gaming manufacturer, along with other partners to “implement transaction monitoring.”⁵⁹ The prevalence of cryptocurrency will only continue to increase now that the SEC has approved the listing and trading of a number of spot bitcoin exchange-traded product shares⁶⁰ and it will be more important than

55. Nevada Gaming Commission Regulation 5.260
(<https://gaming.nv.gov/modules/showdocument.aspx?documentid=19351>).

56. Reg 5.260.

57.

<https://vegasinc.lasvegassun.com/business/gaming/2023/nov/27/new-app-brings-cryptocurrency-assets-to-gaming-flo/>.

58. 12 U.S.C. 1829b, 12 U.S.C. 1951-1960, 31 U.S.C. 5311-5314, 5316-5336

59.

<https://vegasinc.lasvegassun.com/business/gaming/2023/nov/27/new-app-brings-cryptocurrency-assets-to-gaming-flo/> (accessed 12/14/2023).

60. <https://www.sec.gov/news/statement/gensler-statement-spot-bitcoin-011023>

ever that the gaming industry be prepared to respond to the increased use and availability of this new type of currency. The rise of artificial intelligence in all aspects of computing and analytics is also gaining traction within the technology world, and this is also being seen in the gaming industry. One of the earliest examples of artificial intelligence is the use of facial recognition software by casino surveillance systems. The use of artificial intelligence in these systems has allowed casino operators to more easily identify persons who are prohibited from being on the casino premises. Moving beyond security uses, several technology companies recently exhibited new, improved artificial intelligence products which are capable of carrying out hospitality services, including baristas, bartenders, and chefs.⁶¹ While these technologies are not gaming focused, it would not be a stretch to someday see technology equipped with artificial intelligence capable of dealing a live table game, or carrying out any number of other responsibilities on the gaming floor. The regulatory response to these new technologies may influence whether and how quickly they are incorporated into business operations.

Conclusion

If early legislators and regulators in 1931 could not conceive of mobile gaming and the current technologies incorporated into gaming, it would be naive of us to believe that we can conceive of what the next 100 years will bring. Knowing now the benefits of rapidly changing technology, it is incumbent upon the gaming industry to set up structures to ensure it is ready to advance at the same pace as new technology is being introduced. Setting frameworks for overseeing these advancements in a way that continues to monitor the security and integrity of the games but allows more nimble changes will ensure the industry's long-term viability in an increasingly digital world.

61. <https://www.latimes.com/business/story/2024-01-13/robot-baristas-and-ai-chefs-caused-a-stir-at-ces-2024-as-casino-union-workers-fear-for-their-jobs>
