



case study

TOPGOLF DIGITAL DISPLAY TRANSFORMATION

SVM
CONTROLS

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TOPGOLF, SAVI CONTROLS, LG BUSINESS SOLUTIONS AND DIEM DIGITAL PARTNER TO CHANGE THE FACE OF AUTOMATED TECH IN ENTERTAINMENT VENUES WORLDWIDE



TOPGOLF

CARRY	24 yd
BALL SPEED	99 mph
HEIGHT	7 ft
HANG TIME	1.8 s
CURVE	1 ft

REPLAY

LEADERBOARD

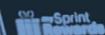
ARIAN	20	10
ALISSIA C.	20	10
MATED C.	20	10
ISELA C.	20	10

223



On Sundays at Topgolf,
buy an hour,
get an hour on Sprint.

Download the My Sprint Rewards app.



CURRENT PLAYER: MATED C. LAST BALL: 0 PTS TOTAL SCORE: 15 PTS

8:33 PM

1 HOUR AND 17 MINUTES REMAINING

SITUATION

Topgolf Entertainment Group's venues connect communities of fans in meaningful ways through technology, entertainment, food and beverage, and the belief that Topgolf is an entertainment destination where one can discover common ground no matter the occasion. These venues feature high-tech gaming, climate-controlled hitting bays, a chef-driven menu, hand-crafted cocktails, music, corporate and social event spaces, and more. Topgolf venues entertain more than 20 million guests annually at nearly 60 locations across the U.S. and internationally.

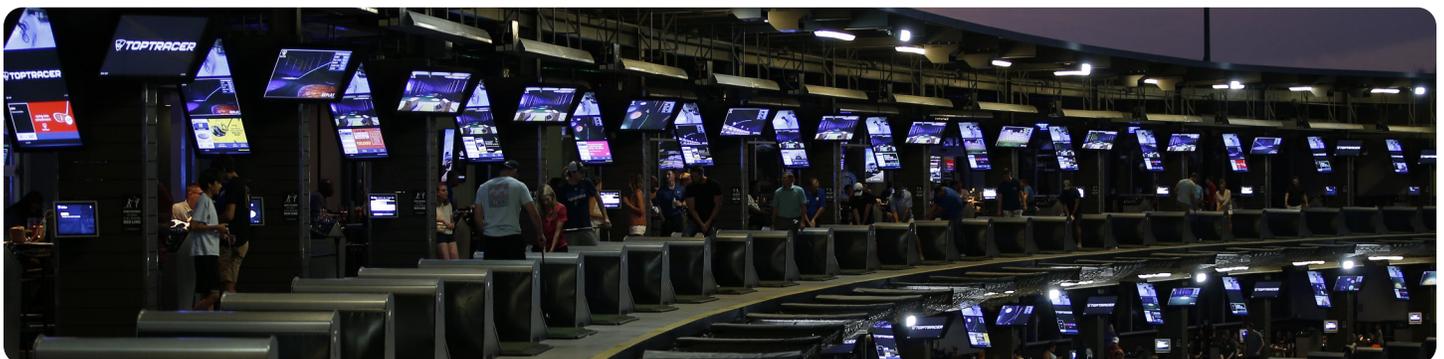
In order to offer guests the ultimate sports and entertainment experience across all venues, the company sought to enhance its technology platform by transitioning from consumer televisions to immersive and durable commercial displays. These digital displays are a key component within Topgolf's multi-level complexes.



THE CHALLENGE

As a leading global sports and entertainment community, Topgolf Entertainment Group connects nearly 100 million fans in meaningful ways through the experiences they create, the innovation they champion and the good that they do. Topgolf searched for an advanced video and content distribution system to enhance the Topgolf experience for customers and employees alike. The goal was to create a customizable display solution with a longer shelf life and an exceptional warranty. Upgrading from consumer TVs to industry-leading displays and software would solve the end-of-life problem and improve the longevity of the units themselves. Additionally, expenditure

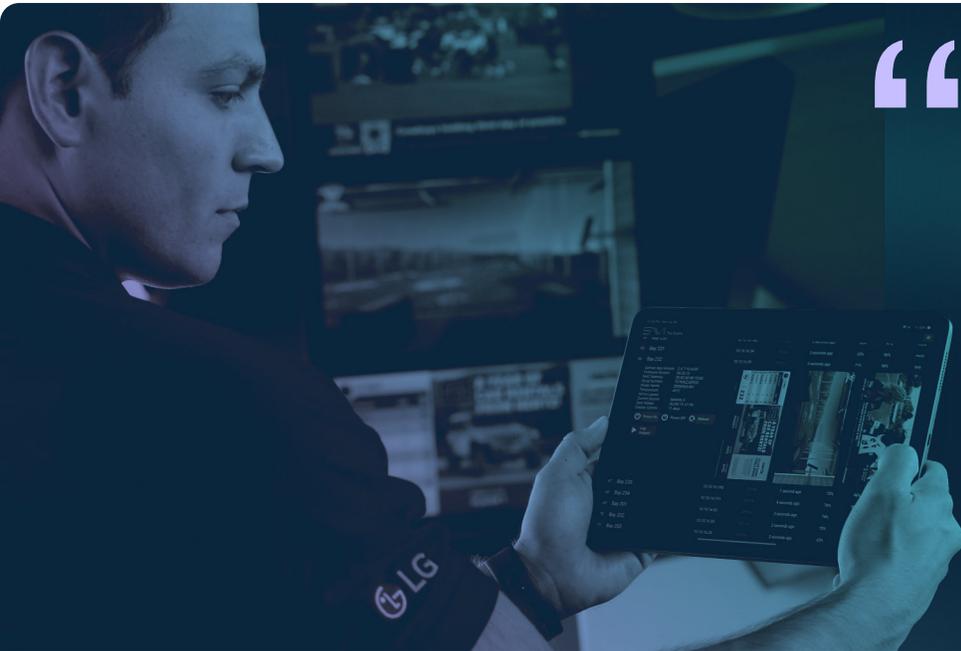
on replacement units would decrease and reliability would increase while guests enjoy a real-time, dynamic visual solution. With a growing number of venues, Topgolf wanted to identify digital signage and software solutions that would be durable, reliable and allow simultaneous control of content delivery and display management in an innovative fashion. The displays would need to accurately and clearly present the rich colors and vivid details, while splitting the screen into three sections to accommodate varying content needs. More importantly, the displays would need to seamlessly connect to one another for quick, easy use from a central location.



SOLUTION

Topgolf enlisted the fastest-growing AV control software brand in North America, SAVI Controls, and global technology innovator, LG Business Solutions, along with systems integration partner Diem Digital, to create a solution called SAVI Canvas. This software was developed by the SAVI Controls team to run exclusively on LG's award-winning webOS Signage platform, an operating system

that is embedded across its smart commercial displays. Diem Digital has been providing turn-key AV control solutions to Topgolf for nearly a decade, previously on consumer-grade televisions and now on commercial-grade digital signage displays. More than 10,000 LG webOS displays have now been installed in more than 50 Topgolf venues worldwide.



“ We’ve worked with many different companies, but until now have never had someone by our side who truly works with us as a team member to pull off everything you see at the Topgolf venue.

It’s cutting edge technology that nobody can touch. ”

DEREK WILSON
PRESIDENT, DIEM DIGITAL

SAVI Canvas combined the power of SAVI Controls with LG's webOS technology to enable Topgolf to control, manage and deliver content to displays at each venue – all over a single network cable. This provided the required nucleus to build a one-of-a-kind solution with a significant amount of flexibility for Topgolf. This solution also met Topgolf's need for a tri-pane display feature that can simultaneously show DIRECTV programming, digital signage content and the Topgolf game on a single portrait display.

“On the front end, the user interface provides great options; for instance, a manager can use SAVI's 'facility view' to quickly and easily control all the different displays throughout the venue,” said Byron Baird, Vice President, Sales, SAVI Controls.

Peter Kim, Technical Product Manager at LG Business Solutions USA, likens WebOS to “having a miniature PC or media player built in to the display.”

LG's hybrid outdoor displays were specifically selected for their reliability, picture quality and customizability. SAVI developed new custom mounts and enclosures which LG certified for warranty purposes, providing Topgolf improved ongoing service and support for the display hardware. Topgolf now has the flexibility to display broadcast programs, Topgolf TV, marketing messaging, and custom content from its gaming systems, including Toptracer, within the tri-pane solution. All of which further elevates the guest experience.

“LG is the best partner we've ever had,” said Derek Wilson, President, Diem Digital. “We've worked with many different companies, but until now have never had someone by our side who truly works with us as a team member to pull off everything you see at the Topgolf venue. It's cutting-edge technology that nobody can touch.”

TOPTRACER

12:31 PM Mon Jul 29

SAMI The Colony

Bay	IP	Status	Last Update	CPU	MEM	More
54 Bay 220	10.10.16.31	Online	4 seconds ago	67%	96%	more
55 Bay 221	10.10.16.235	Online	3 seconds ago	69%	98%	more
56 Bay 222	10.10.17.29	Online	4 seconds ago	74%	98%	less
57 Bay 223	10.10.17.30	Online	3 seconds ago	59%	97%	
58 Bay 224	10.10.16.238	Online	5 seconds ago	66%	98%	
59 Bay 225	10.10.16.9	Online	2 seconds ago	65%	98%	
60 Bay 226	10.10.16.181	Online	now	74%	95%	

Canvas App Version: 2.6.7.10.6659
Firmware Version: 04.03.10
MAC Address: 38:9C:50:57:C1:A8
Serial Number: 707MXDMSM114
Model Name: 55MSKD-BH
Temperature: 49°C
Active Layout: TGTV
Current Source: 06/04/19, 01:52
Date Added: 15 hours
Display Uptime:

Power On Power Off Reboot

Log Inspect

Swing into refreshment

TOPTRACER

I'm worried about WILL

RESULTS

IMPACTING BRAND AND VISUAL IDENTITY:

Since deploying the solution at more than 50 locations, Topgolf has seen significant benefits, heard positive feedback and achieved unprecedented innovation.

“When you get to know the Topgolf and LG business models, you understand that it is all about the customer experience,” said Craig Rathbun, Senior Enterprise Account Manager, LG Business Solutions USA. “It’s thinking through how to bring better functionality, better user experience, more graphics, enhanced colors, and all of that energy and excitement to the table.”

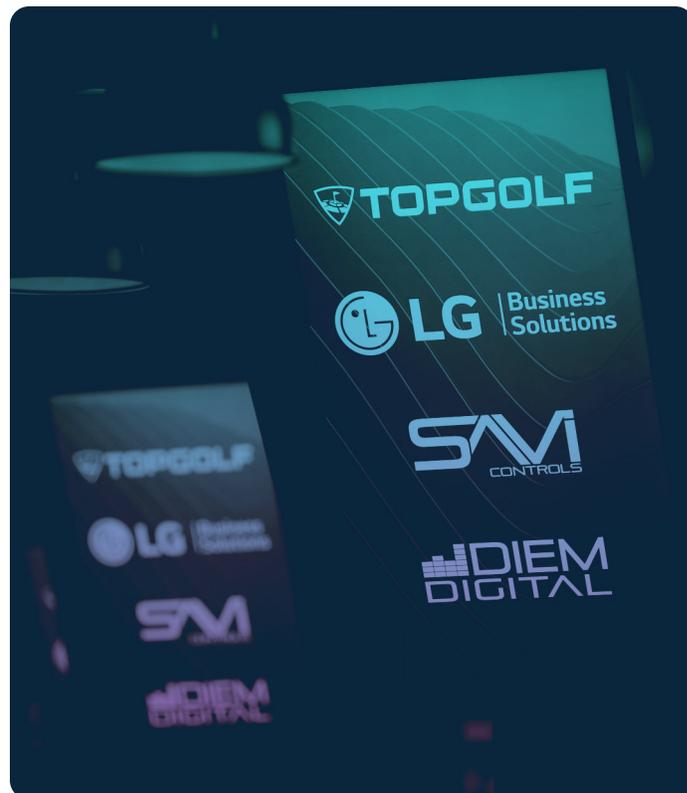
The implementation of the LG displays and SAVI Canvas solution not only enabled Topgolf to manage displays remotely, but also significantly reduced the failure rate and replacement labor overhead of previous consumer displays.

One specific benefit of this groundbreaking collaboration is that Topgolf is now able to introduce new virtual games, Ball Flight Track and Jewel Jam, with its Toptracer ball flight tracing technology that appears in one of the three panes within the LG display. Enhancements like this support Topgolf’s overall goal of enhancing the customer experience with the best entertainment options. Topgolf continues to add new games that are currently in beta testing and development, thanks to the innovation developed by LG and SAVI Controls.

ONE-OF-A-KIND GLOBAL EXPERIENCES:

The first installation of the SAVI Canvas solution at a Topgolf venue was in the fall of 2017 in Nashville, Tennessee. The success of that installation convinced Topgolf to replicate the partnership between SAVI Controls and LG’s webOS solution in all 54 existing locations and new venues going forward, beginning with the Orlando, Florida location.

“As the designer and integrator of audio-visual systems for Topgolf, we have seen first-hand the unmatched reliability of LG products and technologies,” added Wilson. “Moving to SAVI Canvas on webOS has only improved that reliability and added to the Topgolf offering by seamlessly integrating Topgolf’s Toptracer technology into the hitting bay experience.”



LOOKING TOWARDS THE FUTURE OF AUTOMATED TECH:

“We made the decision to look for a partner who can help migrate us to a commercial display solution that can withstand the turnover and have more ability for us to automate the content on the screens,” said Scott Lovejoy, Topgolf Entertainment Group Vice President of Technology Innovation.

The SAVI Canvas and LG webOS system is now synonymous with the Topgolf brand identity, which is most notably defined by the ‘look of the Topgolf teeline.’ LG and SAVI Controls are key elements of this cool factor which guests have come to know and love.

“It’s really been a very collaborative process; there’s never been a dull day, constantly evolving, constantly looking for ways to innovate and tie all of our technology and experiences together,” said Scott Shultz, Director of Infrastructure and Venue Technology, Topgolf.

All partners agree the collaboration is a game-changing, win-win scenario for the Topgolf organization. Customers continue to enjoy the ability to keep up with sports and other TV programs, while at the same time, having a fantastic, unique entertainment experience, and Topgolf enjoys a platform that helps the company to achieve its business goals and high standards of performance and aesthetics.



SAVI
CONTROLS



LG

**Business
Solutions**

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