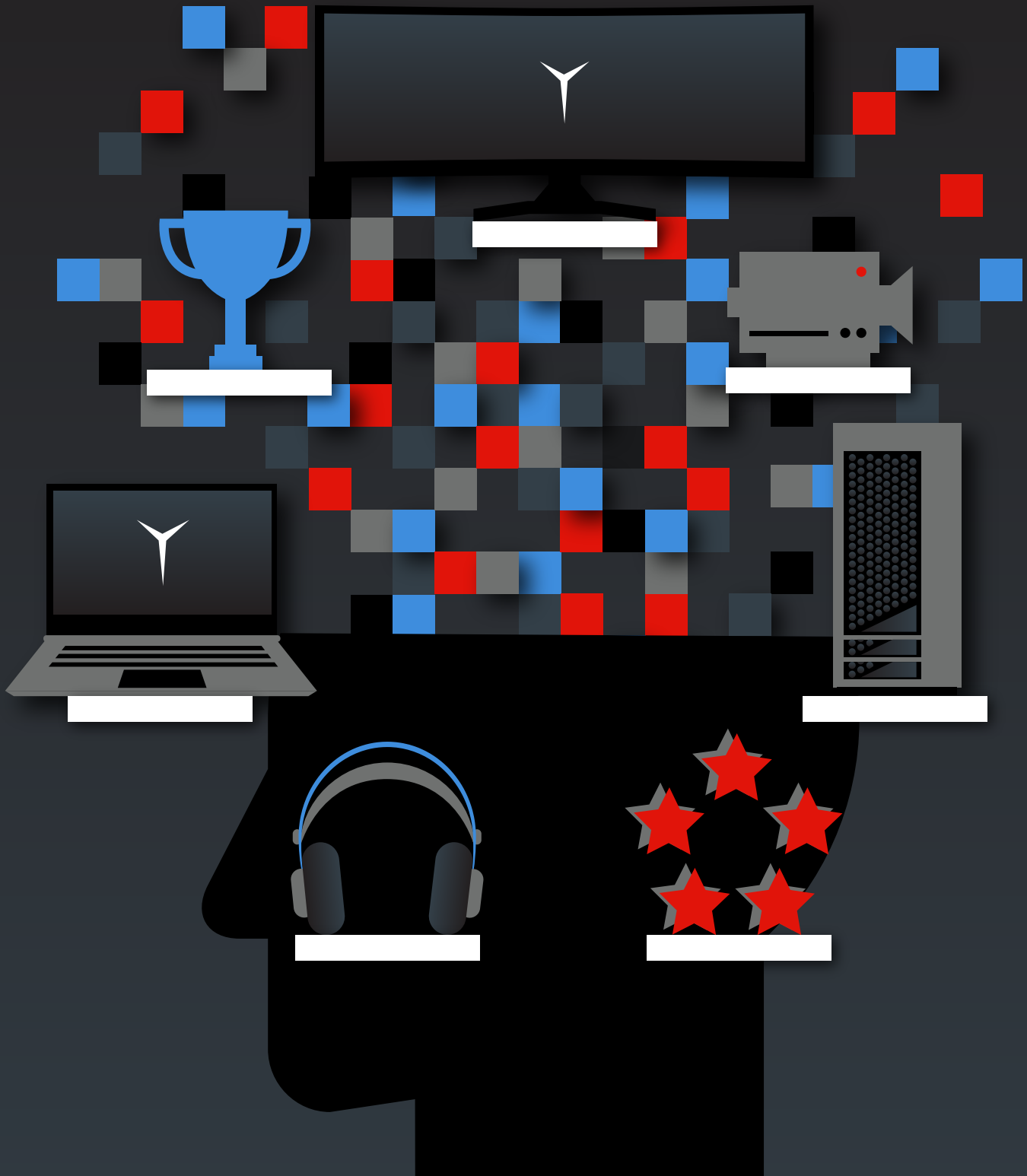


Lenovo



NEXT GEN GAMERS: BEYOND THE STEREOTYPE

AN IN-DEPTH STUDY ON PC GAMERS
AND THEIR GAMING BEHAVIOR

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FOREWORD

When PC gaming first emerged as a hobby for computer enthusiasts, it was an idea that took advantage of the untapped potential of those early personal computers.

In a way, it makes sense that during that era it was the teenagers who were unlocking this opportunity in machines that were otherwise sitting idle outside those usual hours when they were being put to work by the adults. Maybe, back then, the stereotype held some truth. But now, those teenagers have grown up, and the games industry has grown along with them.

No business should ever just assume who their customers are. Instead, we need to ask them. It's the only way to truly understand what they want - and for a business to know it is ready to deliver.

So we did just that. Through our panel of 7,800 consumers from around the world, both gamers and non-gamers, we're able to take the pulse of the community and better understand what they want - from their current PC, and their next. Across a series of recent surveys we have gained many new insights into who the gamer of today really is.

We're seeing gamers are not just one consumer group anymore. In fact, we've identified five kinds of gamers, and now have some strong insights into their differences, their similarities, and what they want from new desktops and laptops.

We hope you'll find these insights valuable too. The idea of the 'gamer' may have changed, but their passion for a great PC experience remains as strong as ever. We continue to spend every day committed to creating the hardware they're looking for.

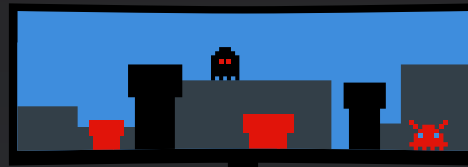


DILIP BHATIA
VP OF GLOBAL MARKETING,
USER AND CUSTOMER
EXPERIENCE, INTELLIGENT
DEVICES GROUP, **LENOVO™**

KEY FINDINGS

TOP 3 FEATURES TO CHANGE IN A GAMING PC TO ENHANCE EXPERIENCE ARE MEMORY, CPU AND GPU

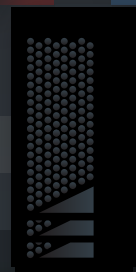
#1 GAMERS BELIEVE GRAPHICS IS THE MOST IMPORTANT ATTRIBUTE FOR PC GAMING



7.5 AVERAGE NUMBER OF HOURS SPENT PER WEEK ON GAMING



90% PERCENTAGE OF GAMERS OWNING A GAMING PC



24 AVERAGE NUMBER OF YEARS THE OLDEST SEGMENT OF GAMERS HAS BEEN GAMING

Source: Based on Lenovo surveys of gamer respondents done in January 2017 and in February & September 2018

TODAY'S GAMER: FROM CASUAL TO hardcore

Just as the games industry has grown from a cottage industry to become the biggest entertainment industry on Earth, so too have gamers. With decades of history behind us, gamers now span all generations and all walks of life.

If the stereotype of the teenage boy in a bedroom held any truth in the past, that definition is long past its expiry date.

While these older perceptions linger, for those working in the technology and games industries it is important to update our understanding of who a 'gamer' really is today. When we know who this audience truly is, and its current diversity, we better understand how to connect with their interests as they continue to upgrade their systems into the future.

With so many different kinds of gamers today, can we identify new archetypes that could help us to understand who they are and where key differences, and similarities, may lie?

Through our extensive market research into who the gamers of today really are, we have focused in on PC gaming in particular and found five gamer segments.

We see these groups spread across a spectrum from casual to hardcore, which we will outline in detail below, but it is important to see that when it comes to the PC gaming environment, even our 'casual' gamer is still highly motivated by their enjoyment of video games as a source of entertainment.

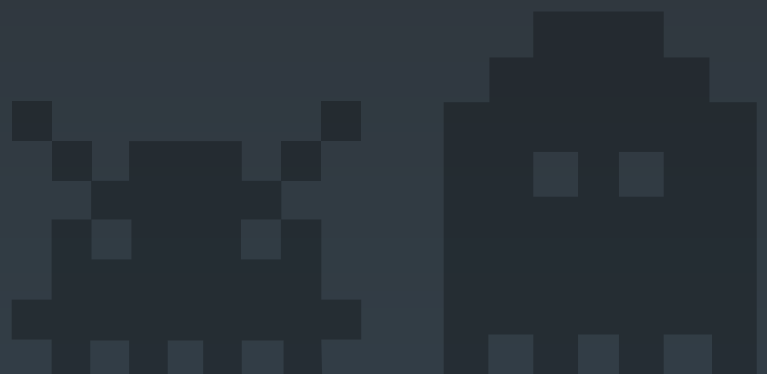
Within our survey results - covering both gamers and non-gamers at its broadest - we have focused down through this study into all gamers who identify as a PC gaming audience.

These five gaming groups hold many fascinating and useful distinctions that speak to their varying approaches to how they pursue their gaming.



GAMERS, UNLIKE SOME OTHER TYPES OF PC BUYERS, ARE EXTREMELY CONFIDENT IN THEIR ABILITY TO UNDERSTAND THE PROS AND CONS OF DIFFERENT HARDWARE SPECIFICATIONS, SETTING THEM APART FROM OTHER CONSUMERS.

DILIP BHATIA
VP OF GLOBAL MARKETING, USER AND CUSTOMER EXPERIENCE,
INTELLIGENT DEVICES GROUP, LENOVO



GAMING SEGMENTS



HARDCORE (GAMING FOR 10 YEARS ON AVERAGE)

These gamers pursue gaming with an absolute passion. They are our youngest group and are most focused on playing online multiplayer games. They consider playing games to be their top entertainment priority.



AVID (GAMING FOR 9 YEARS ON AVERAGE)

While very similar to the hardcore group, our avid gamers also enjoy playing alone more than the hardcore, and they also find more pleasure in watching video game streams. They are less focused on graphics quality as a priority than both the hardcore and the moderate gamers.



MODERATE (GAMING FOR 15 YEARS ON AVERAGE)

These gamers are a little older than the first two groups and have played for longer. While they love to play games they do not find watching streams online to be a source of entertainment as well as their primary social environment.



CASUAL (GAMING FOR 16 YEARS ON AVERAGE)

Our casual gamers have actually been playing games for quite a long time. They like to play single player games and fit in gaming as the rest of their life allows and it is not central to their decision making.



CASUAL CUSTOMIZERS (GAMING FOR 24 YEARS ON AVERAGE)

This group has been playing longer than any other group, but now spend the least amount of time sitting down to play. They are also the most likely to own a gaming PC and though their time is limited they are knowledgeable in the latest components and like to build and upgrade their own PCs.

Across these five groups, we see that age plays a factor in where people typically lie on the spectrum. As work and family life picks up pace as people get older, the time available and the focus on gaming often takes a backseat. But the desire to game and their love for a great game experience always remains.

Source: Based on Lenovo gaming study of Lenovo insights community, January 2017

GAMING PREFERENCES

Without exception, every kind of gamer agrees on one major factor in what matters most to their gaming experience - that graphics are paramount.

In each segment, when asked about a variety of preferences in their gaming PC experience, the importance of graphics was ranked highest every time.

Across other preference categories for PC purchase decision making, all groups, except casual, considered gaming to be a large consideration when shopping for a new PC. Similarly, across questions of shopping based on specifications and key components, all but casual found this to be a strong consideration.

Avid gamers seemed to be the most interested in gaming flexibility, the group most in agreement with the idea of moving their gaming PC from one location to another.

The capacity for a gaming PC to be able to run Augmented Reality (AR) and Virtual Reality (VR) as a priority seemed to be largely the domain of the avid and hardcore audiences.

These shopping preferences also helped to define the difference between our moderate and casual customizer categories. Our casual customizers show the lowest interest in PCs that are easy to setup, and instead show the strongest preference for building their own PCs and upgrading components instead of buying a whole new system.



LIFE STAGE OF A GAMER MATTERS AND AS THEY MOVE THROUGH LIFE AND TAKE ON MORE RESPONSIBILITY, THE 'WAY THEY GAME' SHIFTS. THEY CAN MOVE FROM BEING A 'HARDCORE' GAMER TO A 'MODERATE' GAMER DEPENDING ON WORK/LIFE AND VICE VERSA. HENCE, THE REQUIREMENT FOR A POWERFUL YET STYLISH GAMING PC THAT SERVICES ALL TYPES OF GAMERS EXISTS NOW MORE THAN EVER.

SANDHYA NAGARAJ,
CUSTOMER INSIGHTS MANAGER, INTELLIGENT DEVICES GROUP, LENOVO

GAMING BEHAVIORS

As for how these various groups choose to spend their gaming time, we see some of the most important distinctions.

For both the hardcore and avid groups, it is clear they love to play online, they see games as their primary source of entertainment and their main space for spending time with friends. They are also influencers amongst people they know when it comes to what games to buy and what gaming hardware to purchase.

Where the two groups deviate is that avid gamers seem to have a more diverse outlook on the kinds of gaming experiences they prefer. Hardcore gamers show a low level of interest in single player or offline games, while avid gamers show a high level of interest. Similarly, avid gamers show a much stronger interest in watching others play as another source of game entertainment.

Moderate gamers held their main interest around playing team-based online games, but with more interest in games that were collaborative ahead of

those that were considered competitive. This group dropped away significantly from avid and hardcore groups when it came to questions of seeing games as their main source of entertainment or space for interacting with friends.

The game behaviors of our two casual groups are where we see many similarities between them. Very low preferences for competitive online games, and a very strong preference for single player experiences. Our casual customizers did hold a place of influence amongst their friends when it came to recommending gaming hardware, while our pure casual group showed a stronger interest in the idea of watching others play as a form of entertainment.

Casual customizers were the lowest rated group for seeing gaming as their main source of entertainment or as the primary place to interact with friends.

SO WHO IS THE NEW 'GAMER'?

Through these five segments we can see there may be differences in how often people play and what kinds of games they like to play, but one thing is true for all. When they sit down at their gaming PC, they want a great experience.

All segments care about how good their games look, and all but the most casual segment make gaming a priority when they make decisions about buying a new PC.



WHERE, WHEN AND WHAT DO THEY GAME?

MAKING TIME TO PLAY



10

HOURS/WEEK
SPENT GAMING



14

YEARS PLAYING
VIDEO GAMES

69%

GAME ONCE THE
SUN GOES DOWN



46%

EVENINGS



23%

NIGHTTIME

Source: Based on Lenovo gaming study of Lenovo insights community, January 2017

The average gamer has been playing for many years. With an average of 14 years, it's clear that most gamers today are adults, who play games as part of leading a regular adult life. They just choose games as one of their entertainment options.

On average, gamers are spending 7.5 hours per week playing video games, with 28% playing for more than 10 hours each week. Gamers have life outside of 'gaming' and that is what makes it interesting for device manufacturers like us to design the ideal pc for them.

The most popular genres of games are social/casual games and first-person shooters (FPS). Different genres were found to have differing popularity depending on the region the respondent was from. For example, China saw much stronger results for massively multiplayer online games (MMOs) and multiplayer online battle arena games (MOBAs).

Most players enjoy more than one style of game, with the average being an interest in 2.8 different types of games.

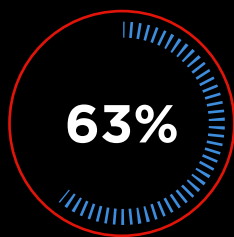
When we drill into how much gamers would like to be playing, we find that they actually would like to be gaming more often.

Most gaming is taking place in the evenings and late at night (69% of total time), with other responsibilities taking the focus during the mornings and afternoons.

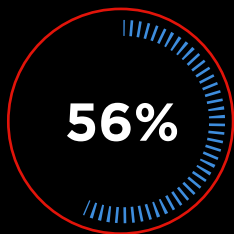
While a lucky few (14%) said they play as often as they like, a majority of gamers said that work (67%) and family (56%) were sometimes barriers to playing more often.

Looking back at our gamer segments, it is the avid and hardcore groups who held strongly to the view that they made time in their life for gaming. Our other groups largely played games when the rest of their life allowed them to do so.

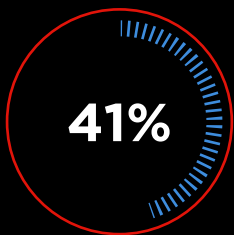
GAMES TYPES PLAYED



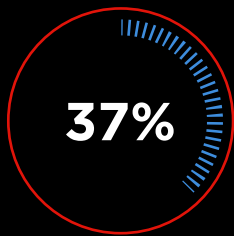
CASUAL PC GAMES



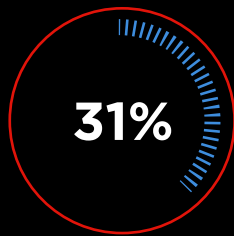
MOBILE



IMMERSIVE PC GAMES



CONSOLE GAMES



MMO



MOBA



SOCIAL

BARRIERS TO GAMING MORE



67%

WORK



56%

DATA/COMPUTER ACCESS



56%

FAMILY OBLIGATIONS



45%

HOUSEHOLD RESPONSIBILITIES

Source: The Lenovo PC gaming experience study, September 2018

GAMING CONTENT: CREATION & CONSUMPTION

Game content is a boom area in recent years, with the rapid rise of live streamed content joining the long history of pre-recorded videos found at places like YouTube™.

We found that almost half of all gamers (45%) watch videos of other people playing games. YouTube was the top destination for watching game videos (63%) with live streaming platform Twitch™ in second (44%). Other platforms included Ustream® (33%), Livestream® (23%) and Mixer® (14%).

Games people like to watch included many of the biggest name titles.

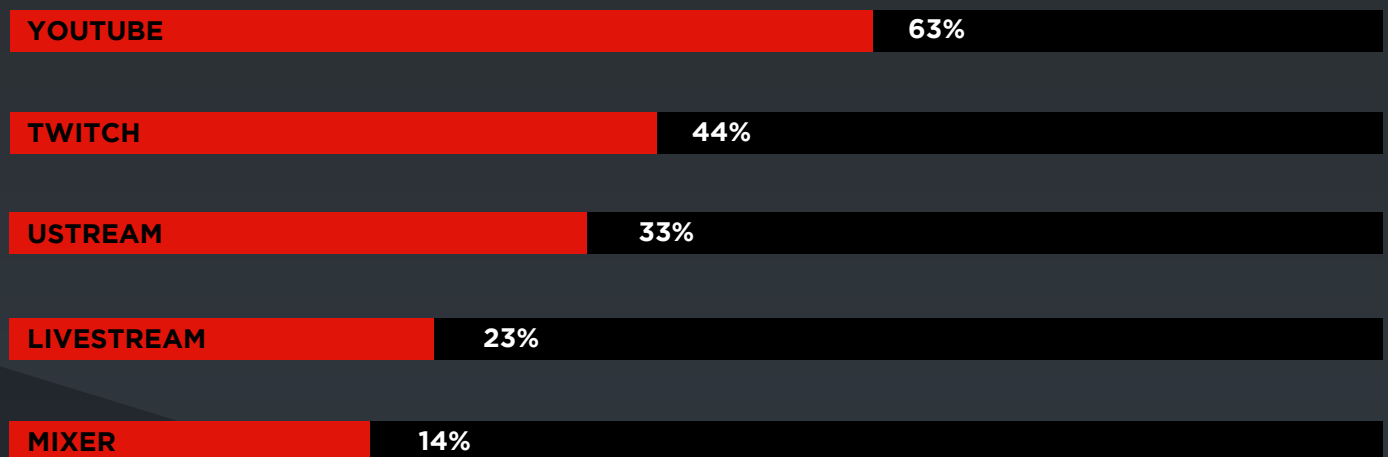
But it isn't just about playing anymore either. Many gamers are not only enthusiastic participants in gaming today, they also aspire to become professional content creators themselves.

This is still a small slice of the overall gamer segment, with just one-in-ten posting their own gameplay videos to sharing sites. Most distribute videos across an average of three different platforms.

Of the 11% who share gaming videos, 54% share to YouTube, with Twitter® (45%) and Facebook™ (41%) next. Twitch sat at 33%, while directly sharing videos with individual friends in a more private fashion was at 42%.

Of those who do share videos, 57% said they have created their own channels and 91% had monetized their videos. Those who do this have channels on YouTube (45%), Ustream (40%), Mixer (38%), Livestream (35%), and Twitch (30%). Many of these sites focus on or support live streams as well as recorded videos.

AND WATCH THE VIDEOS ON....



45%

WATCH VIDEOS
POSTED BY OTHERS

11%

RECORD VIDEOS OF
THEMSELVES GAMING

57%

OF THOSE WHO RECORD
THEMSELVES HAVE A CHANNEL

Source: The Lenovo PC gaming experience study, September 2018

GAMING PC: EXPERIENCE AND PERFORMANCE

So just how much do PC gamers care about the quality of their gaming experience? The simple answer is: a lot.

We have found that the majority of gamers have put time and effort into improving aspects of how their PC is set up for gaming, and 85% of all gamers have a wish list of upgrades and improvements they are eager to explore.

ENHANCING WHAT YOU'VE GOT

On average, each person has made 2 changes to their current PC to enhance their gaming experience.

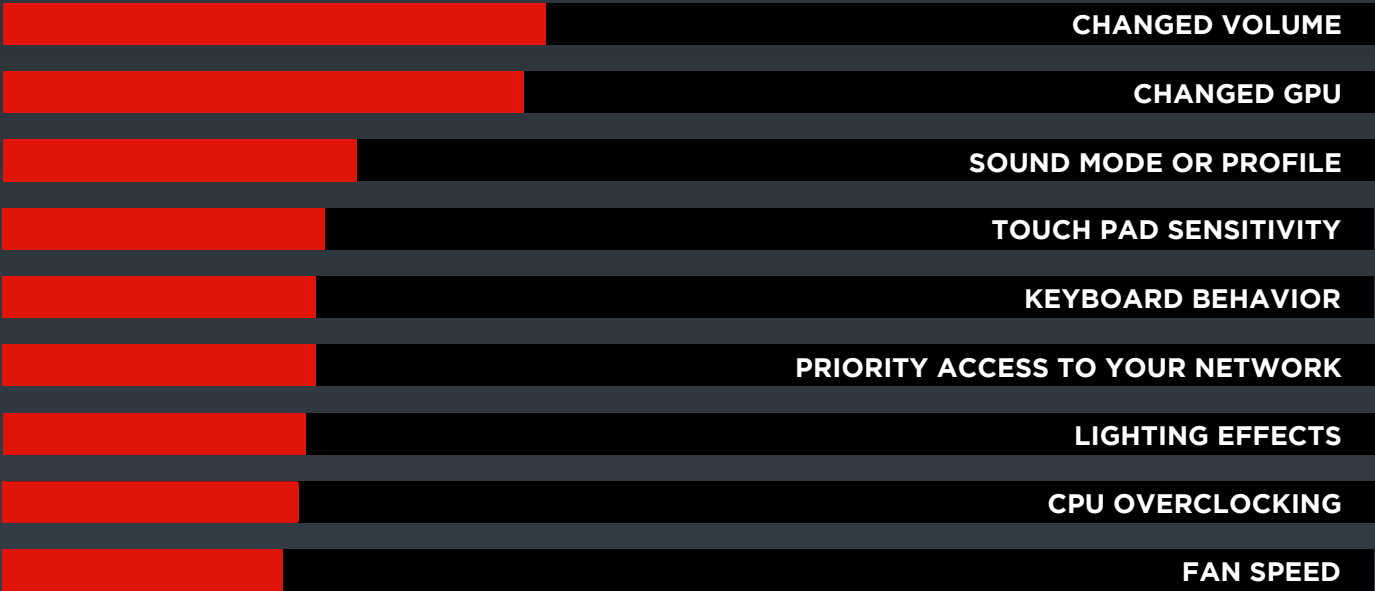
At the top of the list is one of the most simple ways to enhance a game - changing the volume. This might seem almost simplistic, but close to the top of the list is also changing a sound mode or profile. There are many games where changing sound settings can provide not only a more immersive sound experience but also a competitive edge - elite gamers can determine weapon types and enemy positioning based on sound alone.

The second biggest upgrade many gamers said they have performed is changing their GPU. This is widely seen as the best way to extend the life of any desktop gaming PC, so it is no surprise to see it rated so highly.

Gamers also say they like to make adjustments to their touchpad and keyboard behaviors, or setting up priority network access for their game to maximize their connectivity and minimize potential interruptions.

Tweaking settings like overclocking the CPU or adjusting fan speed settings are the domain of the very committed, and so are understandably lower down this list.

PC CHANGES TO ENHANCE EXPERIENCE



Source: The Lenovo PC gaming experience study, September 2018

NEXT ON THE WISH LIST

Almost everyone has something they want to do to make their gaming PC run better than ever, and on average gamers have 2 enhancements on their wish list.

At the top of the list are the big three: RAM, CPU and GPU. These really are the cornerstone of any meaningful upgrade to PC performance so there's no question why they top the list.

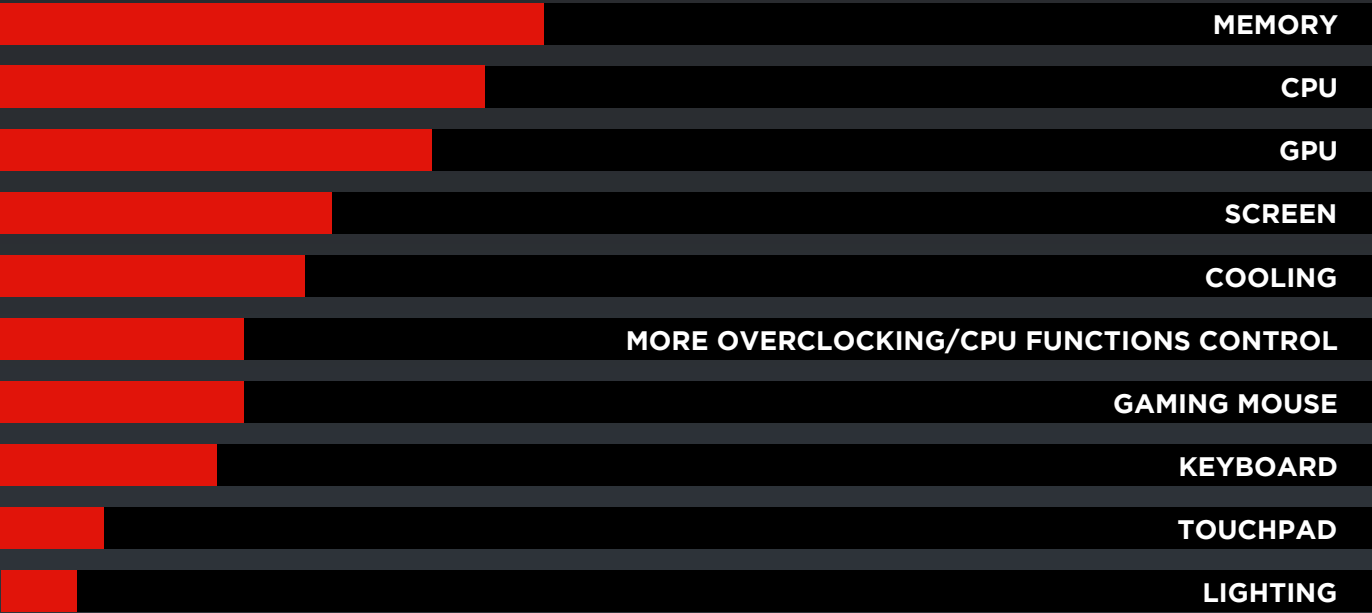
Next we see a new screen on the list. In recent years there have been a number of new screen technologies that synchronize a monitor's refresh rate to the current frame rate being delivered by the GPU. There are also new curved monitors and

other design features like lighting and USB hubs that are making an upgrade an ever more attractive proposition.

Cooling is another feature that, given the complexity of upgrading fans or adding water cooling, is impressive to see as sought after by gamers. This is closely followed by another advanced feature - overclocking and related CPU function controls.

Input device upgrades like gaming mice, keyboards and touchpads rounding out the wishlist, with cosmetic upgrades to lighting at the tail end.

FEATURES TO ADD TO ENHANCE EXPERIENCE



Source: The Lenovo PC gaming experience study, September 2018



A LOT OF GAMERS USE THEIR PCS FOR WORK (DATA PROCESSING, GRAPHIC DESIGN) AS WELL AS TO WATCH MOVIES. IMPLICATIONS FOR PC MANUFACTURERS LIKE US ARE TO CREATE DESIGNS AND SPECIFICATIONS THAT CATER TO THIS GAMER WHO IS MULTIDIMENSIONAL.

EMILY HOPPE
CUSTOMER INSIGHTS SENIOR MANAGER, INTELLIGENT DEVICES GROUP, LENOVO

TRADE-OFFS: PREFERENCES FOR FEATURES

When offered any given option one at a time, gamers of all stripes will show a very strong preference for the best and brightest options in any category.

But what about when asked to rank the various feature options available to them in a new gaming laptop? Through this set of questions we build a very useful picture of where their ideal system preferences really lie.

PC FEATURE IMPORTANCE

Across seven key higher-level features of a new gaming laptop, our three most enthusiastic gamer segments again aligned very closely as to what their priority rankings would be.

1. Screen resolution
2. Screen refresh rate
3. Keyboard / trackpad function
4. Overall look of the laptop
5. Screen bezel size
6. Thickness of laptop
7. External system lighting

Having already learned that graphics is one of the highest priority of every gaming segment, it should come as no surprise to learn that the

screen will be the most important feature in a new gaming laptop, with resolution taking the crown ahead of refresh rate.

In the gaming context, keyboard is also seen as a high priority as responsiveness and comfort will be a meaningful performance factor during long gaming sessions.

We also see the 'overall look' being ranked above bezel, thickness and lighting as a strong statement that - while all these factors feed into that question of the look - it is how they all come together in any specific laptop design that will be the most important question.



CONCLUSION

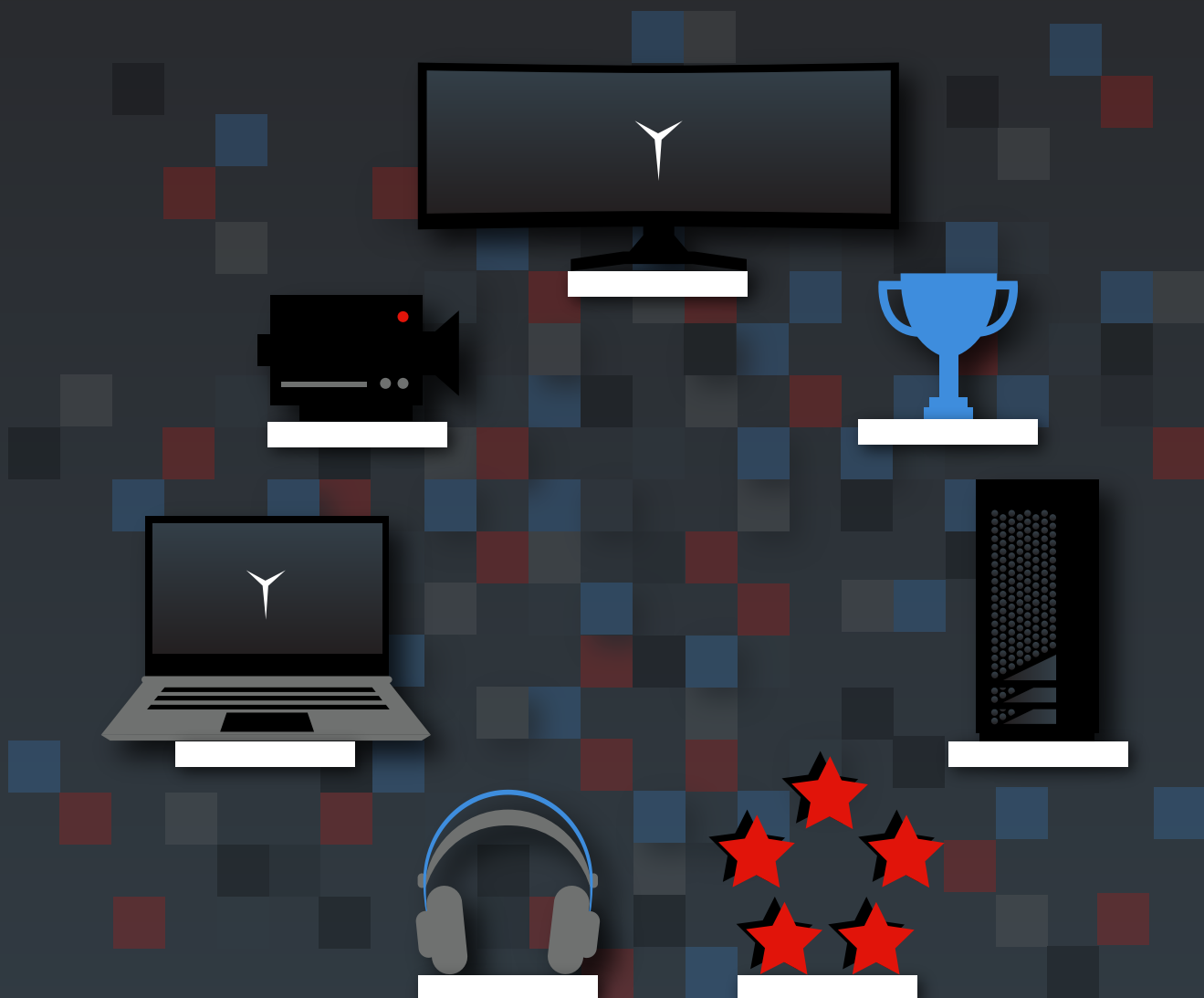
Gamers are everywhere and everyone, but when we delve deeply into the PC gamer we see plenty of variability in the types of people who play. But as diverse as gamers may be today, we see a common thread in their strong desire for great graphics and a great gaming experience.

With almost every gamer segment wishing they had more time to play, it is clear they want to maximize their experience within the time they do have available.

All gamers hold a lot of confidence in what the latest hardware can do to improve their game experience, and they demand the features that deliver solid improvements to their time at the PC.

By understanding the strong needs and preferences of our global community, we can continue to innovate, iterate and deliver the kinds of powerful, immersive gaming experiences they are seeking through Lenovo Legion™ that's stylish on the outside, savage on the inside.

We will continue to study this dynamic market as Lenovo designs and innovates for the best possible gaming experience.



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