

OPPORTUNITIES IN THE **GAMING INDUSTRY**



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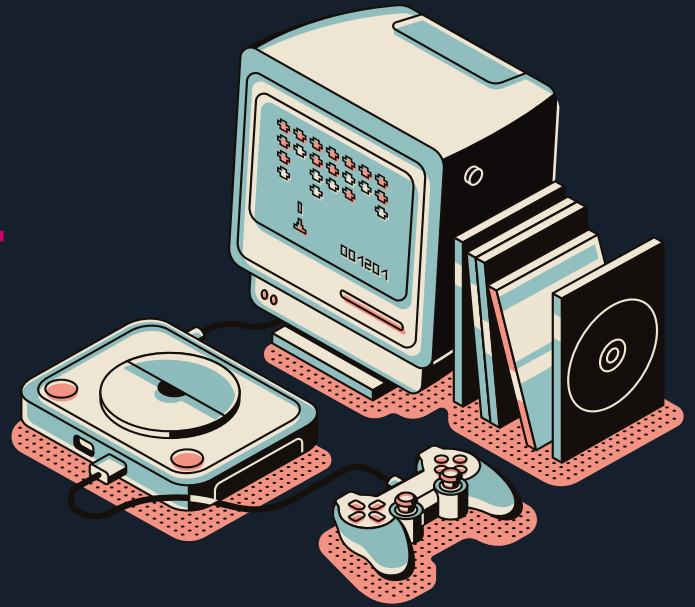


BREAKING BOUNDARIES



1.1 A BYGONE ERA

Video games hold many fond memories for most of us. Be it the NES cartridges, the PS1 CD-ROMs or the many versions of Gameboy handheld devices.



Tennis for Two (1958)

Early video games were a product of engineering and experimentation. Games such as Tennis for Two, released in 1958 and Spacewar released in 1962, are the results of such experimentation. During that time, however, games were limited by technology.



Spacewar (1962)

Pong
was the first
commercially
successful
video game.

Arcade machines were introduced with the advancement in technology and the realization that video games could be sold commercially.

Pong(1972) being the most iconic game from this era. Using their coin-based arcade games, Atari captured an entire generation with 2D and colorful graphics.



After the 1983 Video Game crash, Nintendo came out with home-based entertainment systems like the NES and Mario became an Industry Icon and Nintendo's flagship.

As more home entertainment systems became available, the 1980s witnessed a number of innovative games that helped set the stage for many current industry genres. Legend of Zelda inspired games more with exploration. Games like Metroid and Castlevania inspired a new genre of games named Metroidvania. Games such as Metal Gear introduced stealth like elements in gameplay.





With **65+M**
combined units,
Super Mario is the
highest selling game
on the NES

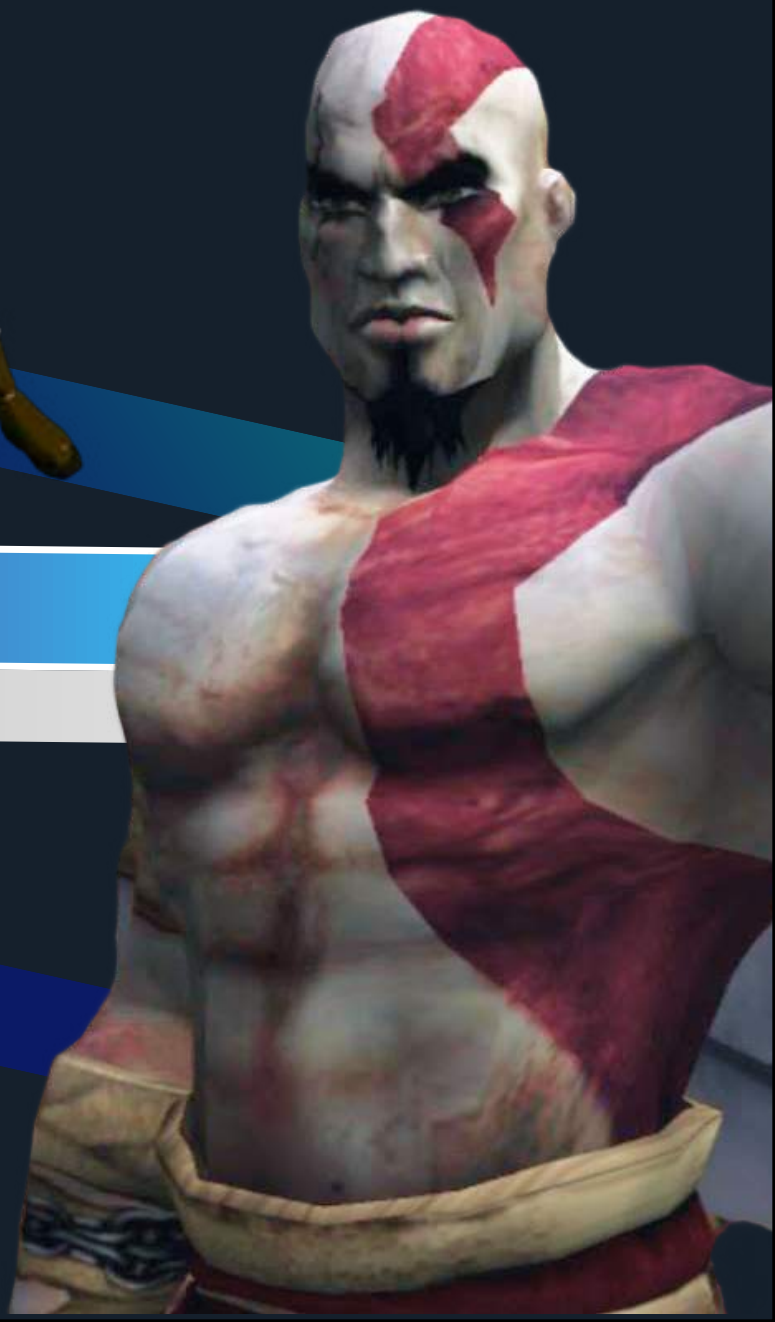


COOL. COMPACT. COLORS.

With 16-bit graphics being introduced, there was an increase in the number of adventure games such as from LucasArts. Wolfenstein 3D and Doom helped FPS cement their position in the Industry. Street Fighter paved the way for fighting games.

GRAND. GLORIOUS. GRAPHICS

With the launch of Playstation 1 and 2 and followed by 3D graphics, many 3D games took the Industry by storm. As the graphics and technology kept advancing, so did the games that kept pushing the hardware to their limits. The fruits of this innovation can be seen with the kind of games that are being released today.



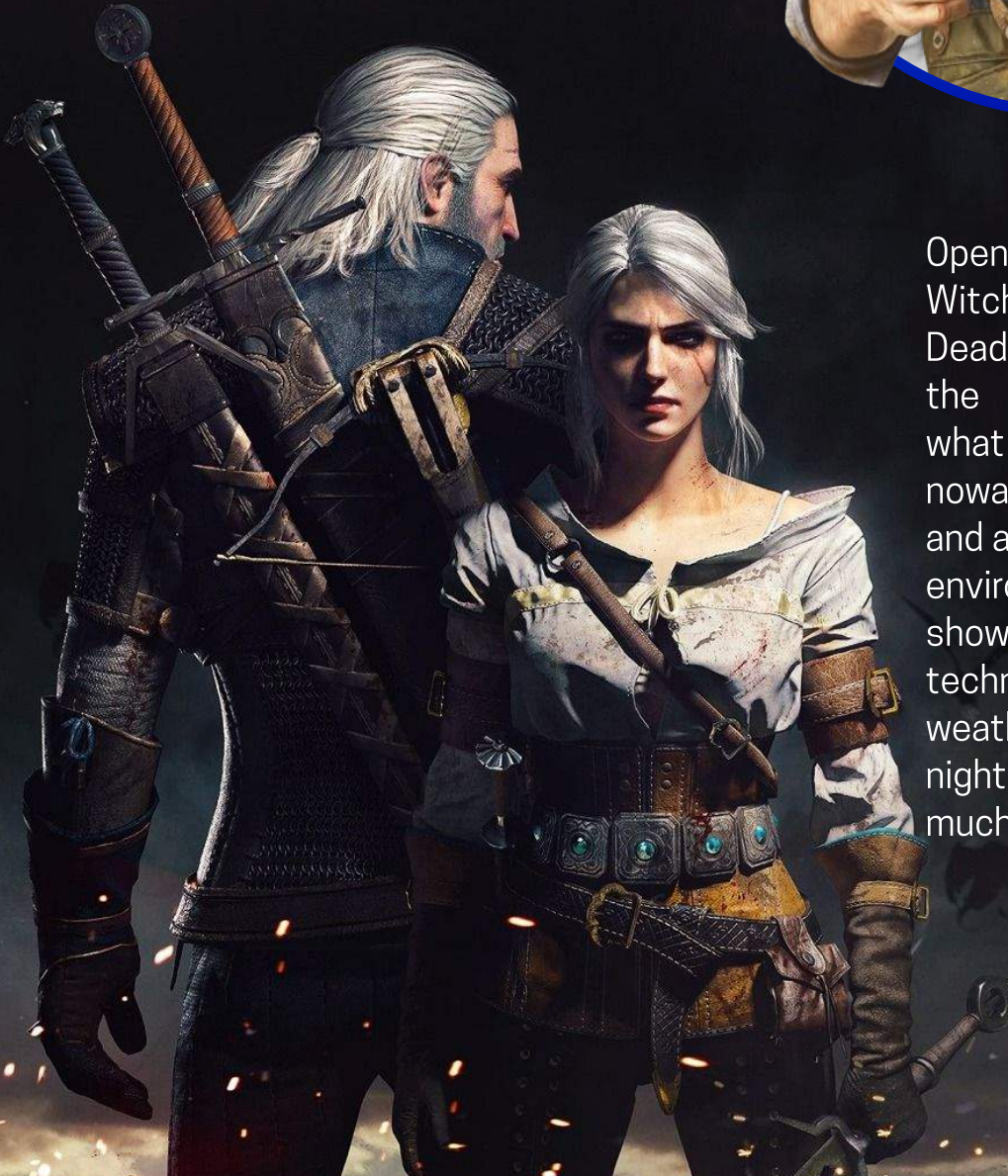
1.2 EXPONENTIAL GROWTH

After understanding where video games have come from, let us look at where they have reached by the year 2021.

Gone are the days of graphics limitations and processing power. A 4K resolution and 60 frames per second game is now the industry standard. Video games are constantly pushing the boundaries of what is technically possible.



Open world games like The Witcher 3: Wild Hunt or Red Dead Redemption 2 have set the Industry standard for what to expect from games nowadays. Not only their care and attention to the world and environments, these games showed extremely high technical prowess in their weather systems, day and night cycles, side quests and much more.





Not only in terms of gameplay or multiplayer games, even single player games have broken grounds in graphics and narrative storytelling. Naughty Dog is specially considered a master in this genre, with their titles like Last of Us and Uncharted.



Talking only in terms of Graphics, some of the most amazing games have been released this past decade.

Games such as

- Assassin's Creed Odyssey.
- Forza 4.
- God of War.
- GTA 5 (Grand Theft Auto).

and many more.



We have also advanced in terms of AR (Augmented Reality) and VR (Virtual Reality).
Gaming is no stranger to these mediums.

We are still at a very early stage of this development cycle with only a few titles available in VR. Games such as Half Life: Alyx, Beat Saber have given us a glimpse of what we can expect in the coming years.



HANDHELD



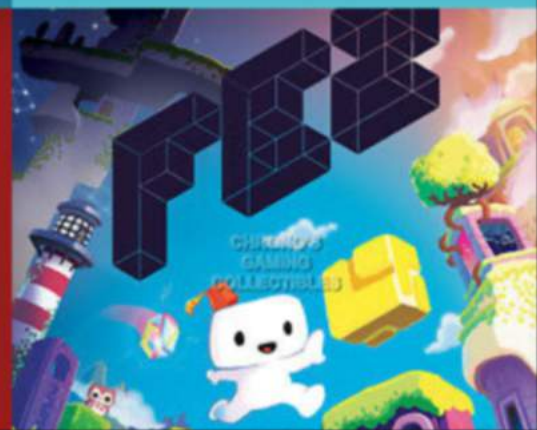
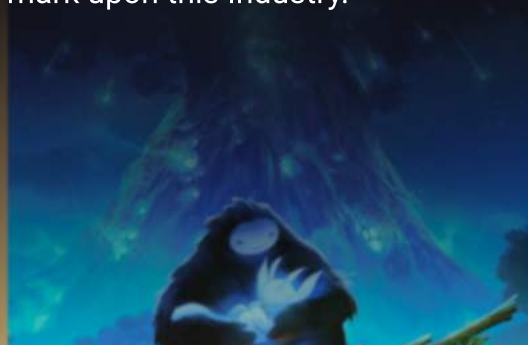
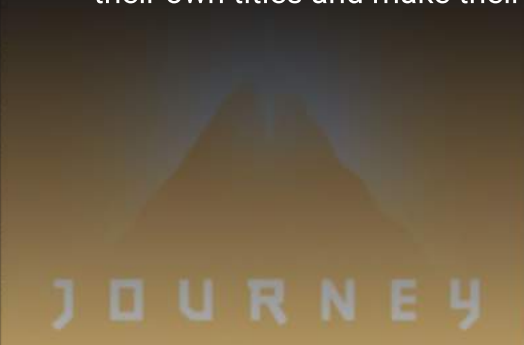
This decade also saw the rise in handheld gaming devices like the Nintendo Switch and the most recent Steam Deck and countless Mobile Gaming Titles, making it apparent that gaming has evolved from just a hobby to a way of life.



INDIE

Many studios create their own in-house engines to make these games. But we also saw a rise in Game Engines being developed in the market. As a result, many independent developers and game enthusiasts made their own games, creating a slew of indie games that broke many records and reminded us how simple games are still needed in today's competitive market. Games such as Fez, Ori and the Blind Forest, Stardew Valley are examples of successful Indie Games.

With Game Engines such as Unity 3D, Unreal, Godot, GameMaker Studio and the countless community assets and marketplaces they cater to, we can expect many studios to start developing their own titles and make their mark upon this Industry.



1.3 NEXT GEN GAMES

Talking about the future, the gaming industry already produces more revenue than all the other Entertainment Industries combined and this trend is only going to rise.

Probably the most interesting and most accessible platform in the future will be cloud gaming. You won't need dedicated PC setups or consoles since games will be streamed right to your phone. Issues such as frame drops and high GPU consumption will also be minimized with this form.



The global gaming market is set to reach

\$256B
by 2025



In case you still prefer gaming on your PC or any console, the technology for these are ever evolving and new graphic cards and core processors are something we can definitely expect. Companies such as Intel, NVidia or AMD always push themselves to give the best output out there.



Text-to-Speech,
Synthetic Voices, and
Generative Neural
Networks will allow for

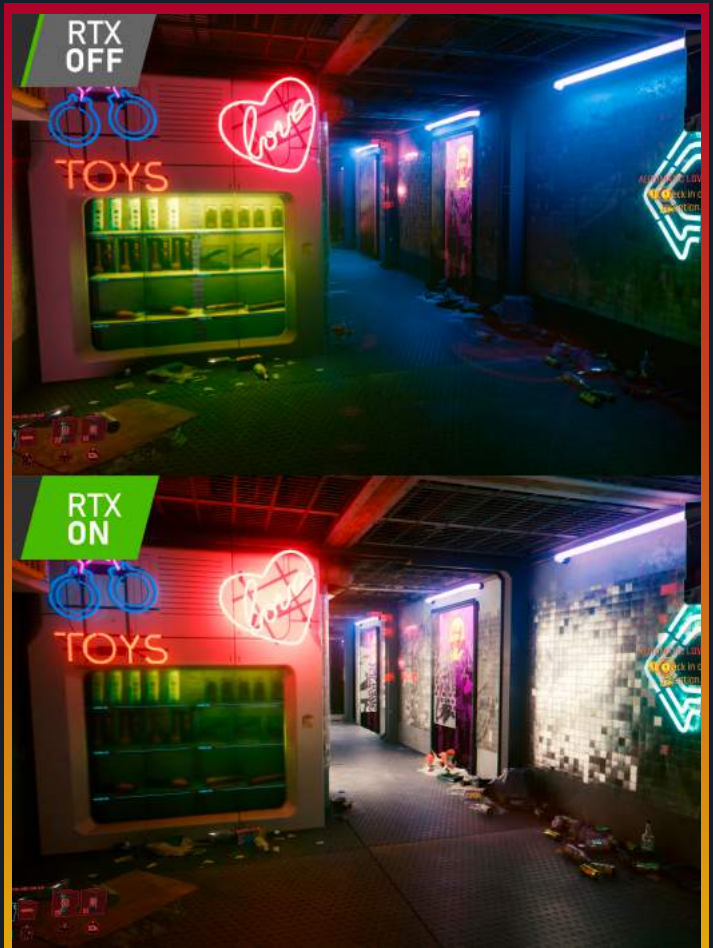
**Dynamic
Dialogue
in RPGs**

While speaking of Graphics, realtime ray tracing is something that is already a reality and things can only get better and bigger from here on.

The future indeed does seem to be filled with endless possibilities for the Gaming Industry.

VR, as demonstrated by the Tesla Suit, will provide greater immersion by haptic feedback throughout the body when using a full-body suit. Whether this will be a breakthrough or another Hal 9000 is something we just have to wait and watch.

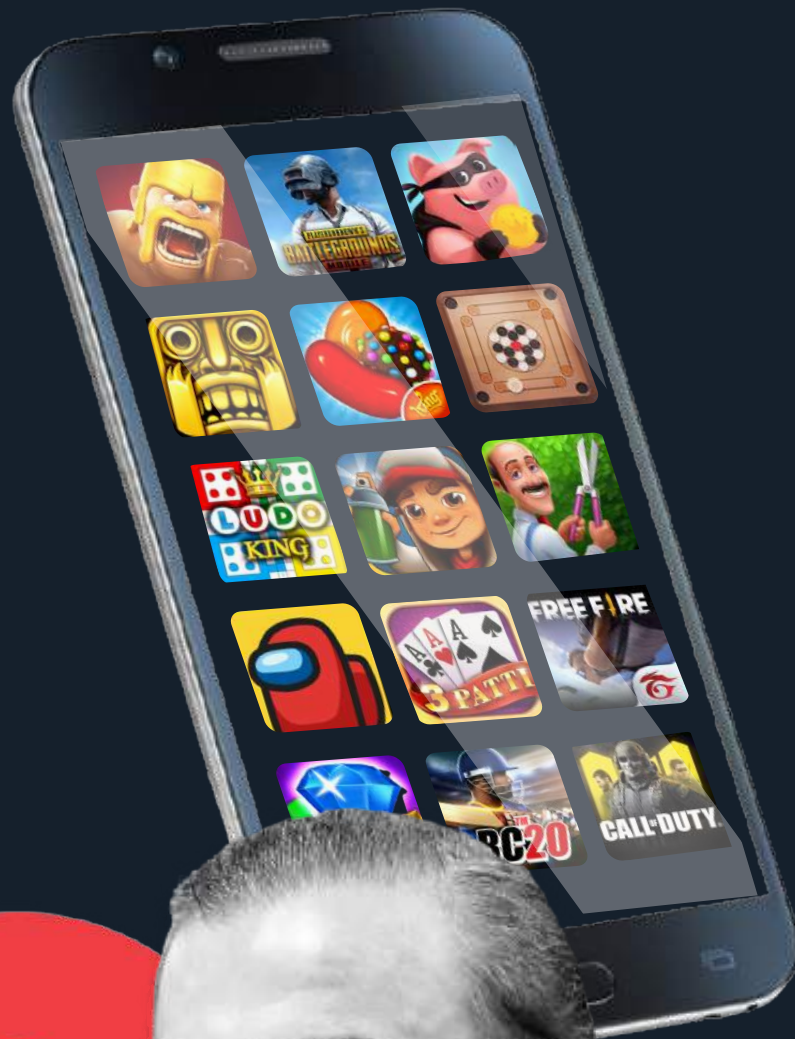
Speaking of Hal, we may even get real AI (Artificial Intelligence) integrated into games, who knows, it's the future.



1.4 GAMING AND INDIA

Let's focus specifically on India and how gaming has impacted our market.

Thanks to Jio and its network, the average Indian youth now owns a low end smartphone with ultra high speed internet. Once the net became freely available, social media and mobile games became a staple in every household. Games such as Clash of Clans, Card games like Rummy and Battle Royale like Free Fire and PUBG have gained immense popularity with the Indian audiences. People who have never owned a single game have started playing on mobiles and making their own YouTube channels showing off their latest conquest.



Real money gaming is another facet that has seen growth in the Indian market. Platforms such as Cred and MPL now have dedicated players that login everyday and win tournaments on a regular basis.



India has over 560 million internet users, making it the second-largest internet consumer in the world. Over 50% of India's population is below the age of 25, and 60% of the nation's gamers are under 25 years of age too. The gaming user base surpassed \$365 million in March 2020 as per KPMG's media and entertainment report.



With 5G around the corner, these numbers are going to rocket even further.

The Indian Government has also shown keen interest in this Industry and plans are underway to bring infrastructure and academic reforms specialising in gaming.

It is the right time to enter the industry as this market will only grow from here on out.





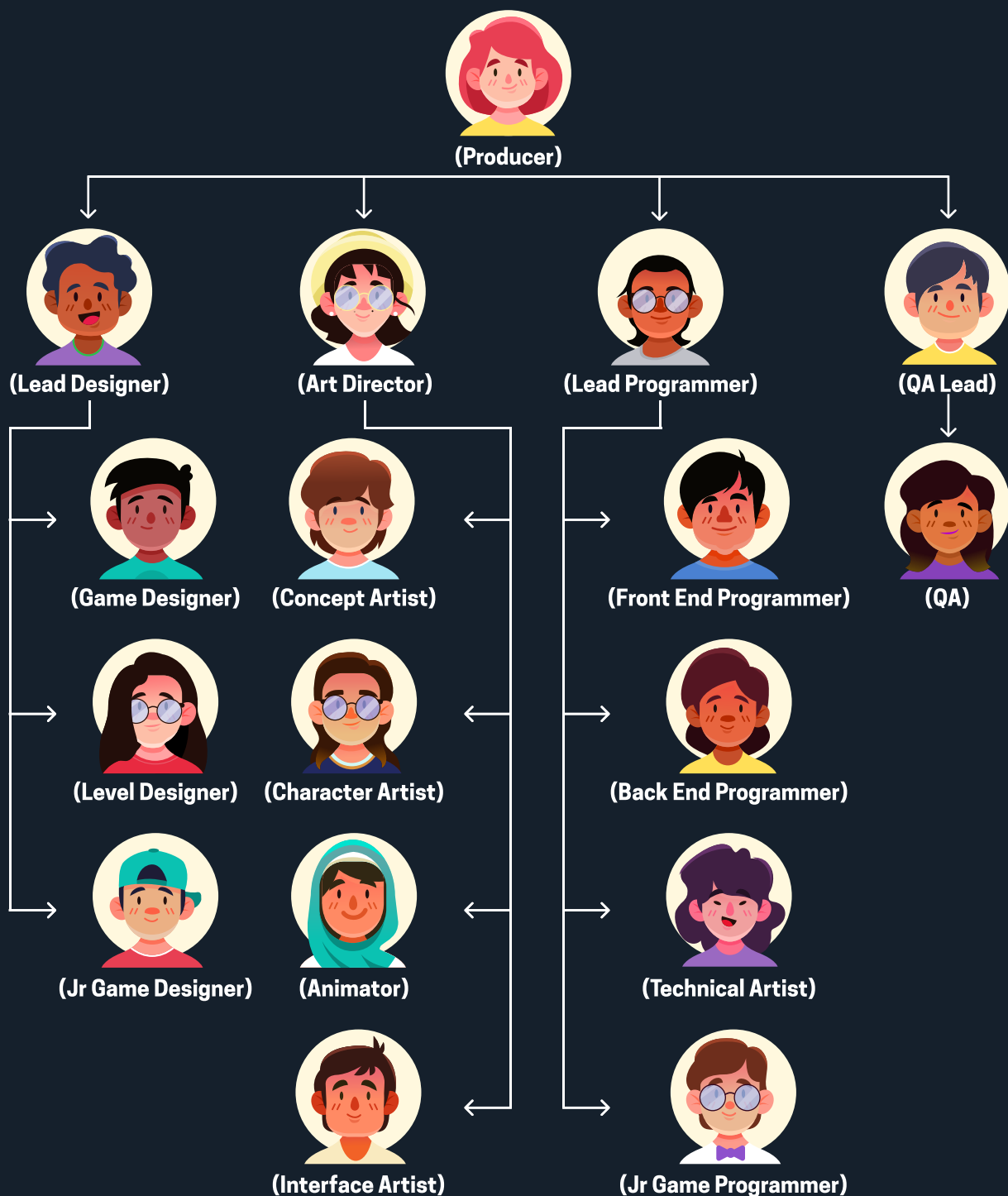
ENDLESS POSSIBILITIES



2.1 STRUCTURE OF GAME STUDIOS

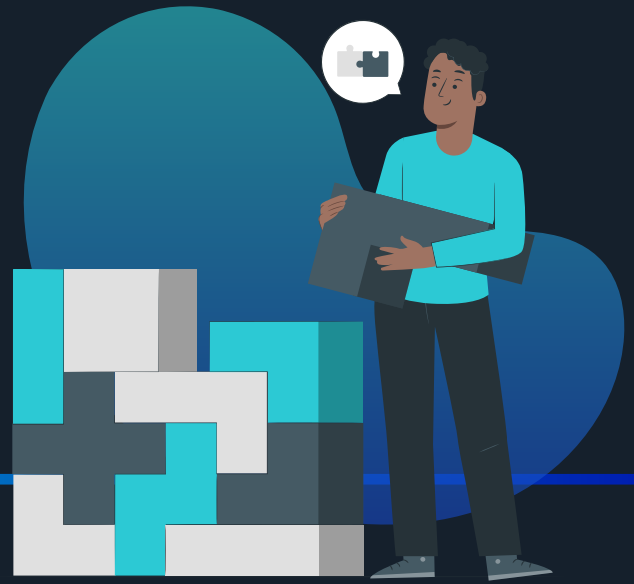
Game Production can be categorized into 3 main departments: **Game Programming**, **Game Designing** and **Game Art and Animation**. There are many other avenues open for other talented people. Let's take a look at what skills and responsibilities each of these roles entail.

A typical Gaming Studio is comprised of the following roles:



2.2 GAME DESIGN

Game Designers essentially build the game from the ground up. They device the setting, characters, stories, and gameplay for the entire game.



DESIRED SKILLS



VERBAL AND WRITTEN COMMUNICATION SKILLS

Game Designers are tasked with documenting all the stages a game goes through during a production cycle. Thus they need a firm grasp on how they present and document each and every article they come across.



CREATIVITY

Since Game Designers are considered the visionaries that bring any game to life, they should be creative and have an abundance of visual and philosophical libraries in their arsenal.



CRITICAL THINKING

As a Game Designer you will have to plan ahead and take into account various things, from the size of the studio to how scalable your project is. For this you do need to have critical thinking and find out the best solutions for any given problem.



EXTENSIVE KNOWLEDGE

Games are a medium to convey a variety of emotions and stories through your gameplay. You should know what the current industry trends are, also know a lot about philosophy, architecture, board games, marketing, balancing games. Basically you as a designer should be able to adapt to any project that your studio undertakes and be able to make meaningful contributions to the project.



WILLINGNESS TO LEARN

As the trends keep changing, and every new year a new game tops the industry charts, you need to always have an attitude to learn and be open to ideas and suggestions from many different people on many different topics.

OPPORTUNITIES

LEVEL DESIGNER

Focuses specifically on the creation of levels in games.



NARRATIVE DESIGNER

As we see the rise of Narrative games, these designers have become highly sought after. They are responsible for plotting out the narrative of any game and making sure the narrative and gameplay elements flow together.

CONTENT DESIGNER

These designers are responsible for any and all content related to the game. In RPGs, these designers are responsible for the dialogues and what the cutscenes or story missions' content needs to be.



UI DESIGNERS

These designers are responsible for how the UI will look in a game. What HUD(Heads Up Display) elements are needed and how to better equip the player with relevant information displayed to them.

GAME DESIGNER

Smaller studios may have just one designer, whose responsibility includes all of the above mentioned.



2.3 GAME ART & ANIMATION

This is a broad topic, but we do our best to surmise. Broadly speaking art can be categorized into 2D and 3D art. Not the medium is decided, there are a whole bunch of opportunities and responsibilities that can be applied for.



DESIRED SKILLS



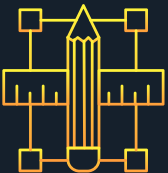
DRAWING FUNDAMENTALS

Your drawing skills need to be above average to have a shot in the game industry. With that, you need to have a firm grasp on the fundamentals of drawing - composition, perspective, anatomy etc.



DIGITAL SOFTWARE

Any knowledge of digital software, be in Adobe Photoshop, Procreate or Paint Sai Tool. You need to be good at digital painting and drawing.



DESIGN PRINCIPLES

You even need to know graphic design principles since many things in the game will relate to the psychology of the player and need to be handled in such a way.



ANIMATION PRINCIPLES

If you are looking into animation for games, you first need to know the principles of animation by heart.



CREATIVITY

This goes without saying.

OPPORTUNITIES

Following opportunities are for both 2D and 3D artists

CONCEPT ARTISTS

These artists provide the initial proof of concept, deciding the art style, look and feel of the game.



CHARACTER ARTISTS

They specifically work on the characters, enemies and NPCs of the game.



ENVIRONMENT ARTISTS

These artists work specifically with the backgrounds and how the game world will feel like.



PROP ARTISTS

These work on the various props that add details to the main game.

UI ARTISTS

These artists work on the UI and how the various menus, buttons, inventory and other HUD elements will look like.



VFX ARTISTS

These artists work on special effects or particle effects for any game.



CHARACTER ANIMATORS

They work on the animation for the characters, be it the main character, side character, NPCs or animals of the game.

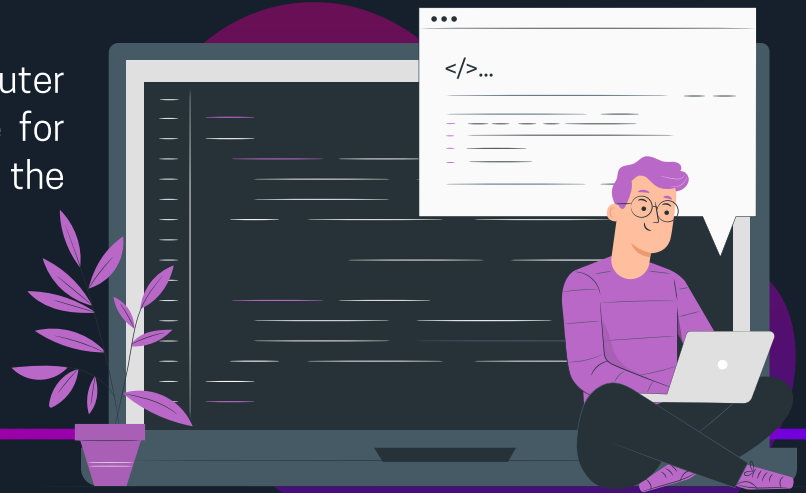


TECHNICAL ARTISTS

These artists are both familiar with some programming knowledge and art. These positions are highly sought after, and these artists form a bridge between artists and programmers.

2.4 GAME PROGRAMMING

Game programmers are computer engineers who develop the codebase for the game. They are responsible for the functionality of a game.



DESIRED SKILLS



PROGRAMMING LANGUAGE

Different game engines use different programming languages. So first narrow down your engine of choice and learn the language associated with it. Some of the most common languages include C++, C#, JavaScript, Python etc.



PROBLEM SOLVING

Any development cycle will have its own set of challenges and roadblock. To be a part of this fast paced Industry, you need to be good at problem solving and finding solutions quickly to the problems as and when they arise.



KNOWLEDGE OF 2D / 3D SOFTWARES

As a programmer you don't need to know everything about 2D/ 3D softwares, but need a general knowledge of how their pipeline works. This is because the programmer will be responsible to collaborate with other departments of the game production cycle and implement their models and animations into the game engine.



PASSION FOR VIDEO GAMES

This goes without saying. You need to have the drive to look at games, deconstruct them, try and create a clone of it and find better solutions to the problems.

OPPORTUNITIES

GAMEPLAY PROGRAMMER

These programmers focus on the functionality of the gameplay of the game.



AI PROGRAMMER

These programmers focus on the various AI needs related in a game. Like enemy attack states or NPC behaviors etc.

NETWORK PROGRAMMER

These programmers focus on the Network and Multimedia functionality of any game.



PHYSICS PROGRAMMER

These programmers focus on the implementation of Physics in any game. All collisions and physics are simulated to an extent that it reflects real-life.



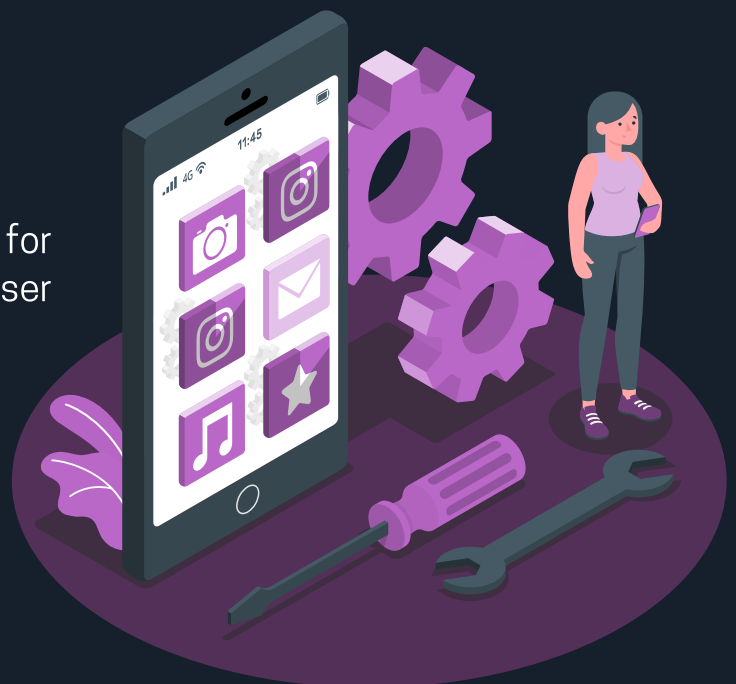
GAME ENGINE PROGRAMMER

These programmers are responsible for creating an in-house engine for the studio and its smooth functionality.



UI PROGRAMMER

These programmers are responsible for the functionality of all the User Interactions in the game.



2.5 ABOVE & BEYOND

The Gaming Industry is always looking for more talented people and their expertise. Let's go over some of these roles and responsibilities.



OPPORTUNITIES



PRODUCERS

Every game is a project and needs someone to supervise it. Managers, producers are always needed in this industry. Passion for video games is a must even for such roles.

QUALITY ASSURANCE

After the game is made, testing is very important. Studios can have in-house QA or hire a service from an outsourced company specifying in testing for video games.



MARKETING

Once the game is ready, we need to sell it. So marketing and sales departments are also a part of a studio. For smaller studios, this can be outsourced to a company specialising in marketing, or tie up with a publisher to launch their games.

WRITERS / DIRECTORS

With the rise of Narrative games in the past few years, and games such as The Witcher 3, the industry is in need of writers and directors to construct a compelling narrative experience and believable characters and dialogues.



MOTION CAPTURE ARTISTS / ACTORS

With the recent success of Hellblade, it has become apparent that Motion Capture can be a viable option to make a successful game. Actors are also approached for roles in video games, with Keanu Reeves being the latest example for Cyberpunk 2077.

STREAMERS / YOUTUBERS

This career is also seeing an increase, having massive fan bases and leading to a ton of merchandise shops in parallel. It doesn't matter whether it's the game or the person playing it, but one cannot resist watching others play video games.



With the industry changing so rapidly, innovative and creative roles may turn up in the future as well. As long as you have passion for this medium there will always be a place for you.

ACHIEVEMENT UNLOCKED



3.1 TRADITIONAL LEARNING

At least
33% of college
students search for
a **better**
alternative.



Gaming in India is still in its infancy. There are few colleges that offer a degree or diploma in Gaming.

Gaming courses are usually tied with Animation courses or focus entirely on the engineering aspect. Some colleges offer Game Design as an optional course in the Multimedia Degree Program. Art and Animation and programming courses are easily available, but when it comes to Game Design and its principles, there are very few colleges that focus on that. At best, they may teach about some game engines and their assets that can be used, but the principles and core fundamentals of Game Design are seldom taught in any college.

Faculty is another important part which is currently not upto the mark. Many faculty with backgrounds in Computer Science or Fine Arts are tasked with Gaming courses. They aren't fully equipped or have the appropriate knowledge to take on these courses.

This is understandable since gaming isn't taken seriously academically yet. There are plans that the government will be devoting resources and infrastructure into academics, but currently very few traditional colleges are ready with a course that will actually benefit their students.

3.2 A FRAGMENTED PICTURE



After enrolling and realising that colleges lack the necessary expertise to teach gaming courses, most of the students look for alternative means of getting information.

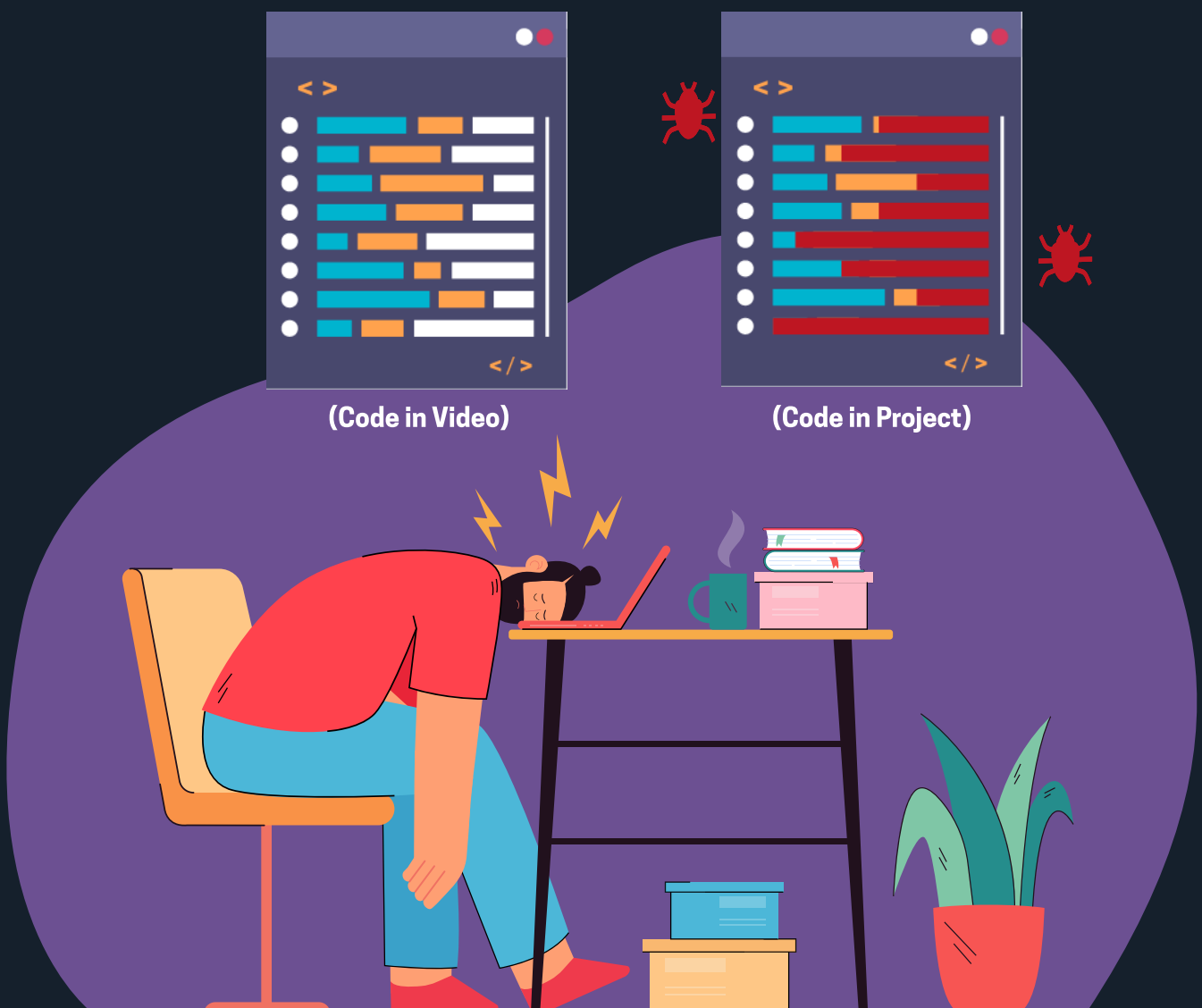
We live in an age where information is available on everyone's fingertips. But usually this information is huge and scattered over various platforms and forums, and it can take a considerable amount of time to research and get the exact information you are looking for.

There are many sites and platforms that have courses on gaming, some free, some ask exorbitant prices for their curriculum. Some courses are in-depth and too complex for beginners or casual hobbyists, some are very basic and not worth the price.

Then there are those courses that only focus on a current game and its implementation, where if you miss out a single step the entire project overflows with bugs and errors and it's never made clear what the learner did wrong.

This type of learning is still better than traditional since here the learner's dedication is all that drives them to find the next best solution or the next best course they can find. But still learner's need to go through dozens of courses and videos and articles to make sense of any given topic.

This type of learning only provides a fragmented picture, and many end up giving up on learning and move on to something else entirely.



3.3 BETTER ALTERNATIVE

Here are some of the advantages of learning Game Development, Game Design and Game Art and Animation from 1UP Academy.



Our faculties are part of the Industry and build courses as a way to give back to the community. So the content is filled with tips and tricks from people that are inside the gaming industry.

01 INDUSTRY PROFESSIONAL FACULTY



Our courses are varied in length and in content. No matter if you are a beginner, someone in the industry or want to master a particular skill, our courses are tailor made specifically keeping the learner in mind.

02 BITE SIZED COURSES



Along with the courses you also get mentors for life who are always ready to help you.

03 MENTORSHIP



Now there is no need to be restricted by language. 1UP Academy comes with the most accessible regional languages so that your learning is never hindered.

04 REGIONAL LANGUAGES



Each course is filled with bonus content and tips and tricks that will benefit the learner in their pursuit.

05 RESOURCES



Other than the courses and mentorship, you get to interact with like minded and dedicated people such as yourself and can collaborate or learn and grow from our community.

06 COMMUNITY

For more guidance and other free ebooks and webinars, subscribe to your newsletter and stay updated.



[1up_academy](https://www.instagram.com/1up_academy)



[1UP Academy](https://www.1upacademy.com)

GAMIFY YOUR WORLD



3.4 RESOURCES



[A Brief History of Video Games](#)



[11 Masterpiece Video Games That Are Total Technical Powerhouses](#)



[10 Best PC Game Graphics To Push Your PC TO THE LIMIT \[4K Video\]](#)



[Best VR Games To Play In 2020](#)



[10 Upcoming Future Technologies That Could REDEFINE GAMING](#)



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[Why India's Gaming Industry Is On The Rise](#)



[Job Roles In the Video Game Industry](#)



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[Noun Project](#)