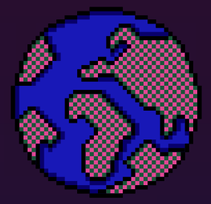

CLOUD GAMING
PLAY
MENU
EXIT
PRESENTED BY GROUP 7

Introduction to Cloud Gaming



Cloud gaming is a type of gaming where the game is stored and processed on a remote server, and the player accesses the game via the internet. It is also called gaming on demand or gaming-as-a-service or game streaming.

Why Cloud Gaming?

Accessibility: Players who do not want to invest in costly gaming hardware or software can utilise cloud gaming services. They access best games with cloud gaming from a range of gadgets, such as smartphones, tablets ,laptops....etc

Cross platforming gaming is another feature of cloud gaming where gamers can access the games even with different hardware or software platforms without the need of shifting to the hardware or software the game runs in

Why Cloud Gaming?

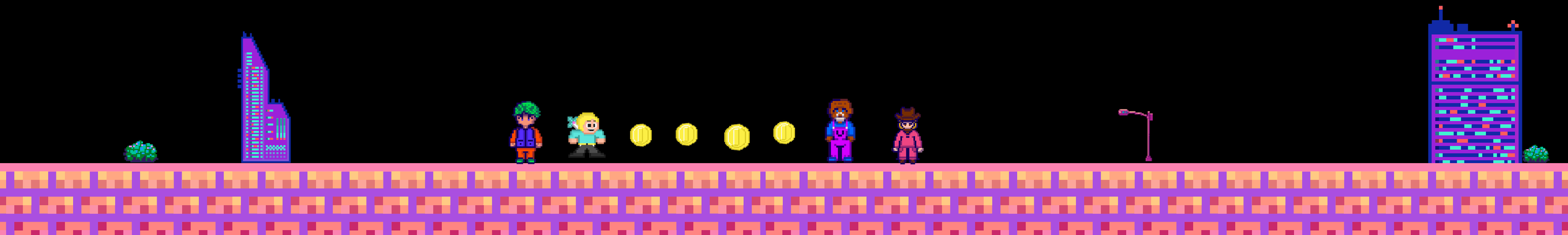
Faster Updates: Any game that runs on cloud server can be updated faster than the game running locally. Updating on server also makes sure that the gaming experience of any user is not hindered as it can update when the user isn't online

Updates are not only faster but are also consistent. As the updates are managed centrally any update on the server will affect all the players accessing the game from the cloud server. Faster updates also means faster user reports and feedback which will help the developers make the game better

Why Cloud Gaming?

Multiplayer capabilities: Cloud gaming services offer multiplayer gaming services. Multiplayer gaming is helpful for gamers socially and for the game developers economically

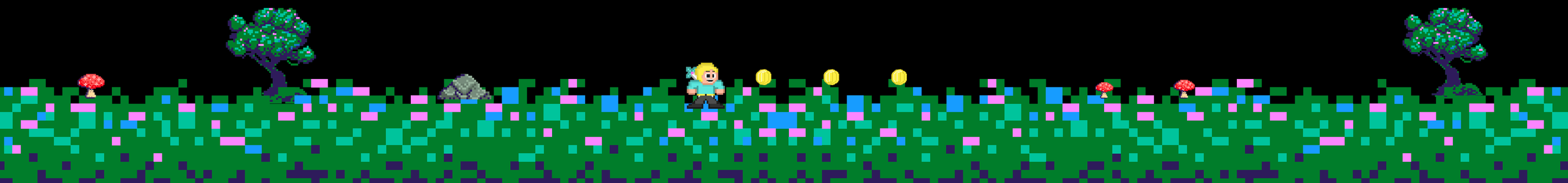
Cloud gaming can improve match making, develop larger player pools and reduce lag for all the players. All this helps in connecting players around the world in order to provide the user a great gaming experience.



Why Cloud Gaming?

Increased library of games: As cloud gaming stores, renders the game and provides the video output to the user, the user doesn't have to worry about storage

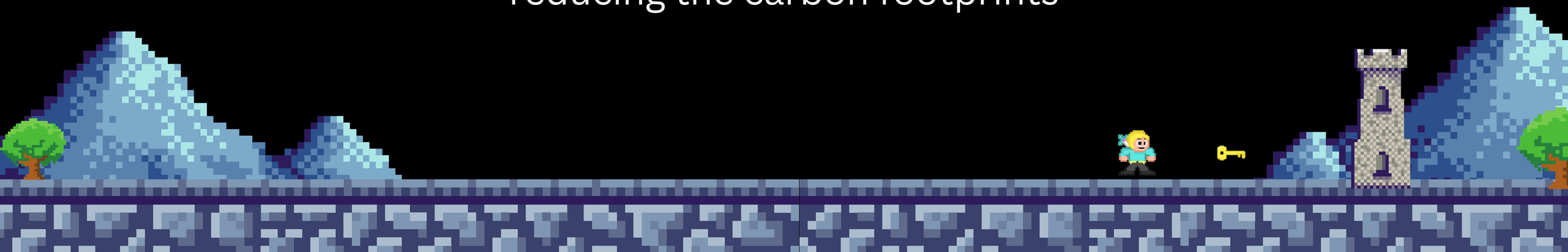
With storage not being much of a concern to the user, user can play any game among the vast selection of games offered by the cloud gaming service. Cloud gaming services provide on demand access to games



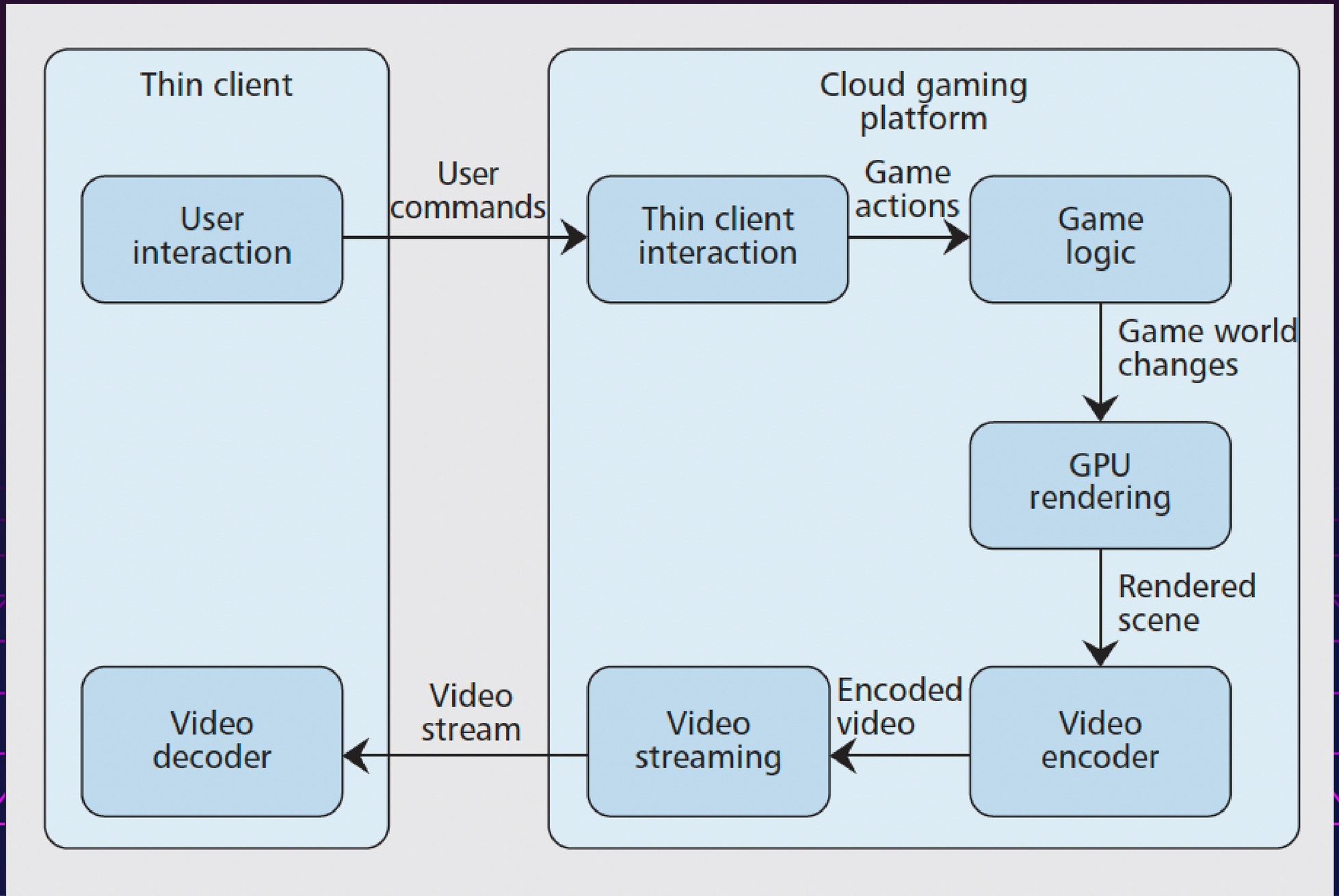
Why Cloud Gaming?

Cloud gaming reduces the need for game consoles and high-end gaming PC's. This will directly reduce the energy consumption associated with the gaming hardware for the user.

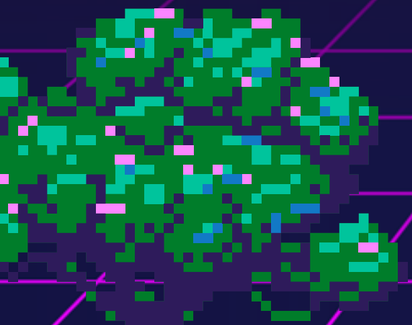
Cloud gaming servers are also optimized for energy efficiency, which results in reduced energy consumptions compared to traditional gaming setups. Cloud servers also use renewable energy resources to power themselves, henceforth reducing the carbon footprints

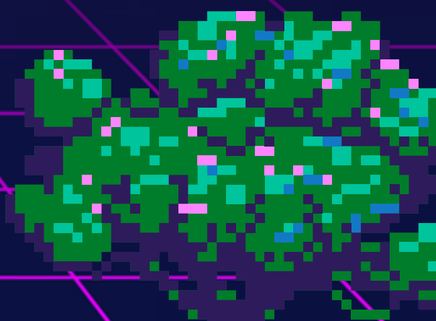


CLOUD GAMING FRAMEWORK



CLOUD GAMING PLATFORMS





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ONLIVE

- Onlive was one of the first to enter the North American market and offers one of the most advanced implementations of cloud gaming available for analysis

- It allowed users to play high-quality games on low-end computers or even TVs without the need for expensive gaming hardware

- OnLive claimed that it had a latency of 80 milliseconds or less, which was an impressive feat considering that the game content was being streamed over the internet

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NVIDIA GEFORCE

- NVIDIA GeForce NOW is a cloud gaming service that is powered by NVIDIA's graphics processing units (GPUs), which are known for their high-performance capabilities
- NVIDIA GeForce NOW offers a range of subscription plans, including a free tier and a paid subscription that offers additional benefits such as longer play sessions and priority access to servers
- NVIDIA GeForce NOW is known for its low latency and high-quality graphics, which is due in part to the company's use of its own GPUs for processing the game data

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WHY ONLIVE FAILED AND GEFORCE SUCCEEDED ?

Both services aimed to offer gamers the ability to play high-end video games on low-end hardware through streaming.

Couldn't maintain high operating costs to maintain a large number of servers and data centers.

Lack of Partnerships with Game developers.

Lack of Technology and Infrastructure in that Time period.

ONLIVE VS GEFORCE

PROS

- First cloud gaming services to launch.
- Availablity of exclusive Titles.
- OnLive had a built-in social network.

CONS

- High operating costs.
- OnLive had limited partnerships.
- faced many technical challenges.

PROS

- Leverages NVIDIA’s existing data centers and infrastructure.
- Partnerships with major game publishers.
- Free tier to play around time bound.

CONS

- Requires a compatible device and strong internet connection.
- Limitations in free tier of GeFORCE like limited Time play and lower Graphics.

CHALLENGES

LATENCY

One of the biggest challenges of cloud gaming is latency, or the delay between the time a player inputs a command and when the game responds. High latency can make games feel unresponsive and can significantly impact gameplay.

BANDWIDTH SATURATION

Cloud gaming requires a lot of bandwidth, which can be a challenge for players with slower internet connections. This can lead to buffering, low-quality graphics, and other performance issues.

CHALLENGES

COST

Cloud gaming services can be expensive, particularly if players need to upgrade their internet connection or purchase additional hardware to support the technology.

SECURITY RISK

As with all cloud services, security is a concern in cloud gaming. Players may be vulnerable to cyber attacks or data breaches, particularly if personal information is collected or stored by the service provider.

CHALLENGES

DEVICE COMPATIBILITY

Cloud gaming requires compatibility with a range of devices, including smartphones, tablets, and computers. Ensuring compatibility with a range of devices can be a challenge, particularly as new devices are introduced.

LACK OF OWNERSHIP

Cloud gaming raises the issue of lack of ownership, as users do not own the games they play on cloud gaming platforms in the same way as they would with physical copies or downloaded games. This lack of ownership can be a concern for gamers who want more control over their gaming experience and the games they play.

FUTURE OF CLOUD GAMING

5G NETWORKS

- 5G networks provide faster speeds and lower latency than previous mobile networks.
- Ideal platform for cloud gaming, enabling lightning-fast game downloads and streaming.
- Revolutionizing mobile gaming experiences.

EDGE COMPUTING

- Edge computing allows data processing closer to the user, reducing latency and improving data transfer speed.
- Improves overall gaming experience by reducing lag and enhancing graphics quality.

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FUTURE OF CLOUD GAMING

ARTIFICIAL INTELLIGENCE

- AI increasingly prevalent in gaming, creating smarter and more immersive experiences.
- Used in cloud gaming to improve game streaming quality and reduce latency.
- Enables seamless gaming experiences for players.

VIRTUAL REALITY

- VR creates fully immersive gaming environments, offering a more interactive and engaging gaming experience.
- Expected to shape the future of cloud gaming, leading to more VR-enabled games and platforms.

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FUTURE OF CLOUD GAMING

CLOUD-BASED GAME ENGINES

- Platforms allowing game creation and deployment entirely in the cloud.
- Access to powerful computing resources and remote collaboration capabilities.
- Speeds up game development process and reduces cost.

OVERALL

- Cloud gaming has a promising future.
- New technologies like 5G, edge computing, AI, VR, and cloud-based game engines are changing the way we play games.
- These technologies will make gaming more accessible, convenient, and immersive.
- The gaming experience will be enhanced due to these technologies.

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CONCLUSION

POTENTIAL

Cloud gaming offers high-quality games on low-spec devices and a vast game library accessible from anywhere with an internet connection.

CHALLENGES

Cloud gaming faces challenges, such as latency, costs, security risks, compatibility issues, and quality problems.

FUTURE

Increasing adoption of cloud gaming services indicates a bright future, with advancements in cloud technology addressing limitations for an even better gaming experience.

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THANK YOU FOR LISTENING!

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