

Cloudflare Workers for Gaming

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Overview

The video game industry is a global industry that boasts more than 2.5 billion active users across the world¹. Players in many games face latency issues depending on their geographical location, which video game developers are continuously trying to solve. With Cloudflare Workers for Gaming, video game developers can direct players to the lowest latency server based on geographical location.

Market

To delve deep into the market and its needs, performing user and customer surveys and interviews and market research on the industry and key trends are a must. Additionally, considering the competitors on the market is important to see where Cloudflare Workers for Gaming can make improvements to stand out from the crowd.

Competition

Microsoft Azure, Amazon Web Services (AWS), and Google Cloud are the main competitors in cloud computing for gaming. All three have been in the market for around a decade, whereas Cloudflare Workers was first announced in late 2017 and open to public use in 2018. Azure, AWS, and Google Cloud all have similar features and large user bases due to longer time in market. Cloudflare Workers as a late entrant to the market has a smaller user base, but includes a few features such as cold starts under 5ms that help differentiate it from the competition.

Product

The key differentiator of Cloudflare Workers for Gaming from its competition is low-latency globally. Cloudflare Workers for Gaming has a few, but key differences from Cloudflare Workers. The following are additions to Cloudflare Workers, specific to Gaming:

- **User Datagram Protocol (UDP) support:** *this is assuming Cloudflare Workers does not currently support UDP.* This ensures that there are no latency issues due to packet loss, especially for multiplayer games and massively multiplayer online games (MMOs) where low-latency is especially important.
- **Next Best Server:** to help ensure low-latency, Cloudflare Workers for Gaming suggests the next best server if the load on the best geographic server is too high. Too many requests on a server has a higher likelihood of packet loss and higher latency, so by redirecting requests to the next best server, Cloudflare Workers for Gaming can keep the low-latency promise.

¹ <https://www.statista.com/statistics/748044/number-video-gamers-world/>

Quality

We will be implementing the following to ensure the quality of Cloudflare Workers for Gaming:

- **User Interviews:** this allows us to gather user input throughout the process to ensure customer success. The end user of Cloudflare Workers for Gaming is the player whom we will be interviewing for input on latency pain points throughout the development process.
- **Beta Testing:** this allows us to gather and implement user feedback before releasing the product.
- **Load Testing and Stress Testing:** this will help ensure that the Cloudflare servers will be able to handle a large volume of users at once while maintaining low-latency.

Success Metrics

The following key performance indicators (KPIs) are used for Cloudflare Workers for Gaming:

- **Churn Ratio:** this is used to measure the growth or decline of the subscriber base. It also shows the average length of participation in the service.
- **Customer Acquisition Costs (CAC):** this will be measured to help determine whether the service is making a profit.
- **Average Revenue per User (ARPU):** this will be taken monthly to measure the revenue per user or account.
- **Customer Lifetime Value (CLTV):** this is calculated based on the ARPU and is used as a success metric to compare against the CAC.

Risks

The following risks were identified for Cloudflare Workers for Gaming that might lead to failure:

- **Hardware Failure:** this situation would severely impact the end user of Cloudflare Workers for Gaming. If the server hardware fails, there are many consequences including data loss and service interruption. Depending on how long the server is down and the type of hardware failure, resolving the issue may be very costly.
- **Overloaded Servers:** this situation is highly unlikely but would impact the end user of Cloudflare Workers for Gaming. An overloaded server will cause latency issues, which is why the Next Best Server feature exists. However, should the servers in a geographic location become overloaded, end users in those locations would experience high-latency service.
- **Security Breach:** this situation is unlikely but would severely impact both the end user and the developers using Cloudflare Workers for Gaming. Security breaches are unlikely to occur, but in the chance that it does occur, it would be a severe issue with trust and privacy due to potentially sensitive data being exposed.