Overview

Estimated to grow to $230 Billion by 2022, the video game industry is projected to become one of the biggest industries in the world. Thus, it's instrumental in having the proper resources for launching a game. **With the Cloudflare's innovative use of CDNs (Content Delivery Networks), developers can reduce maintenance costs tremendously while reducing latency on their servers.** Ultimately, this enables developers to scale their platform to meet the demands of the customers.

Current Problems in Game Development

Breaking at Launch

For any large online game, there is always something that goes wrong on launch day. Whether it's not having enough servers to run (an underestimation of the number of users at launch) or too much traffic concentrated at one time, launch day continues to haunt many Game Developers.

High Latency

Not having enough resources dedicated to serving the customers based on their location has led to high latency is many games. It's particularly frustrating when the players can't play the game without having it freeze, FPS drop, Rubberband, etc. It detracts from their experience and gives the user a bad first impression. A perfect real-world example of this is *Riot's* servers for the popular game, *League of Legends.* With only 13 servers worldwide, it fails to provide users with consistent server feedback.

Bugs and Glitches

Every game ever made has had bugs and glitches. However, a major problem is fixing those bugs and glitches before it becomes detrimental from the user experience. This problem can lead to a decrease in player base and can destroy the multiplayer aspect of any game within days.

Failure to Accurately Stress-Test Servers

The ability to stress test how actual users will impact the game's servers are monumental to the game's success. Servers can crash due to too much traffic, items can fail to spawn, tutorials might be glitched, and the list goes on. Stress testing is instrumental to predicting Gameplay, Multiplayer, and how the game will run.

Proposed Product/Innovation:

After doing intensive research on all the difficulties for Game Developers, the solution became clear: Implement Cloudflare's extensive CDN network. Whether it was breaking at launch or experiencing major latency issues, the major problems could be solved using CDN networks. CDNs work in the way that it uses a server close to the user and reduces the distance needed for the users to communicate with the server. Ultimately, this reduces Latency, Server-Time Outs, and improves the player experience.

Cloudflare's Servers around the world

Risks

Security

Cybercriminals can steal passwords, email addresses, and other sensitive information through the CDN. Therefore, a web application firewall in conjunction is necessary.

Blocked Access

Possibility for organizations or whole countries to block the domains or IP addresses of CDN services.

Files may not be optimized

CDN-hosted files are large (a couple hundred Kilobytes). Smaller files are better because they can be downloaded and executed quicker.

Improving Quality

- Intensive Stress Testing to ensure high-quality user experience.
- Intensive Security and Penetration testing to ensure user information is safe.
- Large simulations with a lot of users on the servers to test in game performance
- Ask users what can be done better and if there are any bugs that need to be addressed
- Monitoring ping of users who live close/far from servers

Goals

Implementing this approach for a major launch and seeing the results would be a major milestone. Attracting large companies such as *Valve, Riot, or even Epic Games* would be perfect in testing the product, as we can survey the experience of both the developers and the player's satisfaction in the game. If we compare the player's experience with CDNs versus the player's experience without CDNs, we can retrieve vital results. The goal is to have *better* player experience with CDNs and have completely improved latency issues. Ultimately, the goal is to have a 95% satisfaction rate from all users using the platform; the better the experience, the more likely the user will return.