Dev Mathur

CloudFlare Workers for Gaming

The video game industry is one of the largest markets in the world. In 2017, they have generated almost $135 billion in 2018, which is a 10.9% increase in profit since 2017. And it does not look like their growth is going to hinder. By 2021, the industry is estimated to profit $180 billion in 2021. Because the video game industry has such a large market, with such diverse games servicing billions of gamers, it would be ideal for CloudFlare to create a vertical of the CloudFlare Workers service to cater to Game Development companies. But before diving into building the service, we need to understand the gaming industry. There are two ways to gain a solid understanding of the market. Virtually, and physically. Virtually, we will need to be involved with video game developers, and consumers through the social media platforms such as discord, and reddit. Through these platforms, we need to constantly interact in these forums, and understand the needs, and pains that consumers, and developers are going through. Physically, we will need to attend gaming consumer, and developer conferences such as the Electronic Entertainment Expo (E3), Blizzcon, and the annual Game Development Conference.

In terms of product changes, we will need to create a customizable game engine for game development companies to easily develop their games on the Cloudfare Workers platform. By utilizing our game engine, development time will be saved, and they will not need to worry about scaling, since Cloudfare Workers will be able to dynamically scale their product for them. Because we want to cater to both AAA, and Indie Game development organizations, we will need to understand the needs of the development organizations from the top down. Meaning we need to understand what prevents AAA companies from using prebuilt game engines, and develop their own custom engines. I have been following a thread on Quora which talks about why larger game development companies do not utilize pre-built game engines such as Unity (our direct competitor) for building their games. The main issue that developers had with Unity was that when a change is made to their assets, Unity requires every developer to recompile all of their assets which leads to long build times, and lost time assigned to build the game. Because Unity's infrastructure was built initially for smaller teams, they are unable to scale their product to cater to larger game development teams. I suggest we capitalize on this since we are building our product from the ground up. We will need to integrate a caching mechanism on the Cloudfare Workers game engine that will automatically update assets without causing large build times for developers. And since developers will be utilizing Cloudfare Worker's Edge Network instead of building the game just locally, the processing speed will become much faster, leading to the build time being significantly reduced, causing little to no time lost waiting for their codebase to recompile.

To improve the quality of this platform, we will need to perform multiple Quality Assurance tests to ensure that the platform is bug free, and ensure that the platform can handle a large rate of users performing operations on the same codebase. We can use tools such as TLB (Test Load Balancer) to test how efficiently the platform's load balancer is offloading tasks to increase speed and security. Since the platform will service large game development teams, we will need to perform multiple stress tests to test how the platform operates under heavy load conditions. Due to the results of these tests, we will need to create error handling operations that will not result in losing critical data.

We will need to release a beta to measure the success of the product. By having a select number of teams utilizing the platform, we will be able to analyze every use case of the platform. Through the beta, we will need to keep track of several key performance indicators. We will need to test the average user latency of the platform in pings. The average user latency will be measured by using a tool called MultiPing. This will monitor the network performance and return whether the latency is acceptable or not in tiers (red, yellow, and green). Our goal is to be in the green category meaning our latency is minimal. We will also need to track the average compile time for each project that is built on the platform. We will create a script to help track the compile time to the project and send it to the users for them to individually track their project compile time on the platform. Our goal is to reduce build time from 1 hour, to no more than 10 minutes. We will also need to garner user data through a survey. Through the survey, we will need to quantify user satisfaction on a scale from 1-10 for the product in terms of ease of use, whether they would build their games through the platform, and whether they would recommend this product to other development teams. Through the survey, we aim to have our average user rating to become at least a 9.0. If there are any issues that were addressed in the beta, we will iterate, and improve the product until launch.

A major risk for the Cloudfare Worker's Game Engine would be the market for Game engines. Other than Unity, there are other well known gaming engines such as Unreal, Godot, and CryEngine. These engines already have an established user base. But with more and more development teams needing to shift to the cloud, and decentralized systems to increase speed, and security to their development workflow, we will be able to gain more users to our platform.

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