# Overview

Video games have evolved over the last several decades into a thriving entertainment business. The constant growth in the gaming industry has been mainly driven by technological advancements as well as the continuous spread and ease of accessibility of the internet across the globe. In the past, online games required the purchase and maintenance of dedicated servers in order to run. However, with the rise of cloud computing, developers can now easily request resources on demand that scales as necessary based on the number of current users whilst minimizing costs.

# Market Research

In order to understand the needs of our customers, we will be carrying out a market research that will include meeting technical representatives for the, first 2 weeks, from top tier game developers as well as performing a competition analysis to gather project requirements. Developers from companies like Activision, Treyarch, Epic Games and EA Sports will be interviewed to try to gather technical details about their current online gaming architecture as well as any issues they face or any improvements they wish to see in their current architecture.

# Product

After a relatively in-depth research I was able to come up with the main issues that developers expect when developing an online game:

* Scalability based on a fluctuating demand, specially on a launch day.
* Low latency is a must as it is a huge contributor to the gaming experience.
* The ability to apply updates quickly and smoothly to the game to fix bugs and glitches.
* Zero downtime for users to not lose momentum, and thus lead to potential loss of a player base
* Analytics of events to be analyzed later if an issue arises.

Cloudflare’s Workers address several of these issues such as scalability, low latency through its edge servers in 190+ countries around the world as well as the ability of quick deployments and updates.

Based on the above findings I came up with the following diagram which represents a high-level representation of a possible version of Cloudflare’s gaming platform:



The platform is comprised of a frontend, which handles direct interactions with clients, and a backend which communicates with the frontend to perform certain tasks. The frontend will handle online services such as matchmaking and will also handle hosting the online games through dedicated game servers. The Cloudflare Workers represent an optimal solution for the frontend as it handles latency extremely well while also allowing for scalability and both are crucial for online games. The backend, however, will require some additional changes to incorporate a database that will be responsible for storage of game progress and user details as well as the analytics data. Furthermore, it would also prove beneficial to add supplementary services to the core product such as providing open source matchmaking frameworks and a migration-facilitating tool to allow for a smooth transition for already existing games. The competitive edge of Cloudflare’s new gaming product lies in its low latency (servers all around the world), scalability, cost-effectiveness and high-security (the use of isolates). The product will aim to launch within 2-3 months of approval.

# Quality

To improve the quality of the product before its release, the platform will undergo limit and stress tests that will test the reliability of the platform and ensure a high-quality offering. In addition, game developers will be invited to run a simulation test where a huge number of players will be simulated to test the performance of certain games using the new platform.

# Goals

The goals set will include attracting big names in the gaming industry such as Epic Games or EA Sports as well as maintaining newly acquired clients and ensuring a high level of satisfaction on their parts. The satisfaction levels will be collected in two ways: the first way is surveying the developers’ satisfaction with the use of the platform components. The second way is surveying game player’s satisfaction through the game.

# Risks

There are possible risks that can cause the failure of the product. These risks include the possible issue of resource limitations as resources are finite. If such an issue arises it will largely impact the product’s reliability and push away clients. Another risk lies in the potential difficulties that might be encountered when migrating from another service provider or on-premises servers. This is considered an obstacle to new client acquisition which will impact the product’s profitability.