

PROJECT	Cloudflare Workers for Gaming (CWG)		
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## OVERVIEW

Videogames allow us the opportunity to escape from reality and immerse ourselves into a new world. But if you're waiting for pregame downloads, or experiencing lag during the game, it's enough to make you want to return to your regular old life, and who wants that? On the other hand, if you are a developer, you don't want your game to only work in a particular region or develop on a platform that isn't very friendly to use. This is why Cloudflare Workers for Gaming focuses on both groups. It provides **consistent speed and performance** during gameplay for gamers. It also provides **scalability with superior servers** across the globe, and **excellent customer support** for developers.

## UNDERSTANDING THE MARKET (2-3 Weeks)



### • Identifying Users

- Individuals (Popular YouTube developers, can possibly help with marketing later on)
- Independent companies (Thatgamecompany, Blendo Games, Extremely OK Games)
- Large companies (EA Games, Valve, Ubisoft)
- Current architecture
- Issues to overcome and additional needs



### ➤ Polling Groups of Users



### • Identifying Competitors

- Microsoft Azure Gaming
  - Excellent user support/ Storage is not as flexible
- Amazon CloudFront Game Tech
  - Highly customizable/Pricing is not as direct
- Akamai
  - Speedy content retrieval/UX is not very intuitive



### ➤ Pros/Cons of each

## PROPOSALS FOR CHANGE (4-6 months)

### Scalability

To collect data on peak usage hours per region, a generative model will be used to efficiently make predictions. By using a trained model, the amount of redundant and time-consuming effort for data collection can be decreased. As a result, latency can be adjusted based on adaptive scaling which ensures an ideal gaming experience across the globe for gamers.

### Multiplayer Support

Most networked games rely on a centralized server where messages are sent and relayed to active players. CWG can forego the downsides of such architecture by creating a distributed design, which can successfully disperse gaming traffic through dedicated game servers. Such a feature will allow developers to focus on creativity and game logic implementation, while CWG takes care of the distribution.

### Tools for development

CWG will provide a set of tools to be used with existing frameworks, such as Unity, Unreal, and AppGameKit, allowing for developers to have ready-to-use resources to integrate into their development. Additional tools can help manage storage, event handling, security, and multiplayer modes.

### User Support

Success for CWG is based on continuous and increasing value for their customers. This should begin with detailed, and easy-to-understand documentation and tutorials on how to use the platform. When anything goes wrong, which is inevitable, a 24/7 dedicated support team will come to the rescue. Users will have access to the type of customer care they deserve to ensure they can easily continue on with their work.

## METHODS FOR IMPROVEMENT (1-2 months)

Release closed version of product to be used by samples from the 3 types of users identified

Conduct threat modeling to analyze security risks that may occur and how to resolve them

Test a simple game developed using CWG with a small pool of gamers worldwide

Analyze feedback from developers and gamers for possible issues that could be changed

## MEASURING SUCCESS

### 1. User Engagement

- DMU/EMU ratio
- Target: 0.2 or greater

1. This ratio allows for tracking the growth of the product. A high ratio indicates that the product is engaging user over time whereas a low ratio can indicate a declining level of interest, despite high initial usage.

*Daily active user*

*Monthly active user*

### 2. User Retention

- Retention rate
- Target: Upward slope

2. User retention can determine how many developers enjoyed the product enough to stay with the company for their development. This can be calculated by the ratio of customers at the beginning and end of a period. This formula can also be used with the number of games started during a period and number of games finished, to assess if the product is being used throughout the project.

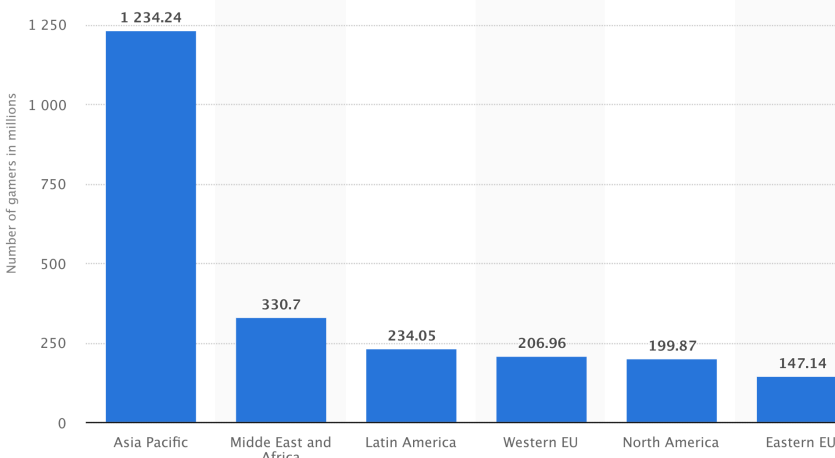
$$\frac{\text{Customers at the end of the calculated period} - \text{New customers}}{\text{Customers at the start of the calculated period}} \times 100$$

3. User satisfaction can be measured by taking a pool of people and asking them to rate the product from 0-10. Those who give it a score of 0-6 are considered detractors, 7-8 are neutrals and 9-10 are promoters. Using the formula below, the net promoter score can be calculated to see how likely a user is to recommend the product to someone else, which is a big form of exposure.

$$\% \text{ Promoters} - \% \text{ Detractors}$$

## POSSIBLE RISKS

### Location of Services



Source: Published on Statista by Christina Gough, Nov. 2019. URL: <https://www.statista.com/statistics/293304/number-video-gamers/>

### Migration Difficulties

If a developer wants to migrate their current systems to CWG from a previous provider, there may be issues depending on the existing components they have and the compatibility between the two providers.



As shown on the graph, the most popular region of gamers lies in Asia Pacific, boxed in red on the map of Cloudflare's Networks. This can cause possible issues with connectivity in the area due to heavy traffic. Increasing the amount and distribution of the servers in that region can mitigate this.

### Limited Resources

If resources become unavailable, as the amount is finite, this may cause major issues with development time and efficiency.