The Cloud Gaming Industry is an exciting and emerging market that allows users to stream high-end games. Unlike traditional gaming, Cloud Gaming alleviates the user from having to regularly upgrade their console or PC hardware to play games, hence easing the gaming experience. With the upcoming commercialization of 5G and rise in internet usage, cloud gaming is expected to grow by 16.5% between 2018 and 2027, making it an attractive candidate for future projects. Cloudflare for Workers is an ideal project for this market, as it provides fast, secure and affordable cloud servers for game developers. Cloudflare Workers for Gaming allows game-developers to accelerate their servers, protect their data and quickly scale their applications, solving numerous traditional video-gaming issues.

The promise of Cloud Gaming is to make the server do all the heavy work, simply requiring the user to have a screen and an internet-connection. Server connection is an essential part of Cloud Gaming, and server speed a crucial part of the gaming experience. Cloudflare for workers globally distributed network spans over 200 cities, and is able to provide lighting-fast experience to users across the globe. Cloudflare's Argo Smart Routing helps accelerate user-connections by detecting real-time congestion in the network, and providing the fastest network routes. Failures of cloud gaming's past are often synonymous with poor server connections, as was the case with the 'G-cluster', one of the first cloud-gaming demonstrations. Cloudflare workers perfectly addresses this issue, by providing servers capable of improving gaming performance, inducing a real-time gamer experience.

Gaming companies are extremely vulnerable to attacks, whether it be through DDoS attacks, or Bots creating false accounts; protecting gaming servers and data is a key part of the business. Cloudflare uses machine learning to best protect client servers, training models to recognize patterns in DDoS attacks and Bot creation, and hence preventing any fraudulent activity. Bot creation in particular is a huge issue in the gaming industry, and can do huge damage to a game's brand. Bot's directly affect the user experience, discouraging players and ultimately destroying the gaming community. Gaming companies put huge importance on Bot management, and Cloudflare's Workers does the same, by providing specific models to detect bots. Currently, Cloudflare's Bot Management is trained to detect similar bot activity, as bots usually attack millions of website properties simultaneously. A potential improvement in this area could be training models to detect regular users behaviour, rather than bot behaviour. Training a model to detect regular users could allow it to easily discern irregular behaviour, and quickly ban bots. Furthermore, as there are much more regular users than bots, training data will be much larger, which should increase the models accuracy. Lastly, training models on regular user behaviour can be done before the games release, unlike training the model on bot behaviour, which requires bots to be detected in the first place.

The greatest advantage that Cloud Gaming has over traditional gaming is the ability to quickly scale applications. Traditionally, game updates need to downloaded onto hardware by users, which takes considerable time, and limits how large the updates can be. Cloud Gaming on the other hand allows game-developers to update the cloud-server directly, and the users do not need to downloading anything. This greatly improves the user experience, and is a major factor

for the growth in Cloud Gaming in recent years. Cloudflare Workers uses a server-less match matching architecture, which allows developers to cold-start up to 50 times faster than other platforms. Furthermore, developers no longer have to worry about unexpected spikes demand, as server scaling can be done rapidly and effectively.

The Gaming market is constantly evolving, however the need for fast, secure and scalable servers is here to stay. As such, Cloudflare worker's ability to accelerate servers, protect data and quickly scale application should be emphasized for this product to win the market. Furthermore, in order to best understand the market, a business analysis into successful Cloud Gaming competitors such as 'Google Stadia' or 'Playstation Now' should be analyzed. Understanding how both products succeeded and what cloud servers they are offering could help understanding needs of Cloud Gaming. In addition to this, in order to best improve the quality of Cloudflare workers, free 1-month trials could be offered to gaming companies, allowing them to test the product and provide constructive feedback before an official launch. Risks of launching Cloudflare Workers before testing it with real companies could damage the products reputation if unexpected errors occur, and harm its future prospects. Nonetheless delivering an initial version as quickly as possible can be extremely beneficial to improving the product, and a 1-month free trial could allow this. Lastly, in order to measure the success of this product, key performance indicators could be used. These indicators should show two things: the financial metrics of the product, and the client satisfaction of the product. Financial metrics could include the return on investment, whereas client satisfaction could be quantified by monthly tickets in which clients can measure their satisfaction of the product. By understanding the client satisfaction, improvements could be made on rolling basis, and guarantees that clients will stay for the service alongside the product.