Workers_Gaming_DB – Online Database to handle sessions data

The entry of new players to the gaming market is forcing all companies to move towards more cost effective and highly responsive environments to deploy the games. This is forcing the gaming industry to quickly move towards the Function as a service (FAAS) providers who provide serverless environment at minimal cost. With its capabilities, Cloudflare workers has the potential to capture a huge share of this market

- **Understanding the Market:**
  Customer segments: First we need to understand the types of game providers in the market
    - Game as a service (GAAS) on Console, PC, Mobile
    - Player-to-Player Online on Console, PC, Mobile

    GAAS for Console, PC and Mobile which is the fastest market growth and our solution should focus on this segment considering future demand.

  Competition: With low barriers to entry there are a huge number of big and small players in the cloud service providers for the gaming industry, making the market highly fragmented. Some key players are: AWS, Akamai, Imperva, CD Networks, Limelight.

- **New Product suggestion based on market needs**
  Problem Statement: While playing game, a user earns coins, receives power-ups, procures weapons & armours and other equipment which need to be available in every session of game play. As more game developing companies move to cloud, there is growing need to manage the in-game content in a datastore that is extremely fast at retrieving content.

  Solution: A datastore, which stores all the session related content, can be made available to the customers who use the Cloudflare Workers. The solution can be implemented using the NoSQL database technology which is extremely fast at retrieving the data. A Key-value store like REDIS can be used for this case as they can execute extremely quick read operations. This will store all the in-game data related to a user and fetch it at the beginning of every session of gaming. The solution can be referenced as Workers_Gaming_DB from here on. Some important aspects of the solution are as follows:
    - The solution will be able to persist play sessions of a player and retrieve them whenever the user logs into the game irrespective of the device
    - The retrieval of the data using the solution needs to extremely quick for a seamless experience for the player.
    - A secure end point needs to be made available to the customers for integrating their current systems while ensuring technology compatibility.
    - The solution will be scalable to handle huge amount of customer data.

- **Continuous improvement of the product**

  Generic architecture for different game types:

  A game might have different kind of content that needs to be available for the user. The solution should be able to store all kinds of data in the system and have equally fast access for each type. For this a more generic structure in terms of structure and datatypes needs to be maintained for scaling the solution across most variety of games.

Beta release to gain meaningful feedback:

With a Beta release to game developers, critical insights can be gained about the compatibility with different languages and environments like C#, JAVA, NodeJS. This will help in expanding the solution capabilities to cater to legacy as well as newer systems and promote higher adaption among customers.

- **Performance Metrics for measuring product success**

  Response times compared to industry average:

  An important aspect of every game is the response time. The end user wants to have a seamless experience while playing leading to game developers putting huge focus on the response times. By maintaining a better response time of the datastore against industry average, high performance of product can be ensured. The minimal downtime

  Number of customers adapting the solution:

  A good measure of the product performance will be to measure the number of current customers of Workers platform who adapt to the new system. The higher number of adoptions indicates good acceptance and a lower adoption indicates scope for improvement.

- **Risks involved with the solution**

  High switching cost for customers leading to low adoption:

  The migration of the data can be cumbersome for the gaming company because they will have to rewrite logic and move entire data to the new system which might discourage them from switching to Key-Value store

  Big players launch further improved product:

  The big cloud companies in the market like AWS, GCP, Akamai may come up with products using newer technologies to cater to its current customer base which will lead to lower adoption of the solution and impact the profits.