Cloudflare Internship Application: Product Management

Melvin Ng **April 17th, 2020**

Thesis

Video Game Developers are willing to pay to scale their games and expand to larger audiences around the globe without sacrificing performance

Market Research

In order to perform qualitative and quantitative market research, I would recommend:

- Interviewing potential early adopters (Focus groups, surveys, etc.)
- Purchase market data/reports (International Data Corporation [IDC], Bloomberg, etc.)

Audience

For this assignment, I will be focusing on Video Game Developers at Electronic Arts (EA) as this will allow the new product to maximize the total impact per time spent. Majority of the developers at EA work on AAA title games and face numerous problems on a daily basis.

Problems

A. Developers are always under time constraints due to high development costs

B. Development teams for AAA title games are overwhelmed by the amount of data received

C. Developers are not able to effectively communicate in a large team

To prioritize these problems, I will evaluate them by impact

For **A,** major game titles that are larger in size and are more complicated therefore they require more time to augment existing code. Deadlines are usually not extended despite new changes/addition to the game. For **B**, in-game telemetry approximates 1TB of data per day for AAA multiplayer title games therefore development teams are overwhelmed by this. For **C**, developers struggle because they are intimidated to speak up or when working with another developer in a different city/time zone. In order for Cloudflare Workers for Gaming to be successful, we will **prioritize B** because these data are essential to obtain user behavioral insights to improve user experience and identify bottlenecks in the game.

To solve B and help developers at EA to process data more efficiently, we can:

i) Integrate a third-party analytics engine for big data processing (Apache Hadoop)

ii) Build an in-house simplified data processing and analytics tool

iii) Build data pipelines for real time filtering and data transformation

To prioritize solutions, RICE Scoring will be utilized:

Reach: Number of developers impacted in 1 month

- Solutions (i, ii, iii): EA has ~4,300 developers as of March 2020, and assuming that all 3 solutions will impact 50% of the total developers. The Reach for all three solutions is 4,300 x 50% = 2,150

Impact: (Massive = 3, High = 2, Medium = 1, Low = 0.5, Minimal = 0.25)

- Solution (i, ii & iii): Each developer that utilizes any of the solutions will be able to understand their users better and have a huge impact on game development. Therefore, the impact scores for all three solutions are 3.

Confidence: (High = 100%, Medium = 80%, Low = 50%)

- Solution (i & ii): There is data to support the Reach and Impact, but unsure about the Effort. This solution gets an 80% confidence score.
- Solution (iii): There is data to support the Reach and the large Impact to get timely insights and react quickly to new information however the Effort will be higher. This project gets a 90% confidence score.

Effort: Measured in "person-months"

- Solution (i): This solution will take a few months due to the significant amount of engineering time needed to establish compatibility and identify/fix potential risks associated by changing codes, and at least 1 month of legal discussions. I'll give it an effort score of 4 person-months.
- Solution (ii): This will take about a week of planning, 1-2 weeks of design, and 2-4 weeks of engineering time as we're able to augment existing Cloudflare Analytics code. I'll give it an effort score of 3 person-months.
- Solution (iii): This will require several months of planning, design, and engineering time due to the complexity of the overall solution. I'll give it an effort score of 5 person-months.

RICE Score = Reach x Impact x Confidence / Effort

Solutions	Reach	Impact	Confidence	Effort	RICE Score
(i)	2,150	3	80%	4	1,290
(ii)	**2,150**	**3**	**80%**	**3**	**1,720**
(iii)	2,150	3	90%	5	1,161

Table 1: RICE Score for Solutions (i), (ii) & (iii)

Conclusion

Based on the RICE Score table above, we can conclude that the total impact per time spent for **Solution (ii): Build an in-house simplified data processing and analytics tool** is preferred. This solution will help solve the largest pain point for development teams as the data can provide behavioral insights of users on different devices, identify bottlenecks in the game to improve user experience and increase monetization by targeted personalized ads.

Metrics to measure the success of the product:

- **DAU/MAU ratio:** This ratio measures the stickiness of the product & allows us to gauge the frequency of engagement and is an indicator of how beneficial the product is for the users.
- **Retention Rate (Day 7, 30):** This is measured from Day 1 in order to accurately measure the percentage of developers retained over a time period of 7 and 30 days.
- **Average Revenue Per User:** This measures the revenue generated per developer. This metric allows management to refine their revenue generation capability and growth.

Risks which might lead to its failure:

- **High Development Costs:** This product requires a large investment upfront with no guarantee of user adoption.
- **Slow Performance:** Users may choose a competitor such as Amazon Kinesis if their product has a faster processing time.
- **User Experience:** Retention rate of users may decrease if developers do not have a positive experience while using the product.

Methods for improving the quality of your offering before it is released:

The first step I would perform is to conduct interviews with early adopters as a **Proof of Concept (POC)** and to learn more about the specific features that a developer requires for a data processing and analytics tool. After that, we can proceed to create a **Minimum Viable Product (MVP)** to test and validate the software. For this, **Alpha testing** method is done by testing the MVP internally with in-house developers. This method helps identify any bugs/issues and fix them prior to releasing to the public. After this, I would conduct **Beta testing** to 10 developers working at large gaming corporations. I would separate the developers into 2 groups of 5 each and perform **A/B testing.** Group 1 will be a control group where we will have standard data analytic features whereas Group 2 will have additional features that the developers might want. This allows us to validate/reject certain features for the product prior to market release. After launching, I would then set metrics such as **DAU, MAU, Retention Rate** and **Average Revenue Per User** in order to continuously track, measure and improve the product.