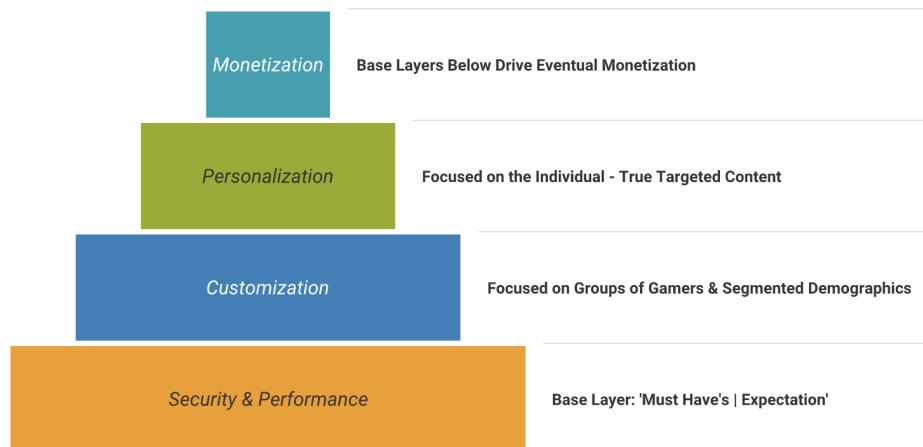## Cloudflare Workers for Gaming

Overview:

Game development can be viewed as focusing on three main platforms, mobile, console, and PC. Each platform offers its own unique challenges but they all have come to depend on multiplayer based games developed around free-to-play models. The research was focused on developing 3 layers of Cloudflare Workers for Gaming all driving monetization:

Monetization	Base Layers Below Drive Eventual Monetization
Personalization	Focused on the Individual - True Targeted Content
Customization	Focused on Groups of Gamers & Segmented Demographics
Security & Performance	Base Layer: 'Must Have's | Expectation'

Security and Performance:

Problem: DDoS Attacks
- The gaming industry was the recipient of 35.92% of DDoS (distributed denial-of-service) attacks in 2019, the largest recipient of such attacks
- Current defensive tools not enough

Solution: Deployment of Cloudflare Worker
- Cloudflare Workers allow for the discovering and blocking of signals from suspected attackers before they reach the server
- Attacks can be mitigated preventing users from being impacted

Problem: Slow startup times for mobile games
- Mobile gamers are notorious for not keeping game files up to date
- Different users need different files to run the same game
- Increased back and forth between device and host server to determine what files to call

Solution: Deployment of Cloudflare Worker
- Game developers can launch a Cloudflare Worker to determine what files the device needs before making a call to the host server
- Removes excess steps, optimizing the system

Personalization and Customization:

Problem: Reaching the 95% of gamers who don't make in-game microtransactions
- 5% of players make in-game microtransactions
- Of the $50 billion generated by mobile games in 2017 43% came from microtransactions

Solution: Deployment of Cloudflare Worker
- Allows developers to tailor microtransaction offerings based on level, experience, etc.
- Takes place within the network creating a seamless gaming experience

Problem: Personalization
- Gaming has turned into a movie-like experience with all gamers seeing the same objectives, missions, and messages

Solution: Deployment of Cloudflare Worker
- Developers can create and deploy code into the network that can create custom messages, unlock unique daily objectives, and personalization the overall experience of gaming
- Cloudflare Workers for Gaming will call this new personalization tool "Flares"

Important Objectives:

Cloudflare Workers for Gaming Website:
- Launch Cloudflare Workers for Gaming website so its capabilities can be demonstrated
- Templates will be put on the website showing developers how workers can be used for personalization and security
- Build a blog section allowing developers to share how they use Cloudflare Workers for Gaming

Continuous Improvement:
- Research video games that have fallen short of their goals or not performed as expected
- Study our findings to discover new places that Cloudflare Workers can be beneficial

Product Quality:
- Create a simple mobile gaming app that will use various Cloudflare Workers
- Release two identical versions of the game in two different cities, the only difference will be that one uses Cloudflare Workers and one does not
- To gauge what improvements can be made studies will be done on customer reviews for each app as well as comparing performance analytics.

Measuring Success After Launch:
- Study data of how many times certain worker functions are called
- Work with developers to see how microtransactions have increased

Mitigating Risks:
- Building across 3 platforms creates the largest risk of spreading ourselves too thin
- To mitigate this we would create partnerships across each platform so we can specifically learn about their independent needs

Summary:

With gaming development focused on growing the free-to-play model, it is crucial that developers build in more personalized and custom features so as to successfully increase monetization while maintaining the utmost security and performance that users expect.