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Building World Class Gaming Centered Digital Storefronts

Anand Ganesh

Independent Researcher

Abstract

The number of mobile gamers is on the rise with the widespread availability of smartphones, and this has a significant effect on the gaming industry as a whole [1]. Relatively new publishers have made their name in the industry that is expected to reach 100 billion dollars in 2025 [2]. With changing laws around the world to open up the current monopolistic ecosystem [3] and the rise of newer players in the gaming industry, the need to have a state-of-the-art gaming digital storefront is an essential part of every new gaming organization. This paper presents design guidelines into the creation of a thriving gaming digital storefront - what it takes to get there, how does one measure their progress, and some goals and non-goals of this endeavor.

Keywords: Gaming e-commerce, Digital storefronts, Gaming online store

I. INTRODUCTION

A. The significance of an ecosystem

The modern gaming experience as a consumer is filled with choices. The movement of resources and products from ownership to subscription underscores the importance of a rich ecosystem [4]. An ecosystem presents a set of experiences that the consumer is left satisfied not just right now but in the future as well. An attractive and lucrative ecosystem for an entertainment service(like gaming) is one that appeals to the interests of many different types of consumers with no dearth of choice. A big part of a thriving ecosystem from an engineering and a management point of view is the interface that consumers use to interact with the ecosystem; this could be a website, a mobile app, or a desktop application in the case of digital interfaces.

B. The end of closed ecosystems

Up until the early 21st century, digital ecosystems were treated like a closed intellectual property of the company that created it. For a lot of ecosystems and companies that was and is inevitably true. However, with the rise of tech giants dominating certain market spaces, their closed ecosystems became the subject of multiple lawsuits that contended whether the ecosystem was a market in and of itself. With commissions on transactions being a major source of revenue for the ecosystem and a major source of potential revenue loss for creators in the ecosystem, it was only a matter of time until the stakes were high enough for laws to be passed to open up certain ecosystems [3]

C. The role of modern digital storefronts

Storefronts of closed ecosystems were looked at as a tool to achieve an outcome and that was to acquire a new application or game. Resources weren't spent on making sure that the application real-estate was used judiciously, high likelihood of feature success wasn't looked at with conviction and the user experience wasn't given much importance.

Modern digital storefronts (especially gaming) are different. They are often the first gateways into a new ecosystem and a great opportunity to gain new subscribers and sell a product. Consumers are no longer tied to a single ecosystem because they have to, and are more likely to get the same or a

similar experience at a competitor. With aggressive pricing and marketing campaigns, the differences that lead to a potential revenue loss could be as simple as a seamless installation process or the lack of a wish-list feature.

The motivation behind these design guidelines is to establish a strong set of engineering features that any modern digital gaming storefront must possess to be able to take on existing ecosystems apart from other extraneous factors like business models, ecosystem content and pricing.

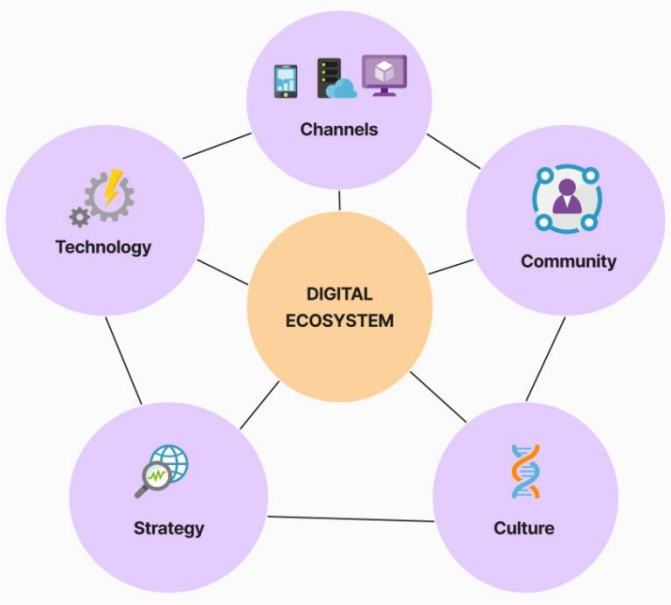

Fig. 1. Pillars of a Digital Ecosystem

II. RELATED WORK

A. Key strategies for modernizing digital storefronts

This article highlights the importance of understanding the effects of coupling in large software systems that can span multiple geographical regions, multiple disciplines like engineering, machine learning, finance and legal and the trade-offs of maintenance, customization and Go-To-Market timelines.
[5]

B. Exploring the Visual presentation of Steam

Steam - A popular digital gaming storefront on windows has a unique design language that makes it stand out as unconventional. Yet, it is one of the most widely used digital gaming storefronts in the

market. This paper looks into its various features and offers an insight into how data is presented on the steam desktop application. [6]

C. Customizing Digital Storefronts

The authors of this paper look into personalizing the digital storefront and the effect it has on improving customer engagement and how information about the user can be used to enrich an ecosystem and the digital experience of the user. This is very important as we think this approach to storefronts will elevate their status from a tool to acquire content in the ecosystem, to a part of the experience that promotes the ecosystem itself. [7]

III. METHODOLOGY

Customers simply put, would visit a digital store to find games, get to know more about them, find out what their friends and others have to say about that game and then acquire said game. These can be called the foundational requirements of any store. When we want to create a richer ecosystem, we need to bring customers to explore and find new games so that the existing foundational pillars can then do their job. This ”discovery” and the associated mechanisms that power the experience is very crucial for navigating an ecosystem once it’s created.

We will explore the characteristics of these foundational pillar and see how we can extend them to enrich the ecosystem.

A. Home Page

The home page is the entry point and given that most rich ecosystems will have a plethora of games, it is important the the home page is curated. The home page will also feature some of the most frequent style and content changes and so the architecture of the application becomes quite important. With layers of abstraction at the service level, the same data can power multiple home pages and therefore makes the storefront easily available across different platforms and devices.

The home page also acts as the entry point to fetch a lot of data about the content shown to the user. It is highly likely that the next customer navigation would be the product details page or simply put, more details about a particular product. Normalizing of the local data store is necessary to make the application feel fast as this reuses a lot of the old network data.

The home page should also serve as a welcome page where the customer can find any information that might be of significance to them. A game going on a sale, a new sequel to an owned game or the completion of a download that had started previously are all fair game. An indexed search bar that contains a list of the all the most played, new, featured and customer owned games is a staple across modern digital stores. A nice-touch here with the incorporation of Large-Language models is that this process can be a lot more personal and descriptive as opposed to a direct search query.

B. Details Page

The details page is pretty self explanatory in that all information about that particular product should be available there although presented in a way that isn’t overwhelming. The details page should draw the user in to explore more aspects of the game and this could be achieved through immerse trailers and screenshots of the game. Excerpts and sentiment analysis data can be presented from recent reviewers of the game.

The details page should also contain critical information about the game like if it is playable on the current device, how much does it cost and how much space does one need to install it.

C. Download and Installation

Downloads and installs should be a seamless experience. Their presence shouldn't be noticeable unless there were truly external factors responsible for their failure (power loss, internet loss, lack of storage)

Downloads and installs happen once the user has decided to try out a particular game. It is very important that we maintain that level of excitement of the user and so these scenarios should be extremely error free. Any pausing of download or installs must resume without losing progress. Larger games are commonplace now and combined with a slow internet connection present in different markets, the time taken to completely download and install a game is quite high. A good application would notify the user when such a long drawn out task is complete.

D. Telemetry

Telemetry can broadly be divided into three types - Diagnostics which is the kind we instrument to find out how well a particular service or client is doing at any given point in time; Analytical - which is the data analysis that reveal interesting patterns about the usage of a feature or the lack thereof and the last one is verbatim feedback through customer satisfaction surveys. [8]

Telemetry instrumentation should be accurate especially the aspects that deal with direct customer behavior. TO understand what a given user is actually looking at, on the screen, we need to make sure that the event accurately fires only when the user sees the right object on the screen. This is very important as fundamental mistakes made here can be expensive as they can lead to the incorrect insight and therefore be a very expensive mistake to correct.

E. Purchase and Wish-list

Much like Downloads and installs, a good purchase flows is highly reliable, secure and straightforward. A wish-list can be helpful to help the customer be aware of any price drops and can be a useful tool to increase engagement.

Another ecosystem enriching service can be the provision of managed purchase services or in other terms these purchase services should be designed in such a way that their core implementations can be invoked from multiple surfaces. This can aid in one of the biggest revenue stream for a a gaming organization in the modern age. [9]

F. Personalization

No retail consumer experience is complete without the ability to customize the experience for the user. Be it, notification email frequency for wish-list items or even letting the user alter certain metadata about their interests to help us understand their interests better. Personalization plays a big role in recommendations which is responsible for bringing more traction to games as opposed to a user particularly searching for that specific game. It increases the overall engagement index of the ecosystem which is shown to improve the monetization from the ecosystem as well.

IV. CONCLUSION

This paper has explored the crucial pillars of building a successful, gaming-centric digital storefront. We have analyzed the interconnected roles of the Home Page, Details Page, Downloads and Installs,

Purchase process, and Telemetry in shaping the user experience. By focusing on these key areas, developers can create a seamless and engaging environment that fosters customer loyalty and drives sales. As highlighted throughout this work, the digital storefront serves as the primary point of interaction for many users within the gaming ecosystem. Therefore, prioritizing a world-class storefront experience is not merely a desirable feature, but a critical factor in the overall success of the platform. Investing in robust and user-friendly implementations of these pillars is essential for attracting and retaining gamers, ultimately contributing to a thriving and sustainable gaming ecosystem. Future work may explore the integration of emerging technologies, such as AI-driven recommendations and personalized experiences, to further enhance the digital storefront and meet the evolving needs of the gaming community.

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